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Evaluating worksite wellness summit among Maui worksites

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Abstract:

CONTEXT: The Maui Worksite Wellness Policy Initiative was evaluated utilizing a baseline and follow-up study to improve the prevalence and awareness of worksite wellness for Maui employers following the Maui Worksite Wellness Summit intervention.

AIMS: To evaluate a worksite wellness intervention.

SETTINGS AND DESIGN: Worksites that attended the Maui Worksite Wellness Summit with a pre- and post-test design.

PARTICIPANTS AND METHODS: Worksite characteristics and worksite wellness components (infrastructure, physical activity, and nutrition) were measured using a Likert-scale survey.

STATISTICAL ANALYSIS USED: Repeated measures analysis of variance was used to compare the pre- and post-tests.

RESULTS: The baseline sample was comprised of 9 businesses, and the number of full-time employees ranged from 3 to 715; the follow-up sample was comprised of 7 businesses, and the number of full-time employees ranged from 3 to 750. Results indicated that majority (71.43%) of worksites improved their worksite wellness policies, 85.71% improved their infrastructure, 71.43% increased their support for physical activity policies, and 57.14% improved their support for nutrition policies after the Maui worksite wellness summit.

CONCLUSIONS: Based on this study, future efforts should comprise of a larger sample, more rigorous methodology, and longer duration.

Keywords:

Interventions, Maui worksite wellness, worksite wellness components

Introduction

Overview

Although Hawai'i is believed to be one of the healthiest states, 230,190 (21.8%) adults are obese.^[1] Native Hawaiians are affected disproportionately by obesity, with 35% of the state's indigenous adults qualifying as obese.^[1] In Maui County (including the islands of Maui, Molokai, and Lanai), approximately 35.9% adults are overweight and 27% are obese, which is greater than the adult obesity rate for the state of Hawai'i.^[1] To put this in context, 26.0% of Hawai'i's total population is Native Hawaiian and Other Pacific

Islander with Hawaii County having the largest share of Native Hawaiians and Other Pacific Islanders (34.4%), followed by Maui County (27.7%), Kauai County (25.7%), and Honolulu County (24.1%).^[2] In Hawai'i, the annual obesity-related medical costs are estimated to be \$470 million, while the annual diabetes-related medical costs for Hawai'i are estimated at \$770 million.^[3] In addition to the medical costs, obesity can reduce work productivity and increase the risk for heart disease, stroke, cancer, diabetes, and chronic health conditions.^[1] More than 25% of Maui adults have hypertension and more than 33% have high cholesterol.^[1] While personal predisposition and behaviors such as a healthy diet and regular physical activity have been known to impact obesity,

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environmental factors can also impact overweight and obesity.

Worksite wellness

Typical employees spend approximately 33% of their total daily hours (an average of 8 h per weekday) at their worksite.^[4] Sixty-four percent of workers in Hawaii felt that employers can and should promote healthy lifestyles at the worksite.^[5] Therefore, the worksite is an important venue to address dietary and physical activity issues for employees. Worksite wellness refers to the education, activities, environment, and policies that a company may offer their employees and their families to promote healthy lifestyles. Examples include health education classes, subsidized use of fitness facilities, and policies that promote healthy behavior. The Nicholson model assumes that a worksite healthcare quality improvement program provides four potential benefits to employers: lower medical expenditures, fewer absences reflected in lower absenteeism (e.g., a tendency to be away from work due to sudden illness or chronic health issues), better productivity reflected in lower presenteeism, (e.g., when employees are on the job but are less productive because of health-related problems), and lower turnover.^[6] Therefore, the advantages of a worksite wellness program are on both financial and quality of life. The average savings-to-cost ratio in reduced absenteeism and health-care costs was \$3.5 to \$1 in a review of 73 published studies of worksite health promotion programs.^[7] Having a healthier worksite will lower direct costs such as insurance premiums and employees' compensation claims, as well as positively impact many indirect costs such as low worker productivity and worker sick leave.

