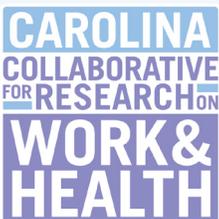


# McDowell County Worksite Wellness Project: Report on the Results of the McDowell County Employer Survey and Employer/Employee Interviews



*A collaboration between McDowell County, UNC– Chapel Hill Gillings School of Global Public Health  
and The Carolina Collaborative for Research on Work & Health*



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## Executive Summary

*“Effective workplace health promotion programs need to be embedded within a culture of health that respects workers’ rights to make informed choices about personal health matters. Without question, workplaces need to be safe and employees need to be treated with respect and dignity. Workers also have a right to be in a healthy work environment where positive health behaviors are encouraged and supported.”<sup>[1]</sup>*

## Background

Chronic diseases such as cancer, heart disease, stroke, and diabetes are significant drivers of health care costs in the U.S, North Carolina, and McDowell County. Two of these chronic diseases—heart disease and cancer—together account for nearly 48% of all deaths.<sup>[2]</sup> In the US, we spend 86% of our health care dollars on chronic diseases.<sup>[3, 4]</sup> However, while chronic diseases are highly prevalent and costly, they are largely preventable. Specifically, by avoiding the use of tobacco products and limiting exposure to smoke, maintaining a healthy weight, and being physically active, up to 70% of chronic diseases may never develop or develop much later in life. Unfortunately, McDowell County residents have higher than the North Carolina average rates on these behavioral risks; and, North Carolina is consistently in the lowest quartile of all states nationally. According to a RAND Corporation analysis (see Figure 1), between 2000 and 2030 the number of Americans with chronic conditions will increase by 37%, to over half of the population, an increase of 46 million people.<sup>[3, 4]</sup>

## Focus on Worker and Workplace Health to Address Chronic Disease Risks

Reaching adults to reduce chronic disease risk factors in the workplace is an important public health strategy. Most adults work and spend considerable waking hours at work. Comprehensive worksite-based health promotion programs have proven effective in not only helping employees reduce health behavior risks, but also improving morale and job satisfaction, increasing productivity, and helping to maintain or control health care costs. McDowell County is working with a team of researchers from UNC Chapel Hill Gillings School of Global Public Health and the Carolina Collaborative for Research on Work and Health to address chronic diseases within the entire population of McDowell County by including an important focus on worker and workplace health.

## Study Aims and Approach

Specifically, the purpose of this project was to: **1) Clarify best practices and trends for workplace health and safety; 2) Assess current attitudes, status, and interests of McDowell County employers and employees regarding workplace health and safety; and, 3) Summarize results and offer recommendations that can assist McDowell County in planning next steps.**

We worked in collaboration with McDowell County stakeholders to design, promote, and deploy a survey of all employers in McDowell County; followed by in-depth interviews with a smaller convenience sample of employers and employees. **Twenty-seven percent of eligible employers (n=84) completed the survey, and 19 employers plus 74 employees participated in the in-depth interviews.** Together, the data and an extensive review of the literature was used to prepare this report and offer recommendations on efforts to improve worker and workplace health that benefits all McDowell County residents.

## Results

Across all size categories, **46% of responding organizations reported that they offered some type of health promotion program for their employees.** Consistent with national trends, as the size of the organization increased, the percentage of organizations offering health promotion programs also increased. However, fewer organizations (36%) reported offering all 5 key elements of a **comprehensive** worksite health promotion program, which has the highest likelihood of producing long-term employee health benefits.

Across all size categories, responding organizations reported offering **disease-related screenings** for high blood pressure (73%), high cholesterol (70%), diabetes (69%), depression (60%), cardiovascular disease (57%), substance use (54%), and obesity (52%).

With regard to specific **health promotion programs**, the majority of responding organizations report that they offer flu vaccines (83%), preventing or reducing stress (72%), physical activity and/or fitness (70%), nutrition education (68%), weight management or loss (68%), smoking cessation (67%), and self-care (55%). In general, and consistent with national trends, large organizations offered more health promotion programs than other size organizations.

As for **health-related policies**, the majority of employers have procedures or policies for reporting work-related injuries (98%), unsafe working conditions (96%), and for investigating how work-related injuries happened (95%), as well as written policies that prohibited employee use of illegal drugs during paid work time (94%), prohibited employee use of alcohol during paid work time (93%), and prohibited firearms on company property (72%). Far fewer employers had policies that promoted healthy eating or physical activity at work.

When asked about **environmental supports**, larger size organizations were more likely to offer a variety of structural supports, but, overall, very few responding organizations offered physical/social supports that supported healthy eating or physical activity at work. There was strong employee interest in having more supports in place.

**The majority of organizations (60%) offered health insurance to their full-time employees.** Almost a third of organizations did not offer health insurance at all (29%), and they were more likely to be in the small (42.4%) or very small (32.7%) organization size categories.

Across all size categories, **59% of responding organizations report that they have at least one designated person** responsible for addressing employee health and safety. Approximately **27% of employers report having an annual budget designated for employee health and safety**, but most of these were larger size organizations. **Less than half (49%) of responding organizations have a marketing or advertising plan for their health promotion programs; only 45% use data to determine program direction; and, just 36% have a three- to five-year strategic plan** for their health programs and/or services.

More than 55% of responding organizations reported that they do not have an **employee health promotion, wellness, and safety committee.** Responding organizations reported that they **partner with health insurance providers (84%),** while local hospitals (47%), local health departments (31%), for-profit vendors (27%), and voluntary health agencies (12%) were endorsed at lower rates.

**The majority of responding organizations were very interested in the idea of integrating health promotion and safety programs** (e.g. Total Worker Health).

Most responding organizations (64.2%) **reported that they offered incentives to employees to encourage employee participation.** The most commonly offered incentives were reductions in health insurance premiums based on healthy choices/behaviors and money.

Responding organizations were asked about the **measures** they used to determine health promotion program success and most commonly endorsed were: program participation rates (71%), employee feedback (63%), time lost or absenteeism (64%), and health care claim costs (58%). Seventy-nine percent of responding organizations report that they expect a **return on investment (ROI)** for their health promotion program.

## Key Recommendations

We favor an iterative **PLAN – DO (or IMPLEMENT) – EVALUATE – REVISE** process that is consistent with a continuous quality improvement process. There are three major steps involved in our recommendations: a strategic planning process, a strategic implementation process, and a strategic evaluation effort.

The **strategic planning process** includes several important steps:

- 1) Mobilize a Workplace Health and Safety Task Force at the county level, and, create a shared vision for the work;
- 2) Recruit employers to participate, and, ask them to identify a health champion at each participating workplace and to organize an Employee Health and Safety Committee;
- 3) Conduct an inventory of evidence-based workplace health and safety programs, policies, and environmental supports from national, state, and local levels;
- 4) Prepare a “menu” of evidence-based programs, environmental supports, and policies;
- 5) Create a county-wide health and safety Action Plan and a calendar of events.

The **strategic implementation process** includes several important steps:

- 6) Develop ongoing communications and training opportunities and provide technical assistance to the health champions at each workplace;
- 7) Tailor the menu of evidence-based programs to the unique health needs and culture of each participating workplace organization;
- 8) Continue to build capacity at the workplace and county-level to plan, deliver and evaluate evidence-based workplace health and safety programs.

The **strategic evaluation effort** should include the following steps:

- 9) Select appropriate outcome measures, including health outcomes at the employee and county level, and collect/report on these data regularly;
- 10) Select appropriate process measures, including employee participation, employee satisfaction, changes in norms, and changes in capacity to offer programs over time.

As part of the final recommendations, we identify key features of selected intervention strategies and provide several examples of activities that McDowell County may consider. With a concentrated county-wide effort, that includes a strong workplace-based focus, we are certain that the overall health of McDowell County residents can be improved over time.

## Background

### Improving the Health of McDowell County Residents

The *Healthy Places Initiative*, established by the Kate B. Reynolds Charitable Trust, supports locally led, community based efforts at improving health and quality of life for rural residents of North Carolina. Over the next ten years, the Trust will fund over \$100 million of projects in 10 to 15 rural counties, bypassing the more traditional funding to healthcare organizations and instead directing money directly into the hands of community organizations poised to make changes.<sup>[5]</sup> This initiative is a long-term investment; each county that is selected will work with KBR for 10 years, developing community capacity, creating and implementing projects, and investing in county infrastructure by building parks, greenways, and other community-identified projects. In 2013, McDowell County was selected as one of six counties to participate in the initiative, and a number of projects have already begun.



McDowell County has a population of 45,231 people and is 446 square miles in the Appalachian Mountains.<sup>[6]</sup> McDowell County residents are 90.6% white and 9.4% non-white, compared to a North Carolina average of 68.5% white and 31.5% non-white. Five percent of the population identifies as Hispanic or Latino. Approximately 70.3% of the population in this county live in a rural area.<sup>[6]</sup> Unemployment is slightly higher in McDowell than in the rest of North Carolina, at 5.8% in the county as compared to 5.4% in the rest of the state.<sup>[7]</sup> McDowell County also has a larger elderly population (e.g., 17.9% of the population is 65 years or older), compared with only 14.3% in that age range in the state of North Carolina.<sup>[8]</sup> McDowell is consistently ranked in the lower half of counties in North Carolina for health outcomes: 22% of McDowell adults (vs.

18% of NC residents and 16.9% of US residents overall) report they are in poor or fair health; 23% are current smokers (vs. 22% of NC residents and 19.6% of US residents overall); 33% of adults are obese (vs. 29% of NC residents and 27.6% of US residents overall); 31% of adults in McDowell County report no leisure time physical activity (vs. 25% of NC residents and 22.9% of US residents overall).<sup>[9, 10]</sup>

### The Rise in Chronic Diseases

Chronic diseases are the leading cause of death in the United States, in North Carolina, and in McDowell County. Data from the World Health Organization shows that chronic disease is also the major cause of premature death around the world, even in places where infectious disease is prevalent. According to a RAND Corporation analysis (Figure 1), between 2000 and 2030 the number of Americans with chronic conditions will increase by 37%, to over half of the population, an increase of 46 million people!<sup>[3]</sup> In fact, as of 2012, about half of all adults—117 million people—have one or more chronic health conditions. One of four adults has two or more chronic health conditions.<sup>[2]</sup> Two of these chronic diseases—heart disease and cancer—together accounted for nearly 48% of all deaths.<sup>[2]</sup> McDowell County mirrors these trends.

The most prevalent chronic diseases and conditions include heart disease, stroke, cancer, diabetes,

obesity, and arthritis. In the US, we spend 86% of our health care dollars on chronic diseases.<sup>[3, 4]</sup> However, while chronic diseases are highly prevalent and costly, they are largely preventable. Specifically, by avoiding the use of tobacco products and limiting exposure to smoke, maintaining a healthy weight, and being physically active, up to 70% of chronic diseases may never develop or develop much later in life.

### Why Focus on Worker and Workplace Health?

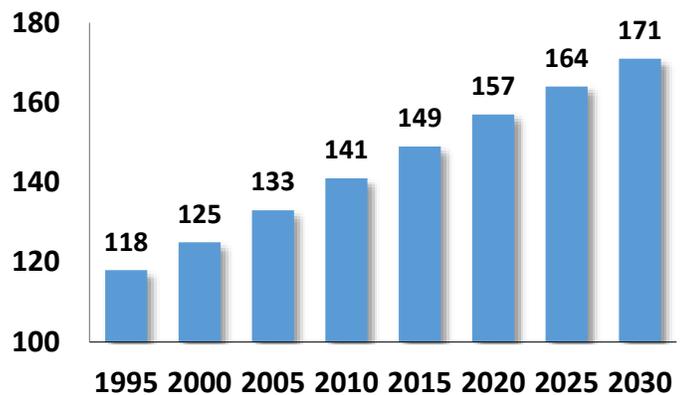
The majority of adults (at least 60%) are employed and spend most of their waking hours on a typical day working. As a result, the workplace is the best place to reach the greatest number of adults with information and services to address the rising epidemic of chronic disease.<sup>[11]</sup> Like demographic shifts that are occurring in the larger US population, the workforce is aging. This increases the risk of all types of chronic diseases. Of course, working adults are also an integral part of the community. They have families, go to church, and are part of the local softball league. By improving the health and lives of workers, we can fully expect a spillover effect of improved health in the community in which they reside.

The World Health Organization's definition of health, "*A state of complete physical, mental, and social well-being, and not merely the absence of disease,*"<sup>[12]</sup> asks us to consider all dimensions of living a healthy life. By extension, the healthy workplace has evolved beyond a focus on just the physical work environment (e.g. physical, chemical, biologic and ergonomic hazards) to embrace the health behaviors of workers, psychosocial factors, and "*a link to the community,*" which has both direct and indirect influences on worker health and chronic disease risk.

The workplace exerts its own independent influence on the health of workers. For example, many workers are at increased risk of chronic disease due to work-related conditions such as psychosocial stressors, hazards, shiftwork, lack of benefits, and increased work demands.

Nationwide, approximately 55% of employers provide health insurance benefits to at least some employees (55%),<sup>[13]</sup> but that only covers 62% of their workers. Health care costs are continuing to rise. Between 2004 and 2014, the average cost of a health insurance premium rose from \$9,950 to \$16,834 per employee per year.<sup>[13]</sup> By 2021, the Center for Medicare and Medicaid Services estimates that health care costs will represent one-fifth of our national gross domestic product (GDP).<sup>[14]</sup> Among small firms with 50 employees or less, only 37% offer health insurance benefits to employees. That number has decreased by 10% in the past 15 years,<sup>[15]</sup> and is expected to decline over the next 10 years. When employees have no or limited health insurance coverage, they are not likely to have a primary care provider, have less access to preventive care, and are less likely to get needed medications and/or to get needed care when a health problem is at an early, more treatable stage. Delays in chronic disease identification and treatment exacerbate health risks and costs over time.

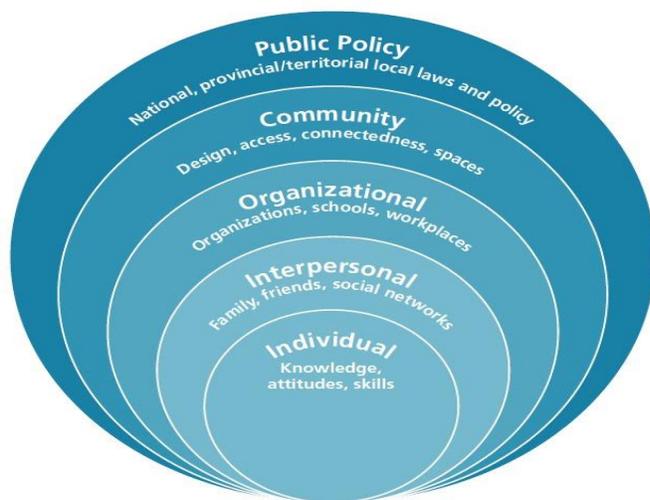
**Figure 1: Number of People with Chronic Conditions (in millions)**



## The Good News About Comprehensive Workplace Health Promotion Programs

While chronic disease rates continue to climb, and remain the leading cause of death and disability, the good news is that they are largely preventable. More importantly, **comprehensive** workplace health promotion interventions have proven effective in improving employee health, including the risk factors that contribute to the leading chronic diseases. Furthermore, **comprehensive** workplace health promotion programs have demonstrated the ability to increase productivity, increase employee recruitment/retention, and help organizations control rising health care costs. What is included in a **comprehensive** workplace health promotion program?

