

Integration of Health Protection and Promotion

Jeanne Sherwood, RN, CWWS
President
WellAdvantage
Sykesville, MD

Kerre Aufmesser, CWWPM
Health and Wellness Manager, Amtrak
WellAdvantage
Sykesville, MD

Chia C Chang, MPH, MBA
Coordinator for Strategic Partnerships, Total Worker Health™
National Institute for Occupational Safety and Health
Washington, DC

Introduction

Integrating the protection of worker safety and health with evidence-based health promotion is a strategic approach enhancing the safety, health, and well-being of the employee population and reducing costs for the organization. An integrate approach can reduce injuries; improve health; lower health claims, absenteeism, and workers compensation claims; and enhance overall well-being of the workforce and company.

Total Worker Health

A Best Practice Approach

In most organizations, there are many different departments addressing varying aspects of employee safety and health, including environmental health, workers compensation, disability management, risk management, safety management, facilities management, employee assistance programs, health benefits, occupational health, worksite health education/promotion, and wellness. These functions have overlapping missions, but often have little communication with each other and compete for resources.

Total Worker Health is a strategy integrating occupational safety and health protection with health promotion to prevent worker injury and illness and to advance health and well-being (NIOSH). It brings all of the related puzzle pieces together to form a holistic framework for enhancing the safety and health of the workforce population.

Having a coordinated approach that leverages joint influences on health enables a company's safety and health professionals to work together to achieve common goals. For example, safety and health are inextricably linked for cumulative trauma disorders (Drennan 1). Workers who are in poor physical health are more likely to have musculoskeletal injury. Obesity has been linked to increased incidence of carpal tunnel syndrome, a common workers compensation claim. Excess weight and abdominal weakness strains the low back, and back injuries are a common cause of absenteeism. Health promotion and wellness professionals who want to reduce musculoskeletal disease can be more effective if they address the role that organization of work plays. Similarly, safety professionals who would like to reach and maintain a zero injury rate can be more effective if they can improve the health of the workforce. An example of an integrated approach for addressing musculoskeletal disease is an intervention that offers both health education on arthritis self-management strategies and ergonomic consultations for work conditions. Besides teaching employees about stretching, employers can also look at possible ways to reorganize work, providing job rotations and more job control.

Traditional health promotion programs focus on individual behaviors, trying to change one person at a time, and are directed at the worker. Meanwhile, health protection programs are aimed at the work environment and target organizations as the audience. An integrated strategy leverages the *best of both*: targeting organizations to bring about *collective behavior change*, ensuring that the work organization and environment facilitates health. It applies *the hierarchy of controls* to health conditions, starting with prevention at the organizational level.

Importance and Benefits of Integration

There have been a number of studies that provide a useful foundation for understanding the benefits of integration (NIOSH 10).

An integrated strategy is important because workers at the highest risk for exposures to hazardous working conditions are often those most likely to engage in risk-related health behaviors (NIOSH 10). Traditional worksite health promotion has focused on individual behavior and lifestyle, sometimes with little regard for the broader influence of environmental, social, and organizational determinants of health.

Another reason that integration is important is workers' risk of disease is increased by exposure to both occupational hazards --organizational and environmental-- and risk-related behaviors (NIOSH 11). There are often barriers at the individual level that affect willingness and ability to participate and sustain activity in worksite health promotion programs. For example, stress in the work environment exerts an independent influence on worker health and well-being, and by doing so, can interfere with the success of workplace programs such as smoking cessation.

Besides safety and health outcomes, the broader work organization issues and work environment may benefit from an integrated strategy (NIOSH 12). As employees have more trust in the employer and a belief that the employer is committed to safety and health, there may be reciprocal benefits such as improved morale and employee retention.

Research has shown that an integrated approach may increase program participation and effectiveness for high-risk workers. In a sample of blue collar workers who were in an integrated intervention of a smoking cessation program in conjunction with a respiratory protection program, the smoking quit rates for those in an integrated intervention more than doubled relative

to those who were in only a health promotion smoking cessation intervention program (NIOSH 26). In a study in a manufacturing plant, employees in an integrated intervention made greater changes in key outcomes, including reduced ergonomic risks, cardiovascular disease, job demand and job control risks, and sickness absence (NIOSH 28).