Previous studies

Many worksite wellness programs have been conducted to improve the health and work productivity of employees. A statewide worksite wellness program in Hawai'i was designed to provide environmental support, programmatic offerings, wellness information, and policy support for physical activity, healthy nutrition, tobacco cessation, mental well-being, and disease management in government agencies.^[4] The 3W (work, weight, and wellness) program is another worksite wellness program in Hawai'i, aiming to promote weight loss through conducting a worksite obesity prevention and intervention program at hotel worksites specifically on O'ahu, Hawai'i. Meenan *et al.* found productivity benefits were the result of the reduction of presenteeism over the 2nd year of the 3W program.^[8] The 3W program also indicated that employees' higher body mass index was related to their hotels' lack of stair facilitation and healthy eating environment in medium-sized hotels.^[9] In addition, the 3W program was helpful in evaluating and adopting

effective worksite wellness interventions to combat obesity and obesity-related diseases.^[10]

Current study

The current study aims to evaluate health policy changes after a worksite wellness summit intervention delivered to Maui worksites. Based on previous studies, it is expected that following the workshop intervention, more healthy policies will be made, and the prevalence and awareness of worksite wellness for Maui employers will be improved. More specifically, its purpose is to assess infrastructure, physical activity, and nutrition worksite policies at Maui worksites since healthy eating and exercise were the most preferred strategies to improve obesity for native Hawaiian-serving organizations in Hawai'i.^[5]

Participants and Methods

Participants

The Worksite Wellness Summit II was held in Maui on April 2015 and was led by the Maui County Nutrition and Physical Activity Coalition. Participants included Maui businesses that were invited to attend the summit. The 9 worksites that participated were two resorts, one homeless helping center, two blue-collar worksites, and four white-collar worksites. Except for the smallest worksite (where the CEO attended), the human resource director or staff represented the worksite and completed the surveys. The baseline sample was comprised of 9 businesses, and the number of full-time employees ranged from 3 to 715 (M = 166; standard deviation [SD] = 235); the follow-up sample was comprised of 7 businesses, and the number of full-time employees ranged from 3 to 750 (M = 185; SD = 260).

Measures

Policy implementation evaluation

The Maui worksite wellness survey was designed to examine and evaluate worksite wellness policy. The survey [Appendix A] served as a baseline and follow-up survey that consists of 2 worksite characteristic questions and 28 questions for three health components: infrastructure, physical activity, and nutrition. The worksite characteristic questions describe the number of employees at the worksite and the size of the worksite. The health component questions include 6 questions for the infrastructure component, 12 for the physical activity component, and 10 for the nutrition component. The participants were to indicate if they have the component (Yes), are in the process of instituting the component (In Process), are planning for the component (In Planning), or do not have the component at all (No) at their worksites during the past 12 months. Scale score was summed for each worksite and then averaged across worksites.

Training evaluation

An evaluation [Appendix B] developed specifically for this summit was also employed to evaluate the summit itself. The evaluation includes participants' evaluation (from 1 [poor] to 4 [excellent]) on program content (5 items), program structure (5 items), speakers (5 items), and overall rating of the program (1 item). The scores were averaged for each category.

Design

The current study employs a 3-month baseline and follow-up study. The worksite wellness summit is the intervention to motivate the participating businesses to promote worksite physical activity and nutrition through policy, environmental, and system change.

Procedure

For the baseline survey, each participant who attended the worksite summit read and provided informed consent. After researchers briefly described the study and received consent, a representative of each business completed the survey of their current worksite health and wellness practices. The intervention included several lectures on relationships between worksite wellness, health benefits, the payoff of worksite wellness, and free/subsidized worksite wellness tools/resources shared by Hawai'i health care providers. The survey items and the intervention promoted the awareness of areas through which employers may improve employees' worksite wellness. Examples provided to employers included promoting activities at work, such as breaks for stretching, having fruits and nutritious snacks available at meetings, and offering subsidized health insurance. Three months after the worksite wellness summit, the follow-up survey was sent to the same participants through a Survey Monkey link.

Results

Descriptive statistics

Policy implementation evaluation

Nine Maui worksites participated in the baseline study, and 7 of the 9 worksites participated in the follow-up study (one worksite did not respond, the other worksite did not complete the survey). To evaluate the internal consistency for survey items, Cronbach's α was conducted. For pretest, $\alpha = 0.81$, and for posttest, $\alpha = 0.83$, both indicating a high level of internal consistency for the worksite wellness survey with this sample. Table 1 shows the means, standard deviation, and internal consistency of worksite wellness.

Training evaluation

The worksite wellness summit evaluation by participants was high – the overall evaluation of the summit was 3.94

out of 4. Table 2 shows the mean and standard deviation of the summit evaluation.