The Office of Disease Prevention and Health Promotion defined a “comprehensive” workplace health promotion program as a program with the following five key elements: 1) evidence-based health education programs; 2) screening and appropriate follow-up/treatment of diseases; 3) linkages to other related programs such as EAP, benefits, and safety; 4) integration into the structure of the workplace via dedicated budget, staff, etc., and, 5) supportive social and physical environments.<sup>[16]</sup> Clearly, this definition goes far beyond programs that target individual employees and their motivation to adopt healthy behaviors. Instead, a “comprehensive” program is designed to surround an employee with healthy supports from all levels of the organization. In fact, a comprehensive program creates a “culture of health” in a workplace that nourishes and supports employee health from the top, and throughout all levels of the organization. While many workplaces have health information and programs available to their employees, according to the most recent national survey, only 6.9% of all employers offered a **comprehensive** workplace health promotion program.<sup>[11]</sup>



A Social-Ecological Model for Physical Activity - Adapted from Heise, L., Ellsberg, M., & Gottemoeller, M. (1999)

More detailed information on the effectiveness of workplace interventions can be found in a review of the literature in Appendix 1. As a result, it is important to focus on the health of employees and the work environment, while making sure that health care coverage and related connections to clinical and preventive care are strengthened in the community. According to the World Health Organization, a “healthy workplace” aims to 1) create a healthy, supportive, and safe work environment; 2) ensure that health promotion and health protection become an integral part of management practices; 3) foster work styles and lifestyles conducive to health; 4) ensure

total organizational participation; and 5) extend positive impacts to the local and surrounding community and environment.<sup>[17]</sup> It is in the context of understanding the importance of developing a culture of health that we survey what type of health promotion programs that McDowell County employers currently offer and may be interested in offering in the future. Building multi-level interventions consistent with the social ecological framework considers improving employee health in the larger context of interpersonal interactions at home/work, as well as worksite organizations, the larger community and social/public policy.

## Introduction to the Project

### The Research Team and Specific Aims

A research team led by Dr. Laura Linnan, Professor, UNC Gillings School of Global Public Health and Director, Carolina Collaborative for Research on Work and Health, was awarded a contract from the McDowell County Health Care Coalition to address the following specific aims:

- 1) Clarify best practices and trends for workplace health and safety;
- 2) Assess current attitudes, status, and interests of McDowell County employers and employees regarding workplace health and safety; and
- 3) Summarize results and offer recommendations that can assist McDowell County in planning next steps.

### Our Approach

To achieve the project tasks, we adopted a mixed method study design. Specifically, we conducted a survey of all employers in McDowell County, and then conducted in-depth interviews with a small convenience sample of employers and employees. The overall goal was to gather information from employers/employees and use these data to create a plan that includes a series of recommendations designed to enhance the health of workers, workplaces and the larger population of community residents. Every step of our process was completed in collaboration with partners in McDowell County, including the Town Manager (Chuck Abernathy), the Executive Director of the Chamber of Commerce (Steve Bush), and, the Executive Director of the McDowell County Health Care Coalition (Josh Kennedy). After agreeing to the study aims and timeline, we received considerable assistance from our collaborating partners when designing and promoting the survey, encouraging participation in the survey and arranging follow-up interviews with employers.

The initial employer survey assessed current health promotion programs offered, policies and environmental supports at the workplace, and gauged interest in participating in future workplace health and safety programs. Among responding organizations, all were asked if they would be willing to take part in the second phase of our research, which included in-depth interviews with employers and employees. The interviews included in-depth questions about barriers to implementing health promotion programs, partnerships that have been helpful, and perceived attitudes and beliefs about current and future health promotion programs. An extensive review of the literature provided a foundation for the survey development process, as well as how to make the best sense of results now and in the future.

### Who Participated?

Of the 418 employers who were on the Dun and Bradstreet list for McDowell County, Appendix 2 provides a detailed description of how we arrived at an eligible list of employers, and clarified which organizations responded to the survey and completed the survey. Specifically, of the 312 eligible employers who were contacted, 29% responded and 27% (n=84) completed the survey. Given the consistently declining national trends in response rates to surveys of all types,<sup>[18]</sup> a 27% response rate is consistent with expected trends. Although we may have improved on this response rate slightly had an incentive been available for survey completion, we do not believe this would have made a sizeable difference. While we expect that this group of responding

employers, on average, may be more interested in workplace health promotion, we believe that generalizability to other employers in McDowell County will be acceptable.

Importantly, we had fairly balanced representation across size categories among responding organizations: 27 were very small (5-10 employees) (32.2%); 20 were small (11-20) (23.8%); 19 were medium (21-100) (22.6%); and 18 were large (101+) (21.4%) (see Table 1). Because evidence suggests that smaller workplaces are less likely to offer any type of health promotion programs, environmental supports, or policies,<sup>[18]</sup> we examined selected results by these four size categories.

**Table 1. Responding Organizations by Employee Size**

	Very Small (5-10)	Small (11-20)	Medium (21-100)	Large (101+)	Total
<b>Number (%) of Responding Organizations</b>	27 (32.2%)	20 (23.8%)	19 (22.6%)	18 (21.4%)	84 (100%)

Most respondents self-identified as a Director or Manager (37.5%), or as the President, CEO, or owner of the company (22.7%). Respondents were most often situated in the Human Resources Department (33.7%) or in general administrative or management positions (14.3%). Other departments mentioned included Benefits, Safety, Health Promotion, Marketing, Finance, Engineering, and Sales. More than half of respondents (53.4%) were in organizations that were headquartered in McDowell County.

Many responding organizations identified as for-profit, private companies (38.8%), while a third were non-profit (34.1%), and around a quarter were for profit and public (27.1%). Approximately three-quarters of the responding organizations were not part of any government (74.7%), while state and local government organizations constituted 12% of the responding organizations respectively.

More than half of the responding organizations hired part-time employees, and only 11 organizations reported hiring seasonal workers. The average age of employees, as estimated by survey respondents, was 41 years old.

Responding organizations identified with the following industry classifications: manufacturing, agriculture, mining, construction, transportation, communication, utilities, wholesale or retail, food services, childcare, business or professional services, financial services, real estate, education, health services, public administration or government, church, and nonprofit organizations. Manufacturing (23.5%) and business or professional services (15.3%) were the most commonly selected industrial classifications. Because we were interested in exploring potential differences by industry type, we grouped industrial classifications into three categories: Category 1 (manufacturing, agriculture, mining, construction, transportation, communication, utilities, wholesale or retail, food services, and childcare) (45.2%); Category 2 (business or professional services, financial services, and real estate) (26.2%); and Category 3 (education, health services, public administration or government, church, and nonprofit organizations) (28.6%). Table 2 summarizes responding organizations by these industry category types.

**Table 2. Responding Organizations by Industrial Category**

	Category 1	Category 2	Category 3	Total
<b>Number (%) of Responding Organizations</b>	38 (45.2%)	22 (26.2%)	24 (28.6%)	84 (100%)

### Interviews with Employers and Employees

In addition to the survey, we interviewed representatives from 19 organizations and 79 employees from those organizations. Of the 19 organizations, 5 organizations were in the “very small” category, 4 were small, 3 were medium, and 7 were large. The interviews were completed with individuals who responded to the survey and who volunteered to participate in Phase 2. In our interviews with organizational representatives, all individuals, with one exception, were in a managerial or supervisory role. On average, respondents had been with those organizations for around 14 years, although length of time spent at the workplace ranged from 2 months to 29 years. Respondents reported an average of 6 hours a week spent working on employee health and safety activities, though it ranged from less than an hour to 40 hours a week in some cases.

At each workplace, we also interviewed a convenience sample of 3 to 5 employees (mean = 3.9 employees/site) in order to get their thoughts and opinions on health and safety at their workplace. In this report, we will offer quotes provided by employers and employees we interviewed to provide additional insights and/or highlight key findings.

## Results

### Current Status of Health Promotion at Work

Overall, 39 organizations (46%) reported that they offered some type of health promotion program for their employees. As the size of the organization increased, the percentage of organizations offering health promotion programs also increased: 37% of very small employers, 49% of small employers, 52% of medium employers, and 65% of large employers offered a health promotion program. When asked to consider the greatest benefits of offering health programs or policies for employees, one employer offered, *“From a company standpoint, it makes it easier to manage a business. From a family standpoint, it’s good to know people can go home and enjoy their family.”*

### Disease-Related Health Programs

In order to gain an understanding of what type of health promotion programs were offered, responding organizations were asked several questions about the disease-related screening, education, support, and/or treatment programs currently offered at their workplace (Table 3). Across all size categories, responding organizations report offering disease-related support for high blood pressure (73%), high cholesterol (70%), diabetes (69%), depression (60%),

cardiovascular disease (57%), substance use (54%), and obesity (52%). Other diseases that many companies said they offered programs for include chronic disease self-management (49%) and cancer (45%). Overall, large size organizations offered the most disease-related support, with at least one-third offering disease-related screening, education, support, or treatment programs for all diseases listed. Surprisingly, very small companies reported offering more chronic disease-related support including support for diabetes, high blood pressure, high blood cholesterol, cardiovascular disease, and chronic disease self-management education. Small and large companies offered more mental health related programs including depression and substance abuse programs.

**Table 3. Disease-Related Programming by Size of Organization**

Disease-Related Programming	Very Small (5-10)	Small (10-20)	Medium (21-100)	Large (101+)	Total
<b>Cancer</b>	4 (47.6%)	4 (47.0%)	3 (33.3%)	6 (60.4%)	17 (44.8%)
<b>Depression</b>	5 (64.4%)	6 (67.5%)	4 (44.1%)	6 (64.2%)	21 (59.6%)
<b>Substance abuse</b>	4 (47.6%)	6 (67.5%)	4 (44.1%)	7 (77.4%)	21 (54.1%)
<b>Diabetes</b>	6 (76.2%)	5 (53.0%)	6 (67.7%)	8 (86.8%)	25 (69.4%)
<b>High blood pressure</b>	6 (76.2%)	6 (67.5%)	6 (67.7%)	8 (90.6%)	26 (73.2%)
<b>High blood cholesterol</b>	6 (76.2%)	5 (53.0%)	6 (67.7%)	8 (90.6%)	25 (69.8%)
<b>Cardiovascular disease</b>	5 (64.4%)	5 (53.0%)	3 (33.3%)	8 (86.8%)	21 (57.4%)
<b>Obesity</b>	4 (47.6%)	5 (53.0%)	4 (45.2%)	8 (86.8%)	21 (51.8%)
<b>Migraine/headache</b>	3 (30.8%)	2 (28.9%)	2 (22.6%)	4 (41.5%)	11 (29.1%)
<b>Back pain</b>	3 (30.8%)	2 (28.9%)	2 (22.6%)	5 (50.9%)	12 (30.0%)
<b>Arthritis</b>	4 (47.6%)	2 (28.9%)	2 (22.6%)	5 (50.9%)	13 (36.8%)
<b>Asthma</b>	4 (47.6%)	2 (28.9%)	2 (22.6%)	4 (41.5%)	12 (35.9%)
<b>Sleep problems</b>	3 (30.8%)	3 (34.9%)	3 (33.3%)	6 (64.2%)	15 (35.5%)
<b>High risk pregnancy</b>	3 (30.8%)	2 (23.5%)	3 (33.3%)	5 (50.9%)	13 (31.6%)
<b>HIV/AIDS</b>	3 (40.6%)	1 (14.5%)	2 (22.6%)	5 (50.9%)	11 (30.5%)
<b>Chronic disease self-management</b>	5 (64.4%)	4 (47.0%)	2 (22.6%)	6 (60.4%)	17 (48.7%)

## Health Promotion Programs

Responding organizations were also asked questions about the specific health promotion programs that were offered (Table 4). Across all sizes, the majority of responding organizations report that they offer flu vaccines (83%), programs to prevent or reduce stress (72%), physical activity and/or fitness programs (70%), nutrition education (68%), weight management or loss programs (68%), smoking cessation programs (67%), and self-care programs (55%). In general, and consistent with national trends, large organizations offered more health promotion programming than medium, small, or very small organizations.

**Table 3. Health Promotion Programs Offered by Size of Organization**

Education Programming	Very Small (5-10)	Small (10-20)	Medium (21-100)	Large (101+)	Total
<b>Physical activity and/or fitness</b>	5 (64.4%)	9 (85.5%)	5 (57.0%)	8 (90.6%)	27 (69.8%)
<b>Nutrition education</b>	5 (64.4%)	7 (76.1%)	5 (57.0%)	9 (100.0%)	26 (68.2%)
<b>Weight management or weight loss</b>	5 (64.4%)	7 (76.1%)	5 (57.0%)	9 (100.0%)	26 (68.2%)
<b>Smoking cessation</b>	5 (64.4%)	5 (62.0%)	6 (67.7%)	8 (90.6%)	24 (67.3%)
<b>Preventing or reducing stress</b>	6 (76.2%)	7 (73.5%)	5 (55.9%)	9 (100.0%)	27 (72.3%)
<b>Parenting education and support</b>	3 (30.8%)	2 (23.9%)	4 (44.1%)	7 (81.1%)	16 (37.9%)
<b>Caregiving education and support</b>	3 (30.8%)	3 (34.5%)	3 (33.3%)	8 (90.6%)	17 (38.0%)
<b>Self-care</b>	4 (47.6%)	6 (59.0%)	5 (55.9%)	7 (77.4%)	22 (55.3%)
<b>Flu vaccines</b>	6 (76.2%)	7 (73.5%)	9 (100.0%)	8 (86.8%)	30 (83.0%)
<b>Sleep and health</b>	3 (43.7%)	3 (44.4%)	5 (55.9%)	6 (67.9%)	17 (49.7%)

Responding organizations were also asked who is eligible to participate in health education programs offered at their worksite location. A majority (62%) said that only employees are eligible to participate in health education programs. Of the rest of the organizations, 40% permitted spouses to participate in health promotion programs, 32% included children or dependents in eligibility, and 28% included retirees.

Responding organizations were also asked about the history of their program and who delivered their current health promotion program. About one-third of respondents (34.2%) indicated that their health promotion program had been in place for 3-5 years, 29.1% reported their program was in place more than 10 years, and 25.3% reported their program was in place for 6-9 years; compared with 10.3% who had programs in place for 1-2 years, or 1.2% who had a program in place for less than one year.

Employers were also asked who delivered their health promotion programs. The majority of programs were delivered by the employer themselves (52.9%), with health insurance providers being the next most common provider of health promotion programs (35.9%). Some organizations also used third party providers (11.2%).

### **Attitudes and Beliefs about Health Promotion Programs**

All responding organizations who were interviewed believed that it is extremely important (63%) or very important (37%) to offer health promotions programs to employees at their organizations. One employer said, *“I feel all companies should offer wellness programs and benefits. They keep employees healthy and at work every day.”*

When asked what they need to be more effective in offering workplace health promotion programs, employers indicated that they would benefit from having a repository (e.g. web portal) where the best practices for worksite health initiatives and suggestions for implementing these best practices can be accessed.

*“As an employer, we really do not know what is available and what resources are available in the county. I hope this effort addresses that need.”*

The majority (79.8%) of employees stated that it was “very” to “extremely” important to have health-related programs or activities at their workplace; whereas 16.5% of employees thought it was “somewhat” important. This trend did not differ between organizations by size or industry classification. One employee suggested, *“Offer programs during work hours. If you have children you have to leave straight from work to go take care of them.”*

A vast majority of employees (over 80%) felt that their coworkers would be interested in participating in health promotion programs at work.

Overall, employees had positive views about health promotion programs, believing that these programs benefitted health, employee morale, and employee productivity. The vast majority of employees believed that health promotion programs motivate employees to make health changes (92%), produce positive changes in employee health (91%), boost employee morale (87%), are fun (87%), produce positive changes in manager health (86%), make employees more productive (84%), and keep employees happy about working at the organization (78%). Notably, most employees disagreed with the idea that health promotion programs are coercive, invade privacy, or compromise workplace safety programs.

## Interest in Future Programs

An important trend in the field of workplace health and safety programming is to “integrate” both health and safety efforts into a “Total Worker Health” approach. The majority of employers (52.7%) report that they are “interested” in learning more about integrated employee health promotion and safety programs.