Trends in Population Health

Traditionally, in occupational safety and health, the focus is on work-related incidents. In 2012, over 4,000 workers died from work-related injuries (BLS). It is estimated that over 50,000 died in 2007 from work-related illnesses (Leigh 742). In 2012, more than 3 million injuries to and illnesses reported by public and private sector employers (BLS 2). And the cost of all of this is estimated to be a quarter of a trillion dollars (Leigh 729). That is only part of the picture for worker safety and well-being. Now, more than ever, a broader view is needed. One of the most important issues facing workers is the increase in chronic health conditions. The leading preventable, behavior-related cause of death is tobacco use, followed by poor diet and physical inactivity (Mokdad 1238). The leading cause of death in the US is cardiovascular disease, followed by cancer (Mokdad 1239).

The increase in chronic health conditions is one major trend in the workforce; almost 1 out of 2 adults have at least 1 chronic illness (CDC). One study found that the risk of injury is impacted by chronic health conditions such as asthma, diabetes, heart disease, and depression. To reach a zero injury rate, it would be helpful to explore new ways of reaching and maintaining that goal. An integrated strategy addresses the role of work in exacerbating chronic conditions. For example, to address obesity, interventions may address sedentary work, physical activity, and nutrition. However, broader organizational interventions may be useful. While the research is not conclusive, there has been some evidence of a positive association between body mass index (BMI) and job stress, which means high demands and low control (Schulte 2). There has also been evidence that higher work hours may be related to being overweight.

Besides chronic conditions, another health issue facing workers is fatigue and sleepiness, often resulting from shift work and long work hours, which is more common now than ever due to globalization. Working long hours increases the amount of time of exposure to occupational hazards; for example, in the case of truck drivers, it means more time on the road and increased risk for accidents. In a manufacturing plant, it means more hours for exposure, more repetitive motion. Shift work and long hours may be associated with higher rates of human error and can affect an employee's ability to perform safely and efficiently (Caruso). It also affects safety and health off the job. Employers who pay for employee health care would care about accidents even when an employee isn't working. Shift work can exacerbate existing chronic diseases, making it difficult to control symptoms and disease progression, particularly when treatment requires maintaining regular sleep times, avoiding sleep deprivation, controlling amounts and times of meals and exercise, or careful timing of medications.

Stress is another growing concern for workforce health. As mentioned earlier, job stress includes work load demands, control over jobs, and job security. The impact of job stress is difficult to fully measure and research is not conclusive. One study found some association between smoking and high job strain, high psychological demand, and high pressure (Punnett). So it is not enough to simply educate employees about how to deal with stress on an individual level. For health educators to make a bigger impact, it may be helpful to work with occupational

safety and health professionals to develop integrated interventions. Interventions may be more effective if they include improving the way work is structured, work load demands, and control over jobs. Just as engineering controls and Prevention Through Design are the ideal ways to prevent workplace hazards, organizational policies are at the top of the hierarchy in prevention and promoting worker health and well-being.

With the many challenges facing the well-being of employees, it would be beneficial to develop holistic solutions and look at all potential contributing causes, target not only personal behavior, but also influences of work. This relates to the sustainability of the workforce, making sure that a company's human resources remain competitive, productive, and relevant, particularly important in this international marketplace.

The Business Case for the Integration of Wellness and Safety

It is universally recognized that the health of employees directly impacts the bottom line for business. The expenditures and losses due to medical claims, absenteeism, short-term disability and workers compensation directly impact profitability. When we consider that health care spending is expected to account for an increasingly larger share of the GDP in the coming years, the business case for prevention and protection in the workplace is significant. Economists at the Centers for [Medicare](#) and [Medicaid Services \(CMS\)](#) project that health spending will increase an average of 5.7 percent per year from 2013 to 2023. This rate exceeds the expected growth in the gross domestic product by slightly more than 1 percentage point. By 2023, health care spending will account for nearly a fifth of annual GDP, at 19.3 percent, up from 17.2 percent in 2012 (Howell 2013).

