
The Role of Healthy Lifestyle in Enhancing Corporate Culture and Health

Michael P. O'Donnell, MBA, MPH, PhD

©2006

Health promotion programs are the norm among large employers in the United States. Employers realize there is a strong connection between lifestyle habits, good health, lower medical costs and higher productivity. This paper provides a brief review of this topic by summarizing the scientific framework for workplace health promotion, reflecting on the puzzle of success in workplace and failure in community, and finally outlining a guiding framework to maximize program success.

Health Impact of Lifestyle

Epidemiologists have recognized the connect between lifestyle and health for decades. A review by McGinnis et al¹ concluded that 40% of premature deaths (before age 75) among Americans are caused by lifestyle practices such as smoking tobacco, lack of exercise, poor nutrition, and overweight. Genetics accounted for 30%, socioeconomic inequities 15%, poor medical access 10% and environmental hazards 5%. Furthermore, lifestyle is a major contributing factor to six of the top ten causes of death in United States (heart disease, cancer, stroke, chronic lower respiratory diseases, accidents, diabetes). Collectively these account for 78% of all the deaths. Similar patterns are found in most developed nations. Smoking is still the number one preventable cause of death. A 50 year longitudinal study of 34,439

physicians in the United Kingdom showed that smoking cuts an average of 10 years off the average lifespan of smokers, and that quitting smoking adds 10 years to a person's life if they quit by age 30, 9 years if by age 40, 6 years if by age 50, and 3 years if by age 60.² The number of deaths caused by smoking is huge but counting deaths tells only a small part of the story. Smoking kills more than 400,000 people in the United States each year, but almost 13 million are living with chronic conditions caused by smoking³. Similar patterns are found for nutrition, weight, and exercise. A study by Kant el al of more than 42,254 women found that the quartile with the worst diets had overall deaths rates 79% higher than the quartile with the best diets⁴. A study of more than 14,000 men and women by Must et al found that the prevalence of chronic diseases including type 2 diabetes, gallbladder disease, coronary heart disease, high cholesterol, high blood pressure and osteoarthritis increased as weight increased. For example compared to normal weight (BMI=18.5-24.9), type 2 diabetes increased 242%, 497% and 606% for each 5 point increase in BMI⁵. An eight year study by Blair et al of 10,224 men and 3,120 men, found that low fitness was a stronger predictor of death than cigarette smoking, high blood pressure, high cholesterol, or overweight⁶. A systematic review by Iestra et al found that combined dietary changes reduced subsequent mortality from coronary artery disease after a first heart attack by 45%, compared to 35% for quitting smoking, 26% for by use of ACE inhibitors, 25% physical activity, 23% for beta blockers, 21% for statins, 20% from moderating alcohol use and 18% from low dose aspirin use.⁷ A longitudinal study of 1741 university alumni found that disability was delayed nine years among those who did not smoke, were physically active and were not overweight compared to those who smoked, were sedentary and overweight⁸.

Lifestyle and Medical Costs

Interest in health promotion among US employers has grown because medical care costs have become unaffordable by most employers. The average large employer in the US spends \$7,564 per employee per year on medical costs⁹, and at least 25% of these costs are attributable to unhealthy lifestyle practices.¹⁰ For example, compared to a man with normal BMI, medical care costs are \$169 higher with BMI 25.0-29.9, \$392 higher with BMI 30.0-34.9, and \$1,591 higher with BMI >40.0.¹¹ An unpublished proprietary study of 43,687 employees by StayWell Health Management showed that medical costs increased with age and with number of lifestyle risk factors. For example, employees 55-64 years old with zero to two risk factors had annual medical costs averaging \$3,366 while those with five or more risk factors had costs averaging \$9,221. Furthermore, direct medical costs account for only one quarter of the total cost of poor health. The greatest cost is from employees who come to work but are not fully productive because of health problems (presenteeism). Other costs include absenteeism, and long and short term disability.¹²

Impact of Health Promotion Programs

It took two decades of failure for health promotion professionals to realize that education based programs do not work very well. Although people are often confused by the shifting media messages about the intricacies of optimal nutrition and overwhelmed by claims about the perfect form of exercise, most people know the basics: be physically active, eat lots of fruits, vegetables, and whole grains, eat sugar and high fat foods only in moderation, use alcohol only in moderation and don't smoke. If knowledge were enough, health habits would be perfect in most developed

nations. Programs based solely on behavior usually fail. However, a comprehensive review of 378 peer reviewed studies showed that well designed programs improve health knowledge, health behaviors, and underlying health conditions related to stress, smoking, weight, fitness, nutrition and wise use of the medical system.¹³ We also know that people often revert to old behaviors when programs are withdrawn. Although long term studies are rare, experienced health promotion professionals realize that programs need to be ongoing to be successful. The best programs measure health conditions and interests, help people set goals, train them in the skills they need to improve health practices, and provide opportunities to maintain those behaviors. Intensive programs in clinical settings have produced results never achieved through medical interventions. Intensive programs have been able to double reversal of myocardial perfusion abnormalities achieved through medical treatment¹⁴, delay the onset of diabetes in 58% better traditional medical care¹⁵, and delay the onset PSA levels predictive of prostate cancer¹⁶.

