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Assessing Employee Needs to Enhance a Workplace Wellness Program

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Assessing Employee Needs to Enhance a Workplace Wellness Program

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Abstract

Background: Workplace wellness programs are increasingly prevalent, but their designs vary dramatically. While successful programs differ, those that are coordinated, comprehensive, and planned intentionally to address specific workplace needs have been found most beneficial.

Objective: This project assessed the perceived health status and wellness needs of employees at one company to determine whether its workplace wellness program could be enhanced.

Methods: This project focused on one site of a large, multi-state company. A retrospective review of data from an employees' health and wellness survey was performed. Univariate and bivariate statistics were used to analyze the relationships among employee characteristics and perceived health status and wellness needs. Program utilization was also reviewed, and this information was used to develop recommendations for future wellness programming.

Results: Survey respondents reported good health, with 61% of employees rating their physical health as very good or excellent. Men reported excellent health more often than women (28% versus 19%), and front-line staff ranked their health as excellent more often than management (25% versus 7%). Top wellness needs included exercise (41%), weight loss (28%) and stress reduction (24%). Despite respondents' reported health needs and utilization of services—with nearly one-third being seen by the wellness nurse for physical and/or emotional complaints—historical utilization of wellness programs was low, with an average of 14.1 surveyed employees per session.

Conclusions: Surveyed employees perceived their overall health as good; however, they expressed specific wellness needs that could improve their physical and mental health. Although historical program offerings aligned with many of these needs, they were underutilized. Further

research is needed to understand this discrepancy and improve program participation in the future.

Background

The typical employed adult spends 8.9 hours per day at work; on average, one third of an adult's life is spent at the workplace (US Bureau of Labor Statistics, 2015). This is the largest waking time commitment in an adult's life and therefore an ideal target for health-related interventions; yet, as of 2014, only 25% of large companies (500+ employees) offered onsite occupational health, and only 16% offered onsite primary care (Mercer, 2015). Health promotion activities are more prevalent, with an estimated 73-98% of companies offering some type of program (Centers for Disease Control and Prevention [CDC], 2016). For example, programs like smoking cessation, weight loss, and exercise groups are common, while other companies are creative with flexible schedules, telephone or internet-based coaching, or subsidized gym memberships.

Workplace wellness programs vary dramatically in their scope, offerings, and effectiveness, making direct comparison difficult. Previous research has identified some common elements of effective programs. Ultimately, effective programs were found to be comprehensive, coordinated, and well-planned (CDC, 2016). Additionally, successful programs were tailored to the workplace in question. As the CDC has contended, "a successful workplace health program is one that is targeted to the specific employee population, suiting the worksite, employee needs, and personal and organizational health goals" (*Workplace Health Model*, 2016, "Step 1," para. 1).

Problem Statement

Driven by this contention—that assessing employees' needs and targeting wellness programming is a critical first step—this project examined one company's workplace wellness program, known as the Health Advocate Nurse program (HAN). This program began in 2012 as a community health program, which was then expanded by the company with the commitment of its leadership and nurses into a full-scale employer offered wellness program. At the time of its inception, the program's structure and goals were loosely defined, and its affiliation to the founding company was distant. Additionally, many of the employees served by this program were seasonal and/or part-time employees. Because of the organic way in which the HAN program developed and the unique composition of the employees it served, there was a need to examine whether the HAN program was optimally designed to meet employees' health and wellness needs.

Purpose

This project assessed the perceived health status and wellness needs of employees at the Atlanta, Georgia site of a large, multi-state company. This specific site, which employed 145 full-time and 847 seasonal employees, was selected as the project site because it developed the Health Advocate Nurse program. Analyses of employees' perceived health status and wellness needs, as well as historical program utilization, were used to inform recommendations for future program enhancement.

Significance

This project was unique, in that it focused on a workplace wellness program that evolved organically and had matured at a time when there was little evidence regarding effective workplace wellness program design, generally, and even less literature regarding design for non-

traditional labor forces including seasonal and part-time employees (Stiehl et al., 2017). Given this company's employee base, a retrospective assessment of employees' needs relative to the wellness program represented an important opportunity for improvement. By analyzing the perceived health status and expressed wellness needs of employees along with the utilization of existing wellness services, this project informed enhancements to the HAN Program and provided guidance for future programming.

Specific Aims

The aims of the project were to:

- Describe employees' perceived health status and wellness needs;
- Describe employees' utilization of the HAN Program and its services;
- Analyze the relationship among perceived health status, wellness needs, and employee characteristics;
- Develop actionable recommendations to enhance the HAN Program and guide future programming.

Research Questions

In conducting this analysis, the following questions were asked:

- What were the demographic and employment characteristics of the employees?
- What were the utilization patterns of HAN Program services among employees?
- What were their perceived health status and wellness needs?
- What was the relationship among health status, wellness needs, and employee characteristics?
- How could the HAN program be enhanced to address employees' perceived health status and wellness needs?

Literature Review

This review examined the literature on workplace wellness program planning, design, and efficacy as a foundation for wellness program evaluation. For this literature review, the online databases PubMed, CINAHL, and Google Scholar were searched for peer-reviewed studies that contained the key words "workplace wellness," "return on investment," "health promotion," "part-time," and "employee health." There were 311 studies identified using these terms, which were screened by title and abstract for potential applicability. Studies considered for inclusion had to meet the following criteria: (1) there was a workplace wellness intervention targeting employees, (2) the wellness program was sponsored by the employer, (3) the studies were published in English since 2008. Of the original 311 titles screened, 49 studies met these criteria, and were closely examined for their pertinence to the project's aims. Studies were retained if they examined the development, implementation, or evaluation of one or more workplace wellness program. Specific attention was paid to studies focusing on programs targeting seasonal or part-time employees and to those focused specifically on employee needs assessments. A total of 16 studies were selected for inclusion in this review.

