

## **Executive Summary**

Workforce Wellness Programs have gained momentum over the past decade as organizations have reaped the benefits from implementing them. Safeway Inc. provides us with one example of cost savings derived from its workforce wellness program, but cost control is only half the story. Improved physical activity, cost savings, improved cognition, improved productivity, and better chronic disease management are issues that business leaders seek to address with wellness programs. Even though some contrarians contend that current research indicates that wellness programs have failed to prove some of the aforementioned benefits (Horwitz, Kelly, and DiNardo, 2013), over half of all organizations with fifty or more employees continue to incorporate them in the workplace (Mattke, 2013). This paper investigates how broad and specific workforce wellness programs that have benefited many employment organizations. We will also show the relevance of these studies to the Department of Defense and underscore best practices principles that make these programs successful.

## **Background**

Workplace wellness programs have several health benefits and have become especially successful by focusing on primary, secondary, and tertiary prevention to promote the health and wellness of workforce populations. Examples of primary prevention health benefits from which employees can benefit include promoting regular exercise, nutrition counseling, weight management, and recommended immunizations (Goetzel & Ozminkowski, 2008). Additionally, some workplace wellness programs offer secondary prevention measures focusing on those with increased risk factors, such as smoking and obesity, due to behavioral and lifestyle choices. Tertiary prevention is often incorporated into workplace wellness programs as well. Some employers have found it beneficial, both health and business-wise, to provide programs with elements of disease management. These programs focus on individuals with ailments such as diabetes and cardiovascular heart disease (Goetzel & Ozminkowski, 2008). Our review provides supporting evidence that highlights several benefits of workforce wellness programs including, Improved physical activity, cost savings, improved cognition, improved productivity, and better chronic disease management.

## **Literature Review**

Even though some contrarians contend that current research indicates that wellness programs have failed to prove positive employee and employer benefits (Horwitz, Kelly, and DiNardo, 2013), over half of all organizations with fifty or more employees continue to incorporate them in the workplace (Mattke, 2013). Companies and organizations may look to apply broad based wellness programs that include many aspects of health living, while others zero in on targeted behaviors such as tobacco cessation and movement activity. Some

companies such as Safeway Inc. have vocalized their success to media sources and have encouraged other corporations to encourage wellness programs (Burd, 2009). The Mayo Clinic and Johnson & Johnson have also implemented successful workforce wellness programs (Dallat, Hunter, Tully, Cairns, & Kee, 2013; Goetzel & Ozminkowski, 2008).

In 2007, The *Community Guide* Task Force conducted a literature review focusing on health impacts of workplace health promotion. They determined these programs were effective in reducing tobacco use, dietary fat consumption for obese employees, high blood pressure, and the number of days absent from work because of illness or disability among other improvements in general measures of worker productivity (Goetzel & Ozminkowski, 2008).

## **Results**

### **Productivity and Cost Savings**

Aldana, Merell, et al, (2005) reported, after conducting a 2-year study on 6,246 employees of the Washoe County School District, a “graded and significant difference in absenteeism among those who participate in voluntary wellness programs as opposed to those who do not participate.” It is important to note, the actual decrease in absenteeism is only close to 7% (or ~one workday). However, after accounting for total costs associated with absenteeism, the school district realized a 15.6 time return on investment for the costs of the wellness programs. The Centers for Disease Control and Prevention (2014) have corroborated these results (in terms of days) with slightly improved rates of absenteeism. The monetary benefit alone is enough to justify corporate wellness programs, if all are able to experience similar returns.

In 2011, the Mayo Clinic conducted a study with a number of medical transcriptionists using treadmill desks. The objective of this study was to both assess the increased level of

activity, and evaluate the impact on productivity. Results indicated the accuracy of the transcriptions remained unaffected, but the speed dropped by 16% (Thompson & Levine, 2011). This study offers an example of the potential negative impact worker productivity.

