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# Workplace Wellness Programs: Healthy Lifestyles and Economic Success

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Workplace Wellness Programs:  
Healthy Lifestyles and Economic Success

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Spring 2018

### Abstract

The following is a review of articles and literature on health-care costs, return on investment, employee health benefits, business success, barriers associated with workplace wellness programs and support systems, and an infrastructure that supports implementation. Research and literature on costs, benefits, barriers, and program implementation support is examined in this paper that are associated with successful workplace wellness programs. Findings from this review include a positive return on investment, lower healthcare costs for both the employee and employer, and additional benefits for the employee, employer, and the community. Also, barriers to participate in workplace wellness programs, use of incentives to increase participation in programs, and key characteristics of successful workplace wellness programs were discovered.

*Keywords:* workplace wellness programs, employee wellbeing, economic success, infrastructure.

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## Introduction

Increased obesity and chronic diseases with adults have been associated with the increase of more sedentary lifestyles and occupations. According to Preventative Medicine and Healthcare Costs (2014), “more than 75% of health care costs are due to chronic conditions” (Terry, 2014 slide 11). One way to increase healthy lifestyles while decreasing health care costs is implementing workplace wellness programs. Based off a 40-hour work week with eight hours of sleep per night, employees spend 36% of their waking hours at work. “On average, Americans working full-time spend more than one-third of their day, five days per week at the workplace” (CDC, 2017). The Center for Disease and Prevention Control (CDC) also states, “the use of effective workplace programs and policies can reduce health risks and improve the quality of life for American workers” (CDC, 2017).

### **Background on Worksite Wellness Programs**

Workplace wellness can be traced back as far as a half-century prior to the Industrial Revolution when Bernardini Ramazzini wrote about the effects of work exposure on workers and possibilities of preventative measures (Rucker, 2016). Khoury (2014) cites in, *The Evolution of Worksite Wellness*, that in 1879 the Pullman Company, known for its company town outside of Chicago, established an athletic association along with its employee-only housing, shops and schools (Khoury, 2014). In the 1880s, the president of National Cash Register was known to meet employees for horseback rides before work; later, the company instituted twice-daily exercise breaks, built an employee gym, and in 1911 added a 325-acre recreation park for its workers (Khoury, 2014).

Although the Industrial Revolution and social reform brought notable milestones to workplace wellness, wellness programs were an afterthought until the 20<sup>th</sup> century when Employee Assistant Programs (EAP) began (Rucker,2014). EAP are employee benefit programs that assists employees with personal problems and/or work-related problems that may impact their job performance, health, mental and emotional well-being.

According to Reardon (1998), true workplace wellness programs did not really begin to exist until the mid-1970s. During this timeframe, there was a perceived shift in financial responsibility for health care, from government to employer (Reardon,1998). “The development of worksite wellness was motivated primarily by cost containment” (Reardon,1998, p. 117). The Occupational Safety and Health movement (OSH) of the 1970s and the Worksite Health Promotion movement (WHP) of the late 1970s are driving forces behind the initiation of worksite wellness” (Ickes and Sharma, 2009). Greiner (1987) believes that, “workplace wellness became popular as a result of the culture change regarding fitness, the industrial health care burden, research revealing the cost of unhealthy employee behaviors, and the emergence of health promotion groups such as the Washington Business Group on Health and the Wellness Councils of America as reasons for emergence of worksite wellness” (as cited by Reardon, 1998 p. 118). The use of theories, such as the Behavioral-change Theory, are used to implement programs. To contain some of the costs associated with health care, many employers adopted WWPs (Ickes and Sharma, 2009).

In 1978, the prototype for big corporate workplace wellness programs was started by Johnson & Johnson with the Live for Life Program (Rucker,2016). Jim Burke, the company

group chairman in 1978, introduced the concept of positive lifestyle change to the employees (Isaac and Flynn,2001). In a quote from Isaac and Flynn (2001) in, “*Johnson & Johnson Live for Life Program: Now and Then*” Burke states that, “he believes that unhealthy behaviors- smoking, overeating, alcohol abuse, emotional stress, hypertension, and unsafe driving- were responsible for a large share of the company’s health care costs in the United States” (Isaac and Flynn, 2001, p.365). The Live for Life program had two main goals. First, to encourage Johnson & Johnson employees to become the healthiest in the world through education and easy access to behavior modification programs and opportunities and second, to implement on site programs and services to bring down cost of health care for the corporation. (Isaac and Flynn, 2001).

The decade of the 80’s brought increased academic research and use of theory while focusing on psychological well-being and increasing mental health. In 1989 Congress passed a resolution, subsequently signed as a proclamation by President George Bush, designating the 1990s as the "Decade of the Brain." (National Institute of Mental Health, n.d.). In September 1990, the Department of Health and Human Services released Healthy People 2000: National Health Promotion and Disease Prevention Objectives, a strategy for improving the health of Americans by the end of the century. One strategy of Healthy People 2000 cited by Reardon (1998), proposed that 75% of employers with 50 or more workers should offer health promotion services as a benefit (Reardon, 1998, p. 118).

Although there was not much evidence at this time, many employers began to support programs believing that they had a positive impact on their employees and wellness programs were divided into three levels. Pencak (1991) defines these levels as: level one addressing

awareness (e.g. classes, posters, health fairs), level two was concerned with lifestyle and behavioral change (education to support habit change — these programs generally lasted up to 12 weeks), and level three targeted the environment (these programs had no time limit and encouraged the work environment to support the changes through organizational structure and increased knowledge) (Reardon, 1998, p. 118-119). In the mid-nineties the Pender's Health Promotion Model was revised that helped in providing guidelines for workplace wellness programs.

By the end of the century, many corporations began developing workplace wellness programs. Agencies like the Centers for Disease Control and Prevention (CDC), World Health Organization (WHO), and the RAND corporation provided leadership to improve the health, safety, and well-being of employees through science-based workplace health promotion programs. There was rapid growth in the fitness industry that included an ever-growing line-up of celebrities and self-help experts who started bringing wellness concepts to a mainstream audience (Global Wellness Institute, n.d.). In 2000, the U.S. Department of Health and Human Services revised Healthy People 2000 into Healthy People 2010. For workplace wellness, this addresses that 75% of employers of 50 or more workers to have a comprehensive health promotion plan (CDC, n.d.). Throughout 2000-2010 workplace wellness programs continued to grow among employers for promoting health and lowering costs.

