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Assessment on Role of Employer and Employee in Safety of workforce: An Evaluation of Health and Safety at Workplace

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Abstract

Workplace chronic disease has added an economic burden to the Thai healthcare system, Most Thai's spend most of their time at work, so employers are also given opportunities to protect and promote health. The purpose of this study was to assess the application of workplace health governance and workplace safety strategies in the Province of Nakhon Nayok. Over time and by industry using randomized surveys compare as a weighted percentage by industry sector and job site size. Analysis of questionnaires revealed that all employees participated in health and safety related discussions. We also observed whether the work areas in the company were equipped with ventilation devices or not. Health Care, Social welfare % (CI) was conducted and analysed. The findings support the need for targeted approaches to building organizational capacity for comprehensive and integrated workplace health and safety programs in industries most affected by chronic disease and workplace injuries. Opportunities to improve the health, safety and well-being of employees using TWH strategies are greater than in blue-collar industries where adoption of governance and planning strategies is low.

Key words: Workplace, Health and Safety, Employer, Employee Safety, and Workforce,

Introduction

Employee health and safety programs should be a top priority for management. Because these programs are life-saving, increase productivity and reduce costs. These health and safety programs should emphasize the involvement of employee's constant tracking and overall health component (Anthony *et al.,* 2007). Occupational safety requires that safe working conditions should not create a significant risk of making people unfit to perform the job. Occupational health and safety therefore aims to create the conditions, competences and habits that enable the worker and his/her organization to carry out their work efficiently and in a manner to avoid potentially dangerous incidents. (Garcia-Herrero *et al.,* 2012). It is clear that safe working conditions affect workers' habits. This will also affect performance. This means that employees working in safe conditions are more likely to act in a way that will not cause harm.

By comparing two types of safety models, Robens (1972) presents a challenge to traditional approaches to workplace safety which is called a model 'Careless operators' in this model Employers assume that most accidents are caused by employees seriously neglecting their safety. or unable to protect themselves In his report, he recognized that the 'careless worker' model does not explain occupational ill-health caused by toxic substances, noise and badly designed and unsafe systems of work. New approaches to occupational health and safety,

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'shared responsibility' model is considered the best way to reduce the level of occupational accidents and diseases. It requires the cooperation of both employers and employees. (Bratton & Gold, 1999). To maintain a safe and hygienic workplace Workers and supervisors must be taught health and safety. Such intentions are not always accompanied by the acquisition of skills or knowledge in the use of equipment. Most people learn how to drive a car, for example, it is quite difficult. However, a mature attitude is necessary (Siegel, 1962). Although employers must design and maintain safe and healthy working systems, the common duty of employees is to act in a manner that protects their health and that of their colleagues (Bratton & Gold, 1999).

The applied science subject "Safety in the workplace" is summarized as personal safety. A safe environment and safe behavior is an important aspect employers need to ensure readiness in their organizations. From this research people must adjust the working environment by implementing safety and identifying workplace hazards so that workers can avoid hazardous situations (Ynze Houten (ed)., 2012). Figures compiled each year from statistics in the UK reveal that the education sector as a whole has accounted for a significant number of four to five deaths and over 3000 injuries over the past six years. This means that a teacher or classroom assistant may be at risk (HSE, 2001/2004). The second section of the Canadian Labor Code sets out the duties of both employers and employees. These duties have the goal of preventing occupational injuries and diseases. Employees are responsible for taking all reasonable and necessary precautions to ensure their health and safety and of other persons who may be affected by their work or activities. They are required to use all materials, equipment, supplies and clothing provided by their employer (Canadian Labour Code, 2015).

Early research by psychologists and sociologists examines individual behavior and social causes, using a disciplinary framework to develop concepts and theoretical insights into occupational health and safety (Dawson & Zanko, 2011). These findings are enhanced by the results of a workplace survey by industry relations experts that draws attention to the importance of law and non-regulatory innovation. As with regulatory strategies (Nichols et al., 2007), health and safety concerns have been historically relevant. Early researchers were concerned about theoretical insights into the health and safety of employees. The survey, which was done later, focused on the importance of the law. On technical questions about workplace health and safety there is a social component, for example, the power relations of production: who says who does what and how quickly. After all, machines are not faster on their own. There are people who design machines, organize events, design events (Sass, 1986). This means 'Health and safety are not just technical issues such as providing helmets and safety glasses or adequate ventilation because it raises questions about economic costs and power relations'. This is true for all institutions, including schools.