Across all organization sizes, the majority of employers report that they would like to offer disease-related support for diabetes (56%), high blood pressure (56%), cancer (53%), and high blood cholesterol (53%). Other disease-related support employers said they would like to offer includes support for depression (50%), substance abuse (50%), obesity (49%), back pain (49%), cardiovascular disease (48%), migraine headaches (46%), arthritis (44%), sleep problems (43%), and asthma (41%). High risk pregnancy, HIV/AIDS, and chronic disease self-management education are among the diseases for which a smaller number of employers report that they would like to offer screening, education, support, or treatment programs. Large-size organizations were more enthusiastic about offering these programs in the future than were other size organizations.

We compared organizations with and without health promotion programs at the present time to determine interest in offering future health education materials, classes, online information, or resources on a variety of health promotion topics. In general, more employers were interested in health promotion programs than disease-related programs. Across all organization sizes, the majority of respondents report that they would like to offer education materials on physical activity and/or fitness (66%), programs on preventing or reducing stress (66%), nutrition education (63%), programs on weight management or loss (59%), flu vaccines (56%), smoking cessation programs (56%), self-care programs (53%), and parenting education and support (51%). With the exception of large size companies, caregiving education and support and sleep and health are health promotion topics less likely to be endorsed by responding organizations.

As part of the in-depth interviews with employers, we learned that employers find it “very” or “extremely” important to create an effective, comprehensive employee health and safety program at their organizations. All employers rated assessing employee health and safety and promoting health and safety programs at the organization as “very” or “extremely” important. Most employers also rated evaluating the cost effectiveness and health impact of these programs as “very” or “extremely” important. More than 80% of organizations also rated planning, creating a health resources inventory, creating a community resource inventory, and organizing an employee Health and Safety Committee as “very” or “extremely” important.

Employees we interviewed had a number of ideas about future programs they would like to see offered in their organizations. Exercise-related programs, fitness breaks and discounted gym memberships were the most popular choices. Here is a list of stated employee preferences:

- **Exercise programs** - gym classes, structured walking clubs.
- **Fitness breaks** – time off during the workday to exercise.
- **Discounted gym memberships.**
- **Community activities, group activities, and social activities for wellness** - interdepartmental fitness challenges and group gym classes.
- **More training on nutrition, healthy eating, and healthy cooking.**
- **More trainings on health**, especially in a “lunch & learn” format.

## Perceived Employer and Employee Barriers

### Employer Perceived Barriers

We asked responding organizations to indicate which barriers or challenges they face when offering health promotion and safety programs at their workplace. The majority of employers endorsed these barriers/challenges most often: competing workload demands (65%), cost of offering the program (60%), lack of employee interest (57%), lack of employee participation (57%), and lack of funding (53%). Other barriers and challenges reported less frequently include concerns about privacy/confidentiality (19%), regulatory issues such as HIPAA (15%), employee distrust (8%), lack of senior management support (8%), lack of middle management support (8%), and lack of supervisor or immediate manager support (14%). Employers from small, medium, and large companies reported similar barriers and challenges to offering health promotion and safety programs to employees.

Interviews with organizational representatives largely confirmed the survey results. Organizations most often listed financial cost and lack of time during the workday as barriers to offering health promotion programs. Organizational representatives also mentioned employee and organizational resistance to change and a lack of organizational capacity, including a lack of knowledge about available health and safety resources for organizational use as barriers to offering these programs.

### Employee Perceived Barriers

When employees were asked about barriers to offering or participating in health promotion programs, **a lack of time** was mentioned twice as often as any other barrier. Employees felt they didn't have time to exercise at work or that work responsibilities were so urgent that they couldn't make the time to leave work. Employees with families pointed out that time was especially limited for them, as they had to go straight home from work to take care of children: *"Offer programs during work hours. If you have children you have to leave straight from work to go take care of them."*

Other barriers employees mentioned included:

- **Mental barriers to change**, such as lack of motivation or stubbornness.
- **Problems with accessibility**, such as exercises classes in hard-to-reach locations, or at inconvenient times. One participant commented: *"We need a walking trail around the building, so we don't have to dodge cars [to get to the one across the street]"*
- **Poor advertising of programs**, meaning that employees were not aware of the resources that were available to them.

What would make it easier for employees to participate in health programs?

- **Programs must be accessible.** This means they must be offered during different shifts (night-shift workers mentioned they didn't have access to any programs), and at a place employees could get to.
- **Employees want to participate in wellness activities during the workday, at a time that is convenient for them.**
- **Employees also want dedicated times set aside for wellness activities.**
- **Programs need to be more affordable.**

## Environmental Supports for Health

The CDC defines environmental supports as “the physical factors at and nearby the workplace that help protect and enhance employee health.”<sup>[2]</sup> These supports can be physical or social supports for healthy behaviors among employees.

We asked responding organizations if their worksite offered a variety of facilities, services, and/or discounts to support employees who want to eat healthy or be physically active. These facilities include access to a cafeteria or vending machines with healthy food options and exercise or shower facilities, to name a few. We also asked about access to an onsite occupational health nurse, or special discounts or subsidies, and/or signage to encourage employees to use the stairs.

Although 56% of employers reported onsite beverage vending machines, only 16% reported labeling healthy options in vending machines. Less than a third of organizations offered other environmental supports such as: food vending machines (35%), suggestion boxes (30.9%), discounts or subsidies for fitness club/gym memberships (28.5%), fitness or walking trails onsite (23.5%), healthy choices labeled in the organization cafeteria or vending machines (15.7%), and/or onsite exercise facilities (13.5%). Very few organizations offered a cafeteria (7.9%), occupational health nurse (5.4%), promotions or discounts for healthy choices in the cafeteria or vending machines (4.3%), or, signage to encourage employees to use the stairs (3.2%). Overall, the majority of worksites did not offer facilities or services to promote healthy diet and/or exercise. However, in general, large organizations offered the most health promoting environmental supports, whereas smaller organizations offered less. A majority of large employers offered 5 or more environmental supports, while a majority of medium size organizations offered only 2, small organizations offered only 1, and the majority of very small organizations didn't offer any environmental supports.

When we asked employees in the interviews about environmental supports they would like to see at their organizations, one was overwhelmingly mentioned: employees requested **exercise equipment, a gym, or other fitness facilities** onsite at the workplace. One employee suggested, for example, an outdoor “playground” with 2 pieces of fitness equipment. Another commented: “*We need a gym – we’re too tired after work, and don’t want to go to a place with people that we don’t know.*” And one other employee said: “*We need some kind of exercise, like hourly walking breaks...we need to get outside, it’s unnatural to sit*”.

## Policies and Benefits

According to the CDC, health-related policies “are designed to protect or promote employee health. Supportive workplace health policies affect large groups of workers simultaneously and make adopting healthy behaviors much easier. They can also create and foster a company culture of health.”<sup>[2]</sup>

## Policies about Health and Safety

Responding organizations were asked to identify the formal written health-related policies they currently have in place (see Table 5). Across all size categories, the majority of employers had formal policies related to employee safety. Specifically, the majority of employers have procedures or policies for reporting work-related injuries (98%), unsafe working conditions (96%) and for investigating how work-related injuries happened (95%), as well as written policies that prohibited employee use of illegal drugs during paid work time (94%), prohibited employee use of alcohol during paid work time (93%), prohibited firearms on company property (72%). A majority, but fewer percentages of responding organizations had policies about restricting smoking to designated areas (60%), and requiring use of seatbelts during paid work time (55%). Few employers reported that their companies had written policies for employees to take fitness breaks during paid work times (17%), or policies requiring healthy food options to be available at company meetings and/or events (12%).

Employees reported that it is “very important” to have policies at work that promote employee health. Furthermore, across all size categories, more than 80% of employees also felt that their coworkers would be interested in having health-promoting policies in place at work. There were few meaningful differences across the size of organizations.

While many employees said they were not interested in creating *new* policies at the workplace, a few popular policies did emerge. Employees wanted:

- **A non-smoking campus, both indoors and outdoors.** Most worked in places with indoor smoking bans, but not outdoor ones.
- **Healthy food policies.** This included things like making healthy food options available at meetings, not allowing junk food in vending machines, and putting out fruit bowls instead of candy bowls.
- **Policies that promote physical activity.**

It is noteworthy that the most common theme was that the majority of employees were not enthusiastic about creating *new* health-related policies at work. Here are quotes offered by three different employees relative to new health-related policies....

*“Forcing people makes them resentful”*

*“You can encourage people but you should not coerce them”*

*“I’m not a big policy person, I believe more in the creation of opportunity.”*

Employees emphasized that safety-related policies were important in promoting health. While most employees said they felt their workplace’s safety policies and programs were adequate, a few suggestions were made to improve safety policies:

- **Requiring more training,** including things like CPR, OSHA 10 hour trainings, and reviewing and practicing what one has already learned
- **Security policies,** such as having visitors wear badges or reviewing building security.

**Table 5. Policies by Size of Organization**

<b>Policy</b>	<b>Very Small (5-10)</b>	<b>Small (10-20)</b>	<b>Medium (21-100)</b>	<b>Large (101+)</b>	<b>Total</b>
<b>No smoking on property, inside or outside</b>	13 (48.9%)	5 (28.5%)	10 (51.2%)	8 (50.6%)	36 (45.6%)
<b>Smoking only permitted in designated areas</b>	14 (57.4%)	13 (68.8%)	10 (57.7%)	11 (68.8%)	48 (60.5%)
<b>No tobacco products</b>	13 (48.9%)	4 (22.9%)	10 (51.2%)	13 (85.0%)	40 (46.8%)
<b>No alcohol</b>	23 (88.1%)	17 (92.9%)	19 (100.0%)	16 (100.0%)	75 (92.6%)
<b>No illegal drugs</b>	24 (90.3%)	17 (92.9%)	19 (100.0%)	16 (100.0%)	76 (93.7%)
<b>Required to use seat belts</b>	15 (56.4%)	10 (60.1%)	7 (39.1%)	14 (87.1%)	46 (55.1%)
<b>No firearms on property, inside or outside</b>	16 (68.0%)	12 (64.4%)	15 (78.3%)	16 (100.0%)	59 (71.8%)
<b>Fitness breaks permitted during paid work time</b>	2 (5.9%)	5 (28.5%)	5 (27.5%)	4 (23.7%)	16 (16.6%)
<b>Healthy food required during meetings</b>	4 (15.0%)	1 (7.1%)	1 (4.9%)	5 (31.7%)	11 (12.1%)
<b>Procedure for reporting work-related injuries</b>	26 (97.8%)	17 (92.9%)	19 (100.0%)	16 (100.0%)	78 (97.5%)
<b>Procedure for reporting unsafe conditions</b>	25 (95.6%)	16 (90.0%)	19 (100.0%)	16 (100.0%)	76 (95.9%)
<b>Procedure for investigating work-related injuries</b>	24 (93.4%)	16 (90.0%)	19 (100.0%)	16 (100.0%)	75 (94.7%)

### **Health Insurance and Benefits**

Responding organizations were asked several questions about health insurance and benefits offered to their employees. The majority of organizations (60%) offered health insurance to their full-time employees. Almost a third of organizations did not offer health insurance at all (29%), and they were more likely to be in the small (42.4%) or very small (32.7%) organization size categories. Large organizations were much more likely to offer health insurance to full and part-time employees (27.4%) compared to medium, small, or very small organizations (less than 20%).

Since evidence suggests that access to health care, preventive services and a variety of health promotion programming typically comes with health insurance, we were interested to explore the status of health insurance for employees among responding organizations. Most very small companies offered health insurance to full-time only employees (65%), while the remainder offered health insurance to full and part-time employees (2.5%) or did not offer health insurance to employees (33%). Approximately 39% of small companies offered health insurance to full-time only employees, 19% to full and part-time employees, and 42% did not offer health insurance to employees. Most medium companies offered health insurance to full-time only employees (65%), 16% offered to full and part-time employees, and 19% did not offer health insurance to employees. Lastly, 73% of large companies offered health insurance to full-time only employees; the remainder (27%) offered health insurance to full and part-time employees.

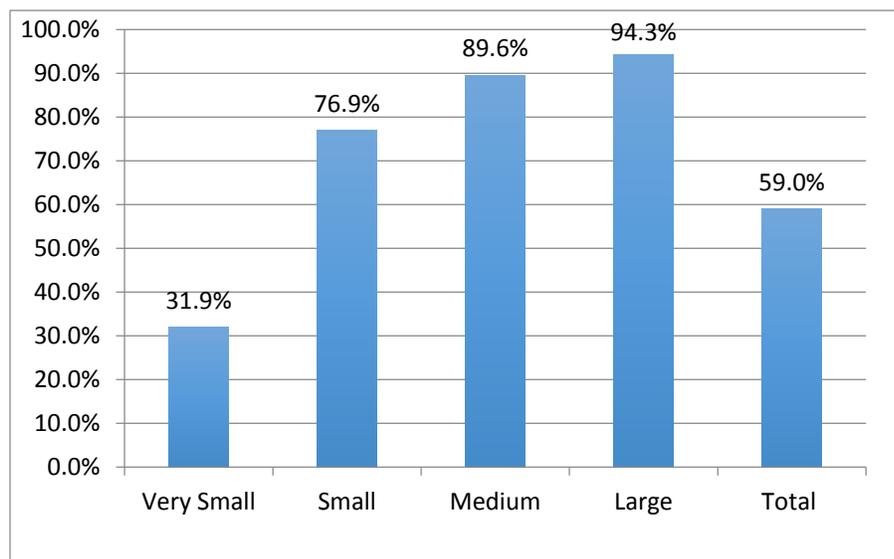
Interviews with employers confirmed that health insurance companies provide employees access to numerous health and safety resources, including online health information, employee assistance programs, annuals health screenings, weight management and smoking cessation programs, and wellness coaches.

Organizations were also asked to estimate whether their employee health care costs increased, decreased, or remained the same in the last 12 months. Overall, the majority of organizations report an increase in company health care costs (62%), whereas 11% reported a decrease and 27.6% reported that health care costs remained the same.

The Employee Assistance Program (EAP) is an employer-sponsored service which represents a benefit designed to assist employees in addressing personal or family problems, including mental health concerns, substance abuse, marital problems, parenting problems, emotional problems, or financial or legal concerns. Employers were asked if their workplace offers an EAP, and 34% report offering this service. Approximately 21% of very small, 36% of small, 43% of medium, and 74% of large companies provide EAP to employees.

## Staffing and Budget

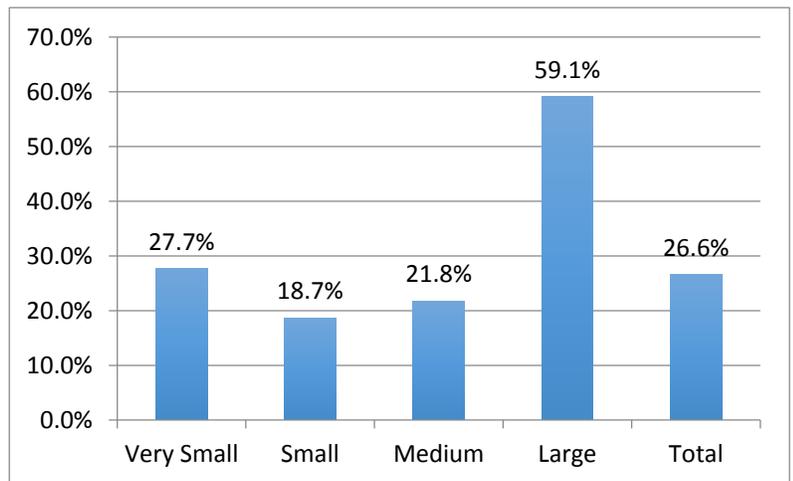
**Figure 2. Organizations with Designated Staff by Size**



Across all size categories, 59% of responding organizations report that they have at least one designated person responsible for addressing employee health and safety. Figure 2 reveals that as the size of the organization increases, they are more likely to report having a designated person responsible for employee health and safety.

Approximately 27% of employers report having an annual budget designated for employee health and safety (Figure 3). With the exception of large size companies (59%) most companies do not have an annual budget designated for employee health and safety. During the organizational interviews we learned that among those with a budget, they reported having between \$501 to more than \$10,000 available for workplace health and safety programming.