In 2010 workplace wellness programs grew even more when the Affordable Care Act (ACA) went into existence. The ACA aimed to promote workplace wellness programs to reduce healthcare costs. The (ACA) sets standards for a certain type of wellness program, called health



contingent programs, used by 8% of large firms (200 or more workers) that offered health benefits in 2016 (Pollitz and Rae, 2017). Liu, Mattke, Harris, Weinberg, Serxner, Caloyeras, & Exum (2013) state in “*Do Workplace Wellness Programs Reduce Medical Costs? Evidence from a Fortune 500 Company*”, “The passage of the Affordable Care Act has heightened the importance of workplace wellness programs” (Liu et al, 2013, abstract). According to the law, small firms are allowed to apply for grants to establish a wellness program, and a ten-state demonstration will be implemented by 2014 to provide a wellness program to enrollees in the individual insurance market. The RAND corporation (2013) reported that 92 percent of employers with 200 or more employees reported offering wellness programs in 2009. Health Advocate cites in, *Guide to Workplace Wellness* (2014) that, “projected growth is expected to rise from 5.6 percent in 2014 to a high of 6.6 percent in 2020, with healthcare spending expected to increase to \$5.1 trillion by 2023” (Health Advocate, 2014). Attridge (2017) notes, “A 2015 benchmarking study by World at Work revealed that 74% of employers planned to increase their spending on employee well-being programs and that the ‘primary champion’ of such programs is shifting from human resources to an organization’s CEO or other non-HR senior management. This data indicates that employers are expanding their support – financially and strategically – for employee wellness programs” (International Employee Assistance Professionals Association, 2017). Programs like the Employee Assistance Program (EAP) better align themselves, even more, to make WWP’s more effective. EAP are employee benefit programs that assists employees with personal problems and/or work-related problems that may impact their job performance, health, mental and emotional well-being (Society for Human Resource Management, 2014). As of date, employer promotions and programs aimed at supporting healthy

behavior and improving health outcomes among employees are a \$6 billion industry in the United States.

However, Abbas (2017) cites in *The Problem with Employee Wellness Programs*, that success is all over the map and “half of employers who offer wellness programs don’t formally evaluate them, according to an employer survey by the RAND Corporation. Most employers said their programs reduced health costs, absenteeism and health-related productivity losses, but only 2 percent could provide actual savings estimates” (Abbas, 2017). Mattke, Schnyer, & Van Buren (2013) states, “at this time, it is difficult to definitively assess the impact of workplace wellness on health outcomes and cost” (Mattke et al, 2013). Freundlich (2015) states that the twenty-plus authors of the *Journal of Occupational and Environmental Medicine*, all experts in the health promotion field, “conclude that some wellness programs work superbly while others are abysmal failures” (Freundlich, 2015). Nyman et al (2010) states, “... a recent detailed review of the eleven studies considered to have the strongest research design concluded that few of the studies demonstrated clear evidence on medical cost savings” (as cited by Liu et al 2013).

Workplace wellness programs can be cost effective and beneficial to many if implemented properly. Research has been conducted on costs, benefits, barriers to participation with insight on how programs are beneficial. However, if not properly implemented, success cannot be obtained. This paper examines research and literature on healthcare costs, return on investment, benefits for employee and employer, barriers associated with programs and support, and infrastructure support of implementation.

## Literature Review

### Costs

In 2011, the average annual health insurance premium for an individual was \$5,000 and \$14,000 for families. Premiums have continued to increase enormously and by 2019 it is estimated that healthcare costs of the nation will reach 20% of the GDP. Instead of employers shifting cost to employees or cutting benefits, one way to control higher healthcare costs is companies starting a workplace wellness program (WWP). Hall (2011) covers return on investment, what programs need to include to manage costs and save money, and how much to budget to be effective in, "*How Much Does a Good Wellness Program Cost?*". In the article Hall (2011) shares findings from research done by Harvard University that found medical costs fell \$3.27 for every dollar spent on workplace wellness and that absenteeism cost fell by about \$2.73 for every dollar spent. As for budgeting, Hall (2011) quotes Dee Edington a program expert on wellness program return on investment (ROI) suggests that \$300-\$400 per employee should be budgeted on WWPs if you expect good savings and a positive return on investment (ROI). Article continues with showing that wellness programs that invest adequately, save at least three times their investment in health-related costs. Ron Goetzel, Cornell University Institute for Health and Productivity, is quoted by Hall (2011) as recommending \$150 per employee per year for an expected \$450 ROI per employee and Hall (2011) continues by stating that if spending only \$45 per employee annually, you will not see a ROI. Hall (2011) also includes in this report affordable ways to share costs and available grants.

Another piece of literature on costs is in the Journal of Nursing Administration. Astrelia (2017) reviews in, "*Return on Investment: Evaluating the Evidence Regarding Financial*

*Outcomes of Workplace Wellness Programs*”, literature from 2000-2016 to determine whether WWPs deliver a positive economic impact (Astrelia, 2017, p,379). The article starts with a brief description of WWPs, relevant legislation, and identifies several financial metrics that included direct costs, indirect costs, and ROI. A comprehensive search was conducted that yielded 4 articles and 3 systematic reviews that met the criteria for this review. Results of the review were mixed but did find that as Astrelia (2017) states, “on the basis of the studies reviewed, the longer the WWP is in place, the greater the economic impact and the more positive the ROI, especially after year 3” (Astrelia,2017, p. 382). The review concludes with recommendations for healthcare leaders in WWPs.

The information provided by Hall (2011) and Astrelia (2017), shares valuable information on costs, but not only do WWPs help in reducing costs and a positive ROI, they also have many other benefits for the employer and the employee.