Prevention and protection reduce the incidence of health risks which account for a myriad of costs to the company. As an example, employees with a health risk of a BMI >35 have medical expenses estimated to be 42% higher than a person with a healthy BMI. In addition, they have 30% to 40% greater risk of developing chronic health-related problems than those who smoke or drink alcohol. They have an increased rate of absenteeism and sick leave compared to the general population (up to 14+ times absent per year and paid sick leave of up to \$2.4 Billion). It is also shown that they underperform compared to other workers because of infirmities related to work (CDC 2011).

Although modifiable health risk factors such as excess weight, sedentary lifestyle, elevated blood pressure and cholesterol, etc. are the largest cause of illness and disease, the intricate emotional and behavioral associations with unhealthy behaviors leading to these health risks often require support and incentives to make a positive impact.

Health promotion and prevention go hand in hand. There is a higher chance of injury for employees with higher health risks and both require behavioral compliance. Employees working in high-risk environments are more prone to injury/incidents when they have health risks; however, it should be noted that employees sitting in cubicles for 8 hours per day have a high risk for many illnesses due to inactivity. With a properly designed and implemented prevention and protection program, all employee populations have a better chance of avoiding health risks and injury and therefore improving the bottom line for corporations.

Proving the business case for health promotion and prevention has been the subject of multiple studies. A collection of 56 studies showed these programs produce an average of 27% reduction in absenteeism, 26% reduction in health care costs and 32% reduction in workers compensation and disability. The average ROI ratio ranges from \$5.81 to \$1.00 return for each \$1.00 spent (University of Michigan). Calculating an actual ROI to justify the expenditure of a program without reverting to subjective conjecture is still a difficult case for business. The question of the overall value of the wellness program to the organization and the participants is much more possible. There are many trends that will determine the value of these programs. These trends include positive shifts in health risks, absentee rates, disability costs, productivity, workers compensation and medical claims to name a few. When these trends are compared as a whole, the value of the program becomes clear and significant.

A properly designed program will have well-defined trending guide posts along with reporting criteria. Tracking health risk trends is critical in determining program effectiveness. In addition, an assessment of the population will determine the optimal program design that targets the highest prevalence of health risks in each population. A biometric screening along with a health risk assessment questionnaire will identify these risks. The population can then be reevaluated at year 1 or year 2 to determine shifts in health. This information along with medical claims trends, absentee rates, incident rates, disability costs, engagement and workers compensation trends can produce an overall snapshot of the effectiveness of the program on total worker health. Collectively this information should prove a high value to these programs due to the overall positive impact to employees and corporations.

Rolling Out an Integrated Program

Where to Start Integration: Getting in the Mind Set

The above evidence makes a strong case for integrating worker health programs. Integration starts with an organization seeing the need to fully invest in the overall health of their employee population and not just protect workers through safety programs but prevent them from engaging in health risk related behaviors. Even with individual programs in place addressing one without the other is not enough. Simultaneously just addressing the behaviors associated with the latter is not enough, you must also address the environments in which these behaviors take place (Pronk 2014). Organizations with individual wellness and safety programs among other directives already take some interest in their employees overall health, integrating these programs whether fully or partially will optimize both directives and really address all aspects that affect a worker both while they are at work and while they are at home under one umbrella; health protection and health promotion.

When we begin to think about moving from program siloes to an integrated approach we are in many ways thinking about something that is transformative, a culture of health and safety, a culture that supports the health and wellbeing of all workers in multiple ways (Pronk 2014). Integrating all programs and initiatives that support worker health (in any of its multi-faceted ways) is imperative if and when trying to establish a culture of health. If just starting out and unsure as to whether or not an integrated approach is a best practice for a particular organization, there are indicators for the beginnings of a culture of health, such as; organizational leadership commitment to worker health, benefit related programs, already existing coordination between departments and supportive organizational policies and practices (i.e. accountability and training, benefits and incentives, employee engagement driven programs) that can be the foundation of evidence for why an integrated approach would be an optimal strategy (Sorenson).

