



Developing a Worksite Health Promotion Program Plan for UNC Facilities Services Staff

2013-2014 Capstone Project

Department of Health Behavior – MPH Program

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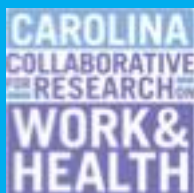
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On our honor, we have neither given nor received unauthorized aid on this assignment.

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Acronyms

CCRWH	Carolina Collaborative for Research on Work and Health
CBPR	community-based participatory research
EHS	Department of Environment, Health, and Safety
LEP	limited English proficiency
FGD	focus group discussion
HR	human resources
UNC	the University of North Carolina at Chapel Hill
WHPP	worksite health promotion program
WWLW	Work Well, Live Well

Abstract

Background: Low-wage workers experience poorer health outcomes compared to high-wage workers, including increased risk of high blood pressure, cardiovascular disease, cancer, obesity, and a shorter life expectancy. Additionally, shift workers also face higher rates of disrupted sleep patterns, mental health problems, and gastrointestinal disorders. As most full-time employees spend over half of their waking hours at work, worksite health promotion programs (WHPPs) offer an important means of addressing many salient health issues, including those specifically faced by low-wage and shift workers. Effective WHPPs improve worker health, morale and job satisfaction, reduce absenteeism and injuries, increase productivity, lower healthcare premiums, and ultimately produce cost-saving benefits for employers. Despite the higher risk for disease and demonstrated positive health benefits of participation in WHPPs, low-wage and shift workers engage in WHPP activities at lower rates than their high-wage counterparts.

Methods: The purpose of this Capstone project was 1) to conduct formative research to identify the needs, assets, and barriers to WHPP participation among low-wage shift workers at the University of North Carolina at Chapel Hill (UNC) and 2) to develop a Wellness Action Plan of potential interventions for this population based on importance and feasibility. To address these aims, the Capstone team conducted a literature review and key informant interviews and focus groups discussions (FGDs) with upper management, direct supervisors, and frontline staff in the Facilities Services Division at UNC. Following data collection, a data analysis matrix was used to identify themes from the field notes gathered from interviews and FGDs. For the Wellness Action Plan, elements of the public health program-planning model PRECEDE-PROCEED were used to identify and prioritize determinants and precursors of the intervention strategies to address the health issues relevant to the population.

Results: In sum, six upper managers, seven direct supervisors, and forty-two frontline staff participated in either a key informant interview or FGD. A number of individual, managerial, and organizational-level barriers were identified in both key informant interviews and FGDs, including the importance of management support, the need to incorporate wellness activities into the work shift, and insufficient communication about available programs and benefits. These findings were consistent with our findings in the literature review. These findings formed the basis for the Wellness Action Plan, which included low and high resource program options. The Wellness Action Plan recommendations were presented to two major stakeholders—the Work Well, Live Well (WWLW) Committee and the UNC Employee Forum Executive Committee.

Discussion: These formative research results suggest that there is both a need and desire for WHPPs among low-wage shift workers at UNC and that some level of intervention is possible. The ultimate goal of our Capstone project is to present feasible WHPP recommendations for Facilities Services employees. Our Capstone project accomplished this goal through formative research and evidence-based recommendations for the selection and implementation of WHPPs within the Facilities Services Division. Our literature review, Formative Research Summary Report, and Wellness Action Plan can be used to guide WHPP decision making by the Carolina Collaborative for Research on Work and Health (CCRWH), the WWLW Committee, Facilities Services, and the 2014-2015 Capstone team.

Acknowledgements

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We thank the Carolina Collaborative for Research on Work and Health, the Work Well, Live Well Committee, and the Employee Forum Executive Committee for considering our recommendations and supporting the health of workers at UNC. We appreciate the insights of Ned Brooks, Clare Lorch, and Bonnie Rogers. We thank CHICLE for connecting us to Burmese and Karen language interpreters, enabling us to hear the opinions of those within our population with limited English proficiency. Specifically, we thank Mai Mai, Magnolia Ko, and Saw Moo for providing us with interpretation services during focus groups. We also thank Mai Mai for providing document translation services.

We are grateful for the contribution of all the UNC Facilities Services directors, managers, supervisors, and administrative staff who accommodated our requests for interviews, helped us recruit additional interviewees, and/or allowed their staff to participate in interviews and focus groups.

Finally, we would like to thank the UNC Facilities Services frontline staff who shared with us their honest insights into the realities they face as low-wage, shift workers at UNC and their hopes for change. We hope this project leads to institutional changes that make UNC the best possible work environment for them and all UNC employees.