Six of the 16 studies focused on evaluating the effectiveness of a single workplace health intervention. Their findings generally suggested benefits from workplace wellness programs in the form of better health outcomes and reduction of employees' chronic disease risk. For example, Rouseff et al. (2016) demonstrated reduced cardiometabolic risk factors among employees undergoing an intensive 12-week lifestyle modification program. Participants showed a statistically significant ($p<0.001$) reduction in body mass index (BMI), blood pressure, total and low-density lipoprotein (LDL) cholesterol, and hemoglobin A1c by the end of the 12-week intervention, and the changes in BMI and blood pressure persisted at one-year post-

intervention. A study by Weinhold et al. (2015) noted improved metabolic risk factors among prediabetics after a workplace wellness intervention and demonstrated a statistically significant ($p<0.05$) reduction in blood pressure, cholesterol, and body weight through the utilization of a group-based lifestyle intervention. Kramer et al. (2015) implemented a comprehensive program of education, telephone coaching, group teaching, and exercise, with the goal of increasing healthy choices and reducing risk factors for chronic disease. Participants in this study demonstrated a statistically significant decrease in weight (−5%, $p<0.001$), and improvements in self-reported time spent in physical activity (+25.0 minutes, $p= 0.04$) (Kramer et al., 2015).

Only three studies in this group specifically focused on low-income or seasonal employee populations, and all three showed statistically significant impacts on employees' behaviors (Lassen et al., 2011; Backman, Gonzaga, Sugerman, Francis, & Cook, 2011; Korshoj, Ravn, Holtermann, Hansen, and Krustrup, 2016). For example, Lassen et al. showed a significant decrease in dietary intake of fats (-2.2%, $p=0.002$) and sweets (-18g, $p=0.002$) after providing nutritional education and healthier onsite food options (2011), while a similar study demonstrated that increasing the fresh fruits available to low-wage employees led to a significant increase in individuals' purchase and consumption of fruits and vegetables (Backman, Gonzaga, Sugerman, Francis, & Cook, 2011). The only randomized-controlled study of a workplace wellness program that focused on low-income employees was a cluster randomized study by Korshoj, Ravn, Holtermann, Hansen, and Krustrup (2016). Because of the increased risks of cardiovascular disease among these employees and the fewer resources they had to mitigate these risks, the authors theorized that the workplace was an ideal setting for introducing an aerobic exercise regimen, and this intervention demonstrated a statistically significant ($p<0.05$)

reduction in C-reactive protein and LDL cholesterol between groups (Korshoj, Ravn, Holtermann, Hansen, & Krustrup, 2016).

The three remaining studies were descriptive studies that did not include an intervention. The first was a scoping review in which the authors Stiehl et al. examined the literature on workplace wellness programs specifically targeting low-wage workers (Stiehl et al., 2017). The authors reviewed 35 interventional and non-interventional studies and coded them thematically. These authors acknowledged the potential of workplace wellness programs to improve health outcomes for low-wage workers, while criticizing the lack of research on this population. They highlighted greater health risks and reduced healthcare access as key findings that should guide future research, and emphasized that more research was needed to understand how to increase access and participation in this population.

The same group of lead researchers conducted the remaining two studies and examined employers and employees' perspectives on workplace wellness programs. The first was a study of midsize employers' perspectives on workplace wellness programs (Hannon, Hammerback, Garson, Harris & Sopher, 2012), while the second assessed employees' perspectives (Hammerback, Hannon, Harris, Thorp, Kohn and Parrish, 2015). In the first study, researchers noted that most respondents viewed workplace wellness programs positively but were not confident of their effectiveness when implemented in their workplace. The four recurrent themes they identified among these employers were: (1) a belief that these programs could reduce their health care costs, (2) a belief that they would improve employee morale and/or productivity (3) a fear of being intrusive, and (4) a belief that their employees would not utilize the program (Hannon, Hammerback, Garson, Harris & Sopher, 2012).

These authors' subsequent study used interviews of employees in the same set of low-wage industries to determine if employer concerns about workplace wellness programs were also raised by employees. They found that the majority of employees expressed interest in wellness programs, but were concerned that their employers would not make health/wellness a priority or be willing to cover its costs. None of the employees interviewed expressed concerns about privacy or employer intrusion. When asked about programs of greatest interest, physical activity, nutrition, and weight control were the most commonly named. The authors concluded that both employers and employees saw workplace wellness programs as potentially valuable, but both groups assumed the other might not be interested. The authors contended that in order to tailor programs to meet employees' needs, communication between employers and employees was critical (Hammerback, Hannon, Harris, Thorp, Kohn and Parrish, 2015).

Along with investigations that examined their health benefits, researchers have begun to examine the cost effectiveness of workplace wellness programs. While some studies have demonstrated a positive return on investment (ROI) (Dement, Epling, Joyner, & Cavanaugh, 2015; Lerner, Rodday, Cohen, & Rogers, 2013; Light, Kline, Drosky, & Chapman, 2015; Musich, McCalister, Wang, & Hawkins, 2015), there is a wide variation, some of which has been attributed to study rigor. In a systematic review designed to assess the effect of study methodology on ROI evaluation, Baxter, Sanderson, Venn, Blizzard and Palmer noted that studies with higher methodological quality demonstrated smaller financial returns (2014). In an editorial review of Baxter et al.'s work, O'Donnell (2015) criticized these authors' emphasis on ROI in the workplace wellness literature. Like Baxter and her colleagues, O'Donnell affirmed that ROI can be difficult to assess, and that it can vary significantly by study methodology, program scope, and measures of cost savings. O'Donnell contended, however, that workplace

wellness programs should be considered human resource investments, and that employers should be less concerned about ROI and more concerned about improving employee health and enhancing market competitiveness and reputation (O'Donnell, 2015; Sherman & Fabius, 2012).