### **Benefits**

It is known by many that health awareness and programs can be beneficial to an individual’s health that includes: lowering blood pressure, decreasing stress, and increased mobility. Additionally, WWPs can also benefit employer’s business success by decreasing absenteeism, a more focused and happier employee, and overall increased productivity. In “*Active Commuting: Workplace Health Promotion for Improved Well-Being and Organizational Behavior*”, Nadine C. Page and Viktor O. Nilsson (2017) conduct an intervention and measure the impact on employee well-being and organizational behavior for improved business success. Employees were asked to volunteer in a workplace travel behavior change that used e-bikes as an active commuting mode. The researchers compared the individual’s benefits and the

organizational benefits of active commuting to work with the e-bikes with a travel as usual group who did not change any behaviors. The researchers theorize that a workplace health promotion that focused on an active commuting could change employee behavior and bring on organizational benefits. Following the overview of workplace health promotion benefits, e-bikes and associated benefits, and behaviors, Page and Nilsson (2017) began their research using quantitative and qualitative data from the beginning, throughout, and at the end of the intervention. The research was conducted in areas where car use was the most used travel mode. Participants were self-selected for both participating and for active or passive commute groups. As well as, the researchers did not impose length of participation that might not give accurate behavior change information. E-bikes were loaned to the active commute participants. A questionnaire consisting of three parts, along with using Organizational Citizenship Behavior and Counterproductive Workplace Behavior scales, Flourishing scale, General Health Questionnaire, and weekly dairies that contained information on commute, barriers, personal affect, and deterrents were used to collect data.

A MANOVA was conducted as well as a separate Univariate ANOVA. Active commuters indicated more positive organizational behavior, more positive feelings, and perceived greater well-being. The more participants cycled to work in their commute, the better they felt. Length of time of the commute had no effect on the active commuter but did on the passive group. Results of the intervention showed length of journey in distant and time was longer for the passive commuter and that passive commuters have showed greater negative feelings the greater the distance. Perceived barriers that were had at the beginning of the

intervention by the active commuters changed by the end of the study where previous concerns were decreased. Results from pre-intervention and mid-intervention are in Appendix A.

Page and Nilsson (2017) found through this intervention that personal benefits as well as organizational benefits increased with the active commuters compared to the passive commuter. Also, the more frequent use of the e-bikes led to more positive feelings. They also found implications for human resources in recruitment. Implementation of and participation in a wellness program can have many different benefits to both employee and employer: however, there are barriers that need to be considered before implementing programs for them to have success.

### **Barriers**

For a WWP true effectiveness is dependent on the characteristics of the population and the number of participants from the population to be targeted. To better understand what keeps employees from participating, one must define barriers associated with WWPs.

Pearson, Colby, Bulova, and Eubank (2010) conduct research to determine barriers that prevent participation in a WWP in the article, "*Barriers to Participate in a Worksite Wellness Program*", found in *Nutrition Research and Practice* volume 4,2 pages 149-154. The research done by Pearson et al. (2010) was conducted following a program *Wellness Wednesday: "Eat and Meet" About Healthy Living at the University of East Carolina*. The program consisted of a 30-minute class once a week taught by a Registered Dietician for a ten-week period, location that alternates between two dining halls located at different ends of campus, and incentives of \$5.00 credited to paycheck for each class that was attended. Post-class knowledge quizzes were given to participants to determine effectiveness of the program information. All ARAMARK

employees (481) over 18 were eligible for the program. Out of the 481, 50 employees obtained approval to attend the program.

After completion of the 10-week program, a qualitative interview covering attendance, participation, incentives, location, and suggestions was conducted on 19 randomly chosen participants (11), non-participants (7), and the program organizer. A funnel approach was used, and interview questions were included in subjects and methods. Methods were described adequately for someone to repeat this research. Selection was completely random and feedback from a wide range of employees was obtained. All research protocols were approved by East Carolina Institutional Review Board.

Results showed 10% of eligible participants attended one *Wellness Wednesday: "Eat and Meet" About Healthy Living* class and no one attended more than five classes. Also found was, more participation from some locations compared to others. Weekly class sizes varied from 4 to 20 and averaged 11 participants for each class. Average scores from the post class knowledge quizzes were between 71-100%. From the qualitative interviews that were conducted on ARAMARK employees following the 10-week program revealed barriers for not participating in Wellness Wednesday programs. Insufficient incentives, convenient locations, and time limitations were the three highest barriers (Appendix B) and barriers were also found in successfully planning and implementing the program (Appendix C). Participation rates of employees in wellness programs could increase by ensuring topics are relevant, appropriate, and address some of the barriers revealed from Pearson et al. (2010) research.

Neyens and Childress (2017) also conduct a study into barriers with the use of a web-based management system that support workplace wellness programs. Neyens and Childress

(2017) state, “Integration of personal health information management (PHIM) software into a workplace wellness program can support critical program requirements” (Neyens & Childress, 2017, p. 312). To define some barriers and in order to address the study objectively, Neyens and Childress (2017) developed an internet-based survey that included demographic questions, questions about participation willingness, willingness to use technology, and specific activities they would use if available. The survey was distributed to 900 employees at a hospital and was active for three weeks. Only completed surveys were included in the final analysis. Variables were based on groupings of the Likert scale and bivariable logistic models were used. One model was used to predict likelihood that a participant would use a PHIM system and the likelihood that one believes such a system would affect overall health. (Appendix D table 2) Another model was used to predict the likelihood of one being worried that their health information was on-line and if participants thought system would help obtain health goals. (Appendix D table 3)

Neyens and Childress (2017) results shared several factors associated with barriers to implementing PHIM systems. Concerns about health information being on-line and PHIM systems would not help with health goals are two barriers that the researchers found. There were limitations to this research that included how the survey was distributed and the population was healthcare workers that may not represent other worksites. By understanding some barriers that lead to non-participation along with a supportive infrastructure one can implement a workplace wellness program that can obtain success.

### **Program Implementation Infrastructure**

Understanding the costs associated with workplace wellness programs, the benefits for employee and employer, and associated barriers, are not the only keys to a successful



wellness program. An infrastructure that can support implementation of a program is also necessary for success. Program administrators need to be able to, in order to meet performance expectations, include complete administrative infrastructures in all workplace wellness program efforts.