In 2013 researchers conducted a cost-effectiveness analysis in the United Kingdom and United States on the use of employer financial incentives to encourage healthier lifestyle choices (Dallat, Hunter, Tully, Cairns, & Kee, 2013). The authors of the study created a Physical Activity Loyalty program (PAL) and measured physical activity over six and twelve week periods. At both periods, the participants in the PAL demonstrated significant increases in physical activity levels, and achieved considerable gains in Quality-of-Life and productivity. Though further research is needed, PAL shows promising health gains that may translate into healthcare cost reduction to employers and employees (Dallat et al., 2013).

In contrast, some study results show that corporate wellness programs to increase physical activity are not always beneficial. In 2011, the Mayo Clinic conducted a study that looked at the effect treadmill desks had on the work productivity of medical transcriptionists. Results indicated that the accuracy of the transcriptions remained unaffected, but the speed dropped by 16% (Thompson & Levine, 2011).

### **Chronic Disease Management**

According to Berry and Mirabito (2011), Johnson & Johnson introduced a health promotion program in 1970 offering a myriad of programs ranging from “nutrition education, weight management, tobacco cessation, stress management, onsite fitness, and other services.” Of these program initiatives, the percentage of smoking employees decreased more than 66% and those who were previously physically inactive with high blood pressure reduced by more than 50% (Berry & Mirabito, 2011).

Three studies by the Mayo Clinic used a variety of measures to assess the impact of treadmill desks in sedentary work environments. These measures focused on health related variables (weight loss, physical activity levels, body composition, and blood variables) and general worker productivity. The first study, conducted in 2007 looked at the impacts of treadmill desks on obese workers in a sedentary job setting. The individuals' energy expenditure while using the treadmill desks were contrasted to baseline energy expenditure levels of the same individuals seated working an office chair. Not surprisingly, those with treadmill desks expended 119 Kcal per hour more than those who worked while seated on an office chair (Levine & Miller, 2007).

A second study conducted by the Mayo clinic observed 20 overweight or obese physicians who were between the ages of 25-70 with a Body Mass Index (BMI) greater than twenty five. The results over twelve weeks demonstrated treadmill desks significantly increased activity and stimulated weight loss (Thompson, Koepp, & Levine, 2013).

Finally, Mayo Clinic researchers improved measurement objectivity to better track the changes in employees who utilized treadmill desks. Measurements observed included daily physical activity, work performance, body composition, and blood variables at baseline, six months, and twelve months (Koepp et al., 2013). Results indicated a significant increase in daily activity and a decrease in overall weight and fat mass, without negatively affecting work performance.

## **Cognition**

Cognitive psychologist, Lorenza Colzato, and her team, from Leiden University (2013), tested whether exercise improved convergent and divergent thinking. They found that non-athletes become less creative (divergent) and less able to make convergent connections with

strenuous exercise. Athletes, on the other hand, tended to perform well with convergent thinking after exercise, and their ability to perform divergent tasks was generally unaffected. The results of this study opens the door for further research to evaluate the effects of varying levels of exercise on creativity and cognitive performance among different populations.

### **Implementation Methods**

How can companies implement workforce wellness programs meet organizational needs? This question has been asked by many business executives including Steven Burd, chief executive officer for Safeway Incorporated. Rather than looking to the government to remedy rising healthcare costs, Burd placed his faith in market based solutions. He took his inspiration from the auto-insurance industry that imposes financial penalties or rewards to insurance carriers in order to hold them accountable for their driving behavior. Burd believed this model would work in controlling healthcare costs so he implemented a wellness program in 2005 that targeted tobacco usage, healthy weight, blood pressure and cholesterol levels. The program was voluntary, applied only to nonunion workforce, and data collection was performed by outside parties. If employees succeeded in passing specific tests, then they could reduce individual premiums by \$780 for individuals and \$1,560 for families. After four years, Safeway kept per capita health-care costs flat for the employee and employer while most American companies' saw their costs increase to 38% (Burd, 2009). Imagine the money that could be saved if every company in America fostered a wellness culture as Safeway has done?