Analysis of variance

The one-way analysis of variance (ANOVA) with repeated measures was conducted to analyze the worksite wellness policy changes. The worksite wellness component score and the total score were compared for each participating worksite. Results indicate that for worksite wellness policies: $F(1, 6) = 1.16$, effect size partial $\eta^2 = 0.16$; for the infrastructure component: $F(1, 6) = 1.62$, partial $\eta^2 = 0.21$; for the physical activity component: $F(1, 6) = 1.20$, partial $\eta^2 = 0.15$, and for the nutrition component: $F(1, 6) = 0.01$, effect size partial $\eta^2 = 0.002$. The guide for magnitudes of effect size for ANOVA (Cohen, 1988) is small 0.01, medium 0.06, and large 0.14. The effect size for total, infrastructure, and physical activity were large. Figures 1-4 show the worksite wellness score for each worksite, indicating that the majority (71.43%) of worksites improved their worksite wellness policies, 85.71% improved their infrastructure, 71.43% improved their physical activity, and 57.14% improved their nutrition after the Maui worksite wellness summit was delivered.

Discussion

Maui worksite wellness policy changes were evaluated before and after a worksite wellness summit. The majority of the participated worksites evaluated the summit very well and subsequently improved the worksite wellness in their worksites. Therefore, the summit successfully emphasized the importance of worksite wellness policies among the Maui worksites, especially the infrastructure component and the physical

Table 1: Means and standard deviation for worksite wellness components

Worksite wellness component (item numbers)	Pretest (n=9)				Posttest (n=7)			
	Mean	SD	Range	α	Mean	SD	Range	α
Infrastructure (6)	5.56	6.35	0-19	0.76	6.71	6.97	0-19	0.87
Physical activity (12)	10.56	6.84	4-25	0.46	13.00	10.91	4-33	0.81
Nutrition (10)	8.33	5.99	5-23	0.84	8.71	2.51	5-12	0.19
Total (28)	24.44	14.10	0-46	0.81	28.43	13.49	9-49	0.83

SD=Standard deviation

Table 2: Means and standard deviation for worksite wellness summit evaluation

Domain	Mean (range 1-4)	SD
Program content	3.93	0.24
Program structure	3.90	0.16
Speakers	3.90	0.25
Overall evaluation	3.94	0.24

SD=Standard deviation

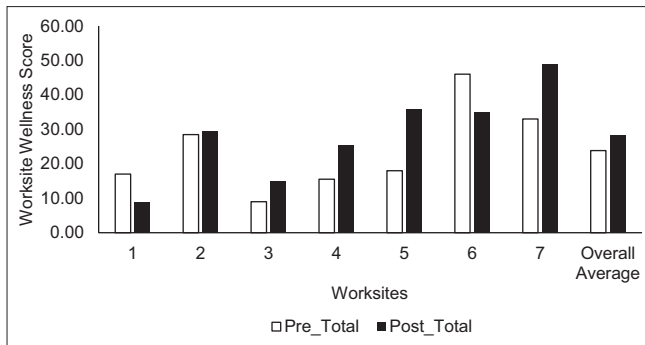


Figure 1: Worksite Wellness pre- and post-test total score for each worksite

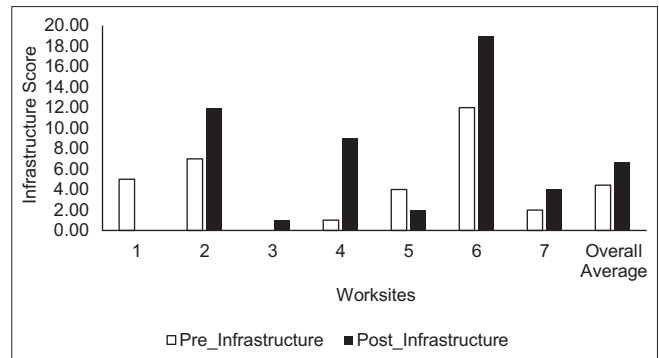


Figure 2: Worksite Wellness pre- and post-test infrastructure scores for each worksite

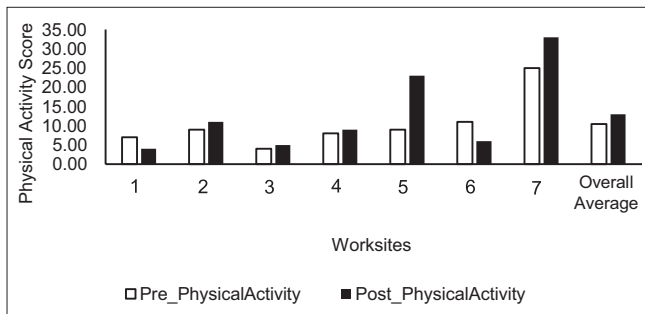


Figure 3: Worksite Wellness pre- and post-test physical activity scores for each worksite