Chapman (2009), in his article “*Building a Sustainable Administrative Infrastructure for Worksite Wellness Programs*”, gives us practical information to make programs more effective. Chapman (2009) shows why an administrative infrastructure is required for a workplace wellness program to be effective at changing behavior, mitigating health risks, and producing economic return. Using the framework of awareness, motivation, skills, and opportunity (AMSO). Chapman (2009) identifies 16 components (Appendix E) that are key for the make-up of an administrative infrastructure of a workplace wellness program. Also, employee population size effect on configuration, capability, and infrastructure components for a wellness program and general axioms that apply to different size organizations are included. Lastly, Chapman (2009) included factors that support the development of a sustainable administrative infrastructure. With greater expectations for effective programing strategies, the use of administrative components will be required.

Berry, Mirabito, and Baun (2010) also provide valuable information on program infrastructure and outcomes in the Harvard Business Review article, “*What’s the Hard Return on Employee Wellness Programs?*”. Berry et al (2010) start with evidence of ROI, health cost savings, absenteeism, turnover rates, and decline of workers comp insurance premiums. Berry et al (2010) set out, “to understand the business case for investing in employee health, we examined existing research and then studied 10 organizations, across a variety of industries, whose

wellness programs have systemically achieved measurable results.” (Berry et al, 2010, p. 106).

A diverse array of interviews was conducted with senior executives, wellness managers and staff, human resources, employee assistant services, on site medical centers, fitness centers, and food service. Middle managers, employees that actively participate in programs, and employees that do not participate in programs were part of focus group conversations. In all, about 300 people shared their input. From these findings, Berry et al. (2010) identified six essential pillars of a successful, strategically integrated wellness program, regardless of an organizations size. (Appendix F). Berry et al. (2010) conclude with the “fruits of workplace wellness”. The outcomes of lower costs, greater productivity, and higher moral are some of the big returns from the 10 effective wellness programs that were sampled in this Harvard Business Review article.

### **Programs**

One program that has been effective in its WWP is the Johnson & Johnson company’s Live for Life Program. Isaac and Flynn (2001) write in, “*Johnson & Johnson LIVE FOR LIFE Program: now and then*” the history of the program, launch of partnerships that used cross-utilization of resources, pathways to progress, and links to the future. The Johnson & Johnson company is one of the prototype programs that started in 1978 to improve the health and well-being of their employees. 95% of the employees rated the Health and Wellness benefit program as very good to excellent. (Isaac & Flynn, 2001, p.367)

Toyota is another company that has had a very effective WWP. Through interviews with employees that lead the wellness program at the Indiana Toyota plant located in the southwest corner of the state, I was able to attain information on things such as absenteeism rates, costs, benefits, incentives to participate, infrastructure of the wellness program, and program

implementation procedures. This plant offers to the employees: a pharmacy, medical clinic, two outdoor walking tracks, three gyms, a nature trail, a disc golf course, and two softball fields. Because of the success and positive return on investment, Toyota can put money back into the program to provide these amenities that benefit employees, employers, and the community (T. Byram, personal communication February 28,2018).

### **WWP Advocates**

Other valuable sources of literature on WWP include: The Health Advocate Inc., The Center for Disease Control and Prevention (CDC), The RAND Corporation, The Henry J. Kaiser Family Foundation, and the World Health Organization.

The Health Advocate, Inc. is a US national health advocacy, patient advocacy and assistance company, serving more than 12,800 clients and 40+ million people and offering a spectrum of services to help employers, employees and consumers navigate the healthcare system and facilitate members' interactions with insurers and providers. Health Advocate has information on the evolution, costs, benefits, types of programs, strategies, and more in, "*Guide to Workplace Wellness: healthier employees, healthier bottom-line*" (Health Advocate, 2015).

The CDC has a Workplace Health Program where they work with national employer groups and coalitions, state health agencies, academic institutions, employers, and other key groups to develop, set up, and promote effective strategies for improving the health in the work environment. The CDC has a site dedicated to this program. The site consists of:

- resources to help employers develop or expand a WWP that supports their employees' physical, mental, emotional, and financial well-being
- a workplace health model

- an employer-based training program to improve the health of participating employers and certified trainers, with an emphasis on reducing chronic disease and injury risk and improving worker productivity
- a scorecard designed to help employers assess if they are implementing science-based health promotion interventions in their worksites to prevent heart disease, stroke, and related health conditions such as hypertension, diabetes, and obesity (CDC, 2018).

The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. The RAND Corporation has worksite wellness studies and articles like Mattke, Schnyer, and Van Busum (2013), “*A Review of the U.S. Workplace Wellness Market*”. This article includes background information, the current state of WWPs, programs impact, and the role incentives play in WWPs.

The Henry J. Kaiser Family Foundation is a non-profit organization focusing on national health issues. A leader in health policy analysis and health journalism, the Kaiser Family Foundation is dedicated to filling the need for trusted information on national health issues. This site serves as a non-partisan source of facts, analysis and journalism for policymakers, the media, the health policy community and the public. In the article, “*Changing Rules for Workplace Wellness Programs: implications for sensitive health concerns*”, Pollitz and Rae (2017) discuss legislation, collection of health information, types of programs, incentives, and concerns of WWPs (Pollitz & Rae, 2017).

Lastly, the WHO is a specialized agency of the United Nations that is concerned with international public health. The WHO has a site dedicated to Workplace Health Promotion (WHP). Benefits to the organization, benefits for the employee, defining WHP, and use of advocacy to overcome major barriers, are some of the topics from this WHO site.

## Discussion

In 2012 the United States spent 2.8 trillion on healthcare and with legislation of the ACA increasing access to health insurance, spending growth is anticipated to increase. This will place a larger burden on employers and employees (Health Advocate, 2014, p.1). In addition, “the Coalition on Catastrophic and Chronic HealthCare Costs estimates that 70-80 percent of overall healthcare costs is attributable to chronic health conditions” (Health Advocate,2014, p.2). The CDC states, “the overarching goal of workplace wellness programs is to reduce and control rates of chronic disease” (Astrellia, 2014, p.379). Chronic conditions account for 75% of health spending according to 2009 data from the Centers for Medicare and Medicaid Studies and diabetes alone accounted for 14 million disability days (Health Advocate, 2014, p. 4). The purpose of this review is to show that a comprehensive WWP can be cost effective and beneficial to many when implemented properly. The review included reviews, promotions, and articles on costs, return on investment, benefits, barriers and incentives, program implementation infrastructure, successful programs, and advocate groups of comprehensive WWPs.

