

PROMOTING EMPLOYEE WELL-BEING



WELLNESS STRATEGIES TO IMPROVE HEALTH, PERFORMANCE AND THE BOTTOM LINE

By David Chenoweth, Ph.D., FAWHP

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Wellness Strategies to Improve Health, Performance and the Bottom Line

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FOREWORD

Dear Colleague:

Research shows that employee health status directly influences work behavior, attendance and on-the-job performance. High-performance companies clearly understand the human-capital-driven health and work behavior equation. That's why more than 75 percent of high-performing companies regularly measure health status as a viable component of their overall risk management strategy.

This new SHRM Foundation report, *Promoting Employee Well-Being: Wellness Strategies to Improve Health, Performance and the Bottom Line* will help you assess your organization's health risk, lower your health care costs and develop a healthier workplace culture. It summarizes the latest research on wellness and prevention programs and their impact on the workforce.

The SHRM Foundation created the Effective Practice Guidelines series in 2004 for busy HR professionals like you. It can be a challenge for practitioners with limited time to keep up with the latest research results. By integrating research findings on what works with expert opinion on how to conduct effective HR practice, this series provides the tools you need to successfully practice evidence-based management.

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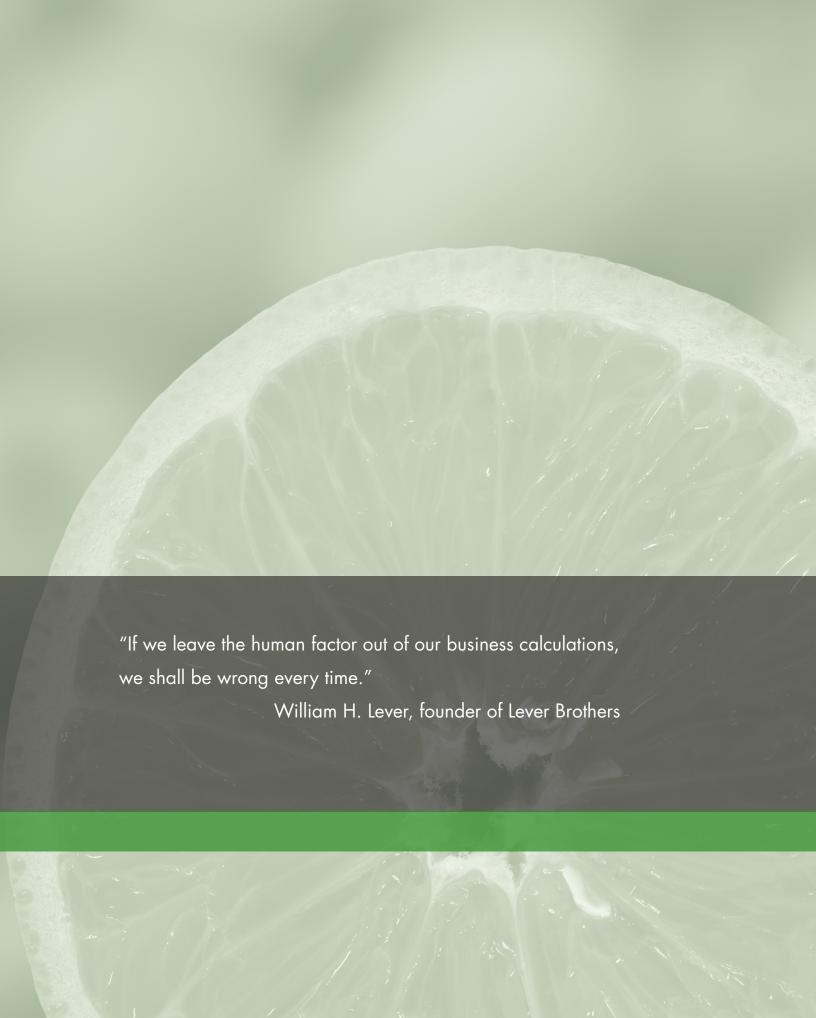
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PROMOTING EMPLOYEE WELL-BEING

WELLNESS STRATEGIES TO IMPROVE HEALTH, PERFORMANCE AND THE BOTTOM LINE

Human resource professionals know that people—or human capital—are the heart of any successful enterprise, especially in tough economic times. People provide creativity and innovation, but these intangible contributions are rarely reflected in financial statements. Unlike structural capital, human capital never really belongs to the firm. People can walk out the door at any time unless companies find ways to keep them.