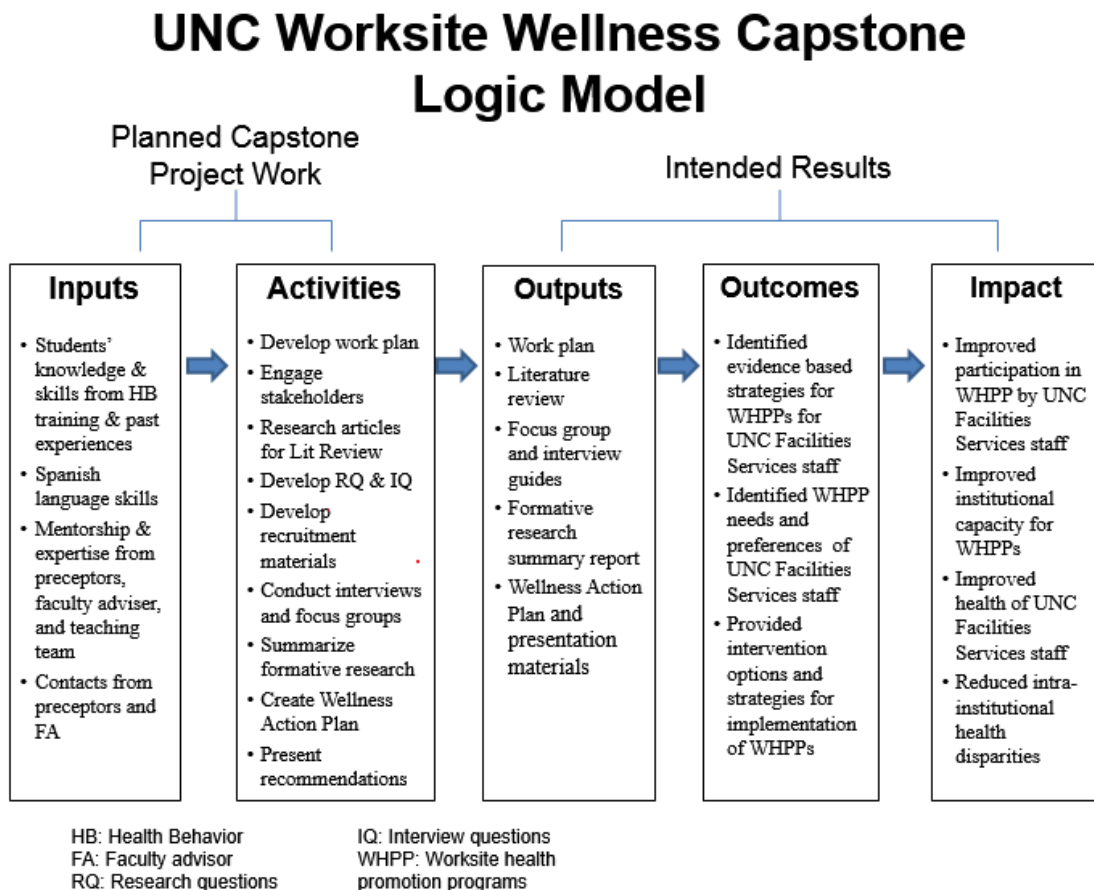
Introduction

Capstone is a yearlong, group-based learning opportunity that pairs Master's students from the Gillings School of Global Public Health's Department of Health Behavior with community partners. In fulfillment of the Master's thesis requirement, the Capstone Summary Report provides an overview of worksite health and worksite health promotion programs (WHPPs), explains our Capstone project's work engaging Facilities Services employees in formative research, and describes recommendations for improving the health and safety of low-wage shift workers at the University of North Carolina at Chapel Hill (UNC) through WHPPs. This report also presents a discussion of future considerations and highlights lessons learned and skills developed throughout the course of this project.

Our Capstone team partnered with the Carolina Collaborative for Research on Work and Health (CCRWH). Started in 2010, the mission of the CCRWH is to stimulate inter-disciplinary research on the intersection of work and health-related issues. Our Capstone team also partnered with the Work Well, Live Well committee (WWLW), which currently plans WHPPs for all UNC employees. There are a number of reasons the CCRWH and WWLW Committee submitted an application for a Capstone team. Facilities Services employees are some of the lowest wage workers at UNC as well as some of the only employees who work overnight shifts at the University. These two factors put Facilities Services staff at higher risk for a number of health issues as compared to other employees at UNC. However, despite these inequities, Facilities Services staff members participate in existing WHPPs and services offered by the University at much lower rates (Wong, Bauman, & Koch, 1996). Additionally, in recent years, a number of reports have documented discrimination and general work dissatisfaction within the department, emphasizing the need to focus on total worker health and wellness with this population (PRM Consulting Group, 2011; University Steering Committee for Worker Health, Safety, and Wellness, 2008). The CCRWH and the WWLW committee came together in an effort to address this issue and chose a Capstone team to perform the formative research needed to plan a WHPP for Facilities Services workers.

The goal of the Capstone team was to improve the overall health and reduce health disparities among Facilities Services staff. We expected to reach this goal through increased University capacity for, and Facilities Services staff participation in, WHPPs. To meet project goals, the Capstone team completed four project deliverables: 1) a literature review of WHPP issues and considerations; 2) tools for interviews and focus group discussions (FGDs) with Facilities Services upper management, direct supervisors, and frontline staff; 3) a formative research report summarizing emerging themes from the formative research; and 4) a Wellness Action Plan and accompanying presentations, describing chosen intervention strategies specific to this population based on importance and feasibility. See project logic model in Figure 1 for more details. This report describes the background literature on WHPP for our target population, the methods used to conduct our formative research and Wellness Action Plan, results of these activities as well as their implications, and next steps for this project.

Figure 1: Logic Model



Background

Significance of the Problem

Low-wage workers, defined as workers whose annual earnings fall below the poverty line, (Loprest, 2009) experience poorer health outcomes than high-wage workers, including increased risk of high blood pressure, cardiovascular disease, cancer, obesity, and a shorter life expectancy (Baron et al., 2013; Harris, Huang, Hannon, & Williams, 2011; Leigh & Du, 2012; Meltzer & Chen, 2011; Sorensen et al., 2011). Shift workers face additional health challenges, including disrupted sleep patterns, mental health problems, and gastrointestinal disorders (Atkinson, Fullick, Grindey, & Maclaren, 2008; Costa, 2010). Several job-related factors negatively impact low-wage and shift worker health, including perceived job insecurity, high job strain, and limited power to engage in health protective or promoting behavior on the job (Burgard, Brand, & House, 2009; Gleeson, 2012; Karasek, Baker, Marxer, Ahlbom, & Theorell, 1981). Low-wage workers also underutilize health care services, in part because only 41% of low-wage workers are offered employer-sponsored health insurance, as compared to 85% of high-wage workers (Gould, 2012; Sorensen et al., 2011).