“Workers’ contributions to premiums have gone up 47%. As of 2010, the average employee is financially responsible for 19% of their individual insurance premium (\$899/ year), and 30% (or \$3,997/year) of their family’s premiums. In addition, employees pay increasingly higher co-pays at the doctor’s office and higher deductibles for hospital services” (Hall, 2011). According to the American Lung Association, smokers pay higher costs for life and disability insurance and have twice as many work place accidents (Hall, 2011). A properly implemented WWP can lower healthcare costs of employees (CDC, 2016). According to Effective Employee

Wellness Solutions, effective employee wellness program can cost between \$36 and \$90 per employee per year (Aldana, 2018). Depending on the WWP, the employee can often share expenses on interventions or classes, either up front or upon receipt of documentation of participation. Many comprehensive WWP offer incentives to participate that include benefit-based incentives that include \$50 a month off insurance premiums or \$600 a year (Aldana, 2018). Whether an employee contributes to the expense of a WWP or not, the return on lower health insurance premiums and costs outweigh any financial expense on an employee.

According to Hall (2011),

In 2009, cardiovascular disease costs businesses more than \$161 billion in lost productivity annually, due to absences and premature death and high blood pressure prompts more doctor visits than any other condition. A 10 percent decrease in the number of visits would save employers \$450 million in medical costs each year (Hall, 2011, p. 4).

“A recent study published in the American Journal of Health Promotion found that employers paid an average of \$8,067 per employee every year for obesity-related disabilities, more than twice the related costs for a normal weight employee” and a study in the Journal of Occupational and Environmental Medicine (JOEM) reported that employees who smoked one pack or more of cigarettes a day had a 75% higher rate of lost production time than nonsmokers (Hall, 2011, p.3). Stress costs U.S. businesses an estimated \$300 billion annually in lost productivity, absenteeism, accidents, employee turnover, medical costs, and more, reports the American Institute of Stress. A good comprehensive WWP can contribute in decreasing these numbers if a

company budgets properly. Hall (2011) ask various reliable sources how much should be budgeted for an effective wellness program. From this he found that Dr, Eddington recommended between \$300-\$400 per employee and the Wellness Council of America suggest \$100-\$150 per employee plus another \$300 in incentives (carrots) and health coaching (Hall,2011, p.2). Aldana (2018) suggest \$40-\$75 for biometric screening (blood draw and analysis), \$140-\$165 for health coaching (6 sessions), and \$200-\$800 per employee per year for benefits-based incentives (Aldana, 2018). From the various sources, an effective comprehensive WWP should budget \$100-\$400 per employee per year plus health insurance premium expenses. Factors in the actual costs of an effective WWP for your organization include: an in-house program versus a contractor program, how extensive follow-up evaluations are performed, if you use health-coaching, how incentives (carrots and sticks) are used, and how costs are distributed. Not only can employers share costs with employees, they can also get help with expenses from insurance companies, Health screenings and other wellness program costs may have portions covered by these carriers. For smaller companies, fewer than 100 employees, that need assistance in starting a new WWP can get grants through the ACA. An effective WWP can reduce health risks. In return, direct costs such as insurance premiums and indirect costs from employees missing work due to illness are lower (CDC, n.d.). From the research that I have completed, I have found that the more you financially invest the more beneficial and cost-effective the WWP.

As for most successful companies, it's not always about what you spend but what's your return on investment (ROI). Astrelia (2017) reviewed 20 companies with comprehensive WWP. Reported data included 75% fewer lost work days, 37% less sick days by participants versus



non-participants, and between \$1.60- \$3.90 per dollar spent ROI (Astrelia, 2017, p.380). Berry et al (2012) research shows that Johnson and Johnson company has saved \$250 on healthcare costs and a ROI of \$2.74 for every dollar spent between 2002-2005 (Berry et al, 2012). Of the 8 studies that evaluated healthcare costs reviewed by Astrelia (2017) from the RAND corp. published in 2012, she found a reduction in direct medical costs ranging from \$176-\$1539 per employee per year (Astrelia, 2017, p.380). Indirect costs from these studies showed savings of \$180 per participant per year, .1% risk reduction in illness days, and an indirect ROI of \$15.60 per dollar spent. Astrelia (2017) states, “on the basis of the studies reviewed, the longer the WWP is in place, the greater the economic impact and the more positive the ROI, especially after year 3” (Astrelia,2017, p. 382). “A recent review of health promotion and disease management programs found a significant ROI for these programs, with benefit-to-cost ratios, ranging from \$1.49 to \$4.91” (Terry, 2014, slide 22). “To get a positive return on investment, worksites must implement wellness programs that are comprehensive. A comprehensive wellness program is going to include a health risk appraisal, incentives, culture change, and behavior change campaigns and challenges. It can also include biometric screening and individualized health coaching” (Aldana, 2018).

The takeaway from the literature that was reviewed is that a comprehensive WWP can be cost effective. Although costs for a WWP can be high, as Hall (2011) states, if nothing is done, you can expect a 6%-12% increase in healthcare costs or an additional \$1,000 in annual costs per employee (Hall, 2011). Not only do comprehensive WWP help in reducing costs and a positive ROI, they also have many other benefits for the employee and the employer.

Increased obesity and chronic diseases with adults have been associated with the increase of more sedentary lifestyles and occupations. Statistics from the CDC estimate the medical costs for people who have obesity were \$1,429 higher than those of normal weight (CDC,2016). “Work-related stress is the leading workplace health problem and a major occupational health risk, ranking above physical inactivity and obesity” (CDC, 2016). The Health Advocate (2014) notes, “chronic conditions are often preventable and frequently manageable through early detection, diet and exercise – the cornerstones of workplace wellness programs” (Health Advocate, 2014, p.4). The RAND *Health Quarterly* (2013) states, “consistent with prior research, we find that lifestyle management interventions as part of workplace wellness programs can reduce risk factors, such as smoking, and increase healthy behaviors, such as exercise” (RAND, 2013). The CDC shares that physical activity programs reduce feeling of depression, improve stamina and strength, reduce obesity particularly when combined with diet, and reduce risks of cardiovascular disease (high blood pressure and cholesterol), stroke, and type 2 diabetes (CDC, 2016). Various projects by the RAND corp. show that WWP that offer health risk assessments and provide programs, using evidence-based interventions that address participants needs, show that WWP improve physical activity, reduce weight, increase stamina, lower stress, and increase well-being, self-image, and self-esteem (RAND, n.d.). A comprehensive WWP can benefit employee health in a positive way by increasing one’s physical activity and knowledge through evidence-based interventions.