Human capital drives every aspect of an organization's operations, from technology and product design to distribution networks and service delivery. Considering the vital role human capital plays in a firm's ability to compete in the global economy, HR professionals are always seeking new ways to tap this potential.

One way to build competitive advantage for your organization is to improve the health status and well-being of your employees. The latest research shows that health, work behavior and the value of human capital are linked. Put simply, employee health status directly influences employee work behavior, work attendance and on-the-job performance. Therefore, developing healthier employees will result in a more productive workforce.

ADDING UP THE EQUATION

High-performance companies clearly understand the health-and-work-behavior equation. This is why more than 75 percent of high-performing companies surveyed recently said they regularly measure health status as a component of their overall risk management strategy.³ Human resource directors should get their CEOs on board to drive this equation at all levels. CEOs at high-performing companies often lead by example, steering crossfunctional work teams toward fostering a culture of health, which becomes a competitive advantage.⁴ This is put into practice by:

- Engaging employees.
- Embracing meaningful use of health benchmarks and metrics.
- Creating senior management visibility for innovative policies.

- Supporting individuals' financial security aspirations.
- Aligning meaningful incentives.
- Helping people get the best out of life.

Educating managers and employees.

Senior managers in low-performance organizations often do not understand the potential power of the health-andwork-behavior equation because they are not aware of practices that can improve health and work behavior. To make matters worse, in these companies the business case does not always resonate with disengaged employees. Many resent being told just how healthy, productive, well, low-risk, flexible, engaged or empowered they should be in a climate where substantial cost-shifting and increased work loads are the norm. In these cases, human resource professionals should drive employee-centric programs, policies and incentives in order to boost positive results throughout the organization.

Applying measurement tools.

Human resources professionals need straightforward measurement tools and processes to assess their efforts, including data-driven scorecards and dashboards in real-world settings. In a time when many human resource personnel have an abundance of options, today's business climate calls for practical, cost-effective assessment and evaluation protocols that generate solid, strategic information.

UNDERSTANDING THE CHANGING WORKFORCE

In order to strategically assess the value of human capital in the context of employee health and work behavior, HR professionals must understand the changing composition of the workforce.⁵ Five of the most dramatic changes to work site demographics over the past decade are:

- 1. The aging of the workforce.
- 2. The high percentage of workers with multiple risk factors and/or chronic conditions.
- 3. Higher numbers of women.
- 4. The rising proportion of Hispanic and Latino workers.
- 5. The growing number of people who have to work two jobs to make a living. Nearly 45 percent of workers surveyed say they are willing to take any additional work shifts because of financial motivations.⁶

By and large, these changes also were identified in a survey of more than 1,200 randomly selected human resource professionals, who indicated their top two HR issues were an aging workforce and rising health care costs.⁷ It's indisputable that middle-aged workers currently make up the majority of America's workforce, with younger, entry-level workers constituting just one-third of today's workforce. And CEOs can't help but be aware of rising health care costs.8 Not surprisingly, small business owners also rank escalating health care costs as their primary concern.9

As more Americans live and work longer, they naturally use more health care services, which drives up employer-sponsored medical benefits costs. These costs are largely tied to more frequent and costlier ailments as workers age, a phenomenon reflected in these statistics:¹⁰

- Medical costs rise an estimated 25 percent from age 40 to 50.
- Medical costs rise an estimated 35 percent from age 50 to 60.
- However, age is less a factor in health care costs than the presence of risk factors, such as smoking, obesity, physical inactivity and diabetes.
- High-risk 40- to 60-year-old workers incur two to three times higher medical costs than low-risk workers in the same age group.