An investigation conducted by the Health and Safety Commission (HSC) under the 1994 Health and Safety Regulations revealed that people were confused about the difference between; Approved guidelines and regulations The Commission is moving forward to find a way out of this confusion. Results include what health and safety legislation requires. The Occupational Health and Safety Act of 1974 defines the duties employers have on employees and members of the public. Including the duties of the employer to themselves and each other

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the law applies to employers and employees. National legislation should be part of national legislation by employers (HSE, 2003/2008). In India for employers to comply with legal requirements Employers are required to provide workers with welfare benefits (Logasakthi & Rajagopal, 2013). Both identified health, safety and welfare activities of workers as essential to improving workers' working conditions, economy and living standards. They are quick to point out that in the old days Employers oppressed workers by paying less salaries and pulling in more jobs in unsatisfactory work environments. with the advent of The Employment and Regulation Act of 1948 required employers to provide a satisfactory working environment.

The Occupational Safety, Health and Welfare Act of 2005 repealed and replaced the Occupational Safety, Health and Welfare Act of 1989. The purpose of the first legislation was to provide additional provisions regarding the safety, health and well-being of persons in the workplace. This Act clarifies and increases employers' responsibilities. Self-employed, employees, and others concerned with occupational safety and health.

There are also various enforcement measures that may apply and outlines penalties that may apply for violating occupational health and safety laws (Safety, Health, and Welfare at Work Act of 2005, accessed, 2015). A 'right to know' that guarantees each worker's right to know about hazardous substances in the workplace and requires employers to notify employees of the same. (Anthony *et al.,* 2007). There are state and federal laws to protect the welfare of the worker. Crucial is the Occupational Health and Safety Act (OSHA), which went into effect in 1971 with the aim of "certifying" where possible. All women and men in the country enjoy safe and healthy working conditions and to maintain our working conditions human resources." To achieve this goal there are provisions on occupational safety and health standards, research, information, and occupational safety and health education and training. (De Reamer, 1980).

OSHA has coverage. It covers things like record keeping, auditing, compliance and enforcement of safety standards. There is a list of more than 5,000 safety and health standards, from the density of airborne particles to the height at which a fire extinguisher is mounted. (Muchinsky, 1990). On the same note, in the 1960s, white collar trade unions pressed for health and safety legislation to be extended to cover employees in laboratories, education, hospitals and local government (Bratton & Gold, 1999). The research findings by Reilly et al. (1995) That shows the benefits of the union's safety committee can be reproduced by existing health and safety legislation in France and Germany. This requires larger companies to have a joint health and safety advisory board. It may become a norm or a model. The health and safety committee stated; Accidents and sickness are inevitable. It often comes from a failure to control and organize (Bratton & Gold, 1999). There are current trends working to oppose safety and health legislation (Bratton & Gold, 1999). This is emphasized by Bain (1997), who persuasively argues that in Europe and the United States Powerful business lobbies and governments have created dissatisfaction with health and safety laws. Current campaign source for the "deregulation" of health and safety protections is market-driven and can come under pressure from increasing competition (Bain, 1997).

Managers can have a greater influence on health and safety. They are in immediate control and it is up to them to continually watch for unsafe conditions or practices and take

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immediate action. They can achieve this by forming a safety committee consisting of health and safety representatives who advise on health and safety policies and procedures. A study of employee benefits facilities implemented at Bosch Ltd. and 100 employees observed that 65% of respondents stated that workplace safety equipment was provided in their organization, 35% reported that their organization did not provide them safety equipment provided The researchers concluded that This is due to a higher percentage of those reporting that the company provides work safety equipment. The company therefore provides safety equipment for employees during work. The serious notion that accidents cannot happen to us or will happen because of "bad luck" regardless of our efforts to prevent these accidents is the opposite of fact such as the inevitable malfunction of the equipment) which caused the accident. It's a matter that needs to be studied a lot. Estimates of the percentage of accidents due to such causes, and therefore unpreventable, vary between 10 and 20 percent (Siegel, 1962). On the same argument, (Armstrong, 2006) stresses that health and safety inspections are designed to examine a specific area of the organization to locate and define any faults in the system, equipment, plant or machine. The concern of these writers reveals the importance of maintaining health and safety equipment.