### **Discussion & Conclusion**

How do workforce wellness programs apply to the Department of Defense and what specific needs should be addressed? Lieutenant General Patricia Horoho, the current Surgeon General for the US Army, has made wellness and prevention a top priority in her administration

(2014). Rising obesity has become a serious problem for the U.S. Armed Services and mimics trends in the civilian population (Cawley & Maclean, 2012). Excessive weight and body fat is the most common reason for military applicants to be rejected, which suggests a heightened awareness among military policy makers about rising obesity rates among civilian applicants. This negative trend concerns top military leaders. A retired association of generals and admirals declared obesity threatens the future strength of the U.S. military and national security (Cawley & Maclean, 2012). Obesity is a clear and present danger to military readiness, and the current methods used to combat this problem are proving insufficient (Smith et al. 2010). The good news is that healthy lifestyle changes can reduce morbidity and premature mortality (Spring et. al 2012).

The DoD is a large stakeholder in the wellness of its soldiers. Our literature review indicates that corporations such as Safeway Inc. are more likely to realize positive benefits from workforce wellness programs when participants are held responsible for their health behaviors. We contend that DoD should reassess how well it is doing in incorporating the principle of agency with accountability and responsibility to better incentivize wellness participants to make positive lifestyle modifications.

## References

- Aldana, S. G., Merrill, R. M., Price, K., Hardy, A., & Hager, R. (2005). Financial impact of a comprehensive multisite workplace health promotion program. *Preventive Medicine*, 40(2), 131-137.
- Burd, S. (July 12, 2009). How Safeway Is Cutting Health-Care Costs: Market-based solutions can reduce the national health-care bill by 40%. *Wall Street Journal*.
- Berry, L. L., & Mirabito, A. M. (2011, April). Partnering for prevention with workplace health promotion programs. In *Mayo Clinic Proceedings* (Vol. 86, No. 4, p. 335). Mayo Foundation.
- Cawley, J., & Maclean, J. C. (2012). Unfit for service: the implications of rising obesity for US military recruitment. *Health economics*, 21(11), 1348-1366.
- Centers for Disease Control and Prevention. (2014). *Workplace health programs can increase productivity*. Retrieved Oct 28, 2014, from Centers for Disease Control and Prevention: <http://www.cdc.gov/workplacehealthpromotion/businesscase/benefits/productivity.html>
- Colzato, L. S., Szapora, A., Pannekoek, J. N., & Hommel, B. (2013). The impact of physical exercise on convergent and divergent thinking. *Frontiers in human neuroscience*, 7.
- Dallat, M. A., Hunter, R. F., Tully, M. A., Cairns, K. J., & Kee, F. (2013). A lesson in business: cost-effectiveness analysis of a novel financial incentive intervention for increasing physical activity in the workplace. *BMC public health*, 13(1), 953.
- Goetzel, R. Z., & Ozminkowski, R. J. (2008). The health and cost benefits of work site health-promotion programs. *Annu. Rev. Public Health*, 29, 303-323.
- Horwitz, J. R., Kelly, B. D., & DiNardo, J. E. (2013). Wellness incentives in the workplace: cost savings through cost shifting to unhealthy workers. *Health Affairs*, 32(3), 468-476.



Koepp, G. A., Manohar, C. U., McCrady-Spitzer, S. K., Ben-Ner, A., Hamann, D. J., Runge, C. F., & Levine, J. A. (2013). Treadmill desks: A 1-year prospective trial. *Obesity, 21*(4), 705-711.

Mattke, S., Liu, H., Caloyeras, J. P., Huang, C. Y., Van Busum, K. R., Khodyakov, D., & Shier, V. (2013). Workplace wellness programs study. *Rand Corporation*.

OTSG (2014). Retrieved on July 30, 2014 from: <http://armymedicine.mil>

Spring, B., Duncan, J. M., Janke, E. A., Kozak, A. T., McFadden, H. G., DeMott, A., & Hedeker, D. (2013). Integrating technology into standard weight loss treatment: a randomized controlled trial. *JAMA internal medicine, 173*(2), 105-111.

Thompson, W. G., & Levine, J. A. (2011). Productivity of transcriptionists using a treadmill desk. *Work: A Journal of Prevention, Assessment and Rehabilitation, 40*(4), 473-477.

Thompson, W. G., Koepp, G. A., & Levine, J. A. (2013). Increasing physician activity with treadmill desks. *Work: A Journal of Prevention, Assessment and Rehabilitation*.