IDENTIFYING HEALTH COST DRIVERS

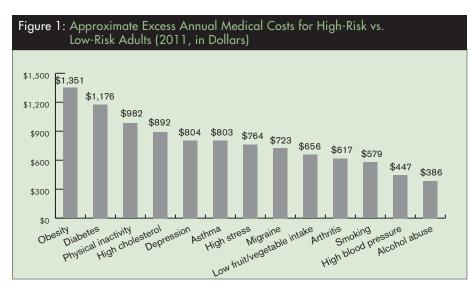
What is driving today's corporate health care costs? Various forces are responsible,11 but of course, growing demand for health care services is probably the most visible force.12 And among the chief factors driving up demand are controllable health risks.¹³ This risk-factor-driven health care demand conundrum shows up everywhere. Studies at Bank One, Ceridian Corporation, Dow Chemical, DuPont, Daimler/Chrysler, General Electric, General Motors, Goldman Sachs, Novartis, Pepsi Bottling Group, Procter & Gamble, Prudential Insurance and Steelcase show that American companies collectively spend billions of dollars each year on employee health problems tied to physical inactivity, obesity, smoking, poor nutrition, stress, diabetes and other modifiable risk factors. 14

Considering the huge—and growing—cost liability American work sites bear for health risk factors, corporate health managers want to know what risk factors are the most expensive. But

Table 1: Selected Risk Factors/Health Conditions and Their Prevalence				
Risk Factor/Health Condition	Percentage of Workers			
Low intake of fruits and vegetables	76.6%			
Overweight/obesity	63.1%			
Physical inactivity	49.0%			
High stress	43.0%			
High cholesterol	37.5%			
High blood pressure	28.7%			
Arthritis	26.0%			
Cigarette smoking	20.6%			
Asthma	8.8%			
Diabetes mellitus	8.3%			
Depression	6.4%			
Migraine headache	6.0%			
Alcohol abuse	5.0%			

risk-factor-specific cost distributions often vary by industry, location, health plan, employees' health status and other factors.¹⁵

In order to gauge which risk factors are major cost culprits, human resource professionals need to identify the most common risk factors in a designated workforce. Research suggests American work sites will display patterns similar to those listed in Table 1.16 Once risk factor prevalence rates are measured for a workforce, various options can be explored, including claims data analysis, cost appraisal and predictive modeling.¹⁷ Although some organizations conduct in-house analyses, others rely on consultants, third-party administrators and published cost norms for this information. Figure 1 shows approximate medical care costs for specific factors based on a review of various studies.18



Studies indicate the prevalence of a particular risk factor may or may not be related to its per capita medical cost.¹⁹ For example, obesity is both a common and an expensive risk factor, while diabetes is far less common but nearly as expensive. Figure 2 shows the importance of viewing risk factors in perspective by focusing simultaneously on their prevalence and cost. Risk factors that are high in both prevalence and cost may warrant greater priority. This type of composite profiling is an effective way to assess an organization's most pressing employee health challenges.

CALCULATING HEALTH AND WORK BEHAVIOR INFLUENCES ON ORGANIZATIONAL PERFORMANCE

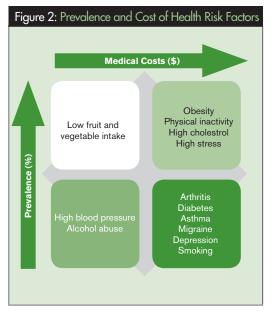
The preceding section has shown a direct link between employee risk factors and associated health care costs. Yet many of the modifiable health risks shown in Table 1 also

influence work behavior, including absenteeism and on-the-job productivity.²⁰ In essence, modifiable risk factors simultaneously affect employee medical costs and work performance measures (see Figure 3).²¹

HEALTH EFFECTS ON ABSENTEEISM

The causes of absenteeism fall into five main categories.²² The most commonly reported cause is personal illness (34 percent), followed by family issues (22 percent), personal needs (18 percent), entitlement mentality (13 percent) and stress (13 percent). Because a person's odds of becoming ill or feeling stressed are strongly associated with overall health risks based on lifestyle, it is reasonable to assume that these health risks are largely responsible for many absences.