Taking this analysis of an organizations current infrastructure a step further, the implementation leaders should look at all departments and areas within the organization and where those respective group agenda's and goals have even a small worker health related component. For example, often times organizations don't realize that finance directives can have multiple applications to wellness. It is important to bring all departments who have even the slightest responsibility and concern for worker health protection and promotion into the conversation. This could be difficult at first, so for many organizations the logical move for integration lies within the fundamentals of wellness and safety. Whether taking the two programs and creating one completely aligned integrated program or just simply intertwining some of their components, what becomes evident is a synergistic relationship where the total is greater than the sum of its parts. Wellness and Safety both at their core address the same thing; the health of a worker. Both disciplines are behavioral, address risk to existing and potential employees and can ultimately have a profound affect on not just work life but also home life.

It is important to note that the most effective integrated programs are systematic and tailored from the beginning to the organization in which they are being implemented. There is no one size fits all approach, even with in the same industry and similar organizations every individual work practice, environment, location and other distinctions of an organization will need tailored, targeted programming to be the most effective. For the sake of this paper we have broadened our approach so that it may be adapted in various environments and then adjusted accordingly.

Once intuition moves to drive and commitment to integrate we take this complex, living, breathing, and changing system and move it into an intuitive domain; starting with simple models (proposed pilot programs) and then recommending slowly building on it. A non-linear approach works best, map out all interrelated system and their influencers, there is no perfect cause and effect diagram, look at it from a system stand point, open it up and think about how things impact one another (Missar 2015). When presenting that plan it is important to show the current data analysis and with evidence show where this data will be in five or ten years if an integrate program is not put in place.

Ensuring a Data Driven Program

From the beginning it is important to have “design elements that ensure the use of data in measuring, integrating, evaluating, and reporting program evolution and continuous improvement efforts” (Pronk 2014).

Analyze Health Data (Claims, Workers Compensation, Disease Management Reports)

Health Data is a great resource for the start of an integrated health protection and health promotion program because it captures what is going on in both sectors at a higher level. Health data reports are indicators of what the major cost drivers coming out of these sectors are and what the real issues an organization is facing whether it be musculoskeletal disorders, diabetes, cancer, injury and illness, among others. It helps to be able to point out to the major stakeholders that a large amount of claim spending is on preventable injuries, incidents and disease. Additionally, often times organizations do not realize how much they are spending on emergency care costs, which becomes evident when analyzing health claim data. For many reasons the population doesn't utilize primary care, aren't properly educated on urgent care centers or what constitutes a trip to the emergency room. For the latter, simple education can drive costs down. With that said,

health data has its limitations; sometimes it might not be available, there are lagging indicators; health claims tell you what has already happened not what could happen, not all incidents and reportables are actually recorded and high claimant data impairs ability to see what is going on-on the individual claim level. There is however a solution; Biometric Screenings.

Biometric Screenings

Health Data is great resource when you do not have access to individual claims. The best way to get a snapshot of an organizations health is through Biometric Screenings (also referred to as Health Screenings or Well Exams). NIOSH's Total Worker Health™ program suggests for integrated programs, "Provision of onsite, comprehensive workplace screenings for work and non-work related health risks" (NIOSH). This allows an organization to get a detailed look at their health risk profile.

Biometric Screenings are especially important for organizations with multiple locations whether spread out in a relative area, nationally or internationally, biometric screening allow for targeted programming at each individual site. Regional difference, socio-economic factors and mobility will not only affect how an integrated program works but also play a huge role in health disparities across an organization. Biometric Screenings give great insight into what health status looks like on an individual level, in various job types, departments and regions. They also provide a crucial teachable moment for individuals who might not be aware of their current health status. Data derived from Biometric Screenings can be generated for an organization in an aggregate format to give a snap shot of the health risks of individual populations and provide a relevant foundation for targeting integrating programming. This will be important when developing a comprehensive program to avoid risk migration and unwanted shifts. Conducting these screenings every year or every two years is suggested to track risk shifts and project population health outcomes. This data will be very helpful when approaching leadership and stakeholders, however if the resources are not there in the beginning for these screenings they can take place once leadership has seen the need to invest and the data driven case can be made to the stakeholder group with health claim data or national data alone.