The workplace is a prime location for intervention, as full-time employees spend at least half of their waking hours at work (Goetzel & Ozminkowski, 2008). WHPPs are programs and policies in the workplace that promote a range of healthy behaviors among employees (Hannon, Garson, & Harris, J.R. & Hammerback, K., 2012). WHPPs go beyond the traditional scope of occupational health programs, which typically focus on injury prevention and safety, to address broader employee wellness issues (Baron et al., 2013; Hymel et al., 2011). Effective WHPPs improve worker health, morale, and job satisfaction, reduce absenteeism and injuries, increase productivity, lower healthcare premiums, and ultimately produce cost-saving benefits for employers (Aldana, 2001; Anderson et al., 2000; Carnethon et al., 2009; Leininger, Harris, Tracz, & Marshall, 2013; L. Linnan et al., 2012; Middlestadt, Sheats, Geshnizjani, Sullivan, & Arvin, 2011). Despite the health benefits of WHPPs and the higher prevalence of chronic disease among low-wage workers, these workers participate in WHPPs at lower rates than their

high-wage counterparts (Kopicki, Van Horn, & Zukin, 2009; Person, Colby, Bulova, & Eubanks, 2010). Many factors contribute to low participation, including low morale, poor employee-management relations, working multiple jobs, and lack of transportation or other resources needed to participate (L. A. Linnan, Sorensen, Colditz, Klar, & Emmons, 2001; Wong et al., 1996).

Components of Effective WHPPs

According to Healthy People 2010, the five recommended components of a WHPP are (1) health education programs/services, (2) linkages with current employee benefits and related programs, (3) a supportive environment, (4) integration of health promotion into organizational culture, and (5) screenings with appropriate follow-up treatment (Goetzel & Ozminkowski, 2008). These five components incorporate all levels of the Socio-Ecological Framework from individual-level interventions to changes in policy and workplace culture, allowing for examination of multiple avenues of influence for WHPP participation (L. Linnan, LaMontagne, Stoddard, Emmons, & Stoddard, 2005). Multilevel approaches are more effective in preventing disease and promoting overall health than addressing each of the components in isolation (Atkinson et al., 2008; Baron et al., 2013; Costa, 2010; Person et al., 2010).

(1) Health Education: Health education focuses on skill development and behavior change, and it can be tailored to employees' needs and delivered in person, online, or through SMS/text messaging (Glanz, Rimer, & Viswanath, 2008). Programs that address employee-level motivations, goals, and benefits have high participation rates (Lovato & Green, 1990; Middlestadt et al., 2011). Effective WHPPs provide opportunities for all employees to be involved, while also focusing on high-risk individuals (Goetzel, Kahr, Aldana, & Kenny, 1996; Goetzel & Ozminkowski, 2008). Tailoring health education programs to employee interests and needs helps ensure topic relevancy and motivation to participate, contributing to program success (Person et al., 2010). The modes of health education delivery are important to consider for UNC Facilities staff, as location, timing, and limited access to technology can limit the ability of low-wage workers to engage in the program (Middlestadt et al., 2011).

(2) Linkages with Current Employee Benefits and Related Programs: Employers can improve the health of their staff through comprehensive WHPPs that offer health insurance, employee assistance

programs (EAPs), and relevant, job-specific safety trainings (Sparling, 2010). Many low-wage shift workers attend mandatory safety training, and WHPPs can be incorporated into existing worksite safety initiatives. Coordinating these efforts with WHPPs would lead to a safer, healthier, and more productive workforce (Baron et al., 2013; Hymel et al., 2011; Sparling, 2010).

(3) Supportive Environment: Fostering a supportive social environment and addressing health disparities faced by all workers, especially low-wage and shift workers, are critical to WHPP design and implementation (Carnethon et al., 2009; Zarate-Abbott et al., 2008). Involving employees in the development and implementation of a multi-level WHPP helps ensure cultural sensitivity, reduce cultural, language, and literacy barriers, and as a result, increase participation in WHPPs, especially among underrepresented groups (Person et al., 2010; Thompson, Smith, & Bybee, 2005). Community-based participatory research (CBPR), a participatory process to guide researcher-participant partnerships, is an effective approach to ensure involvement and representation among low-wage and minority workers in WHPPs (Minkler et al., 2010).

In addition to addressing social environments, workplaces should also consider WHPPs that make changes to the physical environment, such as creating walking paths for employees and providing educational signage that encourages healthy behaviors, like healthy eating in the dining hall. (Sorensen, Linnan, & Hunt, 2004)

(4) Integration of Health Promotion into Organizational Culture: WHPPs are most successful in workplaces with a motivated, health-focused organizational culture (DeJoy et al., 2009; L. Linnan et al., 2005; Middlestadt et al., 2011). Some components of a health-focused organizational culture include: management support, health-promoting workplace norms, use of appropriate incentives for employees to participate in WHPPs, and the collection of evaluation data to assess, demonstrate, and promote WHPP effectiveness (Erfurt & Foote, 1990; Goetzel & Ozminkowski, 2008; L. Linnan et al., 2005; Lovato & Green, 1990; Middlestadt et al., 2011; Person et al., 2010).

(5) Screenings with Appropriate Follow-up Treatment: Basic health screenings including blood pressure, blood glucose, and body weight assessments are sometimes offered as WHPP intervention

components. While these screenings are important, in order to have lasting health effects, they require linkage to regular medical care (Lovato & Green, 1990; Pelletier, 1999). Screening programs should provide opportunities for low-wage workers to seek and continue follow-up care.