Because poor health is so often due to potentially modifiable risk factors, it is important to identify risk factor prevalence in a given workforce to determine risk-factor-related



absenteeism costs. Of course, most organizations don't have the time or resources to examine the risk factorabsenteeism equation, so they have to rely on published research. Researchers generally quantify risk-factor-induced absenteeism by days lost per year or as a percentage of annual scheduled workload in hours.

HEALTH EFFECTS ON PRESENTEEISM

In addition to the strong evidence showing that specific risk factors and chronic conditions are responsible for substantial absenteeism, there is another lost productivity indicator to consider. This factor is called presenteeism, and it has been receiving increased attention by many health managers. Presenteeism is not about malingering (pretending to be ill to avoid work duties) or goofing off on the job. Simply put, presenteeism is classified as being at work, but because of illness or other health condition, not fully functioning.²³

Initially conceived by English researcher Dr. Gary Cooper in 1998, presenteeism has surfaced as one of the most pressing lostproductivity issues in all types of work sites. Many recent studies show that presenteeism can cut individual productivity by as much as onethird—far more than absenteeism.²⁴ Over the past decade, numerous large organizations, including Bank One, Dow Chemical, International Truck & Engine, Lockheed Martin and PPG conducted in-house studies showing that presenteeism costs also greatly exceed employee medical care costs. For example, Bank One's cost distribution showed presenteeism made up 63 percent of all costs, followed by medical and pharmaceutical costs at 24 percent, absenteeism at 6 percent, shortterm disability at 6 percent, long-term disability at 1 percent, and workers' compensation at less than 1 percent.25 A composite of other studies show a similar cost distribution (see Figure 5).26

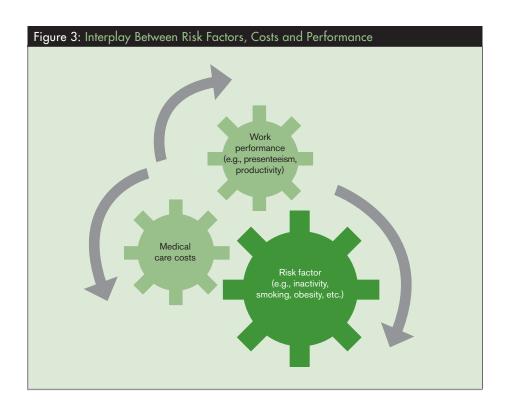
Clearly, numerous research studies indicate risk-factor-based absenteeism and presenteeism are significant cost drivers in any organization.²⁷ This cost impact is particularly evident in workforces with a lot of health risks and jobs that require teamwork, timely output and are not amenable to easy employee substitutions.²⁸ Although there is evidence showing health risks also influence indirect costs such as short-term disability, long-term disability and workers' compensation,²⁹ the following section of the report focuses primarily on the costs of absenteeism and presenteeism.

COSTS OF ABSENTEEISM AND PRESENTEEISM

Absenteeism and presenteeism make up a large portion of overall employee costs and can be influenced directly by targeted interventions. It is essential to monitor these cost drivers for two strategic reasons. First, for organizations that have never

Table 2: Approximate	Percentage of Annual	Workload Lost by Risk	Condition
Risk Condition	Absenteeism	Presenteeism*	Total %
Diabetes mellitus	4.94%	18.26%	23.20%
Depression	2.61%	14.51%	17.12%
Alcohol abuse	5.00%	4.78%	9.78%
Overweight/obesity	1.40%	8.30%	9.70%
High cholesterol	3.14%	4.91%	8.05%
Cigarette smoking	2.84%	4.78%	7.62%
High stress	3.08%	4.45%	7.53%
Arthritis	2.36%	4.90%	7.26%
High blood pressure	0.37%	5.70%	6.07%
Asthma	4.80%	1.20%	6.00%
Migraine	3.96%	1.99%	5.95%
Physical inactivity	.28%	4.59%	4.87%

^{*} Being at work, but due to illness or other health condition, not fully functioning. Low fruit and vegetable intake is not in this table due to a lack of lost productivity research on this risk factor.