Health and safety functions are directly related to elements of HRM cycle selection, assessment, reward and training. Maintaining a hygienic and safe workplace can facilitate the selection process by selecting candidates with personality traits that reduce the likelihood of accidents. Safe work behavior can be supported by a reward system that links bonus payments to a group or department safety record (Bratton & Gold, 1999). In Beer's HRM model, work systems have been known to not only affect commitment, competence, worth, and consistency of the four Cs, but also long-term effects on personal well-being. Evidence suggests that the design of work systems can have impacts on physical health, mental health, and longevity (Beer *et al*., 1984), and continuing attention to health and safety is essential. Because illnesses and injuries caused by work systems or working conditions cause suffering and loss to individuals and their dependents (Armstrong, 2006). Managers and supervisors must serve as role models for safety programs. They should seek advice from employees to improve workplace safety. and implement the instructions in a timely manner (Reber et al., 1990). It is the manager's responsibility to perform the tasks specified in the safety program. Workers will want to know "What's in it?" Although companies benefit from increased security through such programs, employees may not find it personally profitable to adhere to new safety plans, so employee incentives often reverse this trend and increase compliance.

Materials and methods

The method involves a description of the methods used to conduct the study (Kombo and Tromp). It answers the questions “what,” “why,” and “where” (Kothari 2004). The prevalence of workplace governance and workplace safety strategies over time by industry and by workplace size, weighted percentages and confidence limits were calculated. Rao–Scott X^2 statistics were used to assess differences by year and industry. Effect modifications were assessed by multiple remodelling of the model. Once for each main effect created through the step selection process. Point estimates and 95% confidence limits were calculated for the multivariate analysis. Wald X^2 statistics were used to compare multivariate models appropriate to sectors with and without workplace and safety governance strategies. The level

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of significance was set at < 0.05. All data analyses were performed using the PROC SURVEYFREQ and PROC LOGISTIC commands in SAS Version 9.4 (SAS Institute Inc., Cary, NC, USA).

All participants were fully informed about the purpose of the study. Written informed consent was obtained from each participant after the consent form was read by the participants. The consent form was in Thailand, the local language and in English, and it stated that the participation was completely voluntary and that the participant could withdraw at any time from the study. Confidentiality was maintained throughout the study. During data collection, each person was identified by giving them a unique identification number. The participant was required to enter their name only while signing for written consent.