Tackling Leadership and Stakeholders

When creating any program within an organization integrated or not it is important to identify the key stakeholders. Before starting to implement an integrated approach to worker health it is crucial to identify those who will need to be convinced to adopt the integrated approach. Additionally it is important to also identify other people within the organization that could be highly influential to those stakeholders. When initiating the approach it is important to get into the mindset of the stakeholders and the people that influence them. For example; when and how do they make decisions, what does success look like to them, do they want to be highly innovated, are they driven by keeping costs down, are they motivated by awards and recognition. There are lots of important questions to think about and address when initially meeting with stakeholders. Remember that stakeholders are not limited to the C-Suite. Middle level management is the true key to success, the group that ultimately can make or break a program and also has contact with front-line leadership which goes deep into the organization and is going to be very helpful in reporting what might work, what is working and what isnot. In follow up meetings with leadership, stakeholders and investors the recommended use of Gantt project management tools (or similar) in addition to the many tools created specifically for planning,

monitoring and tracking programs created for worker health integration is used to ensure accurate tracking and communication of the programs success and progress.

Where to Start: Form A Committee

The success of an integrated approach relies heavily on the collaboration and coordination of the initiatives in which you are integrating. In this case the success of integrating health protection and health promotion within an organization is going to rely on the synergy of all departments and groups within the organization that focus on either health protection, health promotion or both. In its most basic sense the collaboration of the health and wellness program with the occupational health and safety program. However it is not limited to these two, in many organizations we see Employee Assistance Programs, HR Benefits, Medical and many other departments within an organization coming to the table to help with an integrated program. NIOSH's Total Worker Health Program™ which takes the integration of health protection and health promotion to another optimal level; recommends full integration of: traditional safety programs, occupational health clinics, behavioral health, health promotion programs, coaching, Employee Assistance Programs (EAP), nutrition, disability and workers compensation through strategic alignment, joint reporting structures or common funding streams (NIOSH).

It is important to remember that what works for one organization might not work for another, even when the organizations are similar. For some a fully integrated program fits the most naturally and will be the most successful. For others just simply aligning some of the goals within these various departments and initiatives is going to be what works best and ultimately ends up being most effective for an organization. The goal is to align all initiatives focused on worker health to reduce duplicated efforts, optimize budgets and ultimately amplify the impact of all programs involved. Bringing all of these groups together is the best way to systematically gain insight from all interested factions and will assure that the program is relevant to the organization, the individual workers and what is most important to them. Collaboration also helps better utilize limited resources if your organization has little to dedicate to the integrated program.

An example of committee forming is as follows; taking Wellness and Safety (the basic concepts behind health protection and health promotion) we are going to bring to the table the leaders of each program, their individual committees (if they have them) in addition to workers that take an interest in one or the other or both. Additionally representatives from other partnerships might also be important to bring to the table; unions, external vendors, community organizations, among others. There are no set rules when it comes to forming a committee, the more representation of job areas, points of view and understanding the better. It is important with all of these groups coming together to establish policies and practices for this collaborative method; accountability and responsibility for integrated functions and metrics for ensuring optimal collaboration.

Observation: Job “Shadowing”

A successful integrated program is one that is tailored and targeted to the individual worker. Health protection and health promotion are people oriented concepts and will not be successfully integrated if the actual people the directives are set out for are not included in the development process. Having an understanding of the work life and daily activities of specific job types will allow for a more targeted, relevant and effective program. Generalizations within certain job areas can be made if time is limited however what has been found is that what works for one worker within a certain defined job area or task might not work for another worker in the same

job area or task. Spending time with individual workers has been a crucial part of the process for successful integration. The time spent shadowing individuals and understanding what their day to day is like also allows time for an open dialogue of what could really work for the individual, information that might not be shared over a survey, through a committee or in front of management but in this individual, personalized setting tends to be shared very easily. Asking open ended questions and gaining an understanding of what is wrong in the current work environment or preventing employees from engaging in healthy and safe behaviors on the ground level is crucial knowledge. This method has proven imperative for implementing successful programs within all job types but especially among shift workers, mobile workers and in blue-collar environments.

This time on the ground also allows for the implementation leaders to observe and see what the reality of the program that will eventually be in place might look like, while at the same time using objective information to formulate what the short term looks like.

All of the above falls under an umbrella of assessment. After the assessment has been conducted the gaps in non-integrated programs will be even more evident than they were in the beginning. It will be clear as to where programs have room to grow, tweak and be amplified through integration. A plan can then be created, whether in a pilot format or full-blown program the following is a guide through the implementation process.