History of WHPPs at UNC

UNC identified worksite health promotion as a priority in 2003 after employees expressed interest in a coordinated wellness program (*Worksite wellness for UNC employees: Results from an assessment process*.2008). Previously, H.E.E.L.S. for Health, a fitness program for employees directed by Campus Recreation, was the only WHPP open to employees (*Worksite wellness for UNC employees: Results from an assessment process*.2008). After three years without additional progress, then-provost Robert Shelton formed the University Steering Committee for Worker Health, Safety, and Wellness and directed them to conduct a 12-month needs assessment. Facilities Services staff, who made up 2% of focus groups and 5% of survey respondents, indicated that programs before or after work were less desirable, as well as those delivered by internet or email (*Worksite wellness for UNC employees: Results from an assessment process*.2008). In 2011, the H.E.E.L.S. for Health program transitioned into a new UNC WHPP: Work Well, Live Well (*Worksite wellness for UNC employees: Results from an assessment process*.2008). The WWLW Committee currently hosts two events yearly: Employee Appreciation Day in October, and the Work Well, Live Well expo held in March, coinciding with a “wellness challenge.” The contest historically has low participation, particularly with Facilities Services staff (Wu, 10/21/2013).

Contextual Considerations for Facilities Services at UNC

As current activities have low engagement among low-wage Facilities Services staff, the Capstone project focused on the needs of employees in this department, specifically workers employed in the Housekeeping Services, Building Services, and Grounds Services departments. These UNC Facilities Services departments employ a largely low-wage employee population with a high proportion of minorities and immigrants (Wu, 10/21/2013). This population historically has low engagement in WHPPs at UNC (Wong et al., 1996). Further, there may be substantial institutional challenges to introducing a WHPP for Facilities Services staff at UNC. A report conducted to “assess the climate and culture of the

housekeeping department” describes a “culture with employee morale issues, lack of trust, and overall frustration” (PRM Consulting Group, 2011). Thus, any WHPP for Facilities Services staff must address these overarching cultural barriers.

As the literature has shown the importance of meaningfully involving frontline staff and management in the planning process, we began the process of employee engagement in the planning of WHPP. Through key informant interviews and focus group discussions (FGDs), described in detail in the methods section, we aimed to identify barriers and facilitators to staff participation in WHPP. We also sought employee input on the types and format of WHPPs that would be most effective among Facilities Services employees.

Methods

While the CCRWH supported us throughout the Capstone project, providing resources and technical assistance, our primary project stakeholders were the UNC Facilities Services employees and the WWLW Committee. We initially planned to conduct our project with Housekeeping Services staff only, based on previous University reports of poor health and low morale specifically among this population. However, during an initial informational meeting among our preceptors, the Facilities Department Director, and the Housekeeping Services Director, it was decided to include two additional Facilities Service Departments—Building Services and Grounds Services—as they employ low-wage shift workers with similar health needs as housekeepers. While there are other departments within Facilities Services, the three departments chosen for this project have the most low-wage shift workers. Therefore, when we refer to Facilities Services workers, we are referring to workers within Building Services, Grounds Services, and Housekeeping Services only.

Formative Research

Once the scope of the project was defined and initial contacts were established, we began the formative research for our project. Deliverables were completed using a number of methods. For deliverable one, the literature review, we collectively searched for academic articles about the health and

safety challenges faced by low-wage and shift workers, and strategies currently being used to address these needs. We used a set of common terms established with the assistance of the Health Sciences Library staff (e.g. low-wage, shift work, and wellness) and searched several health and social science journals. Additionally, our faculty advisor and preceptors suggested specific articles and programs to include in our literature review. Alongside the academic literature, we reviewed University reports about previous efforts to address the needs of Facilities Services workers and the general climate of the Housekeeping Services Department to better understand the context in which we would be working. We organized our findings using a Microsoft Excel-based evidence table and the five components of an effective WHPP from Healthy People 2010.

Sampling and Instrument Development

Once we had a better grasp of the existing research concerning WHPPs for low-wage shift workers and the gaps in the literature, we gathered primary data through interviews with all levels of management in each Facilities Services department and through FGDs with frontline staff in each department. Prior to data collection, our team created three data collection instruments based on the identified research objectives and important topics to address identified through the literature search: an eleven-question semi-structured interview guide for Facilities Services upper management, a ten-question semi-structured interview guide for direct supervisors, and a seven-question FGD guide for frontline staff. Our preceptors, faculty advisor, and several Facilities Services directors reviewed these documents to ensure questions were comprehensive enough to gather sufficient data and that phrasing was clear and appropriate for our intended audiences. We revised interview and FGD guides based on this feedback.

Once data collection instruments were completed, a two-stage sampling strategy was used to recruit participants for key informant interviews. We first identified initial key informant interviewees: directors of the Housekeeping Services, Building Services, and Grounds Services departments. We then used snowball sampling, wherein we asked each director to suggest names of managers and direct supervisors who might be willing to be interviewed. We recruited these individuals by email or telephone.

Using this two-stage sampling approach, we were able to interview six members of upper management and seven direct supervisors, for a total of thirteen key informant interviews across the three departments.

Focus group participants were also recruited using similar sampling methods. In one department, we recruited frontline staff following a brief presentation by our Capstone team at a weekly staff meeting. In the other two departments, we relied on supervisors to select volunteers to participate in the FGDs. We held six FGDs: two with Building Services, one with Grounds Services, and three with Housekeeping Services. FGDs were held within each department, as opposed to cross-departmentally, because of concerns raised by upper management that employees within each department saw themselves as distinct departments within Facilities Services. For Housekeeping Services, two groups were held in the late evening to accommodate those working the second and third shifts. Four FGDs were held exclusively in English, while one had Burmese interpretation and one had Karen interpretation to be inclusive of employees with limited English proficiency (LEP). Working with interpreters allowed many of us to gain a greater understanding of how to communicate cross-culturally in this setting. In total, 42 frontline staff participated in FGDs, including 17 Building Services employees, 17 Housekeeping Services employees, and eight Grounds Services employees.