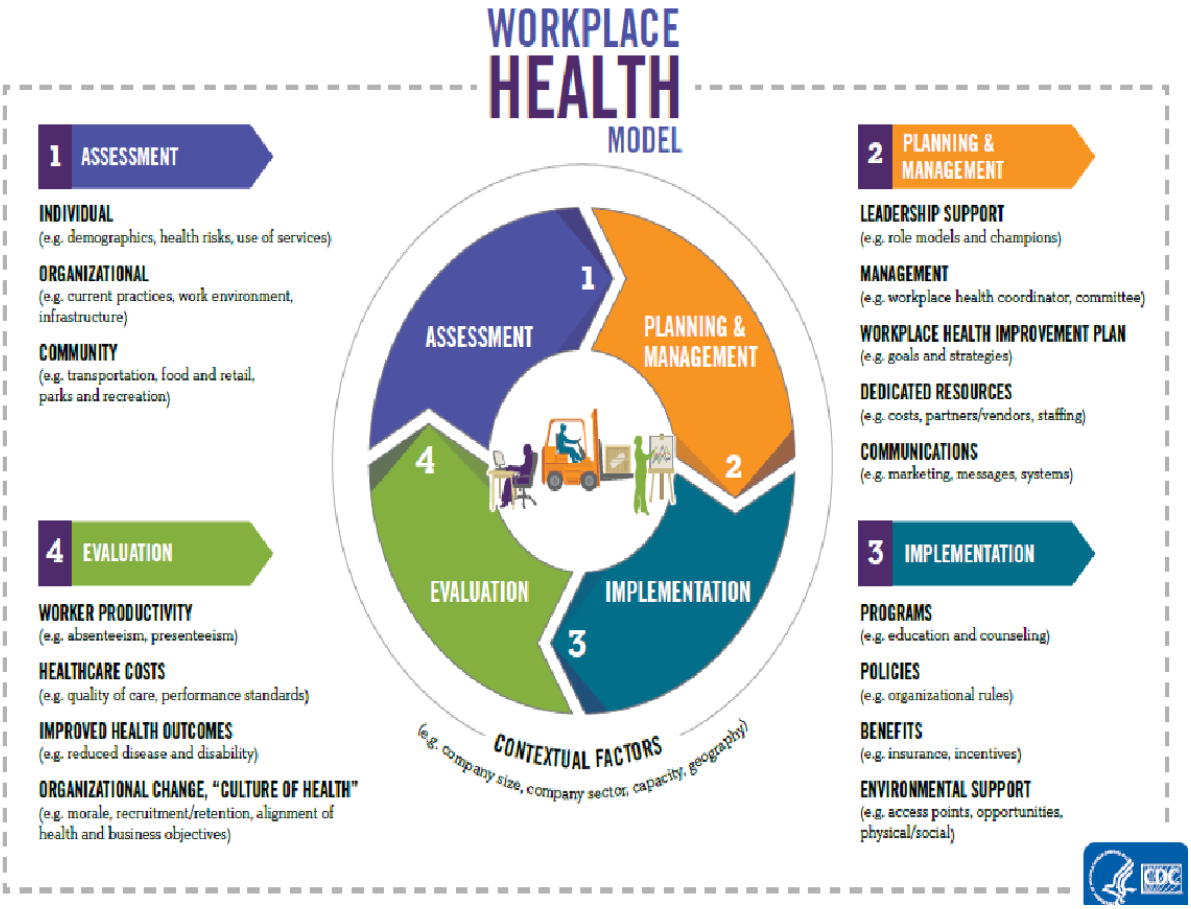

Fig: Workplace health model (CDC)

Results and discussion

Table 1: Distribution of respondents based on demographic characters of employees

	n = 36 (%)
	Age
20-25	6 (16.67)
26-30	12 (33.33)
31-35	9 (2.50)
36-40	6 (16.67)
41- and above	3(8.33)
Gender	

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Male	14(38.89)
Female	22(61.11)
Smoking habit of employees	
Smokers	11(30.56)
Non smokers	25 (69.44)
Work experience	
1-5	6(16.67)
6-10	9(25.0)
11-15	12(33.33)
16-20	9(25.0)

The main characteristics are presented in table 1. No significant differences were observed between the mean ages of subjects in the different groups (Student's t-test). Smoking habits, in the exposed group just three subjects smoking an average of 3.42 ± 0.98 cigarettes per day, while in the control group all individuals were non-smokers. The duration of experience in the group was 33.33 % with 11-15 years of working experience. Analysis of questionnaires revealed that all employees participated in health and safety related discussions. We also observed whether the work areas in the company were equipped with ventilation devices or not.

Table 2: Distribution as per industry size, type of industry

	n = 36 (%)
Working site	
Small 1-10	6 (16.67)
Medium 11-20	12 (33.33)
Large 21 and above	18 (50.0)
Type of industry	
Health Care and Social welfare	14(38.89)
Wholesale and Retail	8(22.22)
Public Administration and Manufacturing	11(30.56)
Transportation and Warehousing	3 (8.33)

Table 2 elucidates distribution of health of the employees based on the size of the industry. Small scale 16.67%, medium 33.33% and 50.0% large scale industries based on the workers working in the specific sectors. Based on the type of industry employees are working such as Health Care and Social welfare 38.89%, Wholesale and Retail 22.22%, Public Administration and Manufacturing 30.56% and Transportation and Warehousing 8.33% respectively.

Table 3: Multivariable adjusted odds of implementing workplace health strategies by industry sector

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Parameter	Health Promotion Committee	Coordinator Responsible for Employee Health Promotion	Staff Responsible for Employee Health Promotion	Funding for Health Promotion in Budget	Objectives for Employee Health in written	Mission for Employee Health
	% (CI)	% (CI)	% (CI)	% (CI)	% (CI)	% (CI)
Health Care, Social welfare	17.6 (12.8-19.9)	15.9 (12.9-20.0	15.6 (14.1-18.8)	11.9 (11.2-14.6)	12.1 (8.4-13.6)	11.3 (8.5-13.9)
Wholesale and Retail	11.2 (9.1-14.4)	14.2 (11.1-17.2)	9.9 (6.1-11.4)	11.0 (5.6-11.63)	10.3 (8.9-12.2)	10.6 (8.6-11.8)
Public Administration, Manufacturing	25.1 (18.7-33.0)	20.2 (14.5-27.2)	18.9 (14.0-24.9)	20.1 (16.2-27.0)	17.0 (11.2-22.9)	15.9 (11.1-22.0)
Transportation, Warehousing	11.9 (8.0–17.1)	15.0 (9.6–20.0)	11.0 (6.2–15.9)	8.1 (4.3–12.0)	9.7 (5.6–13.7)	8.4 (4.5–12.3)