Despite the volume of research on workplace wellness, gaps exist. The majority of studies reviewed have focused on large, professional companies and their full-time employees. ROI studies are highly variable, and evaluation criteria are ill defined. Even so, the existing research provided a best practices framework for this project.

Theoretical Foundation: The CDC Workplace Health Model

This project utilized the CDC's Workplace Health Model as the theoretical foundation for program evaluation and planning. This framework was developed with the assumption that a coordinated, evidence-based approach to program development and implementation would provide the best results. According to the CDC, effective workplace wellness programs have the potential to reduce health risks and improve quality of life for employees (CDC, 2016). Research has shown, however, that not every workplace wellness program is successful. In fact, evidence has suggested that poorly designed programs may do more harm than good (Volk & Corlette, 2012), either by increasing corporate expenses without tangible results or by deterring employees from adopting the behavior being promoted. Successful programs differ in their details, but tend to be comprehensive, coordinated, and well-planned (CDC, 2016). To help businesses optimize the effectiveness of their wellness programs, the CDC created a framework called the Workplace Health Model. This model includes four steps: assessment, planning & management, intervention, and evaluation. Recommendations for evidence-based approaches to maximizing the positive impact of the program's health benefits are provided at each step (CDC, 2016). The

framework's emphasis on coordinated programming tailored to the individual workplace provided the impetus for this project.

Variables

In the analyses that follow, the dependent variables of greatest interest were the employees' perceived health status, expressed wellness needs, and historic utilization of the HAN program (Table 1).

Table 1. Project Variables

Variable	Theoretical Definition	Operational Definition
Dependent Variables		
(1) Perceived health status		
Perceived physical health status	The range of manifestation of disease in a given patient according to their self-perception	Ordinal Scale: 1) Very poor 2) Poor 3) Fair 4) Good 5) Excellent
Perceived mental health status	The range of manifestation of disease in a given patient according to their self-perception	Ordinal Scale: 1) Very poor 2) Poor 3) Fair 4) Good 5) Excellent
Perceived spiritual health status	The range of manifestation of disease in a given patient according to their self-perception	Ordinal Scale: 1) Very poor 2) Poor 3) Fair 4) Good 5) Excellent
(2) Expressed wellness needs	Participants chose from a list of 58 options of future program offerings.	Binary: Survey respondents marked all options they wanted. Variable expressed as a proportion of total

		respondents, and limited to the 3 of highest frequency
Historical Program Utilization		
(3) Utilization of HAN Educational Offerings	Most highly utilized educational offerings of the HAN Program	Average attendance per session for each of seven program types (1) Diet/Nutrition (2) Exercise (3) Financial management (4) Mental Health (5) Spiritual Health (6) Screening exams (7) Other Programs
(4) Utilization of HAN 1:1 Encounters	Number of uses of 1:1 nurse encounters grouped by chief complaint/concern	Number of each complaint seen throughout the year (1) Family (2) Financial (3) Relationships (4) Physical (5) Emotional (6) Spiritual
Employee Characteristics		
Health insurance status	Possession of a type of insurance coverage that covers the cost of an insured individual's medical and surgical expenses	Binary: No insurance: (0) Insurance: (1) No Answer given: (99)
Job Classification	A prescribed or expected behavior associated with a particular position or status in a group or organization.	Binary: Front-line staff: (0) Management: (1) No Answer given: (99)
Age	Number of years since birth	Categorical: grouped into four age ranges 0-20: (0) 21-40: (1) 41-64: (2) 65+: (3)

		No Answer given: (99)
Gender	Self-identification as male or female	Binary: Male: 0 Female: 1 No Answer given: (99)
Marital Status	A legal definition of being married or not married.	Categorical Single: (0) Separated/Divorced: (1) Married: (2) Widowed: (2) No Answer given: (99)
Race	Belonging to a social group with a shared national or cultural tradition	Categorical: Asian: (0) Black: (1) Hawaiian/Pacific Islander: (2) 2+ races: (3) White: (4) Unknown: (5) No Answer given: (99)

Methods

Research Design

A retrospective review of secondary data collected by the company was performed. These data included an employee survey regarding the HAN program, program utilization trends gathered by the Health Advocate Nurse, and demographic data collected by the company's Human Resources Department.

Population/Sample

The target population included all employees at the worksite, all of whom had access to the HAN Program as a benefit of employment. Demographic data were collected throughout the year on all 992 employees by Human Resources. The health/wellness survey was distributed to

each employee on arrival at one of five mandatory employee meetings, and was collected at each meeting's conclusion as employees exited the event. Employees chose only one of the five meetings to attend, so there was no duplication in survey responses. Despite being mandatory, some employees did not attend these meetings. Additionally, because these meetings all occurred early in the year, many employees were hired after they had already been conducted. As a result, even though the company listed 992 employees for the year, only 682 were eligible to complete a survey. Of these, 402 surveys were completed and returned, for a 59% response rate. Protected populations of minors and pregnant women were included in the data for this project, as they had equal access to the HAN program.