**Figure 3. Employers with a Dedicated Budget**



### Management and Leadership Support

Overall, 65% of responding organizations report that company supervisors and/or management involve employees in making decisions about new work processes or work schedules. Large employers are slightly more likely to include employees in the decision-making process compared to other size categories.

We learned that 42% of responding organizations include health and safety outcomes as part of the performance evaluation of supervisors and/or managers, but there were no meaningful differences across size categories.

### Employee Engagement

#### Health and Safety Committees

Responding organizations were asked if their workplace location has an employee health promotion, wellness, and/or safety committee. Across all sizes, 55.2% of organizations reported that they do not have an employee health promotion, wellness, and safety committee; 26% report having a combined health promotion, wellness, and safety committee; 16% report having safety only, and, 3% report having a health promotion and wellness only. There were few meaningful differences across organizational size categories.

Among organizations interviewed who reported having health promotion, wellness, and safety committees, 50% reported that management selects who serves on the committee, and less than 25% report that employees volunteer, and/or report some other process is used to select committee members. Most often this other process includes a combination of employees volunteering and management making selections.

A majority of responding organizations with any type of health and safety committee believe that these committees are active, and, “effective:” or “extremely effective”. However, 25% of responding organizations believe that their committees are “not at all” or “only somewhat” effective. Responding organizations report that the committees have been most effective in providing health education and awareness to employees and establishing a number of safety and health promotion initiatives.

## Incentives

We queried organizations about offering incentives to encourage employees to participate in health promotion programs. Interestingly, 74% of very small, 65% of small, 68% of medium, and 50% of large companies report that they offered incentives to employees to encourage employee participation. The most commonly offered incentives were reductions in health insurance premiums based on healthy choices/behaviors and cash or money.

In the interviews, many employers went into greater detail about the role of incentives in promoting employee health and safety. Financial incentives (e.g. gym memberships, reduced insurance premiums, paid time during work day for health and safety activities) were frequently cited as methods for improving employee health and safety. One employer stated, *“Organizations need to allow for more wellness time during the day. They should require well CEUs [continuing education credits] as a part of incentive points. There also needs to be an increased focus and education on the benefits of wellness.”*

Among interviewed employees, the most popular incentives were:

- **Financial incentives**, such as free or discounted gym memberships, cash rewards for good health, or cash reimbursement for participating in healthy activities.
- **Rewards**, such as gift cards, prizes, clothing, coupons, etc., for participating in health activities.
- **The opportunity to earn paid time off**, either as a reward for participating in healthy activities, or as a reward for taking no/few sick days during the year.
- **Insurance premium discounts**, as a reward for participating in healthy activities or showing signs of improvement in health.

Specifically, employees suggested the following incentive strategies:

*“Give awards to departments that show positive health changes”, and...*

*“Give employees a pre-loaded bank card that can be used to pay for health related activities (like going to the gym). Let the whole family use the card.”*

## Program Planning and Evaluation

### Program Planning

Employers were also asked a series of questions in order to better understand how health programs fit within the broader organization. Across company sizes, 88% report that health programs are coordinated with safety, benefits, human resources and other aspects of the organization; 85% of employers believe that health programs and/or services support the overall business strategy; 74% report that health programs are integrated into the health care strategy; 71% have data that is collected and stored in one central and secure location; 49% have a marketing or advertising plan; 45% use data to determine program direction; and, 36% have a three to five year strategic plan for their health programs and/or services. There were no noticeable differences across size categories.

## Program Evaluation

Responding organizations were asked about what measures they used to determine health promotion program success. Seventy-one percent reported using program participation rates, employee feedback (63%), time lost or absenteeism (64%), health care claim costs (58%), workers' compensation claims costs (57%), employee morale (55%), productivity or presenteeism (44%), health behavior change (38%), and turnover or retention rates (36%).

Seventy-nine percent of responding organizations report that they expect a return on investment (ROI) for their health promotion program. Approximately 61% of responding organizations keep employee participation records. There were few meaningful differences across size categories for either of these questions. The majority of small (75%), medium (90%), and large (94%) size organizations require managers to review workers' compensation claims data and/or injury log data to plan workplace health and safety activities.

In the interviews, employers report that their organizations are likely to adopt, keep, or expand a health promotion program if it results in cost savings for the organization, a good return on investment, if employees participate in the program, or if it boosts employee morale. One employer responded, *"The larger organizations are motivated by the bottom line. For us, it's employee satisfaction and retention."*

## Community Partnerships

We asked employers if they partnered with other groups to provide health information and/or resources for employees. Responding organizations report that they partner with health insurance providers (84%), while local hospitals (47%), local health departments (31%), for-profit vendors (27%), and voluntary health agencies (12%) were endorsed at lower rates.

From employer interviews, many individuals described how partnering with other community organizations have worked in the past to help offer health and safety programs to employees. The YMCA and hospital are frequently mentioned as local community partners identified.

Employees were interested in having a number of community programs offered at their workplace: Weight Watchers at Work and other weight loss/weight management classes, group exercise classes or other YMCA programs, and, having an onsite nutritionist. Employees also mentioned a number of programs in the community that they wanted to participate outside of the workplace, specifically identifying the YMCA, the gym, and running races.

When asked about these partnerships, however, employees also requested the following considerations in order to reduce barriers to participation in community events:

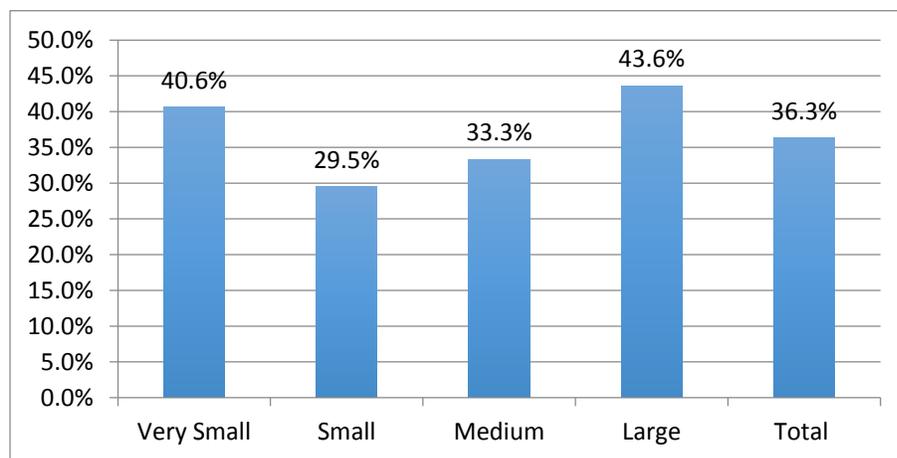
- **Free or low cost activities**, or offer an insurance discount for wellness/fitness activities;
- **More time to participate**;
- **More information about the available programs and resources**; and,
- **More accessible programs**.

## Comprehensive and Integrated Programs

One of the Healthy People 2020 national health objectives is to increase the number of employers that offer a *comprehensive* worksite health promotion program. As mentioned previously, a *comprehensive* program contains five elements: health education programs, health screenings and appropriate follow-up, supportive social/physical work environment, integration of the health program into the company structure, and linkage to other related programs.

Across all responding organizations, 36% reported that they offered all 5 key elements of a comprehensive worksite health promotion program (HPP) (Figure 4). By size, 41% of very small, 30% of small, 33% of medium, and 44% of large size companies reported that they offered a comprehensive HPP for their employees.

**Figure 4. Employers with a Comprehensive HPP by Size**



In general, the majority of organizations across all sizes had health education programs, health screening and appropriate follow-up, and linkage to other employee benefits and programs. Fewer organizations integrated their health promotion programs into the organizational structure.

Employees had different levels of awareness about the health promotion programs their employers offered. Employees were most aware when their employer offered “health education programs,” “screening programs with appropriate education, follow-up, and treatment,” and “a supportive social and physical environment.” However, employees were less likely to know whether or not their employer offered “structural support for health promotion” or “links between health promotion programs and related programs.”

Overall, employees we interviewed reported taking advantage of health promotion programs when they were offered. Among employees who reported that their employer offered “screening programs with appropriate education, follow-up, and treatment” 86% said they participated in these programs. Among employees who reported that their employer offered “supportive social and physical environments,” 84% indicated that they made use of these, and amongst employees who reported that their employer offered “health education programs,” 79% said they participated. It is important to note that these participation levels are much higher than their employer’s perception of employee participation in health promotion activities.

Total Worker Health™ is a strategy integrating health promotion and occupational safety and health to prevent worker injury, illness and to advance health and well-being. When asked, all employers we interviewed were interested (4/19) or very interested (15/19) in the concept of Total Worker Health™.

## Summary of Key Findings

Results from the survey of employers, plus data from in-depth, follow-up interviews with employers and employees, has offered a wealth of information about worksite health promotion programs that currently exist in McDowell County, and insights about how to best move forward in the future. **Here were offer the top 15 key results of this assessment effort:**

- 1) Approximately **27% of eligible** organizations completed the employer survey. While we acknowledge this group of employers might have the greatest interest or experience with health promotion program (e.g. selection bias), we had good variation in employer size and industrial classification.
- 2) Overall, **46% of responding organizations reported that they offered some type of health promotion program for their employees.** Consistent with national trends, as the size of the organization increased, the percentage of organizations offering health promotion programs also increased.
- 3) Across all size categories, responding organizations reported offering **screenings** for high blood pressure (73%), high cholesterol (70%), diabetes (69%), depression (60%), cardiovascular disease (57%), substance use (54%), and obesity (52%).
- 4) With regard to specific **health education programs**, the majority of responding organizations report that they offer flu vaccines (83%), preventing or reducing stress (72%), physical activity and/or fitness (70%), nutrition education (68%), weight management or loss (68%), smoking cessation (67%), and self-care (55%). In general and consistent with national trends, large organizations offered more of health promotion programs than other size organizations.
- 5) As far as **health-related policies**, the majority of employers have policies for reporting work-related injuries (98%), unsafe working conditions (96%) and for investigating how work-related injuries occur (95%), as well as written policies that prohibited employee use of illegal drugs during paid work time (94%), prohibited employee use of alcohol during paid work time (93%), prohibited firearms on company property (72%). **Far fewer employers had policies that promoted healthy eating or physical activity at work.**
- 6) When asked about **environmental supports**, larger size organizations were more likely to offer a variety of structural supports, but overall, very few responding organizations offered physical/social supports that supported healthy eating or physical activity at work. There was strong employee interest in having more supports in place.
- 7) **The majority of organizations (60%) offered health insurance to full-time employees.** Almost a third of organizations did not offer health insurance at all (29%), and they were more likely to be small (42.4%) or very small (32.7%) organizations.
- 8) Across all size categories, **59% of responding organizations report that they have at least one designated person** responsible for addressing employee health and safety. Approximately **27% of employers report having an annual budget designated for employee health and safety**, but most of these were larger size organizations.
- 9) Across organizations, **55.2% of organizations reported that they do not have an employee health promotion, wellness, and safety committee**; 26% report having a combined health promotion, wellness, and safety committee; 16% report having safety only; and, 3% report having a health promotion and wellness only.
- 10) Many responding organizations, including 74% very small, 65% small, 68% medium, and 50% large organizations, **report that they offered incentives to employees to encourage employee participation.** The most commonly offered incentives were reductions in health insurance premiums based on healthy choices/behaviors and cash or money.

- 11) Responding organizations gave a high level of endorsement to many program planning strategies that have proven successful, however **less than half (49%) have a marketing or advertising plan; only 45% use data to determine program direction; and, just 36% have a three to five year strategic plan** for their health programs and/or services.
- 12) Responding organizations were asked about the **measures** they used to determine health promotion program success and most commonly endorsed were: program participation rates (71%), employee feedback (63%), time lost or absenteeism (64%), and health care claim costs (58%). Seventy-nine percent of responding organizations report that they expect a **return on investment (ROI)** for their health promotion program.
- 13) Responding organizations report that they **partner with health insurance providers (84%)**, while local hospitals (47%), local health departments (31%), for-profit vendors (27%), and voluntary health agencies (12%) were endorsed at lower rates.
- 14) Across all responding organizations, **36% reported that they offered all 5 key elements of a comprehensive worksite health promotion program (HPP)**.
- 15) **The majority of responding organizations were very interested in the idea of integrating health promotion and safety programs** (e.g. Total Worker Health).

## Recommendations and Next Steps

A review of the literature on workplace health— both in the US and internationally – plus primary data collected from a survey of employers and follow-up interviews with both employers and employees, provides a rich set of information and insights that can be used to determine next steps for this efforts. These data may also serve as an important benchmark to chart progress made over time, should the survey/interview process be repeated. Taken together, we believe that the following recommendations are appropriate next steps for McDowell County to consider if the goal is to improve population health among all residents, by improving health of employees through comprehensive workplace health and safety promotion.

In general – we favor an iterative PLAN – DO (or IMPLEMENT) – EVALUATE – REVISE approach that is consistent with a continuous quality improvement process. Initially, the planning cycle may take 12-18 months to complete the first time it is undertaken. However, the investment of time upfront is typically worthwhile as you put into place key partnerships, identify and/or collect/analyze relevant data for benchmarking, build a shared vision, and mobilize existing/new resources that are essential for successful implementation. If it is done well, the planning phase is an investment in both the short and long-term success of effort.

In recent years, far more attention has been paid to the importance of adequate planning to ensure that the implementation phase of the initiative is maximized. Successful implementation requires the expertise, leadership at the top/throughout the organization, space, resources and commitment or political will to see the evidence-based interventions all the way through to completion. Evidence suggests that lack of capacity to implement programs is a fundamental reason why employers do not attempt to offer workplace health and safety programs. Leadership support, a fully engaged workforce, appropriate marketing/promotional efforts and effective programming, strategic policies and environmental supports, create the culture of health in a workplace and community that not only supports and celebrates health, but creates a set of norms and expectations that healthy options should always be available (or the “default” option) and encouraged.

Many programs fail because strategic planning is lacking. Programs can fail because there is not adequate attention paid to the way in which programs are implemented. In general, it is fair to say that evaluation of workplace health and safety efforts has not traditionally been undertaken. A few large companies like Johnson and Johnson, General Electric, Coors, and DuPont have contracted with outside firms to conduct extensive evaluation efforts. But for the most part, most employers do not do much other than monitor employee participation, track changes in health care costs, or administer a health risk appraisal to assess behavioral risks. We advocate for a strategic evaluation process that is directly linked to the planning process and provides helpful information on health outcomes, employee engagement, and implementation with an aim toward program improvement. The evaluation tools we administer assess both employee and organizational capacity for making health changes – these tools are free (e.g. CDC Worksite Scorecard) or require a modest financial investment (e.g. Carolina Health Assessment and Resources Tool – CHART). This PLAN-DO-EVALUATE cycle can be done so that the workplace programming efforts achieve intended objectives and utilize data-driven approaches that are responsive to changing employee demographics, work conditions and community needs and strengths/assets.

Our recommendations for improving the health of workers and workplaces in McDowell County are described in the context of this plan-do-evaluate process. We are fully confident that if the workplace initiative is successful, the health of community residents will reap the benefits.

## Strategic Planning

**Mobilize Key County-Wide Partners** – McDowell County has a number of excellent partnerships already in place that will be important for all future strategic planning efforts. Responding employers told us that health insurance providers and hospitals are key partners for workplace health and safety efforts. It will be important to have them fully engaged in the planning and implementation/evaluation phases. In addition, we learned that the YMCA, senior centers and faith-based organizations are partners that may have a special role to play in future workplace-efforts whether as service providers or reinforcers of health initiatives. Specifically, the YMCA is an organization that offers a variety of evidence-based programs and services. In some communities, the YMCA offers programs/services in an outreach capacity to area employers. The Health Care Coalition has already created a **Workplace Task Force** that works exclusively on the workplace programming efforts for the county. Members of this Workplace Task Force should take responsibility for mobilizing key employers and other partners who will do **strategic planning for the workplace component of the McDowell Healthy Places initiative**. Local hospitals, health insurance providers, and health care providers are essential partners in this effort. The clinical-workplace-community connection will increase programming options, raise awareness among practicing providers, and establish appropriate screening, referral and treatment options for individual employees who are identified at high risk and in need of appropriate follow-up and treatment.