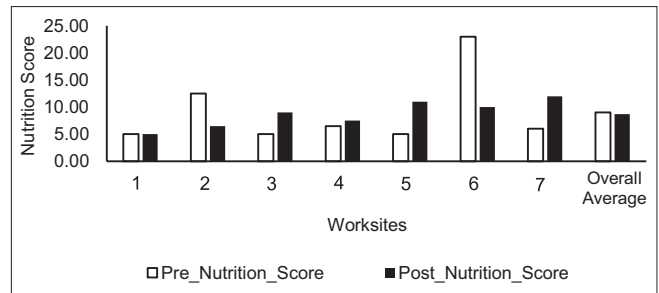


Figure 4: Worksite Wellness pre- and post-test nutrition scores for each worksite

activity component. The infrastructure component and the physical activity component had a large effect size, meaning that the worksite environments had implemented better conditions to improve these two components. The nutrition component did not show much difference before and after the summit. Consistent with previous research, after the workshop intervention, more healthy policies were made, and the prevalence and awareness of worksite wellness for employers improved as a result of the intervention.^[5,6,8]

The study has some limitations. First, the sample size is too small to represent the County of Maui, limiting generalization to other Maui worksites. Second, considering the policy changes made in worksites, 3 months between baseline data collection and follow-up data collection is a short timeline. This may be one of the reasons that there was not much improvement made for the nutrition component. Finally, the improvements on worksite wellness policies were driven by the environmental conditions, and future efforts should focus on more wellness areas, for example, tobacco control, stress reduction, and health screening.

Conclusions

In spite of these limitations, the current study successfully highlights the awareness of Maui worksites employers to improve their worksites wellness environment, especially on infrastructure and physical activity. For further

studies, more worksites from Maui should be recruited to increase participation and representativeness. In addition, more wellness components could be added to optimize worksite wellness policies. Furthermore, research is needed to indicate how effectively wellness policy improvements transfer into improvements in efficiency, productivity, and healthy life.

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Conflicts of interest

There are no conflicts of interest.

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Appendix

Appendix A

Informed Consent

Welcome and thank you for volunteering to be part of this research project. This research project is being conducted by the Office of Public Health Studies, University of Hawaii at Manoa. The goal is to evaluate the health and wellness policies at the workplace.

We'd like to invite you to participate if:

1. You are 18 years old or older
2. You are involved at a worksite on Maui.

You will be asked to complete the survey starting on the next page. The goal of this study is to see how many health policies are changed to improve worksite wellness. After three months, you'll be asked to complete a follow-up survey. This survey will ask you to provide your email address so we can do a follow-up.

These surveys are voluntary and confidential, and we're grateful for your time. Also, please note that the organization you work for will NOT see your individual responses, and your decision to participate (or not) will in no way affect your relationship with that organization.

This study has received ethics approval from the University of Hawai'i Institutional Review Board. If you have any questions or concerns, please feel free to contact Dr. Claudio Nigg at (808) 956-2862 or email at cnigg@hawaii.edu. If you have any questions regarding your rights as a participant, please contact the Committee on Human Studies at (808) 956-5007.

Your time and participation in this study are greatly appreciated.

If you would like, just ask for a copy of this page for your records.

Do you consent to participate in this research project, which includes completing this and a follow-up survey?

- Yes – go on the survey next page
- No – thank you, please hand the survey to the researcher

Worksite Wellness Survey

What is your email address? (We need your email address for this project so we can send you the follow-up survey. We will not use your email address for any other purpose, and we will not give your email address to anyone else.)

Worksite Characteristics

1. Approximately, how many of the employees (not including temporary or seasonal) at your worksite are

Fulltime (35 h or more)

Salaried (as opposed to hourly)

Under the age of 40

Represented by a union

Female

White

Manual labor (production, labor, unskilled work)

Nonmanual labor (administration, professional, sales, technical, clerical)

Worksite name

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2. In the past 12 months, did your worksite either downsize, increase the size of the workforce, or stay the same size? Check only one.

- Down-sized
- Stayed the same
- Increased
- Both down-sized and increased

Choose whether you have the component (Yes), are in the process of instituting the component (In Process), are planning for the component (In Planning), or do not have the component at all (No) during the past 12 months.