Data Collection & Analysis

Participants verbally consented to participate before we began data collection. All key informant interviews were conducted in pairs—with Capstone team interviewers alternating facilitation and note taking during the interview. Focus groups were conducted in groups of three, with two facilitators and one note-taker. We wrote field notes for each key informant interview and FGD using a standard template based on the topics covered in the FGD and interview guides. Field notes were corroborated with the audio recordings to ensure fidelity to participants' words.

Once all the data collection was completed and field notes were entered into the template by both interviewers, we created a data analysis matrix in a Microsoft Excel spreadsheet using both topical and interpretative codes. Topical codes are codes that mirrored the topics covered in the key informant interview and FGD guides. While reading through field notes and applying these topical codes,

interpretative codes emerged and were added to the matrix. Interpretive codes were those ideas that emerged directly from the data and were not previously known by the Capstone team. The iterative process of adding interpretative codes allowed for deeper analysis of emerging themes across the different management levels and departments. To ensure consistent application of codes, two coders reviewed each set of field notes and recorded relevant information into the matrix. The same data analysis matrix was used for key informant interviews and FGDs to allow for comparisons between management and staff and across the three departments. The results of the interviews and FGDs were summarized in the third deliverable, a formative research summary report that was created for internal use and disseminated only to Facilities Services Directors.

The extensive qualitative research that informed the formative research deliverables helped us to acquire and strengthen many skills. We all significantly improved our qualitative interviewing skills. Through the use of field notes, a template for reporting those notes, and the use of an online data analysis matrix, we also learned new ways of collecting and analyzing qualitative data that was high quality and feasible given time constraints.

Planning Intervention Strategies

The fourth deliverable, a Wellness Action Plan, presents intervention strategies to meet the needs of Facilities Services staff identified through the formative research process. We identified comprehensive evidence-based WHPPs, as well as other effective strategies for providing wellness and safety programs for low-wage shift workers in similar work settings. These interventions were put into a Microsoft Excel-based matrix and prioritized based on 1) importance of each determinant in predicting participation in a WHPP (based on the literature and primary data collection), and 2) feasibility of changing each determinant given existing resources, policies, and decision-making power at UNC.

Once intervention strategies were identified and prioritized, recommendations were separated into two categories: those that require few or existing resources to implement and those that require additional resources (e.g. new equipment, staff, or specialized skills). Our recommendations were compiled into a report with a three-page executive summary, which was translated into Karen, Burmese and Spanish and

disseminated widely to Facilities Services employees. We also presented our recommendations using a Microsoft PowerPoint presentation to the WWLW Committee and Employee Forum Executive Committee.

Through the creation of the Wellness Action Plan, we expanded our knowledge base about current efforts to address the health and safety needs of our intended audience and applied our understanding of the PRECEDE-PROCEDE planning model to this area of knowledge, identifying and prioritizing key determinants of WHPP participation and aligning our intervention selection with these determinants. We also thought strategically about the feasibility of our recommendations given financial and other institutional constraints, as demonstrated through the use of prioritization criteria.

Stakeholder Engagement

Effective and ongoing stakeholder engagement was key to the success of our Capstone project. Initially, this project was meant to be a CBPR project, but given the hierarchical organizational structure of Facilities Services it became difficult to maintain fidelity to the CBPR approach. Our research required Facilities Services upper management buy-in in order to gain access to direct supervisors and frontline staff. One way we were able to secure the support of upper management was by respecting the chain of command. Working within the organizational chain of command ensured supervisors felt included in the data collection process and understood our motivations and goals for collecting this data. This inclusion helped to reduce skepticism and resistance to the project and increased support for the implementation of our recommendations.

Results

Formative Research Results

The key informant interviews and FGDs provided great insight into the needs of employees, including barriers, facilitators, and additional considerations for WHPPs for Facilities Services staff.

Table 1 summarizes the barriers and facilitators for WHPP participation. The table is organized by job

title to assess differences or similarities in perceptions and opinions of WHPPs across job roles within the Facilities Services Division.

Table 1. Results Summary of Barriers and Facilitators to Participation in WHPPs across Facilities Department Employees

	Frontline Staff	Direct Supervisors	Upper Management
Barriers to WHPPs	<p>Receive limited communication about available UNC resources</p> <p>Rely on supervisors to communicate programs, but there is no accountability. “Some managers will decide what their employees can attend for them”</p> <p>Language barriers lead to differences in treatment by management</p>	<p>Difficult to communicate all messages when many frontline staff have limited computer skills and poor access to email, but all communication is through email.</p>	<p>Language barriers and lack of staff email access present a challenge to communicating with staff about offerings</p> <p>“If we hear of something that’s being offered on campus, we spread the news...We put the ownership on them to come to us and say that is something I want to do...but we make sure they know the option is there.”</p>
	<p>Staff working a job that “breaks us down”</p> <p>“No one that works here is healthy” ... “It’s a shame because you’ve got all the opportunities to get healthy if you want”</p>	<p>Nature of the work has an impact on the health of their employees, especially repetitive motion injuries.</p>	<p>Employees are unaware of health problems they already may have or are at risk of developing, particularly due to their job.</p>
	<p>Loss of motivation related to the nature of the job, including feeling overworked.</p>	<p>“People want to do the job and go home.”</p>	
	<p>Lack of time to participate because of other commitments</p>	<p>Lack of time outside of work due to job, childcare, or other commitments</p>	<p>Commute to UNC (bus, bike, etc.) limits employees’ ability to get to work early or stay late</p>