Setting

The setting for this project was one worksite of a large, multi-state company outside of Atlanta, GA.

Instrumentation/Measurements

Data for this project were drawn from three sources:

- First, employee data regarding perceived health status and wellness needs were gathered from a confidential survey that was designed and conducted by the HAN nurse leader (Appendix A). The survey was created based upon online sources and publicly available health assessment surveys and refined with the help of select community nurses practicing in the Atlanta area. The survey was first administered in 2009 and was adapted yearly based upon employee feedback. Previous survey results were not retained, so were unavailable for analysis. The survey was never tested for validity or reliability. All survey data were coded and entered into Excel for analysis by the primary researcher. As noted, 402 employees completed and returned this survey about their health status and wellness needs.

- Demographic information for employees at this worksite was provided by Human Resources in the form of an Excel spreadsheet. This included employee-level information on sex, age, and race, as well as information about employment type. The variables were numerically coded for analysis in Excel. Demographic data from 992 employees—including the 402 employees who responded to the confidential survey—were available for analysis.
- HAN utilization was measured two ways. Individual encounters with the nurse were counted and assigned by the nurse to one of nine categories based on the patient's chief complaint/need. Aggregate attendance at seven types of group program offerings was tracked by session. The unit of analysis for these data were site-level.

Data Analysis

Survey data were entered into Excel and imported into SPSS. Descriptive statistics were produced to describe the sample, HAN utilization, and health status. Chi-square tests for independence were used to (1) compare the characteristics of survey respondents to the worksite's entire employee population and (2) test the associations between wellness needs and employee characteristics. Mann-Whitney tests were used to examine the relationship between employees' perceived health status, employee characteristics, and wellness needs.

Ethical Considerations

The project was reviewed by The George Washington University's Institutional Review Board (IRB) and determined not to meet the definition of human subject's research. The ethical concerns of this project were minimal. All information was de-identified before it was received by the primary researcher. Participation in the employee survey was voluntary and permission for use of these data for these analyses and for the purpose of scholarship was granted by the company's CEO and owners. Because of the sensitive nature of the topics covered in the survey

and the company's proprietary status, these data were still regarded as confidential and private. To protect confidentiality, all data was stored on a password-protected PC, which was only accessible to the primary researcher. Additionally, by being unnamed, the company's privacy and anonymity have been maintained.

Results

Employee Characteristics

As seen in Table 2, employees who completed the survey were likely to be female (60%), and under 40 years old (69%). By age and gender, survey respondents were similar to all employees; however, they varied by job classification. Specifically, the proportion of front-line employees was significantly lower among survey respondents than in the employee population (85% vs 91%, p=0.010), while management was overrepresented in the survey (15% vs 9%).

Table 2: Employee Characteristics

Characteristic	**Survey Respondents (n=402)**		**All Employees at Worksite (n=992)**	
	Frequency	Percent	Frequency	Percent
Gender				
Male	161	40%	402	40%
Female	236	59%	589	60%
No Answer	5	1%	-	-
Age				
0-20	156	39%	465	47%
21-40	119	30%	303	31%
41-64	79	20%	154	15%
65+	28	7%	60	6%
No Answer	20	5%	6	1%
Marital Status				
Single	278	69%	-	-
Separated	25	6%	-	-
Married	79	20%	-	-
Widowed	5	1%	-	-
No Answer	15	4%	-	-
County of Residence				
DeKalb	199	50%	-	-
Gwinnet	126	31%	-	-
Other	66	16%	-	-
No Answer	11	3%	-	-
Job Classification				
Front-line	342	85%	903	91%
Management	60	15%	88	9%
No Answer	-	-	-	-

Health Insurance				
No Insurance	50	12%	-	-
Insurance	325	81%	-	-
No Answer	27	7%	-	-
Race				
Black	-	-	653	66%
White	-	-	264	27%
Two or More	-	-	29	3%
Hawaiian/Pacific Islander	-	-	1	0.1%
Asian	-	-	14	1%
No Answer	-	-	5	1%

Note. Cells left blank (-) when data was not gathered or not applicable

Program Utilization

Table 3 displays a yearly tally of educational program offerings, stratified by program type. Of all the programs offered, mental health programs averaged the most attendees per session (9.2), followed by screening programs with a mean of 5.4 employees per session. For the individual nurse encounters recorded in Table 4, physical complaints were the most common chief complaint (34.4%), follow closely by emotional concerns (32.1%).

Table 3: 2016 HAN Educational program utilization by program type (n=992)

Program type	Total sessions	Total attended	Mean attendance per session
Diet/Nutrition	25	77	3.1
Exercise	22	88	4.0
Financial	9	35	3.9
Mental Health	6	55	9.2
Spiritual Health	46	142	3.1
Screenings	16	86	5.4
Other	45	1402	31.2
Total	**169**	**2379**	**14.1**

Table 4: 2016 HAN Individual nurse encounters by chief complaint (n=992)

Chief Complaint	Encounters	Percentage of Total
Family	76	8.5
Financial	103	11.5
Relationships	84	9.4
Physical	307	34.4
Emotional	287	32.1
Spiritual	32	3.6
Other	4	0.5

Total	**893**	**100**

Employee Survey Responses

Employee surveys were distributed to a total of 682 employees across five meetings during the spring of 2017. A total of 402 surveys were returned, for an average return rate of 59%.

Among employees completing the survey, nearly 70% perceived their physical health status as good or excellent (Table 5). Similarly, 78% of employees rated their mental health as good or excellent, and 79% rated their spiritual health as highly.