		Infrastructure				
#	Wellness component	Yes	In process	In planning	No	Comments
1	Have senior leaders actively supported worksite wellness? For example, you have "buy-in" from upper management					
2	Have a worksite wellness committee that meets at least quarterly to oversee a worksite wellness program?					
3	Conduct an employee needs and interests assessment for planning health promotion? For example, your organization administers focus groups or employee satisfaction surveys to assess your employee health promotion programs					
4	Have a budget for worksite wellness activities? For example, you have a team or group of people dedicated to working on health and wellness issues					
5	Have a company written wellness plan and/or policy that addresses the purpose, nature, duration, resources, participants, budget, and expected results of a worksite wellness program?					
6	Do an annual wellness program review and report significant results to management?					
Infrastructure component score						

		Physical activity				
#	Wellness component	Yes	In process	In planning	No	Comments
1	Are employees provided with breaks during working hours and encouraged to be active during break time?					
2	Provide free, discounted, or employer-subsidized memberships to fitness centers?					
3	Subsidize bus passes for employers who would like to take the bus to work?					
4	Map out on-site trails or nearby walking routes or encourage employees to map their own biking or walking route to and from work?					
5	Provide bike racks in safe and convenient locations?					
6	Provide prompts to promote physical activity near each stairwell or elevator and other key locations?					
7	Provide outdoor exercise areas, playing fields, or walking trails for employee use?					
8	Provide showers and/or changing facilities?					
9	Provide an on-site exercise facility?					
10	Provide brochures, videos, posters, pamphlets, newsletters, or other written or online information that address the benefits of physical activity?					
11	Provide a series of educational seminars, workshops, or classes on physical activity? (These sessions can be provided in-person or online; on-site or off-site; in group or individual settings; through vendors, on-site staff, health insurance plan or programs, community groups, or other practitioners)					
12	Support community physical activity opportunities as sponsoring community sports teams or sponsoring or participating in community-sponsored physical activity events?					
Physical activity component score						

		Nutrition			
#	Wellness component	Yes	In process	In planning	No Comments
1	Have a written policy for the provision of healthy food and beverage options (for example, 100% fruit juices, whole grain items or trans-fat-free/low-sodium snacks) at employee meetings and events?				
2	Promote healthy choices by modifying vending contracts to Increase the percentage of healthy options (devote more space to healthy items) Use competitive pricing to make healthier choices more economical?				
3	Promote the consumption of healthy foods in catering/cafeteria policies through signs, posters, etc.?				
4	Make water available and promote drinking water throughout the day?				
5	Offer local fruits and vegetables (farmer's market or a community-supported agriculture drop-off point) at the worksite?				
6	Have activities or long-term (several weeks) campaigns that focus on healthy eating and weight management?				
7	Have provisions available so employees can bring healthy lunches from home? For example, provide a fridge, sink to clean dishes, eating area with seating, microwave/ toaster oven for warming food				
8	Healthy snacks are available on employee's desk; no candy or sweets in bowls or dishes that are readily available?				
9	Provide a series of educational seminars, workshops, or classes on nutrition? (These sessions can be provided in-person or online; on-site or off-site; in group or individual settings; through vendors, on-site staff, health insurance plan or programs, community groups, or other practitioners)				
10	Have a written policy to provide meals that include healthy options?				
Nutrition component score					

Appendix B

Worksite Wellness Summit "Creating a Culture of Health in Our Workplaces"

Evaluation

I heard about this program from: NPAC SHRM Chamber (specify which Chamber): _____

Maui Hotel and Lodging Association Rotary Clubs Maui Nonprofit Executive Directors Association
 Mental Health America Other (please specify) _____

Name (optional): _____ Email Address: _____

Program content	Excellent	Very Good	Good	Poor
Objectives were clearly communicated	4	3	2	1
Program met objectives	4	3	2	1
Information was useful	4	3	2	1
Information was relevant	4	3	2	1
Program met your expectations	4	3	2	1

Comments: _____

Program structure				
Length of program	4	3	2	1
Pace of program	4	3	2	1
Quality of materials (visual, handouts)	4	3	2	1
Sufficient time for questions	4	3	2	1
Arrangement and comfort of room	4	3	2	1

Comments: _____

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Comments on speakers				
Level of preparation	4	3	2	1
Knowledge of subject	4	3	2	1
Presentation skills	4	3	2	1
Effectiveness in communicating	4	3	2	1
Responsiveness to audience	4	3	2	1

Comments: _____

Overall rating of program	4	3	2	1
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Comments on program: _____

How likely are you to share what you learned today with others, especially with people who are in a position to help you take action at you company?

Very Likely Not Sure Unlikely.

Why not? _____

More information about Worksite Wellness is available at

The Nutrition and Physical Activity Coalition-Maui County

(808) 264-7895 Website: www.npacmaui.com