	<p>Unsupportive supervisors- add to workload; hard to get them to change anything</p> <p>Management “cares more about productivity than health”</p>	<p>Concern about abuses of time allowed for WHPPs programming during work time, would require a great deal of oversight – “There are folks who are going to take advantage of this stuff [free time to go to the gym/activities].”</p> <p>“There’s always bad apples.”</p> <p>“Every supervisor is not as lenient as I might be.”</p>	<p>Some supervisors would be unsupportive - “Some managers are just here for their 11a-7p shift and that is it. Others have a sense of ownership over their zone. They want to protect their people and would be more likely to participate.”</p>
	<p>Cost of programs (such as fees for using the gym)</p>		<p>Lower access to fee-for-service programs due to lower wages.</p>
	<p>Lack of outreach to and consideration for availability of programs for 2nd and 3rd shifts. Existing WHPPs are geared toward those that work the 8a-5p schedule. - “You don’t get the participation from us blue collar workers that you probably would from office people”</p>	<p>Employees are assigned to many different locations around campus and during different shifts, making coordination of programs difficult.</p> <p>“A lot going on, but nothing catered to our shift”</p>	<p>Don't have “ultimate flexibility” when it comes to Human Resources (HR) benefits and programs offered, are limited by what is currently offered.</p>
	<p>Limited voice for input- “We have no rights to decide”</p>		
	Frontline Staff	Direct Supervisors	Upper Management
Facilitators to WHPPs	<p>Provide incentives; create reward systems</p>	<p>Provide incentives</p>	
	<p>Good timing- being able to participate during work at appropriate times</p>	<p>Programs are offered during the work day, possibly in the mornings</p>	<p>Programs should be short enough that they can be worked into breaks or the work day; tailored to shifts</p>
	<p>Convenient, accessible locations for programs</p>		<p>Convenient location</p>
	<p>Use peers to motivate others to participate</p>	<p>Small group-based programs</p>	<p>Smaller group activities within each shop or zone</p>
	<p>Access to better safety equipment and job-specific training (ex: filtered masks), healthy options (ex: food), and physical activity (ex: walking)</p>		<p>Integrate WHPP into existing safety programs and trainings – they are currently well run at the University.</p>
	<p>Clear, regular, accessible communication (ex: in-person every 3 months; language translations; refresher trainings for topics covered in employee</p>	<p>Improve the quality of communication with workers</p> <p>Less online communication</p>	<p>Provide a resource guide of programs and opportunities on campus and in the community</p>


	orientation)	and more face-to-face time	
	Creation of an employee committee to have their voices heard in planning process- “We should get 90% of the voting”	Comprehensive programs catered to employee needs	Program that works directly with staff on staff-driven topics
	Encourage management support		




In addition to these considerations, it is important to remember when selecting WHPPs to address health and safety topics that are relevant to the needs of the intended participants. Employees mentioned that many staff are overweight or obese, and stated that they are a generally aging population, increasing risk for injury and illness. Topics that frontline staff would like to see addressed by a WHPP included healthy eating, tobacco use, physical activity, stress management, and financial wellness.


Wellness Action Plan Results

Based on the formative research results, it was clear that any proposed programming would need to take into consideration the UNC culture, existing policies and procedures, past initiatives, and organizational resources and structures, as well as the preferences of Facilities Services staff. Table 2 highlights our recommendations for WHPP intervention strategies based on the formative research results and the five effective components of WHPPs put forth by Healthy People 2010.

Table 2: Recommendations for Worksite Health Promotion Programs among UNC Facilities Services Employees

	(1) Evidence-Based Health Education Programs/Services
Low resources needed	<ul style="list-style-type: none"> • Promote stretching at the start of shifts.*+ • Encourage walking groups during breaks or walking meetings.*+ • Offer orientation to Campus Recreation facilities to show employees the benefits of a gym membership. • Offer health education programs that address topics that are important and relevant to the specific health and safety needs of the employees.* • Deliver interventions at different times and locations to be accessible to all zones and shifts.*+

<p>More resources needed</p>	<ul style="list-style-type: none"> • Recruit volunteers to lead health education and nutrition classes. UNC students from health-related fields could fill this role as part of a volunteer program or practicum. For third shift, a focus should be eating on a healthy schedule when working an overnight shift.*
	<p align="center">(2) Linkages with Current Employee Benefits and Programs</p>
<p>Low resources needed</p>	<ul style="list-style-type: none"> • Integrate appropriate wellness topics into safety trainings when possible (e.g., when discussing protecting lungs from chemicals and dust, also discuss smoking). • Reduce employee stress through linkage to employee resources such as Employee Assistance Program and counseling services • Promote or expand existing activities (e.g. include cooking demonstrations at the community garden and advertise smoking cessation program.)
<p>More resources needed</p>	<ul style="list-style-type: none"> • Solicit employee feedback about Personal Protective Equipment (e.g. grippers, dust masks) to ensure equipment fits employees correctly*
	<p align="center">(3) Supportive environment</p>
<p>Low resources needed</p>	<ul style="list-style-type: none"> • Form a Facilities Services employee wellness committee with representation of supervisors and frontline staff from each department and shift to: <ul style="list-style-type: none"> ▪ Share knowledge of health and safety issues that employees face. ▪ Encourage coworkers to participate in wellness activities. ▪ Inform the development and adaptation of the WHPP.* • Address secondhand smoke exposure by ensuring that employees are aware of policies against smoking in fleet vehicles and throughout campus. Add signage alerting employees and visitors about the smoke-free campus policy. • Explore ways to improve employees' sense of safety from interpersonal violence, especially for third shift workers who travel to and from job sites alone at night.*+
<p>More resources needed</p>	<ul style="list-style-type: none"> • Make healthy food available in vending machines with signage to indicate healthier options.* • Assess opportunities to move some third-shift workers to day-time schedule. • Consider implementing a sliding-scale membership system for Campus Recreation facilities, with lower rates for lower-wage workers.* • In addition to safety walk-throughs, conduct walk-throughs to assess physical environment and its impact on health (e.g. access to showers, walking paths).*
	<p align="center">(4) Integration of Worksite Health with Organizational Culture</p>
<p>Low resources needed</p>	<ul style="list-style-type: none"> • Communication among managers and frontline staff about health programs offered should occur primarily in-person at staff meetings. Paper signs and email should be used