Table 5: Perceived health status of survey respondents (n=402)

	Perceived Health Status by Rank % (n)					**Descriptive Statistics**			
	Very Poor	Poor	Fair	Good	Excellent	Mean	*SD*	Skewness	Kurtosis
Physical	0.3% (1)	4.8% (17)	25.3% (89)	46.9% (165)	22.7% (80)	3.9	0.83	-0.39	2.8
Mental	0.6% (2)	4.6% (16)	16.9% (59)	43.7% (153)	34.3% (120)	4.1	0.86	-0.77	3.3
Spiritual	0.3% (1)	3.2% (11)	17.3% (60)	35.6% (123)	43.6% (151)	4.2	0.85	-0.79	3.0

Survey respondents expressed a need for a wide variety of program offerings, beyond what would be considered part of a traditional wellness program (see Appendix B for complete list of responses). The top three wellness needs identified were exercise, weight loss, and stress reduction (Table 6).

Table 6: Top three expressed wellness needs (n=402)

Wellness Need	Total Yes Responses	Percent of Survey Respondents
Exercise	163	41%
Weight loss	113	28%
Stress reduction	96	24%

Surveyed employees' perceived health status varied by gender, marital status, job classification, and age group (Table 7). Men ranked their physical health significantly higher than women, with 30% of men ranking their health as excellent, compared to 19% of women. Men also ranked their mental (44% vs. 28%, $p < 0.01$) and spiritual health (53% vs. 38%, $p <$

0.01) higher than women. Employees under 20 (34%) versus those in older age groups (13.6%-17.1%) and front-line staff (25.5%) versus management (7.4%) also ranked their physical health significantly higher ($p< 0.01$). Although this pattern of better reported health among front-line versus management staff persisted on spiritual health—with 48% of front-line staff versus 19% of management staff ranking their spiritual health as "excellent" ($p<0.01$)—differences were not statistically significant for rankings of mental health—37% of front-line versus 21% of management ranked their mental health as "excellent" ($p=0.15$).

There were also significant differences in mental and spiritual health based on age, with the youngest and oldest employees reporting significantly higher health in this areas. Employees over 65 had the highest reported mental (52.4%) and spiritual (61.9%) health, followed by employees under 20, with 42.3% reporting excellent mental health and 54.7% reporting excellent spiritual health ($p<0.01$)

Table 7: Comparison of health status by employee characteristic (n=402)

Characteristic	**Physical Health Status by Rank % (n)**					
	Very Poor	**Poor**	**Fair**	**Good**	**Excellent**	**p-value**
Gender						
Male	0.0% (0)	3.6% (5)	17.3% (24)	49.6% (69)	29.5% (41)	**0.03**
Female	0.5% (1)	5.7% (12)	29.2% (61)	45.9% (96)	18.7% (39)	
Age						
0-20	0.0% (0)	2.9% (4)	14.6% (20)	48.9% (67)	33.6% (46)	
21-40	0.9% (1)	9.3% (10)	36.1% (39)	39.8% (43)	13.9% (15)	**<0.01**
41-64	0.0% (0)	2.9% (2)	30.0% (21)	50.0% (35)	17.1% (12)	
65+	0.0% (0)	0.0% (0)	13.6% (3)	72.7% (16)	13.6% (3)	
Marital Status						
Single	0.4% (1)	5.8% (14)	23.6% (57)	44.6% (108)	25.6% (62)	
Separated	0.0% (0)	0.0% (0)	58.3% (14)	29.2% (7)	12.5% (3)	**0.01**
Married	0.0% (0)	4.3% (3)	20.0% (14)	62.9% (44)	12.9% (9)	
Widowed	0.0% (0)	0.0% (0)	25.0% (1)	75.0% (3)	0.0% (0)	
County of Residence						
DeKalb	0.0% (0)	6.3% (11)	22.4% (39)	45.4% (79)	25.9% (45)	
Gwinnet	0.9% (1)	1.8% (2)	23.9% (27)	48.7% (55)	24.8% (28)	0.06
Other	0.0% (0)	6.7% (4)	35.0% (21)	50.0% (30)	8.3% (5)	
Job Classification						
Front-line staff	0.3% (1)	3.7% (11)	22.5% (67)	48.0% (143)	25.5% (76)	**<0.01**
Management	0.0% (0)	11.1% (6)	40.7% (22)	40.7% (22)	7.4% (4)	
Health Insurance Status						

No Insurance	0.0% (0)	13.3% (6)	26.7% (12)	44.4% (20)	15.6% (7)	0.09
Insurance	0.3% (1)	3.8% (11)	24.7% (71)	48.1% (138)	23.0% (66)	

Mental Health Status by Rank % (n)