As part of mobilizing the Workplace Task Force on the county level, it is essential to **build a shared vision** about the strategic plan for workplace health and safety. The vision must include an appreciation of the fact that comprehensive programs focus on a multi-level effort that addresses programs targeting individual employee health behaviors, relationships between employees-supervisors, workplace policies/programs, county-wide policies, and ways that employers can connect with community resources. The shared vision should be “branded” and articulated in discussions and communications about the workplace component of the Healthy Places initiative. The more that key partners talk about this shared vision, the more likely it is

that employers will recognize the commitment being made to the effort and the interest in joining and participating will grow over time. Employers should be recruited to participate in a “Healthy Worker and Workplace Initiative” that is able to articulate the vision, how it is linked to the Healthy Places effort, specific program strategies, and how employers can get involved as soon as possible so that interest and enthusiasm builds over time. Consider inviting employers to join or pledge involvement in the workplace component as a way to ensure engagement.

**Identify Health Champions and Organize Employee Health & Safety Committees at Participating Worksites** – Each participating employer should be required to identify a health champion and mobilize an employee health and safety committee to help plan, implement and evaluate evidence-based health and safety programs at each worksite. Leadership support and employee engagement is important to all phases of program implementation. Evidence suggests that identifying a person with dedicated responsibility for promoting health and safety programming increased the likelihood of having a “comprehensive” wellness program by tenfold.<sup>[11]</sup> A diverse group of employees who form a health and safety committee at each worksite are interested in health, but not necessarily health zealots, and can serve as important champions for program activities. Committee members are also able to tailor promotional efforts and create enthusiasm for program activities at each workplace. Regular meetings (at least monthly) of the health and safety committees can help build the infrastructure and support for ongoing worksite activities, including the first important task of creating an inventory of resources that can be utilized to promote worker health and safety. The “health champion” at each participating worksite is the main liaison for ongoing communication, training and support for community partners and efforts to build expertise within the worksites to continue these efforts.

**Create an Inventory of Resources** – This is a crucial step in the planning process for McDowell County. There are two types of activities required in this step. First, the Workplace Task Force at the county level should do an inventory of evidence-based programs and resources nationally, statewide, and in the local community. What programs and/or resources are available to the strategic planning team? Are these programs and/or resources free or low-cost? When are they offered? What are the expected health outcomes? Can they be offered at the workplace or in the community or both? Who can deliver the program or service? Three examples of excellent resources are the CDC (e.g. the national Workplace Health Program materials and resources<sup>[19]</sup> and NIOSH (e.g. the Total Worker Health Program resources and information),<sup>[20]</sup> and, the North Carolina Division of Public Health.<sup>[21]</sup> There are a wealth of resources and programs already vetted from these groups. Appendix 3 contains a beginning list of Workplace Health Promotion resources and information for starting this inventory.

When putting a “**menu**” of **evidence-based programs and strategies** together, it is prudent to begin with a limited number of risk factor targets. For example, tobacco use, physical inactivity and overweight/obesity are linked to most of the leading chronic diseases. Evidence-based programs, policies/benefits and a supportive physical/social environment at work exist for all three of these risk targets. Our data from McDowell County employers showed that very few organizations offered policies or environmental supports for promoting physical activity and/or making healthy food choices. The Community Guide to Preventive Services identifies evidence-based strategies for each of these areas. Local hospitals, health departments, state health department resources, CDC has excellent resources. The idea is find successful programming or strategies and build on those. Capacity building is a long-term proposition that will require time and resources. Initially, **creating a menu of free or low-cost programs, policies, and environmental supports in a matrix with only evidence-based approaches is a great first step that most employers will be eager to know about and utilize.**

Second, at each participating workplace, each Employee Health & Safety Committee (EHSC) should do an **inventory of people (expertise, availability), space, as well as health-related programs, services, benefits, policies and environmental supports for health that exist within his/her workplace**. For example, if there is health insurance offered to employees, what type of preventive health benefits are available to employees through the health insurance provider? What health promotion programs are offered? What are the costs? It is also useful to assess the strengths and/or assets of the people within a particular worksite. Often there is an aerobics instructor or someone who is certified in CPR or an employee with a unique set of skills or interests that is willing to step up and share that expertise with other employees at work. For example, maybe there is someone who is willing to give tennis or dance lessons or practice meditation or yoga to co-workers one day a week. By polling employees one might uncover a wide array of assets and strengths that can be integrated into a comprehensive health and safety program.

Interestingly, when asked what they need to be more effective in offering workplace health promotion programs, McDowell County employers told us they would benefit from having a repository (e.g. web portal) where best practices for worksite health and safety initiatives can be accessed. Specifically, they told us *“As an employer, we really do not know what is available and what resources are available in the county. I hope this effort addresses that need.”* By identifying evidence-based programs, policies and environmental supports that are available, and then making this information known on a website portal, this part of the planning effort will address that gap and build a wonderful information resources for all employers.

**Create a McDowell County Workplace Health and Safety Action Plan & Calendar of Events** - The McDowell County Workplace Health and Safety Task Force will carefully consider the results of our survey and interview process, available literature, estimates of the chronic disease burden from state and county-wide data, and, results from the initial planning steps (e.g. create a vision, designate a health champion and create health and safety committees in each participating organization, do an inventory of all resources). Next, the culmination of this strategic planning process is the creation of a **Workplace Health and Safety Action Plan (referred to here as the “Plan”)** that is a very brief document that re-states the overall vision for this effort, key measurable objectives to be accomplished, timetable/calendar of events, menu of evidence-based programs, and an articulation of three key elements: an overall and program-specific marketing plan, an overall and program-specific evaluation plan; and, a budget. This Plan should go through an approval process that includes the Worker and Workplace Health Task Force, the Health Care Coalition, and whoever is allocating resources for the budget. Once the Plan is approved, implementation (and ongoing evaluation) can begin.

### Strategic Implementation

**The benefits of a strategic planning effort will greatly contribute to the successful implementation of the Plan.** Specifically, having leadership at the county and employer levels already in place, and having endorsed the Plan, will create a strong foundation from which to launch the activities of this Plan. Each participating employer has a liaison in place (e.g. the designated health champion) and members of an Employee Health and Safety Committee, who will be able to tailor the evidence-based programs and services articulated in the county-wide Plan to the individual needs and interests of employees from their organization.

There are many ways to **tailor a program at the workplace level** – through branding, with peer leaders/champions, and, linking the program to the unique culture or product or purpose of an organization.<sup>[22]</sup> Tailoring has proven both effective and fun for employees and organizations who want to put their unique stamp on a program. For example, if one of the evidence-based programs to be offered was the “Walk with Ease” program – it would be possible for a participating employer to sponsor a “Walking Wednesday” at Widget Company for all employees who were enrolled in the walking program where there were prizes on the last day of the program. The idea is for employees to have fun, build excitement and share in a health-generating experience. The next time a program is offered, one might expect more/new employees to join.

**The menu of evidence-based programs, policies, and environmental supports should be continuously monitored and revised based on what is available in the community, in each workplace, and in the evidence-based literature.** New methods of offering programs through eHealth and mHealth technologies, online resources, and peer support opportunities exist. As new partners come on Board, they will bring programs and services that should be reviewed for effectiveness, and appropriateness before adding them to the resource inventory and/or menu of planned offerings. This is an important step toward monitoring the quality of the programming offered.

Another key to successful implementation is **building the capacity** of McDowell County to offer programs, services and environmental supports for health over time. Ongoing communication and training opportunities for designated health champions at participating organizations is critically important. As these designated champions build their skills and knowledge, they will be recognized as a “go-to” resource for health information in the participating organization so keeping a great line of communication open and offering webinars, workshops, and learning opportunities based on identified needs/interests will strengthen the infrastructure for implementing planned and future health programming. Looking for ongoing funding opportunities with key university and hospital partners should always be on the radar screen. One of the ideas central to *Healthy Places* is to create a “culture of health” so that while implementation is underway, there are multiple opportunities to share the stories of individuals and participating organizations who are in the process of change. Because successful implementation happens with fully engaged employees, workplaces and the larger community, telling the story, celebrating successes and keeping the programs visible are important strategies during the implementation phase. Our data suggest that nearly 80% of employees we spoke with thought it was “*very*” to “*extremely*” *important to have health-related programs or activities at their workplace*”.

Finally, the implementation process itself should be **evaluated along with way** to determine if programs were delivered as planned, if resources were allocated sufficiently to get these programs in place, if there were deficits in any aspect of implementation that might influence programs outcomes, and, if participants were satisfied with implementation efforts. All of this information can be useful for helping to understand better the program outcomes, and, for improving future implementation efforts.

## Strategic Evaluation

**Program evaluation** is one of the most important areas of focus, but is often not addressed.



McDowell County employers reported a variety of ways they typically measure program success, however, only 38% report measuring employee behavior changes. If these programs are intended to help employees reduce chronic disease risks, it is essential to measure change in employee behaviors. However because it is expected that a comprehensive workplace health and safety program will change the “culture of health” at a given workplace by creating supports in the environment and new policies that advocate for healthy change, **we need measures that will accommodate changes in the organization as well as the**

**employees.** We recommend that McDowell County investigate free or low cost tools that are available to collect this type of data. For example, at the **organizational level** we know that the CDC Worksite Scorecard<sup>[23]</sup> is a free, validated tool that can be used to assess change in organizational capacity to support health. At the **employee level**, The Carolina Health Assessment and Resources Tool (CHART)<sup>[24]</sup> is a tool designed by the UNC research team to 1) measure employee health behaviors; 2) provide personalized feedback for individual employees and aggregate data to assess the health behavior risk of the entire workforce. These two measures (organization and individual employee) can be the centerpiece of an evaluation effort.

Other evaluation strategies must be **linked to the effects of programs** as specified in the Plan. For example, tracking employee participation in sponsored program activities, satisfaction with the programs, changes in norms/attitudes about health at the workplace, and assess the extent to which linkages between the workplace-community and linkages between the workplace and clinical services are solidified. We learned that nearly 80% of responding organizations in McDowell County believed that their health promotion programs should produce a return on investment. We know that evidence suggests that for every \$1 invested in comprehensive health promotion programs, one might observe a \$3 return on that investment. However, it will take a serious effort to document the cost of delivering programs and then estimate the return on investment. We recommend other outcome (and process) evaluation take priority over ROI analysis initially. **Community level measures** that consider changes in the Behavioral Risk Factor Surveillance Survey (BRFSS) data, for example, would be a wonderful added component. Other community-level measures may consider the number, type and strength of local community-employer partnerships, and/or other economic indicators that could be linked to participating employers.

We expect that a comprehensive program will emerge from this strategic, data-driven planning, implementation and evaluation process. First, a commitment to the process at all levels is critically important. Second, we encourage McDowell County to build a partnership-driven effort at the county and workplace levels. Third, a multi-level intervention approach that fully engages employees and employers is needed. The intervention should be considered by using a social ecological approach with intervention strategies in place at the intrapersonal, interpersonal, organizational (workplace), community and policy levels. Fourth, the intervention should be comprehensive, integrated and programs/services that are evidence-based. Programs for the menu of offerings can be identified from the literature and from the US Community Guide to Preventive Services. One aspect of emphasis should be solidifying clinical connections so that employees can be referred for both preventive and treatment services.

Community-wide intervention strategies, like ShapeUp Rhode Island<sup>[25-27]</sup>, may serve as a wonderful example of a proven, multi-level, evidence-based intervention that can be offered to all employers in the county, and, has important ways to connect with key community partners and clinical treatment services for individuals who need more intensive weight loss services. Evaluation tools to measure the impact of this program can be modeled after those described in the literature. Since this program focuses on maintaining a healthy weight (or losing weight) by making changes in eating and increasing physical activity. The next step in a community-wide contest might focus on “clearing the air” by reducing tobacco use and exposure to tobacco smoke. While these efforts start with the community, they can have a big workforce component. Addressing the big three behavioral risks for chronic disease are a great launching point from which to build interventions that address substance abuse prevention, preventing heart disease, and other health problems that represent leading causes of death and disability. A strong community-workplace collaboration, with assistance from the clinical providers, will have a big and lasting, positive impact on the health of McDowell residents as well as the health of local workplaces and workers.

**In summary**, the next step recommendations for McDowell County are to pursue strategic planning, implementation and evaluation strategies in a process that includes PLAN-DO-EVALUATE, then revise accordingly. The key steps described above will allow McDowell County to follow this approach by building an evidence-based menu of programs, environmental supports and policies/benefits that create a comprehensive worker and workplace health and safety program with the potential of improving the health of all community residents, while building capacity with participating community organizations and employers to sustain these efforts on a long-term basis.

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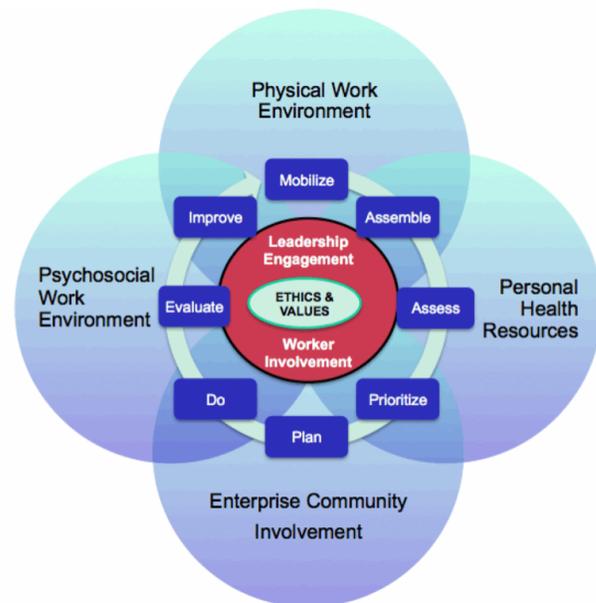
## Appendix A. Literature Review

### McDowell County Literature Review of Workplace Health

Chronic diseases, including heart disease, cancer, diabetes, chronic respiratory illnesses and stroke, currently account for seven out of the ten leading causes of death in the United States, with heart disease and cancer accounting for nearly half of all deaths each year.<sup>1</sup> Globally, these and other non-communicable diseases cause more deaths than all other causes combined and are predicted to increase from 38 million in 2012 to 52 million in 2030.<sup>2</sup> Chronic diseases are also some of the most common health problems causing disability and reduced quality of life. In the United States, half of all adults, 117 million people, have one or more chronic disease conditions, with one in four adults afflicted with two or more.<sup>3</sup> The prevalence of chronic diseases among adults has resulted in increasing health care costs. Nationally, an estimated 2.7 trillion is spent on health care, equivalent to about \$8,915 per person per year.<sup>4</sup> Of this, 84 percent of all health care is spent on the half of the population who have one or more chronic diseases.<sup>5</sup> Although the chronic diseases can be complex, many can be prevented by adapting a healthy lifestyle, primarily through engaging in physical activity, maintaining a healthy diet, not using tobacco, and limiting alcohol consumption.<sup>6</sup>

Figure 1: Healthy Workplace

Using the worksite as a venue to promote healthy lifestyle behaviors and reduce risk of these chronic diseases is a practical choice when considering that full-time employees spend over half their waking hours at work.<sup>7</sup> The World Health Organization defines a healthy workplace as “one in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and wellbeing of all workers and the sustainability of the workplace.”<sup>8</sup> Under this definition, healthy workplaces are ones that address the physical and psychosocial (including organization of work and workplace culture) work environment, health resources available in the workplace to support a healthy lifestyle, and engagement with families and communities to improve worker health.<sup>8</sup> (See Figure 1)