Well designed programs have been effective in saving money as well. A systematic review of the literature by Aldana showed that 88% of the 32 published on the impact of health promotion on medical costs reduced medical costs; the average ROI was \$3.93 in savings for every dollar spent for the 10 studies that reported ROI. All of the 18 studies published on the impact of health promotion on absenteeism showed savings from absenteeism reduction, with an average ROI of \$5.07 in savings for every dollar spent for the 6 studies that reported ROI¹⁷. The number of studies reporting ROI's is too small to allow us to predict that all programs would produce this level of ROI. In fact we would expect only well designed programs to have any

positive impact. However, it is probably prudent to project that a well designed program will save as much as it costs, which is more than enough return for any employer who examines this from a rational perspective.

The Puzzle of Successful Workplace Health Promotion Programs and the Failing Health of the US Population

Despite the success of workplace health promotion programs in the United States, the US trails most developed nations in terms of health status, and ranks 21st in life expectancy despite spending more than twice as much per capita on medical care than all but five other nations.¹⁸ Part of the problem is the obesity epidemic that has gripped the United States in the past twenty years. Nearly two thirds of the US population is overweight and a quarter are obese.¹⁹ Some have projected that this epidemic may cause the current generation of American children to have a shorter lifespan than their parents, something that has never before occurred in the history of the nation. This epidemic has given further support to the conclusion that education focused programs have little impact. Despite decades of educational efforts on the importance of physical activity, the portion of US adults meeting the recommendation of getting at least 30 minutes of moderately intense physical activity at least five days per week has remained virtually flat at just over 20% since 1986.²⁰ Interestingly, memberships in US health clubs reached record highs at 41.3 million in 2005²¹ and a growing numbers of middle-aged athletes are maintaining performance standards only slightly lower than they achieved as young adults. This combination of circumstances has led many to conclude that one of the two primary causes of the obesity epidemic is that American have engineered activity out of their lives. Most

children no longer walk to school; most schools have reduced physical education classes, most people drive to work, public transportation is inadequate in most cities, many housing areas are built without sidewalks, and remote control devices have been developed for virtually every electrical appliance. The percentage of trips by automobile have increased from 84% to 90% and the percentage by walking or biking have dropped from 10% to 6% between 1977 and 1995. This is in contrast to 49% of trips by walking or biking in Sweden and 54% in Italy. Evidence is accumulating that the built environment impacts health. An urban study by Frank et al showed that each quartile increase in land use mix was associated with a 12.20% reduction in obesity, and that every additional 30 minutes spent driving per day increases the odds of being obese 3% while each additional kilometer of walking reduces the odds of being obese 5%.²² A study by Ewing et al found that people in low sprawl communities walked an average of 50 minutes a day compared to 16 minutes for those in high sprawl communities. The difference in weight attributable to sprawl was 6.2 pounds of more weight for the residents of Richmond County Virginia (the highest sprawl county in the United States), compared to Manhattan (the lowest sprawl county in the United States).²³ These findings have stimulated health promotion experts to expand their thinking to consider not just how lifestyle impacts health, but how the environment impacts lifestyle.

Active Living by Design

These circumstances have spawned an approach to life called Active Living by Design in which communities and workplace are built and refurbished to integrate physical activity into daily routines.²⁴ Active living communities have interesting

streetscapes with wide sidewalks that invite people to walk, cycling right of ways that make bike travel safe, mixed use developments that integrate housing with stores and offices so people can get around without driving, accessible public transportation so streets are not crowded with cars, schools located close to homes so children can walk to school. Active living workplaces encourage stair usage over elevators, provide incentives for employees to walk or bike to work and encourage employees to use creative methods to engineer activity into their daily routines, such as have walking meetings, replacing emails and telephone calls with face to face meetings, etc.