Developing a Comprehensive Program

The first thing to remember when developing a health protection and health promotion program is that it must be comprehensive in scope, encompassing; assessment and improvement of overall health in addition to occupational injury and prevention. Additionally once that initial program is established the workplace must be increasingly used as a setting for promotion of preventative health protection and health promotion activities and must be every growing and changing to adapt to its successes and failures. Organizations need to have an overarching comprehensive health protection and health promotion program for the entire organization and then even further tailored and specified stems of that larger program as it moves across regions, locations, job areas and levels. This comprehensive umbrella's overarching goal or concept of a healthy work place should align with the World Health's Organizations definition of health, "a complete state of physical, mental and social well-being, and not merely the absence of disease or infirmity" (WHO). In most organizations there are logical areas for creating this comprehensive umbrella and key area's that most likely already exist to begin integration.

Risk Profile and Prevalent Risks

The Biometric Screenings mentioned previously are crucial when it comes to developing a risk profile and a comprehensive program. Understanding what percentage of an organizations population is low, moderate or high risk for certain health risks is key to developing effective programming. It is especially important for those health risks that have been proven to indirectly or directly impact occupational health risks because it is within these areas where the early, logical moves of integration can be made.

There is a lot of information surrounding the relationship between health and job risks, to briefly cover some of the more proven relationships; exposures to both job and life risks are concentrated among those employed in working class occupations (Walsh 1991) (National Center for Health Statistics) or in lower supervisory, technical, semi routine, or routine occupations

(National Statistics). Smoking prevalence among blue collar workers is on average 15% higher when compared to the overall population (Anonymous), unhealthy dietary habits (Sorenson 1995), overweight, obesity, binge drinking (Conrad), psychological distress, depression, anxiety, sleep disturbances are also inversely related with the latter (Sarlio-Lahteenkorva) (Galobardes). The latter makes way for multiple areas of integration. In starting out taking a look at NIOSH's Total Worker Health™ program recommendations for integration is highly recommended. Creating a “provision of mandated respiratory protection programs that simultaneously and comprehensively address and provide supports for tobacco cessation, integrated ergonomic consultations that also discuss joint health, arthritis prevention and management strategies.” The Total Worker Health™ program also as stated previously suggests, “regularly scheduled, joint meetings of safety, occupational health and health promotion leadership and staff to include combining the functions of safety, health, and/or sustainability committees into one entity, either intermittently or permanently.” It also indicates that “development of stress management efforts that first seek to diminish workplace stressors, and only then work on building worker resiliency, as well as exploration of models that combine occupational health services with workplace primary care” can be effective areas to begin. And finally one that has been proven to be incredible successful, “implementation of training and prevention programs that counter hazards and risks faced by workers both on and off the job. Topics could include falls prevention, motor vehicle safety, first aid, hearing conservation, stretching/flexibility, back safety/lifting safety, eye protection, safer work with chemicals, and weight management” (NIOSH 2012).

It is important to note here that while an integrated program definitely needs to address the high risk population, especially because it is clear that they are at risk for causing further incidences in areas other than just health, it also needs to address the low risk and moderate risk population.

It is critical to prevent risk migration (i.e. prevent overweight and moderately obese employees from “migrating” into higher weight ranges to keep costs down). It is important to keep the well “well.” It costs a lot less money to keep the well “well” than shift the unhealthy population to that side of the healthy side of the spectrum (Pronk 2014). One key advantage to managing the medical costs of an entire population is the potential recognition and avoidance of risk migration (e.g, low risk to medium risk). A recent study described the relationship between BMI and job impairment (presenteeism) as being characterized by a “threshold effect.” The study found that once employees crossed the BMI threshold of 35, presenteeism increased significantly. Reducing medical costs by preventing overweight and mildly obese employees from “migrating” into higher weight ranges. This model can also be applied to a number of other health condition relationships such as physical inactivity, poor nutrition, high cholesterol, blood pressure, tobacco use, and cancer; health conditions that at this stage should be apparent after conducting a thorough analysis (CDC 2010).