Source: World Health Organization 2015<sup>8</sup>

These programs and policies expand beyond traditional occupational health and safety programs and promote a range of healthy behaviors among employees including smoking cessation, physical activity promotion, and weight management.<sup>9-11</sup> Effective comprehensive worksite health promotion programs can help employees lose weight, quit and abstain from smoking, become more physically active in addition to improving job satisfaction, reducing absenteeism and ultimately producing cost-saving benefits for employers<sup>12-17</sup>

Historically, occupational safety programs arose out of a need to protect workers from specific risks present in the work environment.<sup>18</sup> However, as our understanding of the multiple interacting factors that influence health, and the development of chronic disease has progressed, the ability of the work environment, policies, and behaviors that happen at work to be disease promoting or disease preventing has emerged as a critical area for intervention.<sup>19</sup> Traditionally, a “healthy” worksite under an occupational safety lens focused on promoting health in the physical work environment, addressing issues with chemical and biological hazards as well as injury prevention. Over time, this definition has expanded to

include lifestyle risk and promoting factors (i.e. sitting for long periods of time) and psychosocial factors (the work environment and culture) in the workplace as being critical components of a healthy workplace and worker. This expanded understanding of workplace health also recognizes the importance of organization-community links in promoting health as realistically both the workday and hours spent outside of work are inextricably linked to worker health and productivity.<sup>20</sup> For instance, shift workers, or those whose work dictates hours outside traditional 8AM-5PM workday face specific health risks associated with their nonconventional working hours, including disrupted sleep patterns, mental health problems, gastrointestinal disorders, as well as increased risk of breast cancer and cardiovascular disease.<sup>21-26</sup>

Additionally, with the majority of workers now participating in some form of non-standard working conditions, such as on-call hours, telework, compressed and flexible work weeks, and availability by email or cell phone beyond expressed working hours, work-life and life outside of work are increasingly intertwined.<sup>23</sup> This changing nature of the global workforce, such as with an increasingly mobile worker population, combined with the ongoing economic crisis, rapidly-paced business environments, growing demands for productivity, and the increasing global burden of chronic diseases mean that both employees and employers face significant challenges in health, given the impact physical and psychosocial environments can have on workers.<sup>27</sup>

**Figure 2: A Social Ecological Model for Considering Health Behavior Change**



A Social-Ecological Model for Physical Activity - Adapted from Heise, L., Ellsberg, M., & Gottemoeller, M. (1999)

Source: Active Canada 20/20<sup>28</sup>

Health behaviors and risk factors are influenced by a variety of factors, many of which are outside of an individual's control. The individual, interpersonal, organization, community, and policy environments related to the workplace all play a role in determining workers' health behaviors, such as physical inactivity, and ultimately, their health (See Figure 2). Effective programs recognize the impact of the environments in which individuals work, including the policies companies set, the culture of health established in the workplace, and the relationships co-workers have with one another and seek to address them when seeking to promote a healthy work environment.<sup>28,29</sup> With this improved understanding of the interaction between personal risk factors for disease and the influence of work on health, employers have an opportunity to structure work environments, policies, and promote behaviors in the workplace that lead to a healthy workforce and ultimately, produce value to the employer through reduced costs and increased productivity.<sup>30</sup>

### Healthy People 2020

With over 1,200 objectives in 42 different areas of public health, the Healthy People 2020 guidelines provide a comprehensive pathway to improving health in the United States. These objectives cover the span of chronic diseases and related risk behaviors, and include 22 objectives specifically related to health at the workplace (see appendix one for list of objectives). Those specifically related to workplace interventions include increasing the proportion of worksites with employee health promotion programs, increasing the number of employees who participate in these programs, increasing employer-based offerings of physical activity and nutrition programs, increasing worksite lactation support, encouraging the use of alternative forms of transportation.<sup>31</sup>

## **WHO Workers' Health: Global Plan of Action**

At the 60th World Health Assembly in 2007, the World Health Organization set an agenda for taking action to address worker health throughout 2008-2017. Recognizing the increased movement of jobs, products, and technology within and between countries has led to both innovative solutions to worker health, but also increased risks, particularly for vulnerable groups as work becomes less formal and more service oriented. The objectives identified during this meeting are:

1. Devise and implement policy instruments on workers' health
2. protect and promote health at the workplace
3. improve the performance of and access to occupational health services
4. provide and communicate evidence for action and practice
5. Incorporate workers' health into other policies

These objectives form the foundation of worksite health initiatives, including the development of the "Five Keys for Healthy Workplaces" described later in this review.<sup>32</sup> Additionally, a 2011 meeting of WHO leaders led to a formal request that the private sector "promote and create an enabling environment for healthy behaviors among workers, including by establishing tobacco-free workplaces and safe and healthy working environments through occupational safety and health measures, including, where appropriate, through good corporate practices, workplace wellness programs and health insurance plans."<sup>8</sup> WHO views workplace health promotion as a cost effective strategy for reducing the burden of chronic disease and mental health across the globe.<sup>8</sup> To address these four dimensions of health at work, the WHO presents employers with the "Five Keys to Healthy Workplaces" of 1) Leadership commitment and engagement, 2) Involve workers and their representatives, 3) Business ethics and legality, 4) Use a systematic, comprehensive process to ensure effectiveness and continual improvement, and 5) Sustainability and integration. This framework provides an opportunity for employers to address these domains using practical methods of implementation and evaluation to ensure program success.<sup>33</sup>

## **A Comprehensive Approach to Workplace Health**

Comprehensive approaches are essential to preventing disease and promoting overall health than addressing the factors that lead to chronic disease in isolation.<sup>9,21,23,34</sup> Given this, the Centers for Disease control define Workplace Health Programs using an inherently comprehensive perspective – "a coordinated and comprehensive set of strategies which include programs, policies, benefits, environmental supports, and links to the surrounding community designed to meet the health and safety needs of all employees."<sup>35</sup> According to the Healthy People 2010 objectives, the five recommended components of a WHPP are (1) health education, (2) an association with current employee benefits and related programs, (3) a supportive environment, (4) merger of health promotion into organizational culture, and (5) screenings with follow-up treatment.<sup>36,37</sup> These five components incorporate all levels of the Socio-Ecological Framework (SEF) and workplace health promotion, from individual-level interventions to changes in policy and workplace culture, allowing for examination of multiple avenues of influence for program participation and chronic disease risk reduction.<sup>38</sup>

Health education focuses on skill development and behavior change, and can be tailored to employees' needs and delivered in through a variety of formats.<sup>39</sup> Health education programs that address employee-level motivations, goals, and benefits underlying the desired health behavior have high participation rates.<sup>17,40</sup> Effective worksite health promotion programs also provide opportunities for all employees to be involved, while focusing on high-risk individuals.<sup>7,41</sup> Tailoring health education programs to employee interests and needs helps ensure topic relevancy and motivation to participate, contributing to program success.<sup>34</sup>

Employers can improve the health of their staff through comprehensive worksite health promotion programs that offer associated health insurance, employee assistance programs (EAPs), safety trainings, or other related programs.<sup>42</sup> Additionally, workplace health promotion programs can also be incorporated into existing worksite safety initiatives. Increasingly this comprehensive integrated approach to health and safety has gained recognition as a best practice through the Total Worker Health initiative.<sup>18,42</sup> Employers

should also ensure that employees know about their benefits packages and how to take advantage of benefits through regular communication efforts.<sup>42</sup>

Fostering supportive social and physical environments are critical to workplace health promotion design and implementation<sup>14,37</sup> Involving employees in the development and implementation of multi-level workplace health promotion programs helps ensure relevance, cultural sensitivity, reduce cultural, language, and literacy barriers, and as a result, increase participation in worksite health promotion programs.<sup>34,43</sup> In addition to addressing social environments, workplaces should also consider workplace health promotion programs that make changes to the physical environment, such as creating walking paths for employees and providing educational signage that encourages healthy behaviors, such as healthy eating in the dining hall.<sup>44</sup>

Workplace health promotion programs are most successful in workplaces with a motivated, health-focused organizational culture.<sup>17,38,45</sup> Some components of a health-focused organizational culture include: management support, health-promoting workplace norms, use of appropriate incentives for employees to participate in workplace health promotion programs, and the collection of evaluation data to assess, demonstrate, and promote workplace health promotion program effectiveness.<sup>7,17,34,38,40,46</sup> Research has demonstrated the link between the formal and informal support in the workplace and its impact on health symptoms among employees.<sup>47</sup> The success of formal work supports, including policies and benefits and particularly those related to work-family balance, are dependent on the informal support provided by supervisors, managers, and organizational leadership.<sup>48</sup>

Another component of comprehensive programs includes basic health screenings such as 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 also require linkages to standard medical care.<sup>40,49</sup> Increasingly, employers are moving towards offering these screenings as well as primary care services, pharmacies, and wellness coaching through onsite health clinics. This coordinated effort to support workers at the job beyond the traditional scope of occupational health clinics is an emerging field with limited but promising results. A 2014 systematic review of 22 publications and grey literature found reported benefits in the form of reduced health care costs of about 10-30% off of expenditures, lower employee turnover, and lower absenteeism and higher presenteeism. Although convenient, concerns have emerged with concerns about this being a potential conflict of interest for companies in the form of employee privacy concerns and company overreach into employees' lives, as well as the ability to treat entire families through clinic models. Overall, as this approach believed to provide easily accessible and high quality health care for workers with a return on investment for employers continues to progress with more rigorous data collected and published, the movement towards workplace health clinics will continue to grow.<sup>50</sup>

While the majority of published literature focuses on the ability of comprehensive approaches to workplace health promotion to address specific chronic disease risk factors, such as obesity, smoking, or physical activity (highlighted in the following section), a few reviews have synthesized the results of studies evaluating the impact of workplace health promotion programs. A 2010 systematic review included 86 studies on the effectiveness of health risk assessments and other screenings, with and without other comprehensive program elements, on a variety of behavioral and physical health outcomes, as well as organizational-related impacts such as productivity, health care costs, and future health risk. They found strong evidence for the use of these health risk assessments used in combination with health education, and sufficient evidence in support of using assessments in combination with the other workplace health promotion program elements for tobacco use, alcohol use, seatbelt nonuse, dietary fat intake, blood pressure cholesterol, summary health risk estimates, worker absenteeism, and healthcare service use. However, insufficient evidence was found to support the use of health risk assessments in combination with health education or other programs for impacting fruits and vegetable intake, body composition, and physical fitness.<sup>51</sup> Although currently a topic that has received considerable press, existing reviews and meta-analyses of the economic return of comprehensive workplace health promotion programs have found generally positive results, on the order of a \$3 return for every \$1 invested. These reviews have found overall positive effects on economic returns in existing studies<sup>52,53</sup> including decreased health care expenditures and costs associated with absenteeism.<sup>54,55</sup>

## **NIOSH Total Worker Health – Integrating Occupational Safety and Health Promotion**

Building off of these comprehensive components, the NIOSH Total Worker Health movement recognizes the need to integrate both health promotion and health protection efforts to truly create a safe and healthy work environment for employees. Total Worker Health includes issues related to the workplace, employment and workers, focusing on protecting worker safety, utilizing human resources to increase health and productivity through benefits and employment initiative, and promoting well-being for both high risk individuals and the employee population at large.<sup>18</sup> From the Total Worker Health perspective, while certain health risk behaviors and occupational health risks can happen independently, oftentimes these risks are interrelated and magnified by one another. For example, previous research has demonstrated a link between cigarette use and high stress work environments. Additionally, individuals who typically have the highest risk for occupational health hazards (blue collar job and service industry workers) also tend to have higher health risks as a result of lifestyle behaviors such as smoking, physical inactivity, and poor nutrition. While health hazards and occupational health risks are often interrelated and may amplify poor health outcomes, using an integrated approach to health and occupational safety can also strengthen the outcomes of a workplace health promotion or occupational health program in isolation. Workers are more often receptive to occupational safety programs because the risks are seen as out of their control and involuntary. Workplaces which provide occupational safety programs may be seen as more trustworthy and holding their employees' best interest in mind and as a result, workers may be more receptive to health behavior change programs. This resulting trust and the coordinated effort to integrate safety and health can also contribute to a positive work environment and culture, eventually leading to lower turnover and increased presenteeism. As part of a comprehensive program, Total Worker Health initiatives also have the opportunity to reduce costs through lower health care utilization and decreased sick days.<sup>56</sup> there is a growing literature supporting this integrated approach to interventions that support occupational safety and health, along with health promotion as described in the Total Worker Health initiative.<sup>18</sup>

### **Health Behavior Risk Factors**

#### **Weight Loss/ Weight Management/Obesity Prevention**

A systematic review conducted by those who write recommendations for The Guide to Community Preventive Services found that the weight loss associated with current workplace-based weight loss interventions is modest, averaging 2.8 pounds lost at 6-12 months after the intervention.<sup>57</sup> The types of programming offered and their implementation varied, and that produced different outcomes among participants. For instance, programs that combined physical activity activities with nutrition activities had a greater effect on weight loss, than did programs only offering one of those components. Additionally, offering more structured activities, for example, scheduled individual or group sessions, resulted in greater weight loss/BMI reduction than programs that had unstructured activities. With regards to delivery methods, programs that used informational/educational approaches alone were less effective than those that added behavioral counseling. Finally offering more components tended to be associated with greater weight loss, but this was not consistent across all studies.<sup>57</sup>

The data about the impact of environmental supports on weight is equivocal. A recent cross-sectional study found that workplaces with no outdoor exercise spaces had employees with higher BMI, but (conversely) that workplaces with indoor gyms had employees with higher BMI.<sup>58</sup> Workplaces with cafeterias were associated with better dietary behavior scores among employees, while workplaces with more vending machines had employees with worse dietary behavior scores. This study, however, only controlled for race, age, sex, and education levels. There were 6 types of workplaces represented in the study and there were significant differences in the prevalence of different environmental supports based on type of workplace.<sup>58</sup>

## Examples of Successful Weight Management Programs

### ***Weight Management/Obesity Prevention: Step Ahead***

Lemon et al. implemented a multi-component intervention in hospital worksites. This intervention included environmental supports such as: stairway signs using CDC's stairWELL campaign, indoor and outdoor walking trails, cafeteria labels that displayed the nutrition information about each food and beverage, and a commitment by the cooking staff to prepare healthier foods (as directed by a nutritionist).<sup>59</sup> However, the overall intervention, when analyzed by intention-to-treat, showed no effect on BMI. There were positive weight-related outcomes when they examined relationships between dose received of the intervention and BMI outcome, as there was a small decrease in BMI (95% CI= -0.025–0.001) for each unit increase in participation after two years. When evaluating the relationship between specific intervention components and weight at 24 months follow-up, the researchers found that individuals who frequently read the nutrition labels in the cafeteria (56% of the workforce) and individuals who read the stair signs frequently (8.7% of the workforce) were more likely to have maintained or lost weight than others in the workforce.<sup>59</sup> In contrast to this, a study by DeJoy et al. found that simple environmental changes (such as nutrition labels, may help with weight maintenance, but are not likely to help with weight loss. This result held true even when participants simultaneously participated in a low-intensity weight loss program.<sup>45</sup> Thus, environmental supports for weight loss alone are probably not enough to produce significant weight loss. More intensive treatment options, especially for employees who need to lose a significant amount of weight, are needed.