Health Care, Social welfare % (CI) as follows Health Promotion Committee 17.6 (12.8–19.9) Coordinator Responsible for Employee Health Promotion 15.9 (12.9–20.0) Staff Responsible for Employee Health Promotion 15.6 (14.1–18.8) Funding for Health Promotion in Budget 11.9 (11.2–14.6) Objectives for Employee Health in written 12.1 (8.4–13.6) and Mission for Employee Health 11.3 (8.5–13.9). Wholesale and Retail % (CI) for Health Promotion Committee 11.2 (9.1–14.4); Coordinator Responsible for Employee Health Promotion 14.2 (11.1–17.2); Staff Responsible for Employee Health Promotion 9.9 (6.1–11.4); Funding for Health Promotion in Budget 11.0 (5.6–11.63); Objectives for Employee Health in written 10.3 (8.9–12.2); and Mission for Employee Health 10.6 (8.6–11.8) respectively.

Public Administration, Manufacturing for Health Promotion Committee 25.1 (18.7–33.0) Coordinator Responsible for Employee Health Promotion 20.2 (14.5–27.2) Staff Responsible for Employee Health Promotion 18.9 (14.0–24.9) Funding for Health Promotion in Budget 20.1 (16.2–27.0) Objectives for Employee Health in written 17.0 (11.2–22.9) and Mission for Employee Health 15.9 (11.1–22.0). Transportation, Warehousing % (CI) as follows Health Promotion Committee 11.9 (8.0–17.1) Coordinator Responsible for Employee Health Promotion 15.0 (9.6–20.0) Staff Responsible for Employee Health Promotion 11.0 (6.2–15.9) Funding for Health Promotion in Budget 8.1 (4.3–12.0) Objectives for Employee Health in written 9.7 (5.6–13.7) and Mission for Employee Health 8.4 (4.5–12.3) respectively.

Due to the increasing burden of chronic disease on the health and well-being of employees Along with the cost of health care, businesses are adopting a variety of workplace health promotion initiatives. A comprehensive workplace wellness program includes key elements such as: Health education, social environments and supportive physical, integration of the worksite program into the organization's structure, linkage to related programs, and worksite screening programs (CDC, 2019, Mc Lellan, 2015). Meanwhile Occupational health requirements require employers to adopt employee safety policies to prevent injury and illness. The study highlights the critical role that organizational and policy capacities in the

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workplace play in preventing injury, illness and chronic disease. (Pronk, 2014; Payne, 2018; Linnan, 2008; Cooklin, 2017). This study seeks to learn more about workplace health governance practices and organizational safety planning strategies and policies among employers in most rural states through a workplace survey when compared between survey years We found that the implementation of the workplace health plan and regulatory strategy across all six measures increased. The Full U.S. Health Care Reform Act, enacted in March 2010, occurred during the first year of our study. The Prevention and Public Health Fund (PPHF) under the ACA includes provisions for creating employer-based health programs. Peer-reviewed research on the effectiveness of ACA employer-based wellness programs is limited. Although we did not directly assess the impact of ACA health incentives, our study results suggest an increase over time passed on the implementation of health planning and governance strategies in the workplace (Haberkorn, 2012; Chait, 2018; Anderko2012).

When results were combined across multiple study sessions, found that adoption of workplace health governance and planning strategies across all job sites was relatively low (less than 20%) and varied widely across industries. Higher acceptance in the sector 'Educational services' is consistent with Hannon et al. that assessed workplace health capacities of mid-sized employers. A comparatively low adoption of governance and planning strategies is found in the industry 'other services', 'construction' and 'transportation and warehousing'. Studies show that participation and availability of workplace health initiatives is often lower among industry workers with low income and low wages (CDC, 2019, Mc Lellan, 2015).

Overall, the availability of selected corporate security policies outperforms governance and planning strategies which is a result consistent with similar studies. Higher acceptance of policies related to seat-belt use and mobile phones/texting while driving in the sector. ‘Construction’ and ‘Transportation and Warehousing’ were to be expected when considering that these employees were more likely to be involved in work-related travel. Among all worksites, 62.5% reported having a worksite safety committee, a similar result found in a survey among small businesses by Mc Lellan et al. The presence of safety committees and return to work programs is lower than expected in some sectors. For example, less than two-thirds of workplaces in the sector 'Healthcare and Social Assistance' Reported Safety and Return to Work Program Board Despite the fact that these workers are at significant risk of occupational injuries (CDC, 2019, Mc Lellan, 2015).