	Very poor	Poor	Fair	Good	Excellent	p-value
Gender						
Male	0.0% (0)	2.9% (4)	8.8% (12)	44.5% (61)	43.8% (60)	**<0.01**
Female	1.0% (2)	5.7% (12)	22.0% (46)	43.1% (90)	28.2% (59)	
Age						
0-20	0.7% (1)	2.9% (4)	16.8% (23)	37.2% (51)	42.3% (58)	
21-40	0.9% (1)	10.2% (11)	23.1% (25)	44.4% (48)	21.3% (23)	**<0.01**
41-64	0.0% (0)	0.0% (0)	10.1% (7)	59.4% (41)	30.4% (21)	
65+	0.0% (0)	0.0% (0)	9.5% (2)	38.1% (8)	52.4% (11)	
Marital Status						
Single	0.8% (2)	5.8% (14)	17.8% (43)	40.9% (99)	34.7% (84)	
Separated	0.0% (0)	4.3% (1)	30.4% (7)	39.1% (9)	26.1% (6)	0.51
Married	0.0% (0)	1.4% (1)	11.6% (8)	52.2% (36)	34.8% (24)	
Widowed	0.0% (0)	0.0% (0)	25.0% (1)	75.0% (3)	0.0% (0)	
County of Residence						
DeKalb	1.2% (2)	4.7% (8)	16.3% (28)	40.7% (70)	37.2% (64)	
Gwinnet	0.0% (0)	3.5% (4)	14.9% (17)	45.6% (52)	36.0% (41)	0.38
Other	0.0% (0)	6.8% (4)	23.7% (14)	47.5% (28)	22.0% (13)	
Job Classification						
Front-line staff	0.3% (1)	4.4% (13)	16.2% (48)	42.4% (126)	36.7% (109)	0.15
Management	1.9% (1)	5.7% (3)	20.8% (11)	50.9% (27)	20.8% (11)	
Health Insurance Status						
No Insurance	2.2% (1)	6.7% (3)	15.6% (7)	55.6% (25)	20.0% (9)	0.15
Insurance	0.3% (1)	4.5% (13)	16.8% (48)	43.0% (123)	35.3% (101)	

Spiritual Health Status by Rank % (n)

	Very poor	Poor	Fair	Good	Excellent	p-value
Gender						
Male	0.7% (1)	3.7% (5)	11.8% (16)	30.9% (42)	52.9% (72)	**0.03**
Female	0.0% (0)	2.9% (6)	20.9% (43)	38.3% (79)	37.9% (78)	
Age						
0-20	0.0% (0)	2.2% (3)	13.9% (19)	29.2% (40)	54.7% (75)	
21-40	0.9% (1)	7.5% (8)	27.4% (29)	40.6% (43)	23.6% (25)	**<0.01**
41-64	0.0% (0)	0.0% (0)	13.2% (9)	39.7% (27)	47.1% (32)	
65+	0.0% (0)	0.0% (0)	9.5% (9)	28.6% (27)	61.9% (32)	
Marital Status						
Single	0.4% (1)	4.2% (10)	18.3% (44)	34.6% (83)	42.5% (102)	0.87
Separated	0.0% (0)	4.3% (1)	26.1% (6)	26.1% (6)	43.5% (10)	
Married	0.0% (0)	0.0% (0)	13.4% (9)	37.3% (25)	49.3% (33)	
Widowed	0.0% (0)	0.0% (0)	25.0% (1)	50.0% (2)	25.0% (1)	
County of Residence						
DeKalb	0.6% (1)	3.6% (6)	16.6% (28)	30.2% (51)	49.1% (83)	0.41
Gwinnet	0.0% (0)	1.8% (2)	18.4% (21)	38.6% (44)	41.2% (47)	
Other	0.0% (0)	5.2% (3)	19.0% (11)	43.1% (25)	32.8% (19)	
Job Classification						
Front-line staff	0.3% (1)	3.4% (10)	12.6% (37)	35.7% (105)	48.0% (141)	**<0.01**
Management	0.0% (0)	1.9% (1)	44.2% (23)	34.6% (18)	19.2% (10)	
Health Insurance Status						
No Insurance	2.2% (1)	2.2% (1)	20.0% (9)	37.8% (17)	37.8% (17)	0.13
Insurance	0.0% (0)	3.5% (10)	17.0% (48)	35.1% (99)	44.3% (125)	

As shown in Table 8, some of the top wellness needs varied by employee characteristics, while others did not. Among employees who reported that they needed exercise programs, there was no significant difference by gender, age, job classification, or health insurance status. While 25% of employees over 65 expressed a desire for exercise programming compared to greater than 40% of younger employees, this difference was not statistically significant (p=0.17). Employees' reported need for weight-loss programs varied by gender and job classification: 33% of women reported needing a weight loss program compared to 22% of men (p=0.01) as did 52% of managers compared to 24% of front-line staff (p<0.01). More female than male (28% vs 19%, p<0.05), management than front-line (42% vs 21%, p<0.01), and insured than uninsured (27% vs 12%, p<0.05) employees reported needing stress reduction.

Table 8: Comparison of top three wellness needs by employee characteristic (N=402)

Characteristic	**Wellness Needs % (n)**		
	Exercise	Weight-loss	Stress Reduction
Gender			
Male	39.8% (64)	21.7% (35)	18.6% (30)
Female	42.0% (99)	33.1% (78)	27.5% (65)
p-value	*0.66*	***0.01***	***0.04***
Age			
0-20	41.7% (65)	19.9% (31)	19.9% (31)
21-40	46.2% (55)	39.5% (47)	32.8% (39)
41-64	36.7% (29)	34.2% (27)	22.8% (18)
65+	25.0% (7)	10.7% (3)	14.3% (4)
p-value	*0.17*	*0.323*	***0.05***
Marital Status			
Single	43.9% (122)	29.1% (81)	23.7% (66)
Separated	52.0% (13)	36.0% (9)	24.0% (6)
Married	34.2% (27)	29.1% (23)	25.3% (20)
Widowed	0.0% (0)	0.0% (0)	20.0% (1)
p-value	*0.07*	*0.45*	*0.99*
County of Residence			
DeKalb	45.7% (91)	26.6% (53)	20.1% (40)
Gwinnet	36.5% (46)	31.8% (40)	26.2% (33)
Other	36.4% (24)	30.3% (20)	33.3% (22)
p-value	*0.18*	*0.59*	*0.08*
Job Classification			
Front-line	39.5% (135)	24.0% (82)	20.8% (71)
Management	46.7% (28)	51.7% (31)	41.7% (25)
p-value	*0.30*	***<0.01***	***<0.01***
Health Insurance			
No Insurance	40.0% (20)	22.0% (11)	12.0% (6)
Insurance	41.9% (136)	29.9% (97)	26.2% (85)

p-value	*0.81*	*0.25*	***0.03***

Table 9: Comparison of Wellness Needs by Health Status (N=402)