### ***Weight Management/Obesity Prevention: The Coronary Health Improvement Project (CHIP)***

The Coronary Health Improvement Project (CHIP) centered on an intensive educational program with participants listening to lectures 8 hours a week for 4 weeks. The lectures were offered at a nearby community college, and covered information on coronary heart disease, diet and nutrition, exercise, and behavior change, among other information. Participants completed workbooks based on lecture materials. Participants also had access to healthy cooking and healthy grocery shopping demonstrations/field trips. The behavioral change component of the program encouraged participants to monitor their progress towards exercise goals by giving them a pedometer and asking them to record steps/day every day during the program. At 6 months, the intervention group showed significantly greater self-reported improvements in diet than the control group (i.e., reported eating less fat than the control group and more fruits & vegetables). The intervention group also showed significantly greater weight loss than the control group (average -9.7 lb at 6 months vs. average -2.2 lb), and significant improvements in blood lipids.<sup>60</sup>

### ***Weight Management/Obesity Prevention: The Worksite Study***

The Worksite Study, an internet-based weight loss RCT, randomized worksites to one of two treatment groups: an intensive intervention using monetary incentives or a less intensive program called "Livin' My Weigh". In the more intensive incentive group, participants received tailored emails daily and were provided a website with additional support resources. During the first 6 months of the study, the emails focused on weight loss, and during the second 6 months, on weight maintenance. Emails were tailored to baseline survey responses (gender, fitness program preferences, barriers selected during the enrollment process). Incentive participants also received an incentive of \$1/1% decrease in body weight/month. The low incentive was intended to make sure intrinsic motivation to lose weight was the main motivator (i.e., participants were not signing up just to earn the incentive) and to encourage modest, safe rates of weight loss. The less intensive "Livin' My Weigh" group received condensed information where four newsletters were given out at the start of each quarter, describing exercise programs of different intensity as well as meal plan recommendations. In addition, four group resource sessions were delivered at each worksite quarterly. Content of sessions included: (1) being healthy at any size, (2) nutritional decisions and health, (3) eating healthfully on a budget, and (4) resistance-band strength training.<sup>61</sup> At the end of six months, participants in both the less and more intensive intervention groups reported a modest but significant weight loss. The incentive group participants lost an average of 2.7 lbs lost at six months, and the Livin' My Weigh participants lost an average of 1.3 lbs lost at six months. The difference between two intervention types was not significant. Participants in both groups also showed improvements in diet (i.e., vegetable intake, fiber intake, fat intake, etc.).<sup>61</sup> Researchers reported that even small amounts of weight loss among individuals can have important health benefits on a population basis.<sup>61</sup>

### ***Global Weight Management/Obesity Prevention: Nestlé Indonesia***

Nestlé Indonesia set up a weight loss and nutritional awareness program that included group exercise classes, a walking group and nutrition counselors, culminating in a 100-day wellness challenge to see how much weight people could lose. To encourage participation, small incentives were offered such as free gym memberships. Of the 128 participants, 38% lost 5 to 12% of body weight in 100 days; the rest lost 1 to 5% of body weight. Nutrition counselors continue to help employees remain aware of healthy eating and try to put it into practice.<sup>62</sup>

### **Tobacco Use**

According to a recent Cochrane review, there is evidence that the following types of programs increase smoking cessation rates in comparison to no treatment or minimal intervention controls: Group therapy programs (odds ratio (OR) for cessation 1.71, 95% confidence interval (CI) 1.05 to 2.80; eight trials, 1309 participants), individual counseling (OR 1.96, 95% CI 1.51 to 2.54; eight trials, 3516 participants), pharmacotherapies (OR 1.98, 95% CI 1.26 to 3.11; five trials, 1092 participants), multiple intervention programs aimed mainly or solely at smoking cessation (OR 1.55, 95% CI 1.13 to 2.13; six trials, 5018 participants). Self-help materials were found to be less effective, and two relapse prevention programs did not help to sustain long-term abstinence. Incentives also did not appear to improve the odds of quitting.<sup>63</sup> Additionally, from an policy perspective, smoke-free workplaces are associated with reductions in prevalence of smoking of 3.8%, the equivalent of 3.1 fewer cigarettes smoked per day.<sup>64</sup>

### **Examples of Successful Tobacco Programs**

#### ***Tobacco Cessation: The SUCCESS Project***

The SUCCESS Project compared telephone counseling smoking cessation programs to worksite support group smoking cessation programs. Found that telephone counseling was just as effective as worksite group counseling. Both types of counseling were based in the “Freedom From Smoking” materials by the American Lung Association. The group counseling included 13 sessions over 2 months, while the telephone sessions included 3-6 calls. Cessation rates were 15% at 12 months and 19% at 24 months. Interestingly, incentives to participate in the cessation programs doubled enrollment, but did not increase cessation rates.<sup>65</sup>

#### ***Tobacco Cessation: Smoking relapse prevention programs and factors that predict abstinence***

In a study by Mayer et al., phone counseling was found to be as effective as workplace group counseling for maintenance of smoking cessation.<sup>66</sup> In this study, participants who had recently quit smoking were randomized into a phone session intervention or a workplace group counseling intervention. In both arms of the study, participants went through 10 sessions in 8 months. The phone sessions were individual, and lasted at least 10 minutes. The worksite sessions included a group of 5-10 coworkers and lasted 90 minutes. The content of both types of session included: potential lapses and relapses, high risk situations, strategies to cope with tobacco needs, and compensatory behaviors. At 9 months, 57% of the phone counseling group and 62% of the workplace counseling group were still abstinent from smoking. While this study does not compare participants to quitters who receive no counseling in the 9 months after they quit, this study does provide further support for claim that phone counseling and in-person are equally effective.<sup>66</sup>

#### ***Tobacco Cessation: MassBuilt***

Okechukwu et al. reported that a smoking cessation intervention was conducted with members of a building trades union (Massachusetts Building Trades Council), who were predominantly male and white.<sup>67</sup> This workplace program was successful in reducing the number of cigarettes individuals smoke utilizing five components:

1. Lectures that “focused on job hazards encountered in the building trades, stressing the potential additive and synergistic effects of these exposures, and cigarette smoking.” The authors emphasized that this content was a good cultural fit for this group of workers; previous qualitative research had found that they were unreceptive to messaging focusing on tobacco cessation alone;

2. Eight weekly group counseling sessions delivered by tobacco treatment specialists trained in motivational interviewing;
3. Nicotine therapy patches
4. DIY quit kits, covering all of the material in the rest of the intervention but for independent use
5. Environmental cues to quit in the form of posters with quit-smoking messaging

While this intervention did not show effectiveness in improving quit rates at 6 months (quit rates were the same in intervention and control arms), the intervention participants were significantly more likely at the 6-month follow-up to report they had decreased their daily smoking by at least half a pack.<sup>67</sup>

### ***Global Tobacco Cessation: State Police Department in Rajasthan, India***

Recognizing the importance of the health benefits associated with tobacco cessation, the State Police Department in Rajasthan, India, partnered with the American Cancer Society to implement a tobacco free policy. Piloted at the training academy with 250 staff, the policy was later extended to six regional training centers and 700 additional staff two years later. In addition to the policy change, senior staff members were educated on the health benefits of giving up tobacco, working groups were established to promote a tobacco free lifestyle, and an adapted tobacco cessation program was implemented with 21 staff members at the academy location. The police department found the program easy to implement and replicate, with the peer relationship and support components critical to its success.<sup>62</sup>

### **Physical Inactivity and Sedentary Behaviors**

In 2009, a meta-analysis of workplace physical activity interventions from 1969-2007 was conducted comparing results of 38,231 different participants on various indicators of physical activity and health.<sup>68</sup> Although most studies did not report the size of the organization, 80 reported having over 750 employees and only five reporting fewer than 100 employees. Overall, the mean effect size of interventions on physical activity behavior with two-group comparison studies was .21 at post-test. Other effect sizes of health related indicators were .57 for fitness, .13 for lipid profiles, and .08 for other anthropometric measures. Diabetes risk was also found to be significantly lower across studies as a result of participation (effect sizes from .90 to .98), but the authors cautioned this was the result of only a small number of included studies. For work-related outcomes, significant effect sizes were found for work absenteeism (.19) and job stress (.33).<sup>68</sup>

The Community Guide recommends both signage prompting the use of stairs at decision points such as elevator or staircase as well as developing or increasing access to space for physical activity combined with information as recommended strategies for increasing physical activity and reducing chronic disease at the workplace.<sup>69</sup> With point of decision prompts, signage informs people about the benefits that can be derived from taking the stairs, both with regard to health and weight loss benefits. These signs also remind people who are already more likely to become more active about using the stairs as an additional opportunity to do so. In a systematic review of 11 studies using these prompts, stair usage increased in 10 out of 11 interventions by a median 2.4 percentage points, with a relative increase of 50% over time. Specific recommendations related to signs include tailoring messaging based on the workplace. Effectiveness has been demonstrated in a variety of worksite settings and workforces, including older, obese, and minority populations.<sup>70</sup> On the other hand, a 2008 review of 33 studies from Europe, Australia, New Zealand, and Canada from 1996-2008 found limited evidence for the effectiveness of stair interventions, but strong evidence for the effectiveness of workplace counseling related to physical activity. Additionally, providing pedometers was found to increase step counts, as long as goal-setting, record keeping or walking paths were included as part of the intervention.<sup>71</sup>

Creating/designating space for physical activity, has proven effective when paired with outreach activities. These changes include building or designating spaces for physical activity (such as an existing meeting room), encouraging the use of existing resources such as walking trails, or providing access to existing facilities, such as subsidizing the use of a nearby gym.<sup>72</sup> In the 10 studies reviewed, benefits of increasing access to physical activity facilities included increased aerobic capacity, energy expenditure, active time, and for some, weight loss or decreased body fat percentages. Paired outreach and information activities included physical activity benefit information and exercise programs, screening for risk factors, physician referrals, and support mechanisms to encourage participation.<sup>72</sup>

## **Examples of Successful Physical Activity Programs**

### ***Physical Activity: The Citibank “Access” Program***

The Citibank “Access” Program produced positive outcomes in the following behaviors & risk factors (measured by self-report during an HRA): exercise behavior, seatbelt use, stress, BMI, nutrition behavior (fat, salt, & fiber intake), and smoking. This program was initiated through the completion of an HRA offered to all employees. All employees then received a letter that explained to them what individual health and lifestyle risks the HRA had identified for them. Employees that were categorized as “low risk” by the HRA received general health education materials along with their letter. Employees that were categorized as “high risk” by the HRA were offered 3 tailored follow-up HRA questionnaires, which focused on their particular areas of risk. After each of these follow-up HRAs, the “high risk” employees received targeted health education materials (books, videos, etc.) specific to their chronic disease condition or lifestyle risk. Eventually (after 2 years) the program added in a counseling line that high-risk employees could call in to receive counseling from a nurse for their specific health risks.<sup>13</sup>

### ***Physical Activity Global: Cadbury Schweppes UK***

At Cadbury Schweppes in the United Kingdom, employees are asked to consider how they can contribute to the overall values of the business, including participation in physical activity programs offered by the company. These contributions are integrated into the contract between the employee and the line manager. This creates accountability on both sides - by management to provide the appropriate level of support and by employees to modify their health behaviors. Additionally, the organization uses wellness champions in the workplace, who encourage others to adapt healthy habits by setting a healthy example.<sup>73</sup>

## **Community Partnerships and Engagement**

Inherent to the CDC definition of workplace health programs is the inclusion of community partnerships as part of a comprehensive strategy to addressing health at work. Developing a workplace health promotion program in led by and in partnership with community stakeholders, with an active eye towards engaging the broader community as a whole, can encourage a comprehensive program that meets the needs of different groups. Despite potentially different interests, both workplaces and community organizations can agree on the benefit of a healthier workforce and reduced health care costs in the community. As health risk behaviors outside of work affect employee health at the workplace, engaging communities can contribute to building a culture of health, not only in the worksite, but for the community as a whole.<sup>74</sup>

## **Examples of Successful Community Engagement Projects**

### ***Community Engagement: Spokane Regional Health District***

Launched in Spring 2013, the Spokane Regional Health District WellWorks Initiative (See Figure 3) was developed to partner with businesses in developing comprehensive programs and building support for health in the community. The WellWorks Initiative focus on four health behavior risk areas – injury prevention, nutrition, physical activity, and tobacco prevention and control. From the perspective of the department, supporting workplaces in developing workplace health promotion programs is essential to improving not on the health of employees, but the community as a whole.<sup>75</sup> The Spokane Regional Health District (SRHD) approaches workplace health follows four steps. First, the SRHD works with employers to develop engaged leadership. Beyond gaining the necessary higher management support for workplace health initiatives, The SRHD program also encourages workplaces to communicate changes to employees and actively recruit workers from all levels to participate in wellness committees. Once leadership support is gained and a wellness committee is in place, the Wellworks initiative supports employers and their wellness committees or teams in identifying, developing, and implementing interventions that meet the behavioral risk factors and needs of the employees.

Wellworks focuses on addressing behavioral risks for chronic disease from a policy, environmental, and organizational operations perspective to ensure the workplace is working towards building a culture of health as opposed to addressing individual risk factors in isolation.

Following the development of these Wellworks initiatives from a policy, environmental and organization operations perspective, the SRHD assists employers with setting up a company health profile consisting of aggregated employee health data such as, “safety records, turnover and training costs, productivity, absenteeism and wellness survey results.” The data is used to inform and prioritize changes in the workplace and subsequent workplace health promotion programs. Once the

company health profile is established, the final step is the development of workplace health interventions that address priorities identified through the company health profile and that align with previous changes to policies, the work environment, and organizational operations. For these activities, assessment of employee participation and evaluation of outcomes, both through behavior and biometric changes, are considered essential to successful implementation.<sup>75</sup>

In addition to providing this service to community organizations, the SRHD implemented this strategy in their own worksite, resulting in a 10% improvement in mental health, 9% decrease in smoking rates, and 50% increase in “healthier hearts” rates among employees at SRHD. Additionally, 97% of employees at the organization felt the SRHD supports employee health through programs, policies, and environmental supports.<sup>76</sup>

**Community Engagement: Health Links**

Health Links, a workplace health promotion program initiative based out of the Center for Worker Health and Environment within the Colorado School of Public Health, takes a slightly different approach to working with organizations and stakeholders to engage communities in building a healthier workforce. Prioritizing working with small business, the Health Links program offers a “Healthy Business Certification”, identifying small businesses that are actively working to address worker health and safety within their organization. Those that meet or exceed safety standards are provided with the certification, and those who are interested in building a supportive culture of health and safety at work are provided with support from the Kick-Start Program. The Kick-Start Program offers both funding and technical support to these businesses starting their workplace health promotion programs, and all small businesses participating in Health Links are connected to the Healthy Business network to share best practices and ideas through social media and other online communication channels. Finally, a Preferred Vendor Program is also available to participating businesses, connecting these organizations with local and national vendors providing workplace health and safety programs and services.<sup>77</sup>

**Figure 3: Spokane Regional Health District**



## **Special Considerations for Small Employers**

With the exception of the community-engaged Health Links programs, much of the research conducted on the effectiveness of comprehensive workplace health promotion programs has been with large companies whose workforce extends to thousands of employees however, some research has occurred with small employers. In 2014, a systematic review of workplace health promotion programs identified 84 studies in the United States analyzing a workplace health or occupational safety program in small businesses with fewer than 500 employees. Of the 19 workplace health promotion program studies eventually included in the review a number of opportunities and barriers unique to smaller worksites emerged from the results.<sup>78</sup> Barriers included direct program costs,<sup>36</sup> indirect program costs such as the time, staff and facilities needed,<sup>79</sup> lack of interest among employees,<sup>36</sup> lack of management support or fear of employer overreach,<sup>36,80</sup> lack of technical expertise to implement programs,<sup>78</sup> Less confidence in the return on investment for a program due to the lack of or less employees utilizing employer-based health care,<sup>81</sup> rural settings with less access to programs and fewer service providers to choose from,<sup>79</sup> difficulty evaluating the effectiveness of programs due to internal expertise and cost of outsourcing this step,<sup>78</sup> and concerns with their ability to protect employee privacy and not stigmatize individuals in small workplace settings.<sup>78</sup> However, a number of opportunities exist that may be unique to small employers, such as programs that are more easily implemented and responsive to employee feedback, increased personal accountability for participation and results, increased potential for building a culture of health, and, better team dynamics.<sup>78</sup> Additionally, smaller workplaces have some advantages in implementing workplace health promotion programs including: fewer hierarchical or bureaucratic layers, a more intimate work culture that can lead to participation in programs, and senior leaders who are more visible and accessible health-promotion champions.<sup>82-86</sup>