	<p>as reminders, not as the primary method of communication.*</p> <ul style="list-style-type: none"> • Information regarding benefit updates should be shared with frontline staff on an annual basis in person by Human Resources at staff meetings.* • Regularly encourage employees to make use of benefits (e.g., wellness opportunities, screening and prevention coverage) • Encourage supervisors and upper managers to model participation in WHPP. • Make a commitment to health an explicit objective in the division’s mission statement and identify concrete steps that management will take to make the worksite safer and healthier. • Support employees who want to schedule physical activity during their shifts by allowing flexible scheduling for employees participating in WHPP.* • The same information should be delivered to all zones and shifts. Supervisors should be provided with important information to cover by HR. • Announcements should be interpreted in Burmese, Karen and Spanish languages by bilingual staff during meetings in which WHPP information is shared with staff.*
More resources needed	<ul style="list-style-type: none"> • Hold managers accountable for creating a safe and healthy workplace; provide training and set clear expectations of managers’ roles in promoting health and safety.
	(5) Screenings with Appropriate Follow-up Treatment
Low resources needed	<ul style="list-style-type: none"> • Promote health screenings and available vaccinations to employees at staff meetings.
More resources needed	<ul style="list-style-type: none"> • Provide more convenient times and locations for health screenings and vaccinations for shift work schedules

Discussion

Project Implications

Our Capstone project laid the groundwork for the implementation of a relevant WHPP for Facilities Services employees at UNC. This was accomplished through formative research and evidenced-based recommendations that are feasible in the context of the Facilities Services Division at UNC. To our knowledge, this study is the first to include both management and frontline staff across Housekeeping Services, Grounds Services, and Building Services in interviews and FGDs relating to WHPPs. Our

formative research contributes to the limited knowledge about facilitators and barriers to the implementation of and participation in WHPPs among low-wage, shift-workers.

Through the identification of evidenced based strategies and the needs and preferences for WHPPs of Facilities services staff, we anticipate that our deliverables will help inform WHPP decision making by the CCRWH, WWLW Committee, Division of Facilities Services, and the 2014-2015 Capstone team. Our deliverables will improve the knowledge of future project implementers about the unique health risks of Facilities Services frontline staff and the recommended components of a comprehensive WHPP. Key stakeholder involvement, including Facilities Services management, throughout the entire process will lead to improved institutional capacity for implementing programs. As time has been spent garnering management support and creating recommendations for program design relevant to employees this will likely have a direct impact on improved participation in the WHPP. Additionally, some environmental and cultural changes will not require direct staff participation, but should provide some health benefits to staff.

An effective WHPP in the Facilities Services Division will lead to improved worker health and morale. Additionally, focusing on this high-risk population will help to reduce intra-institutional health disparities. The success of a WHPP for Facilities Services could also serve as a model for other departments at UNC and other employers who require similar types of job functions.

Project Limitations

Overall, we met our project aims to conduct formative research and create WHPP recommendations for Facilities Services employees. However, if we had fewer time constraints, we would have included a quantitative element to the project. We have data from our qualitative research that could have informed the creation of a survey to distribute to all of the frontline staff and supervisors to ensure that our findings were representative of the population. A quantitative component, such as a survey, would have also allowed us to collect data on the health status of Facilities Service employees, which may have helped us persuade key stakeholders to implement our recommendations. Lastly, with more time we

would have liked to have a bigger sample of frontline staff in our FGDs to have a more representative sample.

Next Steps

Because FGDs were conducted with frontline staff who expressed that their health and safety needs were not being met, we feel a strong ethical obligation to ensure the information we collected is used in the implementation of a comprehensive WHPP. Future program implementers include the 2014-2015 Capstone team, CCRWH researchers and staff, the Facilities Services Division, and WWLW Committee members. We believe that any future WHPPs should incorporate ongoing input from Facilities Services frontline staff, ideally via a Facilities Services wellness subcommittee. The future implementation of a WHPP with Facilities Services will need to include an assessment of resources, a selection of strategies from the Wellness Action Plan, and an evaluation plan.

Sustainability

Program sustainability is essential to meeting the long-term health and safety needs of Facilities Services employees. Evaluation of process and short-term outcomes of the WHPPs is essential to demonstrate program effectiveness and need for program continuation. The data collected from program evaluation, along with guidance from a Facilities Services wellness committee, should guide the adaptation of a WHPP. There should also be an emphasis on building the internal capacity of Facilities Services to maintain WHPPs in order to promote sustainability of programs. Facilities Services and other relevant UNC offices (e.g. Human Resources, Campus Recreation) should include specific line items in their budgets to further institutionalize WHPPs. (Scheirer, 2005; Shediak-Rizkallah & Bone, 1998).

In general programs with a “champion” to promote them are more sustainable (Scheirer, 2005; Shediak-Rizkallah & Bone, 1998). Through the creation of a Facilities Services wellness committee it is possible that such “champions” may emerge. Finally, outside stakeholder support, whether it be UNC, CCRWH, WWLW or other supporters, will aid in the likelihood of sustainability (Scheirer, 2005; Shediak-Rizkallah & Bone, 1998).

Professional Impact on Capstone Team

This project has allowed us to strengthen our skills in qualitative research and program planning that will be marketable for future jobs and research opportunities. Additionally, we learned how to navigate potential conflicts within a bureaucratic system, situations that will likely arise in the future. Because the scheduling of FGDs and interviews required significant assistance from the staff of each department, we also learned how to better communicate and coordinate with busy administrative staff to achieve our project goals and how to navigate the competing priorities of management, which did not always include worksite wellness. We also learned how to conduct research with a community of low-wage shift workers in a respectful way, reinforcing the value of directly working with the population you wish to serve. Finally, we had the opportunity to apply for a poster presentation at the American Public Health Association Conference and hope that this will be a chance to share our findings with a larger, national audience.