Wellness Needs	**Physical Health Status by Rank % (n)**					
	Very Poor	Poor	Fair	Good	Excellent	*p*
Exercise	0.7% (1)	5.4% (8)	23.5% (35)	52.4% (78)	18.2% (27)	0.21
Weight loss	1.0% (1)	8.7% (9)	25.0% (26)	51.9% (54)	13.5% (14)	**0.01**
Stress reduction	1.2% (1)	4.6% (4)	27.6% (24)	54.0% (47)	12.6% (11)	**0.05**
	Mental Health					
Exercise	1.3% (2)	6.0% (9)	13.4% (20)	47.7% (71)	31.5% (47)	0.12
Weight loss	0.0% (0)	9.7% (10)	15.5% (16)	47.6% (49)	27.2% (28)	**0.02**
Stress reduction	2.3% (2)	11.5% (10)	25.3% (22)	47.1% (41)	13.8% (12)	**<0.01**
	Spiritual Health					
Exercise	0.0% (0)	2.7% (4)	20.1% (30)	33.6% (50)	43.6% (65)	0.66
Weight loss	0.0% (0)	4.0% (4)	23.8% (24)	38.6% (39)	33.7% (34)	0.10
Stress reduction	0.0% (0)	7.0% (6)	30.2% (26)	40.7% (35)	22.1% (19)	**<0.01**

Discussion

As noted above, employees' perceived physical and mental health showed some significant variation by employee characteristics. Greater proportions of women, for example, reported lower physical and mental health, and women also reported needing weight loss and stress reduction more than men did. Moving forward, it would be useful to track these types of employee characteristics alongside program attendance numbers to determine if people who expressed needs for specific programs are utilizing them. It would also be useful to track health status longitudinally alongside program participation to determine if attendance at any specific program is associated with improved perceived health.

Because the survey allowed employees to check all the programs they were interested in, instead of limiting them to a certain number, the results should have provided insight into the types of programs that would be most utilized. There was a significant discrepancy, however, between the wellness needs employees reported on the survey and actual program utilization. While 41% of all surveyed employees indicated interest in attending an exercise program, actual

utilization data demonstrated that only 88 employees participated in 22 exercise sessions, for an average of four people per session. Assuming, at best, that no employees attended multiple sessions, this represented a mere 9% of total employees that attended an exercise program. Attendance at almost every type of program offering was similarly low; the best attended, programs on mental health, averaged just 9.1 employees per session, and only 5.5% of total employees. Interestingly, the one category that showed higher numbers was the "Other" category, which averaged 31.2 employees per session. Redefining the "other" category in better detail could lead to improved understanding of what programs employees are attending.

The larger issue, however, is why program attendance remained so low overall. It could be attributable to the overwhelming number of sessions (46 on spiritual health, for example, in one year). Had this information been presented in 1 or 2 sessions, then average attendance might look significantly better. Low attendance could also be attributed to a lack of interest, lack of information about the program offerings, or lack of a convenient times and/or locations. A closer examination of the types and timing of program offerings needs to be taken in order to improve attendance and efficiency.

Limitations

This project was limited by its retrospective nature. All data had already been gathered, and thus could not be tailored to meet specific research needs. The lack of consistent demographic data made it impossible to compare all the variables fully. Additionally, because the project was situated at one particular worksite within one company, it cannot be generalized beyond that worksite or to other companies. Further, because utilization data were aggregated rather than collected at the employee-level, services cannot be fully analyzed. Additionally, these correlational analyses limit inferences.

The data analysis itself also had some weaknesses. In using chi-square on such a large sample size, there was a risk of overpowering the analysis, and finding results that were statistically significant without being practically useful. In addition, while the descriptive statistics were very useful for drawing general conclusions about the data, this information did not provide any intrinsic guidance for future planning.

Future Recommendations

Evidence has demonstrated that coordinated, well-organized wellness programs are the most successful. While the program studied in this project is managed by a core group of passionate nurses, it lacks an overarching governance structure. If the sponsoring company is going to continue to allocate resources to this program, it would benefit from taking a more proactive approach towards its planning and implementation. In this project, the Workplace Health Model provided the guidance in comprehensive employee needs assessments, as well as the development of program objectives, governance, and outcome measures.

In order to guide future planning, data collection and health informatics should be improved. Ideally, each employee would have a unique identifier that could be used by human resources and across all HAN programs, encounters, and surveys. This would allow for the collection of anonymized but employee-specific data, which could be used to better understand the needs of various employee subgroups. It would also allow for better outcome tracking from one year to another and would contribute to a better understanding of which types of programs are the most effective. Program terminology should also be standardized: for example, “mental health” should be defined in more detail, and then used consistently on the survey, program offerings, and individual encounters. Each type of program should be operationally defined, and the “other” category should be broken into more detailed parts.

While surveyed employees expressed the desire for a variety of wellness programs, that desire did not appear to translate to program attendance. A closer look should be taken at when and where programs are offered, as well as how they are promoted. Focus group interviews could provide insight into these discrepancies. Based on these findings, expansion of current offerings is not recommended, despite the expressed interest in certain types of programs. As noted previously, many programs were offered frequently, but had low attendance rates. It may be beneficial to offer fewer sessions of each program type, while making it clear that all concerns can still be addressed during individual nurse encounters.