## **Examples of Successful Wellness Programs with Small Employers**

### ***Small Business: Lincoln Industries Wellness Program***

Lincoln Industries, a small manufacturing company located in Lincoln, Nebraska, used this strategic plan to develop its successful program over a 12 year period: Year 1 - hire a wellness manager; Year 3 – implement a tobacco-free campus; Year 4 – create mandatory health checks; Year 6 – launch an annual mountain climb incentive; Year 9 – create a wellness/benefit strategy; and Year 12 - establish an on-site medical clinic.<sup>87</sup> As a small manufacturing company employing about 500 people, Lincoln Industries recognized several essential elements to the success of the program. These elements included commitment from leadership, creating a culture of health, and measuring and evaluating the effectiveness and cost-effectiveness of the program.<sup>87</sup>

### ***Small Business: Next Jump***

Next Jump's focus in developing a successful health promotion program was not to reduce health care cost but to attract and retain employees.<sup>88</sup> As a small e-commerce company with about 200 employees (mostly computer engineers under the age of 30), Next Jump set out to provide employees with the opportunity to maintain or improve their health while also maximizing their work productivity. The company fully equipped a fitness facility and recreation room; established a fitness challenge with incentives; provided fitness classes, personal training, stress management, summer outings, and holiday party dance competitions. To focus on healthy eating, they providing a daily healthy breakfast, free lunch to employees who work out in the fitness center, and health snacks in bins with portion controlled cups in the office.<sup>88</sup> By providing employees with the necessary tools, resources, and support, they created a culture of health. Employee engagement in this small e-commerce firm focused on the use of technology to promote engagement and streamline programs. Next Jump is currently working on packing their technology to give it away in the hopes of encouraging other businesses to change their workplace culture.<sup>88</sup>

## **Appendix One: Healthy People 2020 Workplace Health-related Objectives<sup>31</sup>**

### **Educational and Community-Based Programs**

ECBP-8 (Developmental) Increase the proportion of worksites that offer an employee health promotion program to their employees

ECBP-8.1 (Developmental) Increase the proportion of worksites with fewer than 50 employees that offer an employee health promotion program to their employees

ECBP-8.2 (Developmental) Increase the proportion of worksites with 50 or more employees that offer an employee health promotion program to their employees

ECBP-8.3 (Developmental) Increase the proportion of worksites with 50 to 99 employees that offer an employee health promotion program to their employees

ECBP-8.4 (Developmental) Increase the proportion of worksites with 100 to 249 employees that offer an employee health promotion program to their employees

ECBP-8.5 (Developmental) Increase the proportion of worksites with 250 to 749 employees that offer an employee health promotion program to their employees

ECBP-8.6 (Developmental) Increase the proportion of worksites with 749 or more employees that offer an employee health promotion program to their employees

ECBP-9 (Developmental) Increase the proportion of employees who participate in employer-sponsored health promotion activities

### **Nutrition and Weight Status**

NWS-7 (Developmental) Increase the proportion of worksites that offer nutrition or weight management classes or counseling

### **Occupational Safety and Health**

OSH-1 Reduce deaths from work-related injuries

OSH-2 Reduce nonfatal work-related injuries

OSH-3 Reduce the rate of injury and illness cases involving days away from work due to overexertion or repetitive motion.

OSH-4 Reduce pneumoconiosis deaths

OSH-5 Reduce deaths from work-related homicides

OSH-6 Reduce work-related assaults

OSH-7 Reduce the proportion of persons who have elevated blood lead concentrations from work exposures

OSH-8 Reduce occupational skin diseases or disorders among full-time workers

OSH-9 (Developmental) Increase the proportion of employees who have access to workplace programs that prevent or reduce employee stress

OSH-10 Reduce new cases of work-related, noise-induced hearing loss

### **Social and Environmental Changes**

TU-12 Increase the proportion of persons covered by indoor worksite policies that prohibit smoking

### **Physical Activity**

PA-12 (Developmental) Increase the proportion of employed adults who have access to and participate in employer-based exercise facilities and exercise programs

### **Maternal, Infant and Child Health**

MICH-22 Increase the proportion of employers that have worksite lactation support programs

### **Environmental Health**

EH-2 Increase use of alternative modes of transportation for work

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## Appendix B. Project Methods

### Data Collection

#### Employer Survey

Dunn and Bradstreet, Inc. provided a list of all businesses in McDowell County; this was the study's sampling frame. (See Figure 1) All businesses listed as having  $\geq 5$  employees ( $n=418$ ) were contacted to participate in the study. First contact was made via mail. 2 weeks and 1 week before the survey opened, businesses received a postcard informing them of the upcoming survey. This was followed at survey opening by a letter detailing the survey's purpose and requesting businesses' participation. The letter provided a URL to the survey (hosted on survey software website Qualtrics (Qualtrics, Provo, UT)), as well as instructions on how to complete the survey via mail or phone. Subsequently, a review of the Dunn and Bradstreet mailing list revealed 51 businesses that were ineligible for the study (see the survey response flow diagram); these businesses were excluded from further follow up.

The remaining 367 businesses were contacted via phone between 27 days and 64 days after the letter mailing. Each business received at least one phone call prompting them to complete the survey; 46% of businesses received 2 calls, and 12% received  $\geq 3$  calls. Businesses agreeing to complete the survey were sent a second copy via mail or emailed URL, according to the business's preference (additionally, three businesses requested to complete the survey by phone). During this phase, an additional 28 businesses were found to be ineligible for the survey, while 31 declined to participate. These were excluded from further follow-up.

All businesses that agreed to complete the survey during this round of phone contact ( $n=84$ ) were contacted a second time to increase response rates. Respondents were reminded to complete the survey and asked if they desired any assistance.

Finally, drawing on Messer's and Dillman's<sup>1</sup> finding that mailing a paper copy of a survey as a follow-up to a primarily web-based survey mode doubled response rates, paper copies of the survey were sent to those 201 businesses who had neither indicated refusal nor completion of the survey during the phone contact periods.

#### Employer & Employee Interviews

During the Employer Survey, respondents were asked if they would be interested in participating in an in-depth interview about their workplace wellness and safety practices. 23 businesses indicated interest, of which 19 were eligible. In February and March 2015, researchers from UNC Chapel Hill and UNC Asheville interviewed a contact from each business. The interview contact was the person who identified themselves as most knowledgeable about health and safety at the organization. Interviews lasted 1-1.5 hours. Additionally, the team requested to interview up to 5 employees at each participating worksite. Employee interviews lasted approximately 15 minutes. Interviews were conducted with a structured interview guide that included both closed- and open-ended questions.

## Data Analysis

### Employer Survey

The employer survey data was analyzed using SAS software Version 9.4 (SAS Institute, Cary, NC) and SPSS Statistical Software Version 22 (IBM Corp., Armonk, NY). The data was weighted by size and industry to control for non-response and overrepresentation of certain employers in our results. Prior studies surveying worksite health promotion have used these two variables for weighting with success.<sup>2</sup>

### Employer & Employee Interviews

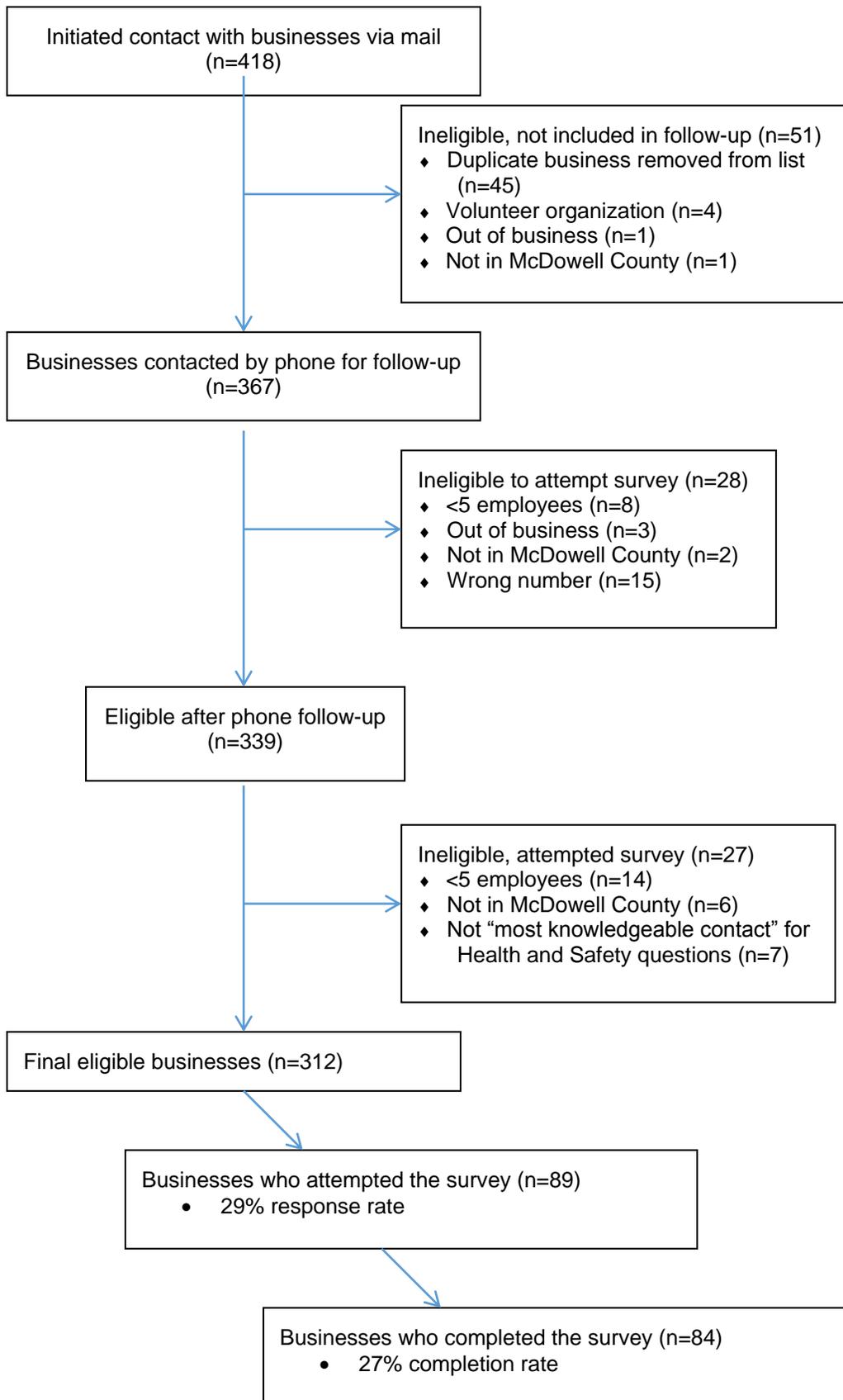
The closed-ended question responses from the employers' and employees' surveys were entered into Microsoft Excel. The mathematical functions of Excel were used to calculate descriptive statistics such as the averages and proportions of various survey responses. Both employer and employee data were stratified by size of business before analysis (Very Small= X employees, Small= X employees, Medium= X employees, and Large= X employees). Where trends related to business size were observed, they are discussed in the results.

The qualitative data from the employers' and employees' surveys were entered in Microsoft Word. The data were organized into lists and tables, and thematic coding was used to condense the data into key themes.

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**Figure 1: McDowell County Worksite Wellness Employer Survey Response**





## Appendix C. Workplace Health Promotion Resources

*North Carolina Division of Public Health Worksite Wellness Resources-*

<http://www.ncdhhs.gov/government/wellness/>

The North Carolina Department of Health and Human Services website provides relevant activities, forms, resources, policies, and information regarding worksite wellness initiatives and committees for state employees and local agencies. Also located on this site is the NC State Health Plan's HealthSmart Resources for Members, which provides a summary of resources available to state health plan participants, such as tobacco cessation benefits and weight management programs available.

*World Health Organization Healthy Workplaces-*

[http://www.who.int/occupational\\_health/healthy\\_workplaces/en/](http://www.who.int/occupational_health/healthy_workplaces/en/)

A component of broader occupational health initiatives, the WHO healthy workplace website provides a number of publications and documents regarding implementing workplace health promotion programs, policies and environmental supports in a variety of settings. WHO also has resources related to their "Five Keys to Health Workplaces" model of collaborative approaches and responsive improvement cycles.

*European Union/European Agency for Safety and Health at Work*

[https://osha.europa.eu/en/topics/whp/index\\_html](https://osha.europa.eu/en/topics/whp/index_html)

The European Union Workplace Health Promotion website under the European Agency for Safety and Health at Work has an overview of workplace health promotion from their perspective, and links to outside sources and providers. Additionally, the website has many useful resources, including case studies, risk assessments, and fact sheets on topics including preventing the negative impacts of tobacco smoke in the workplace.

*Robert Wood Johnson Foundation*

<http://www.rwjf.org/en/search-results.html?u=&k=workplace+health>

The Robert Wood Johnson Foundation has published a series of issue briefs, blog posts, and stories concerning workplace health promotion. Although no dedicated landing page for workplace health promotion exists, searching the website leads to resources covering the issue both broad overviews of the topic, as well as documents specific to individual job types, such as nursing, and risk behaviors.

*HERO Health and Scorecard*

<http://hero-health.org/>

HERO is a non-profit organization focused on researching and disseminating best practices in workplace health promotion. In addition to a number of resources and publications on emerging strategies in the field, the HERO scorecard and supporting tools for assessing workplace health promotion in the workplace is available for download.

*CDC Workplace Health Promotion*

<http://www.cdc.gov/workplacehealthpromotion/>

The CDC website offers a host of resources for designing, promoting and evaluating health programs, policies and environmental supports in the workplace. The CDC's website also provides information for justifying workplace health promotion programs from a business perspective.

*Prevention Partners*

<http://forprevention.org/p2/>

Prevention Partners is a Chapel Hill-based non-profit organization dedicated to building healthier communities through promoting health in schools, workplaces, hospitals, and clinics. In addition to their WorkHealth America program available for licensing, their resources page has a number of webinars, maps, research briefs and other information available to the public.

*The National Institute for Occupational Safety and Health (NIOSH)*

<http://www.cdc.gov/niosh/>

NIOSH focuses on preventing workplace injury and illnesses, and is the host of the integrated health and safety program, Total Worker Health. Information is available on the website by topics, including different industries or specific jobs, and risk factors related to the workplace.

*CDC/NIOSH Small Business Resource Guide*

<http://www.cdc.gov/niosh/topics/smbus/guide/>

This subset of the NIOSH website provides specific resources for implementing occupational health and safety programs in small business settings. In addition to general information, the guide provides handbooks and relevant courses, and offers the Health Hazard Evaluation consultation services for small businesses.

*CCRWH resources page*

<http://sph.unc.edu/ccrwh/resources/>

The Carolina Collaborative for Research on Work and Health hosts a resources page with key documents and links for implementing comprehensive workplace health promotion programs. Key documents contains white papers, policy statements, and guidelines on workplace health issues, while the useful links section connects to other relevant resources and tools at the local, state, and national level.

*Eat Smart, Move More NC!*

<http://www.eatsmartmovemorenc.com/Worksites/Worksites.html>

The Eat Smart, Move More NC! Campaign is a movement to promote physical activity and healthy eating throughout the state. Led by a number of partners across the state, the website provides an overview of the programs, data and funding resources, as well as programs and tools available for promoting healthy lifestyles in a variety of settings and communities. This link leads to the WorkWell NC page which provides a number of toolkits and guides specifically for implementing the program in workplaces.

*CDC Community Health Improvement Navigator*

<http://wwwn.cdc.gov/chidatabase>

This brand new resource provides a centralized database of resources for promoting healthy behaviors and environments, including programs, policies, and environmental supports. Using the lefthand side filters, select "Business/Worksite" under the "Intervention Settings/Locations" filter to see all resources related to workplace health promotion. From there you can also select for specific risk factors, such as tobacco use and exposure, physical inactivity, and obesity, to identify resources and interventions relevant to those topics.