“Full-time workers who are overweight or obese and have other chronic health problems miss about 450 million more days of work each year than healthy workers. The result is an

estimated cost of more than \$153 billion in lost productivity each year” (CDC, 2016). Terry (2014) states that unhealthy employees result in lost productivity and lost workdays (Terry, 2014, slide 21). WWPs that are comprehensive and implemented properly can produce benefits to the employer that generate savings, as well as, the ability to influence the quality of life of the employee. Studies have shown that increased productivity and retention of employees can be credited to specific components of WWP such as weight loss and stress management programs (Health Advocate, 2014 p. 18). “Benefits of worksite wellness programs include reduced absenteeism, higher productivity, reduced injuries, decline in worker's compensation/ disability, increased employee morale, loyalty and sense of self responsibility” (as cited by Ickes & Sharma, 2009). In “*Active Commuting: Workplace Health Promotion for Improved Well-Being and Organizational Behavior*”, Nadine C. Page and Viktor O. Nilsson (2017) conduct an intervention and measure the impact on employee well-being and organizational behavior for improved business success. The researchers used an intervention that was able to keep the control group separate from the experimental group. Page and Nilsson (2017) found through this intervention that personal benefits as well as organizational benefits increased with the active commuters compared to the passive commuter. This strengthens previous research that has been conducted that show comprehensive WWPs can be beneficial to both employee and the employer besides just healthcare costs.

“Implementing worksite wellness programs engages all employees, even those who do not necessarily practice disease prevention behaviors, minorities and those with lower socioeconomic status” (as cited by Ickes & Sharma, 2009). Whether a WWP includes an

employee's spouse and family or not, the reach of a WWP goes beyond the workplace and into the community. The overall well-being of an employee results in an increase of energy and vigor in family and friends. In research by Ickes & Sharma (2009) they found that community perceptions of an effective WWP were positively influenced and contributed to establishing a health norm within the community. In addition to this, with healthcare costs decreasing due to WWP the economy of the community would improve.

From this review we found that not only can an effective comprehensive WWP be cost effective, but it also has benefits for the employee, employer, and the surrounding community. However, for WWPs to be effective, participation by employees are key.

For a WWP true effectiveness is dependent on the characteristics of the population and the number of participants from the population to be targeted. There are no set numbers for participants in a WWP. For example, a smoking cessation class may have low participation if only 25% of the workforce smokes. This low participation can still have big results. "For instance, at Delnor Community Hospital, only 40 percent of employees participated in the stress management program, yet the company saved an estimated \$800,000 in turnover costs" (Health Advocate, 2014, p. 11). Maximizing employee participation is dependent on the employee's willingness to change. "According to change management experts, people typically go through several stages when facing lifestyle changes: awareness of the need to change, desire to support and participate in the change, knowledge of how to change, ability to implement required skills and behaviors, and reinforcement to sustain the change" (Health Advocate, 2014, p. 11). An effective, comprehensive WWP recognizes and addresses these stages by reinforcing healthy

benefits, promoting the advantages for employee buy-in, motivating, and ongoing reinforcement for lasting change. To maximize employee participation, one must define barriers associated with WWP and make use of incentives.

Neyens and Childress (2017) conduct a study into barriers with the use of a web-based management system that support workplace wellness programs. One model was used to predict likelihood that a participant would use a PHIM system and the likelihood that one believes such a system would affect overall health. (Appendix D table 2) Another model was used to predict the likelihood of one being worried that their health information was on-line and if participants thought system would help obtain health goals. (Appendix D table 3). Concerns about health information being on-line and PHIM systems would not help with health goals are two barriers that the researchers found.

Pearson, Colby, Bulova, and Eubank (2010) conduct research to determine barriers that prevent participation in a WWP in the article, “*Barriers to Participate in a Worksite Wellness Program*”. Results of their study revealed, insufficient incentives, inconvenient locations, and time limitations were the three highest barriers (Appendix B) and barriers were also found in successfully planning and implementing the program (Appendix C).

In a RAND survey, “69 percent of employers with more than 50 employees offered a wellness program, and 75 percent of programs included incentives to encourage participation” and “employers that did not use incentives reported lower participation rates and employers that did not use incentives reported lower participation rates” (RAND,2016). Incentives can be carrots, rewards for healthy behaviors or sticks, that are used to nudge employees towards health

behaviors. From the RAND research, participation appears to increase with the use of carrots, such as access to a higher-value health plan, with a median participation rate of 40 percent and sticks, such as higher insurance contributions for smokers, was associated with an even higher median participation rate of 73 percent (RAND, 2016). Caterpillar Inc. used a \$75 reduction on monthly medical premiums and the city of Houston used a \$25 surcharge on participating in three health activities, resulting in both having a 90% employee participation rate (Health Advocate, 2014, p.14). Astrelia (2017) cites a study, “that participation was 18% higher when rewards were used and 68% higher when penalties and rewards were used together (Astrelia, 2017, p.383).

An effective comprehensive WWP has open communication between leaders and participants and evaluate programs regularly to determine if topics are relevant, appropriate, and address some of the barriers revealed from evidence-based research. “When designing and implementing programs, considering perceived barriers and incentives to enhance employee participation becomes important” (Ickes & Sharma, 2009). By understanding some barriers that lead to non-participation, along with a supportive infrastructure and the use of carrots and sticks, one can implement a workplace wellness program that can obtain success.

Understanding the costs associated with workplace wellness programs, the benefits for employee and employer, and associated barriers, are not the only keys to a successful wellness program. An infrastructure that can support implementation of a program is also necessary for success. Program administrators need to be able to, in order to meet performance expectations, include complete administrative infrastructures in all workplace wellness program efforts.