Now you can develop a clearer understanding of the “risk profile” and will be able to develop goals, objectives, and investment recommendations that align with this profile. All of this information makes it evident that the true effectiveness of an integrated health program is dependent on the characteristics of the target population (health risk profile) and then the other key component being that a certain percentage of the organizations population participates in the programming directed at these risks in order for a change to be made.

Engagement and Communication

Engagement and Communication are two additional key components to an effective integrated health protection and health promotion program. Integration of programs themselves will to a certain level increase engagement and make it easier to communicate not just the programs themselves but the benefit of them. A study of blue collar workers found that workers who reported that their employers had made changes to reduce hazardous exposures were significantly more likely to have participated in smoking cessation and nutrition programs than workers not reporting safety changes (Walsh 1991). In addition to this built in benefit; general communication regarding the program, its inclusions and offerings is equally important to communicating the benefit of those inclusions and offerings. Additionally since it is often hard for employees to see the benefit of these programs in themselves sometimes incentives towards engagement must be provided. Incentive campaigns vary across organizations. It is imperative to find out what resonates with each individual population and what is ultimately going to motivate them to participate in the program.

Monitoring and Evaluation

It is equally important to have tools in place to accurately monitor and evaluate the program. This living, breathing program is going to change and constantly need to adapt in order to be ultimately successful. Furthermore in addition to monitoring changes in health claims and risk shifts, monitoring changes in productivity and presenteeism is equally if not more important. Multiple tools have been created to accomplish all of the above, tools that are adaptable to various environments and programs. Some of these public resources include but are not limited to; Blue Print for Health; A Frame Work for Total Cost Impact, Health Work and Performance Questionnaire, Stanford Presenteeism Scale, Work Productivity and Activity Impairment Questionnaire.

Conclusion

Evidence supports that workers risk of disease is increased by exposures to both occupational hazards and risk-related behaviors and that occupational disease and health behaviors account for a considerable proportion of the burden of disease in the United States. Poor health habits, financial difficulties, tobacco use, poor diet, alcohol and drug abuse, lack of regular physical activity all affect job performance, increase risks for injury/illness at work and diminish well-being. Work does not stay at work and the challenges members face at home do not stay at home. Removing the “silos” of accountability can achieve great health and cost efficiencies. Wellness and safety provide two parallel pathways for promoting worker health, the argument here is that these parallel efforts will be strengthened when they are coordinated and integrated rather than separate and independent. At the very least the benefit of a long term investment in the total health of the population to reduce medical claims and increase presenteeism and productivity is very clear and the concept of addressing worker health has visible benefits.

In conclusion there are many optimal ways to integrate health protection and health promotion and various “pictures” of what an optimal program looks like. However overall what is being created is a holistic approach; a comprehensive program that aligns with the World Health Organization’s definition of health; “a complete state of physical, mental and social well-being, and not merely the absence of disease or infirmity”(WHO). A good organization will have workers come to work every day and keep them safe at work. The best organizations also invest in making that worker a healthier overall employee. For organizations that already have a safety program and some form of wellness initiative the jump to the best is a small one. By integrating

health protection and health promotion programs, organizations will be taking that higher level more holistic approach and addressing Total Worker Health™ which is an should be the ultimate goal for all organizations. Hopefully this paper has provided the beginning framework of how to create a successful and effective integrated health protection and health promotion program.