The conflict between governance, planning and adoption of security strategies and policies highlights the opportunity to integrate prevention programs at the organizational level and in specific sectors. Workers, particularly in labor-intensive and blue-collar industries, face unique behavioral and occupational risks and outcomes as evidenced by data from health behavior surveys and occupational injury surveillance. For example, truck driving workers face environmental factors that lead to unhealthy dietary patterns and excessive weight gain and higher risks of occupational injuries and illnesses. Common health hazards and risks make workers in blue-collar worksites prime candidates for comprehensive programs that integrate injury prevention, employee safety, and worker welfare programs (Lemke, 2015).

One approach to integrating health protection with health promotion is the TWH framework. Research supports the potential of integrated workplace approaches to improve worker

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health, safety, and well-being by addressing overlapping risk factors. Evaluating the effects of the TWH framework is an emerging field, as several studies have shown that TWH interventions can effectively address injuries and chronic diseases in specific worker populations. Although the current study did not evaluate specific integrated TWH interventions or programs, we found that only 15.6% of worksites in our 2016 survey reported a coordinated program for occupational health and safety with health promotion (Anger, 2018).

Our findings on the impact of employer perceptions of health issues represent a business case for the TWH approach alcohol/drug use and workplace injuries are among the top five employee health issues reported by job sites that negatively impact business. These results highlight a complex and interconnected worker health dynamic. This can be addressed in an integrated way. For example, stress at work is associated with negative health outcomes, such as increased risk of cardiovascular disease and metabolic syndrome. Evidence also supports an association between workplace injuries and chronic disease (Peters, 2018).

Our results on barriers point to challenges in implementing workplace health initiatives as a result of both employers and employees which is similar to other studies more than half of businesses say time constraints are a barrier to workplace success and workplace well-being. For these job sites having a coordinator responsible for employee health promotion or a health/wellness promotion committee can help provide a platform for employee engagement and collaboration to drive workplace health planning and efforts in order to be effective (Peters, 2018).

In general, smaller sites rarely report obstructions. Obstacles greater than 50% were not reported in small job sites. Workplace costs and time barriers are less likely to be reported in smaller workplaces. This is a similar result in the Australian Workplace Survey. There are many opportunities for workplace health and wellness programs in small businesses to be successful and accepted among employees. For example, the process of implementing a new initiative is less bureaucratic and easier to implement may include a greater proportion of employee preferences and employees may have more personal responsibilities (CDC, 2019, Mc Lellan, 2015).

There were several limitations in this study. Due to the self-reporting nature of workplace surveys, this study is therefore susceptible to selection bias. Large sites are more likely to complete surveys compared to small and medium sites and these large job sites may be prone to certain workplace health or safety initiatives. In addition, the non-response rate increases over time in large and small businesses, which cannot be explained. This non-reactive increase may explain the observed strong increase trend to reduce selection bias Notifications are sent to respondents during the three-year survey collection. Weights were also applied to adjust the effect of no response across site sizes. The relationship between site size and sector should be considered when interpreting the results while industries such as 'manufacturing' tend to be larger in size. This relationship actually existed between site size and industry in our sample ($p < 0.0001$). Surveys are also sent to business owners, managers or HR representatives but workplace data can result in inaccurate classification if the agent is not the most suitable respondent.

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Finally the data represents a single workplace view therefore; care should be taken in interpreting our results. As evidence suggests that employee perceptions may differ from those of employers, despite these limitations, these findings can serve as guidance for research and practice on workplace health and safety promotion according to our knowledge. This is the first study to describe the acceptance and trends of specific workplace health governance and planning strategies using a multi-period survey. This information also fills in an important gap where the latest information is not publicly available and available on workplace health governance and corporate safety planning strategies and policies by industry in detail. Finally our study had a fairly large sample size especially in one state (Thiese, 2017).

The findings support the need for targeted approaches to building organizational capacity for comprehensive and integrated workplace health and safety programs in industries most affected by chronic disease and workplace injuries. Opportunities to improve the health, safety and well-being of employees using TWH strategies are greater than in blue-collar industries where adoption of governance and planning strategies is low. Public health practitioners should focus on how businesses can address the most common obstacles to implementation relative to their size. Setting goals for promoting workplace wellness programs in small businesses can be effective because they may face fewer obstacles.

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