Chapman (2009) gave us practical information that make WWP effective showing that an administrative infrastructure is required in changing behavior, mitigating health risks, and producing economic return. Chapman (2009) identifies 16 components (Appendix E) that are key for the make-up of an administrative infrastructure of a workplace wellness program. The administrative components recommended from Chapman (2009) are basic requirements for a WWP to be a long-term program that produces results of economic return, health behavior effectiveness, and health risk modification (Chapman, 2009). Berry, Mirabito, and Baun (2010) also provide valuable information on program infrastructure in the Harvard Business Review article, “*What’s the Hard Return on Employee Wellness Programs?*”. Berry et al (2010) start with evidence of ROI, health cost savings, absenteeism, turnover rates, and decline of workers comp insurance premiums. Berry et al (2010) set out, “to understand the business case for investing in employee health, we examined existing research and then studied 10 organizations, across a variety of industries, whose wellness programs have systemically achieved measurable results.” (Berry et al, 2010, p. 106). Berry et al. (2010) identified six essential pillars of a successful, strategically integrated wellness program, regardless of an organizations size (Appendix F). Ickes and Sharma (2009) include a guide for implementing a WWP. Establishing a planning committee, assessing the interests and needs of corporate leaders and other employees, developing a mission statement, goals and objectives, and design the program, developing a timeline and budget, selecting incentives, acquiring programmatic and/or human resources support, promoting the program, implementing the program, evaluating the program, and modifying the program (continuous quality assurance) are all components in creating an effective comprehensive WWP (Ickes & Sharma, 2009). This research shows that regardless of

an organization size, a WWP that has a sustainable infrastructure and has the support can have lower costs, greater productivity, and higher morale.

### **Recommendations/ Conclusion**

Many organization WWP have been reviewed in this project that showed how a comprehensive WWP can be cost-effective and beneficial too many when implemented properly. Examples such as the Johnson & Johnson company, which is one of the prototype programs that started in 1978 to improve the health and well-being of their employees. 95% of the employees rated the Health and Wellness benefit program as very good to excellent. (Isaac & Flynn, 2001, p.367) The Johnson and Johnson company had the proper funding and infrastructure that overtime has provided for a well cost effective and beneficial WWP.

For an organization that does not have or that has an inefficient WWP, there are grants and assistance. The CDC has a Workplace Health Program where they work with national employer groups and coalitions, state health agencies, academic institutions, employers, and other key groups to develop, set up, and promote effective strategies for improving the health in the work environment. The CDC has a site dedicated to this program. The site consists of:

- resources to help employers develop or expand a WWP that supports their employees' physical, mental, emotional, and financial well-being
- a workplace health model



- an employer-based training program to improve the health of participating employers and certified trainers, with an emphasis on reducing chronic disease and injury risk and improving worker productivity
- a scorecard designed to help employers assess if they are implementing science-based health promotion interventions in their worksites to prevent heart disease, stroke, and related health conditions such as hypertension, diabetes, and obesity (CDC, 2018).

A comprehensive WWP that has been implemented properly, with infrastructure support, can reduce healthcare costs, have a positive ROI, be beneficial to the employee, the employer, and the community. Programs vary on what they target, how well they are designed, and how well they are executed. By following the examples of the comprehensive WWPs that were reviewed and using the assistance from organizations like the CDC, one can deliver a cost effective and beneficial WWP over time.

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## Appendix A

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**Table 4**  
Descriptive statistics on the outcome measures according to travel group prep and mid-intervention.

		Pre-intervention	Mid-intervention
Active travel group	Organizational behavior	14.63 (1.68)	17.05 (1.57)
	Total affect	32.22 (4.67)	36.49 (5.76)
	Organizational Citizenship Behavior	21.75 (3.31)	21.56 (5.76)
	Counter-productive Workplace Behavior	34.42 (4.27)	33.80 (3.48)
	Flourishing	44	
	GHQ12	38.00 (3.86)	39.67 (4.47)
Passive travel group	Organizational behavior	14.00 (1.60)	14.86 (0.84)
	Total affect	29.13 (7.06)	29.54 (4.52)
	Organizational Citizenship Behavior	22.75 (4.20)	22.00 (3.32)
	Counter-productive Workplace Behavior	33.63 (1.69)	35.00 (2.38)
	Flourishing	44.88 (4.16)	42.71 (5.41)
	GHQ12	29.63 (6.57)	35.71 (5.59)

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100%

(Page & Nilsson, 2017).

Appendix B

**Table 3. Barriers to participation reported by employees (in order from most often to least often reported)**

Reported Barriers	Frequency
Insufficient Incentives	5 (25%)
Inconvenient Locations	4 (20%)
Time Limitations	3 (15%)
Not Interested in Topics Presented	2 (10%)
Undefined Reasons	2 (10%)
Schedule	1 (5%)
Marketing	1 (5%)
Health Beliefs	1 (5%)
Not Interested in the Program	

(Pearson, Colby, Bulova, & Eubank, 2010).

Appendix C

<b>Table 4. Program organizer's reported barriers</b>	<b>Scheduling and Timing of Classes</b> <b>Employee Callouts/Production Schedule Behind</b> <b>Continuous Service Operations</b> <b>Length of Classes</b> <b>Location of Classes</b> <b>Program Evaluation</b> <b>Irregular Attendance</b>	

(Pearson et al,2010).



Appendix D Table 2

**Table 2**  
**Likelihood of Survey Participants Willing to Use a Personal Health Information Management (PHIM) System and the Likelihood That They Believe the System Would Positively Affect Their Overall Health**

Parameter	Estimate	SE	z Score	p Value	Adjusted Odds Ratio (95% CI)
Intercept 1: I'd use a PHIM system	-0.37	0.23	-1.65	ns	
Intercept 2: Positively affect overall health	-0.49	0.22	-2.21	0.03	
Odds ratio 1:2	3.45	0.39	8.72	<0.01	31.35 (14.45, 67.98)
Older than 61 y: 1	-1.28	0.45	-2.86	<0.01	0.28 (0.11, 0.67)
Older than 61 y: 2	-0.65	0.43	-1.52	ns	
Comfort with online health information: 1	1.96	0.31	6.26	<0.01	7.09 (3.84, 13.08)
Comfort with online health information: 2	1.80	0.28	6.46	<0.01	6.02 (3.49, 10.38)
Participated in exercise WWP: 1	0.93	0.34	2.77	<0.01	2.54 (1.31, 4.89)
Participated in exercise WWP: 2	0.45	0.29	1.52	ns	
Own smartphone: 1	0.77	0.29	2.64	<0.01	2.16 (1.22, 3.83)
Own smartphone: 2	0.52	0.27	1.92	ns	
Log likelihood at intercept (df = 996)	-321.41				
Log likelihood at convergence (df = 988)	-272.48				
Sample size	333				

CI indicates confidence interval; ns, nonsignificant parameter estimates; and WWP, worksite wellness program.