Additionally, certain wellness needs can be at least partially addressed without the addition of new programming. Previous studies have demonstrated the effectiveness of increasing healthy food choices in the workplace as a way to improve employee diet (Lassen et al., 2011; Backman, Gonzaga, Sugerman, Francis, & Cook, 2011). Ensuring there are multiple healthy, fresh food options available to employees during work hours could be a way to address concerns about weight, nutrition, and general health in lieu of offering a more formal program.

Finally, while assessing employee needs is the first step in strengthening the wellness program, the planning and management portion of the Workplace Health Model should be revisited, and used to develop a more comprehensive, coordinated approach to program development at the corporate level.

Conclusion

Analysis of employee surveys showed employee interest in a broad variety of wellness programs. Exercise programming was desired by one-quarter of employee respondents, across all demographic categories. Weight loss and stress reduction were also frequently requested, particularly by women and management. Unfortunately, historical utilization trends showed poor

attendance across almost all program types. As the program moves forward, it will be important to continue to develop meaningful offerings targeting specific employee concerns. Further evaluation is needed to determine why certain programs are poorly attended, and how they need to be adapted. Implementing a more comprehensive, organized approach, including the use of advanced data collection and informatics, will improve program performance and allow the HAN program to best meet employee needs.

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Appendix A
Employee Survey

Please check the appropriate spaces (demographic data – optional)
Gender: ____Male ____Female Age: ____0-20 ____21-40 ____41-64 ____65+
Marital status: ____Single ____Married ____Widowed ____Separated/Divorced
Do you have a child under 18? ____No ____Yes
Are you currently covered by health insurance? ____No ____Yes
County of residence: ____DeKalb ____Gwinnett ____Other

Did any of the following keep you from obtaining health care in the past 12 months?

____ Lack of transportation
____Cost of care too high
____Don't like doctors
____No insurance
____Didn't know where to go for care
____Don't have a family doctor
____Afraid to go to a doctor

Please rate each aspect of your current health status:

Physical health: ____Excellent ____Good ____Fair ____Poor ____Very poor
Mental health: ____Excellent ____Good ____Fair ____Poor ____Very poor
Spiritual health: ____Excellent ____Good ____Fair ____Poor ____Very poor

Education classes about health and lifestyle management will be offered.
Please check any/all topics that interest you *enough that you will attend a program.*

____Exercise
____Smoking cessation
____Diabetes
____Driving safety
____Women's health issues
____AIDS/HIV
____Pregnancy
____Child abuse prevention
____Caring for aging parents
____Setting goals/priorities
____How faith/health connect
____Grief
____Stress reduction
____STI's
____Mental health
____Autism
____Gang violence
____Assisted living
____Relationships
____Sign language
____Weight loss
____Heart disease
____Anger management
____High blood pressure
____Men's health issues
____CPR/First aid
____Drug/alcohol dependence
____End of life issues
____Caring for disabled person
____Domestic violence
____Eye problems
____Osteoporosis
____High cholesterol
____Chronic pain
____Self defense
____PTSD
____Hospice
____Computer skills
____Managing a bank account
____Time management
____Stroke
____Alzheimer's disease
____Cancer
____Nutrition/healthy eating
____Parenting
____Dealing with divorce
____Depression
____Home safety
____Communication
____Arthritis
____Organ donation
____Eating disorders
____Immunizations
____Relaxation/meditation
____Adoption
____Sports injuries
____Dental care
____Completing tax forms

Appendix B

Wellness Needs by Number and Percentage of Survey Respondents

Wellness Need	# Responses	% of Respondents
exercise	150	37.3%
weight loss	107	26.6%
stress reduction	87	21.6%
sign language	77	19.2%
relationships	64	15.9%
self defense	61	15.2%
time management	61	15.2%
CPR/first aid	58	14.4%
relaxation/meditation	53	13.2%
women's health	52	12.9%
managing a bank account	50	12.4%
computer skills	45	11.2%
mental health	40	10.0%
depression	39	9.7%
setting goals/priorities	36	9.0%
caring for aging parents	34	8.5%
nutrition	33	8.2%
communication	33	8.2%
completing tax returns	30	7.5%
dental care	28	7.0%
anger management	27	6.7%
HTN	26	6.5%
men's health	25	6.2%
faith/health	23	5.7%
pregnancy	22	5.5%
diabetes	20	5.0%
driving safety	19	4.7%
sports injuries	19	4.7%
adoption	19	4.7%
heart disease	15	3.7%
grief	15	3.7%
child abuse prevention	15	3.7%
home safety	14	3.5%
end of life issues	13	3.2%
arthritis	13	3.2%
caring for disabled person	12	3.0%
cancer	12	3.0%
eating disorders	12	3.0%
HIV/AIDS	11	2.7%

high cholesterol	11	2.7%
parenting	11	2.7%
smoking cessation	10	2.5%
STIs	10	2.5%
eye problems	10	2.5%
autism	9	2.2%
PTSD	9	2.2%
Alzheimer’s	7	1.7%
dealing with divorce	7	1.7%
gang violence	7	1.7%
domestic violence	7	1.7%
chronic pain	6	1.5%
organ donation	6	1.5%
immunizations	5	1.2%
drug/alcohol dependence	5	1.2%
assisted living	4	1.0%
stroke	3	0.7%
osteoporosis	2	0.5%
hospice	1	0.2%