Conclusion

From this formative research, it was clear that creating opportunities for low-wage Facilities Services employees to participate in appropriate and accessible WHPPs needed to be prioritized by the University. Based on these findings, we recommended strategies for UNC Chapel Hill to improve opportunities for low-wage Facilities Services staff to participate in WHPPs.

UNC prides itself on leadership and excellence, as exemplified by its mission statement: “With lux, libertas—light and liberty—as its founding principles, UNC has charted a bold course of leading change to improve society and to help solve the world’s greatest problems.” (The University of North Carolina at Chapel Hill). At a minimum, we believe it is possible for UNC to make changes requiring little or no resources to make progress towards improving worker health and reducing health disparities within the University. However, as part of its mission of “leading change to improve society,” it is our hope that UNC will position itself as a leader in worker health. UNC should prioritize implementing the best available WHPP strategies for all employees, starting with those who have demonstrated health inequalities and who have historically been overlooked when planning WHPPs.

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Appendix A: Deliverable Tables

Deliverable I: Literature Review	
<i>Format:</i>	Evidence tables and 5-page written report
<i>Purpose:</i>	To identify evidence based intervention strategies and best practices for WHPPs that may be appropriate for Facilities Services staff
<i>Intended Audience(s):</i>	Capstone team, mentors, CCRWH
<i>Activities:</i>	<ul style="list-style-type: none"> • Developed research questions to guide the formative research • Decided which literature to review • Decided how to evaluate and track the ideas, research methods, and results of each publication • Conducted literature review • Organized findings in evidence table • Archived literature review and evidence table for CCRWH and potential Capstone team(s) to reference in the future
<i>Recommendations:</i>	<ul style="list-style-type: none"> • Researchers and practitioners who would like to learn more about or to implement WHPPs for low-wage shift workers should review this document as a way to gain a concise overview of the literature on this topic, particularly as it relates to Facilities Services staff.

Deliverable II: Focus Group and Key Informant Interview Guides & Recruitment Materials	
<i>Format:</i>	10-11 question interview guide for 30-minute key informant interviews with upper management and direct supervisors; 7 question focus group guide for 1 hour discussion with frontline staff; both in MS Word documents
<i>Purpose:</i>	To identify the needs and preferences of Facilities Services staff for a WHPP and to evaluate the feasibility of WHPPs for Facilities Services staff at UNC
<i>Intended Audience(s):</i>	Facilities Services administrators, supervisors, and staff
<i>Activities:</i>	<ul style="list-style-type: none"> • Identified participants for pilot focus group and interviews • Developed interview guide • Piloted interview guide • Revised and finalized interview guide based on pilot feedback • Developed recruitment materials for focus groups • Developed focus group guide • Piloted focus group guide • Revised and finalized focus group guide based on pilot feedback and key informant interviews • Shared focus group and interview guides with mentors for use in future formative research • Utilized interview and focus group guides with UNC Facilities Services staff for formative research data collection
<i>Recommendations:</i>	<ul style="list-style-type: none"> • Researchers and practitioners who would like to see sample questions to ask for data collection for WHPPs with a

	university-based, low-wage, shift worker population should review these interview and focus group guides to inform their work.
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Deliverable III: Formative Research Summary Report	
<i>Format:</i>	6-page summary report and 1-page executive summary in MS Word document
<i>Purpose:</i>	To describe the perceived needs for and feasibility of WHPP for Facilities Services staff
<i>Intended Audience(s):</i>	Capstone team, mentors, CCRWH
<i>Activities:</i>	<ul style="list-style-type: none"> • Identified participants for interviews and focus groups • Conducted interviews with key UNC stakeholders • Analyzed data from interviews • Conducted focus groups with facilities services staff members • Analyzed data from focus groups • Summarized findings and finalized report • Discussed results of formative research with Facilities Services director • Archived report for CCRWH and potential Capstone team(s) to reference in the future
<i>Recommendations:</i>	<ul style="list-style-type: none"> • Researchers and practitioners interested in developing WHPPs for low-wage Facilities Services employees or similar populations should thoroughly review this report before developing a program.

Deliverable IV: Wellness Action Plan (Program Plan)	
<i>Format:</i>	15-page MS Word document with 3-page executive summary, 15-minute MS PowerPoint presentation
<i>Purpose:</i>	To provide key intervention options and associated strategies for successful implementation for addressing the health needs of Facilities Services staff
<i>Intended Audience(s):</i>	Facilities Services staff, WWLW Committee, Employee Forum executive committee, CCRWH, and other key stakeholders
<i>Activities:</i>	<ul style="list-style-type: none"> • Used literature and formative research to prioritize strategies and to create an outline for the action plan • Created Wellness Action Plan in written report and verbal presentation form • Presented Wellness Action Plan to WWLW Committee, Employee Forum executive committee, and other appropriate stakeholders • Disseminated recommendations to appropriate University stakeholders
<i>Recommendations:</i>	<ul style="list-style-type: none"> • University and Facilities Services administrators should review recommendations in order to implement some of the proposed strategies to promote equitable health and wellness among all of their University employees, starting with the low-wage, shift-working Facilities Services staff and to be a leader in employee-

	<p>driven, university-based WHPPs. The 2014-2015 Capstone team can be used to facilitate this process; we encourage the team to take strategies from both the low resources and more resources sections, as they have many skills and assets to implement a stronger set of WHPPs in collaboration with various stakeholders from the University.</p> <ul style="list-style-type: none">• Researchers and practitioners who would like to learn more about WHPPs among this or a related population of low-wage, shift workers of the Facilities Services staff should review these recommendations
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