AMSO Framework

An emerging strategy that incorporates all these ideas is called the AMSO Framework. AMSO stands for Awareness, Motivation, Skill Building and Opportunity.²⁵ This framework can be used to design new programs or critique existing programs. It recognizes that awareness of the benefits of healthy lifestyle, by itself, has minimal impact on stimulating health behavior change, but is important to mobilize support for programming at the group level. It recognizes that motivating people to make behavior change is an important first step in stimulating people to make change, but stresses the limited impact of extrinsic rewards, like money, on changing behavior. Systematic reviews of the literature have shown that financial incentives are very effective in attracting people to participate in programs, but have very little impact on behavior change.²⁶ To be effective in motivating people, we need to discover their passions, their priorities in life. Rarely is good health a passion. Passions might include relationships with family and friends, participating in sports,

community service, connections to faith organizations, community standing, making money, getting promoted, etc. When we discover these passions, and establish a connection between the passions and good health, the motivation to practice a healthy lifestyle becomes self driven. We will be most effective when we use extrinsic incentives to capture people's interest and engage them to participate, but shift to intrinsic incentives to maintain people's interest. Once people are motivated to practice healthy lifestyles, we need to help them learn the skills to perform these behaviors. This means not just telling them what foods to eat, but showing them where and how to buy the foods, how to prepare them, how to handle travel and social situations. It means not just recommending specific types and amounts of exercise but showing people how to perform the exercises correctly, and helping them figure out when, where and with whom to do them. Skill building also includes problem solving skills to help people identify and overcome barriers. Motivation and skills are very important but the most important factor in stimulating successful behavior change is opportunity. Having access to healthy affordable foods and safe places to be physically active are more important than being motivated to eat right or being skilled in the most effective exercise. Living a life of extreme poverty or disabling stresses makes it difficult for most people to think about doing what is best for their health. Conversely, having easy access to an abundance of affordable, delicious, and nutritious foods, as well as safe, and fun places to be physically active, complimented by companionship and encouragement from family and friends in these activities, and work and leisure environments that prohibit pollution of the air by tobacco smoke and other poisons, can stimulate a person to do things that are healthy even if they are not motivated or skilled.

The future of workplace health promotion is promising. Employers and governments are motivated to invest in programs because of pressures to control medical costs, but are embracing them as lasting investments because of enhanced moral and increased productivity. Developing a successful workplace program is not simple, and many of the early programs failed. However, three decades of experience has revealed models that are successful. When these models are replicated, employees improve health and quality of life improves and employers capture financial returns in excess of program costs.

References

- 1 McGinnis, Russo, Knickman, 2002, Health Affairs, 21,3,83
- 2 Doll, R. et al. BMJ 2004;328:1519
- 3 MMWR 2003, 52,53,843
- 4 Kant, 2000, JAMA, 283, 16, 2109-2115
- 5 Must, 1999 JAMA, 282,16, 1526
- 6 Blair et al, JAMA 1996;276: 205-10.
- 7 Iestra et at; Circulation, 2005; 112: 924-934
- 8 Vita, Terry, Hubert, Fries N Engl J Med 1998; 339:481-482, Aug 13, 1998
- 9 2005 US National Employer-Sponsored Health Plans Survey, <http://www.mercerhr.com/ushealthplansurvey>
- 10 Anderson et al, 2000, Am Jour Health Promo ,15,1
- 11 Finkelstein, 2005 Am Jour Health Promo, 20, 1, 45
- 12 Edington, Burton. 2003 A Practical Approach to Occupational and Environmental Medicine (McCunney). 140-152.
- 13 Wilson, Holman, Hammock, 1996 AJHP, 5, 10, 6
- 14 Gould, Ornish JAMA,274,11,894-901
- 15 Diabetes Prevention RG,2002, NEJM,346,6,393-403
- 16 Ornish, Weidner, Fair, Marlin et al J Urol. 2005 Sep;174(3):1065-9
- 17 Aldana, Am Jour Health Promo, May/Jun 2001, 5, 15, 5
- 18 Frigorner, Anderson, Multinational Comparisons of Health Systems Data, 2005, Commonwealth Fund pub no 825.
- 19 CDC, Overweight and Obesity: Obesity Trends: 1991–2001 Prevalence of Obesity Among U.S. Adults by State <http://www.cdc.gov/nccdphp/dnpa/obesity/trend/index.htm>
- 20 Centers for Disease Control and Prevention Behavioral Risk Factor Surveillance System 1986-2000
- 21 International Health and Racquetclub Sports Association website: <http://cms.ihrsa.org/IHRSA/viewPage.cfm?pageId=149>
- 22 Frank, Andresen, and Schmid,. 2004, American Journal of Preventive Medicine. June.
- 23 Ewing et al 2003, Am Jour Health Promo, 18,1,47
- 24 <http://www.activelivingbydesign.org/>
- 25 O'Donnell, 2005, The Art of Health Promotion, Am Jour Health Promo,20,1
- 26 Matson-Koffman, Lee, Hopp, Emont 1998, Am Jour Health Promo, 5, 13, 2