(Neyens & Childress, 2017).

Appendix D Table 3

**Table 3**  
**Likelihood of Survey Participants Reporting Being Worried About the Security of Health Information Online and the Likelihood That the Survey Participants Believe That a Personal Health Information Management (PHIM) System Would Not Help Them Obtain Their Health Goals**

Parameter	Estimate	SE	z Score	p Value	Adjusted Odds Ratio (95% CI)
Intercept 1: Worried about information security	-1.08	0.22	-4.96	<0.01	
Intercept 2: Not help to obtain health goals	3.59	0.56	6.45	<0.01	
Odds ratio 1:2	1.61	0.65	2.50	0.01	5.03 (1.42, 17.82)
Comfortable with online health information: 1	-0.11	0.26	-0.41	ns	
Comfortable with online health information: 2	2.17	0.83	2.61	<0.01	0.11 (0.02, 0.58)
Not comfortable with technology: 1	1.14	0.88	1.29	ns	
Not comfortable with technology: 2	2.78	1.19	2.34	0.01	16.14 (1.57, 166.23)
Anxiety about technology: 1	0.74	0.30	2.47	0.01	2.09 (1.16, 3.76)
Anxiety about technology: 2	0.18	0.66	0.27	ns	
No useful features of PHIM: 1	0.34	0.36	0.95	ns	
No useful features of PHIM: 2	3.42	0.62	5.50	<0.01	30.51 (9.02, 103.18)
Log likelihood at intercept (df 813)	276.34				
Log likelihood at convergence (df 805)	233.77				
Sample size	333				

CI indicates confidence interval; and ns, nonsignificant parameter estimates

(Neyens & Childress, 2017).

Appendix E

**Figure 1**  
**Key Components of Administrative Infrastructure**

Name of Component	Brief Description of Key Components
#1 Program Brand	✓ The name, logo, tag line and graphics standards used by the Wellness program.
#2 Program Website	✓ The website that contains descriptive information about the program
#3 Wellness Coordinator or Manager	✓ The single individual responsible for developing, implementing and evaluating the Wellness program
#4 Wellness Staff	✓ The other individuals who are responsible for the development, implementation and evaluation of the Wellness program.
#5 Wellness Vendors	✓ The external vendor(s) that provide various Wellness services to the eligible population.
#6 Program Proposal	✓ The written purpose, mission and proposed activities for the program including budget documents economic justification and proposed timetable.
#7 Wellness Program Design Team	✓ The relatively small group used to help refine the initial design of the program and the proposal for its funding. This usually includes several key decision-makers.
#8 Wellness Advisory Group	✓ A group of employees and interested managers that act as a sounding board and volunteer pool for selected wellness activities.
#9 Wellness Program Work Plan	✓ The annual plan of events and activities that will comprise the wellness program during the year. It usually identifies what will happen, when it will take place, and who will be doing it.
#10 Wellness Program Budget	✓ The document that includes estimated and approved expenses and their expected timing for the Wellness program during the year.
#11 Employee Wellness Network	✓ The network of individuals in all locations and major work units that have an interest in helping implement the wellness program. They also usually function as informal and formal communication channels for the program.
#12 Ad Hoc Action Teams	✓ The short term teams that usually are responsible for putting on specific Wellness program activities.
#13 Wellness Program Goals	✓ The set of formal goals that portray the expected purpose of the Wellness program.
#14 Wellness Program Objectives	✓ The set of formal objectives that function to guide the program's development and implementation.
#15 Email Capability	✓ The system for using online communication to members of the target population for the program.
#16 Wellness Program Evaluation Plan	✓ The formal evaluation plan for the program describing what will be evaluated and how it will be evaluated.

several of the components, examples are provided in corresponding figures.

**#1 Program Brand:** The program name, logo, tag line, and art style represent the "brand" for your wellness program. Brands are extremely important to the future of your program. You want a strong brand that represents

values that your population associates with the wellness program. Values such as helpful, empowering, medically accurate, caring, and confidential are important to the long-term success of your wellness program.<sup>6,7</sup>

The wellness program name needs to be simple, easy to remember, and clear. The name can be created by an

## Appendix F

<p><b>1. Multilevel Leadership</b> Creating a culture of health takes passionate, persistent, and persuasive leadership at all levels—from the C-suite to middle managers to the people who have “wellness” in their job descriptions.</p>	<p><b>4. Accessibility</b> Aim to make low- or no-cost services a priority. True on-site integration is essential because convenience matters.</p>	<p><b>Outcomes</b></p>
<p><b>2. Alignment</b> A wellness program should be a natural extension of a firm’s identity and aspirations. Don’t forget that a cultural shift takes time.</p>	<p><b>5. Partnerships</b> Active, ongoing collaboration with internal and external partners, including vendors, can provide a program with some of its essential components and many of its desirable enhancements.</p>	<p><b>Lower costs</b> The savings on health care costs alone make for an impressive ROI.</p>
<p><b>3. Scope, Relevance, and Quality</b> Wellness programs must be comprehensive, engaging, and just plain excellent. Otherwise, employees won’t participate.</p>	<p><b>6. Communications</b> Wellness is not just a mission—it’s a message. How you deliver it can make all the difference. Sensitivity, creativity, and media diversity are the cornerstones.</p>	<p><b>Greater productivity</b> Participants in wellness programs are absent less often and perform better at work than their nonparticipant counterparts.</p>
		<p><b>Higher morale</b> Employee pride, trust, and commitment increase, contributing to a vigorous organization.</p>

(Berry, Mirabito, & Baun, 2010).