Bibliography

- Bureau of Labor Statistics (BLS). 2012. "Economic news release: table 2: fatal occupational injuries by industry and selected event or exposure, 2011 (preliminary)." (<http://www.bls.gov/news.release/cfoi.t02.htm>).
- Bureau of Labor Statistics (BLS). 2012. "Economic news release: workplace injury and illness summary." (<http://www.bls.gov/news.release/pdf/osh.pdf>).
- Centers for Disease Control and Prevention (CDC). 2014. "Chronic Disease Prevention and Health Promotion." (<http://www.cdc.gov/chronicdisease/overview/index.htm>).
- Caruso, C.C. "Running on Empty: Fatigue and Healthcare Professionals." Medscape blog August 02, 2012. (http://www.medscape.com/viewarticle/768414_2).
- Drennan, F. 2005. "NIOSH's 'Steps to a Healthier US Workforce' A Step in the Right Direction." Team Safety, Inc. (http://www.teamsafetyinc.com/Articles/pdfs/NIOSH_Steps.pdf).
- Kubo, J., Goldstein, B.A., Cantley, L.F., et. al. 2013. "Contribution of health status and prevalent chronic disease to individual risk for workplace injury in the manufacturing environment." *Occup Environ Med* 0:1–8.
- Leigh, J.P. 2011. "Economic burden of occupational injury and illness in the United States." *Millbank Q.* 89:728–72.
- Mokdad, A.H., Marks, J.S., Stroup, D.F., Gerberding J.L. 2004. "Actual causes of death in the United States, 2000." *JAMA.* 291(10):1238–1245.
- National Institute of Occupational Safety and Health (NIOSH). 2015. "Total Worker Health." (www.cdc.gov/niosh/TWH/totalhealth.html/).
- National Institute of Occupational Safety and Health (NIOSH). 2012. "Research Compendium: The NIOSH Total Worker Health Program: Seminal Research Papers 2012." Washington, DC: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2012-146.
- Punnett, L and the Center for the Promotion of Health in the New England Workplace. 2014. "Recent Trends and Research in Worker Safety and Health." NIOSH Total Worker Health Webinar, February 25, 2014. (<http://www.cdc.gov/niosh/twh/webinar.html>).

- Schulte, P.A., Wagner, G.R., Ostry, A., et. A. 2007. "Work, Obesity, and Occupational Safety and Health." *Am J Public Health*. March; 97(3): 428–436.
- Health care spending expected to pick up, grab bigger share of GDP, [Tom Howell Jr.](#) - *The Washington Times* - Wednesday, September 3, 2014
- Centers for Disease Control, Lean Works: A Workplace obesity prevention Program. (Retrieved October 9, 2011) (<http://www.cdc.gov/leanworks/index.html>).
- University of Michigan Health Management Research Center (HMRC)
- World Health Organization, Regional guide-lines for the development of healthy work- places, World Health Organization, Western Pacific Regional Office
- Anonymous, Cigarette smoking among adults: United States, 2002. *Morbidity and Mortality Weekly Report* 53:(20)427–431 (2004).
- Conrad, K. M., Effect of worksite health promotion programs on employee absenteeism *AAOHN Journal* 38: 573-580 (1990).
- Pronk NP. Best practices design principles of worksite health and wellness programs. *Health Fitness J* 2014;18(1):42–6.
- Missar, V. "*Real World Applications.*" Harvard School of Public Health: Integrating Workplace Health and Wellbeing. 2015
- Walsh, D. C., Sorensen, G., and Leonard, L., Gender, health, and cigarette smoking, in *Society and health* (B. C. I. Amick, S. Levine, A. R. Tarlov, and D. C. Walsh, eds.), Oxford University Press, New York, NY, 1995, pp. 131–171.
- National Center for Health Statistics, Table 150. Persons enrolled in health maintenance organizations (HMO's) by geographic region and state: United States, selected years 1989-2022, in *Health, United States 2003, with chartbook trends in the health of Americans* (National Center for Health Statistics, ed.), National Center for Health Statistics Hyattsville, MD, 2003.
- National Statistics (UK), the National Statistics Socio-Economic Classification (NS-SEC) Introduction, Vol. 2004, National Statistics, 2004.
- Sorensen, G., Stoddard, A., Hammond, S. K., Herbert, J. R., and Ocklene, J.K., Double jeopardy: Job and personal risks for crafts persons and laborers. *American Journal of Health Promotion* 10: (5) 355-363 (2006)
- Sarlio-Lahteenkorva, S., Silventoinen, K., and Lahema, E., Relative eight and income at different levels of socioeconomic status, *American Journal of Public Health* 94: (3) 468-472 (2004).

Galobardes, B., Morabia, A., and Bernstein, M. S., The differential effect of education and occupation on body mass and overweight sample of working people of the general population. *Annals of Epidemiology* 10: (8) 532-537 (2000).

Walsh, D. W., Jennings, S. E., Mangione, T., and Merrigan, D. M., Health promotion versus health protection? Employees' perceptions and concerns. *Journal of Public Health Policy* 12:(2)148-164 (1991).

Center for Disease Control and Prevention, Partnership for Prevention. (2010). *Healthy workforce 2010 and beyond*. Washington D.C.