Risk Factor	Sponsoring Organization	Website
Alcohol abuse	The George Washington University Medical Center	www.alcoholcostcalculator. org/roi
Asthma	Agency for Healthcare Research and Quality	http://statesnapshots.ahrq.gov/asthma/
Depression		www.depressioncalculator.com
Diabetes	American Diabetes Association	www.diabetesarchive.net /advocacy-and-legalresources /cost-of-diabetes.jsp
Diabetes	Agency for Healthcare Research and Quality	www.ahrq.gov/populations /diabcostcalc/
Migraine	The Pharmaceutical Research and Manufacturers of America (PhRMA)	www.migrainecalculator.com /welcome.asp
Obesity	Business Group on Health	www.businessgrouphealth .org/healthtopics/ obesitycostcalculator.cfm
Physical inactivity	East Carolina University	www.ecu.edu/picostcalc
Tobacco	American Health Insurance Plans	www.businesscaseroi.org/roi /default.aspx

measured risk-related absenteeism and presenteeism rates, a baseline assessment is needed to determine the relative impact of health risk rates on employee productivity; then appropriate action can be taken. Second, for organizations that have implemented strategies to mitigate employees' health risks, regular lost-productivity assessments can provide data to let them know if they are on the right track.

Some organizations have the resources to regularly monitor health-related absenteeism and presenteeism, but many do not and may not be inclined to explore other options. Fortunately, there are tools these organizations can consider for assessing these productivity factors, as listed in Table 3.

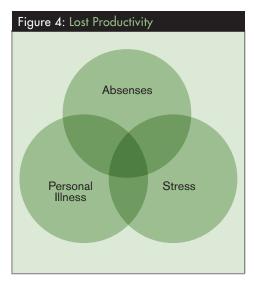
Another option for organizations that want to measure the economic impact of health-related lost productivity is to use a simple, straightforward approach that requires minimum workforce data. For example, the following formula can be used to compute an organization's risk-factor absenteeism and presenteeism costs:

Cost (F) = % of work lost to risk factor (A) x # of at-risk employees (D[BxC]) x median compensation (E)

Table 4 shows a sample cost appraisal of targeted risk factors, using national norms, in a workforce of 500 employees with a median annual compensation of \$50,000.

Table 4: Risk-Factor-Specific Lost Productivity (Absenteeism and Presenteeism) Costs								
	Α	В	С	D	E	F		
Risk Factor/ Condition	% Workload Lost	# Employees	Prevalence	# At-risk Employees	Median Annual Compensation	Organizational Lost Productivity Cost		
Alcohol abuse	.0978	500	.050	25	\$50,000	\$ 122,250		
Arthritis	.0726	500	.26	130	\$50,000	\$ 471,900		
Asthma	.0600	500	.088	44	\$50,000	\$ 132,000		
Depression	.1712	500	.064	32	\$50,000	\$ 273,920		
Diabetes	.2320	500	.083	42	\$50,000	\$ 487,200		
High blood pressure	.0607	500	.287	144	\$50,000	\$ 437,040		
High cholesterol	.0805	500	.375	188	\$50,000	\$ 756,700		
Migraine	.0595	500	.06	30	\$50,000	\$ 89,250		
Overweight/ obesity	.0970	500	.631	316	\$50,000	\$1,532,600		
Physical inactivity	.0487	500	.490	245	\$50,000	\$ 596,575		
Stress (high)	.0753	500	.430	215	\$50,000	\$ 809,475		

Table 5: Sam	ple Risk-Fac	tor-Specific 1	Total Costs (N	Nedical and L	ost Productivity)				
	A	В	С	D	E	F	G	Н	I
Risk Factor	% Workload Lost	# Employees	Prevalence	# At-risk Employees	Median Annual Compensation	Employer Lost ProductivityCost	Per Employee Medical Cost	Employer Medical Care Cost	Employer Total Cost
Alcohol abuse	.0978	500	.050	25	\$50,000	\$ 122,250	\$386	\$ 9,650	\$ 131,900
Arthritis	.0726	500	.26	130	\$50,000	\$ 471,900	\$617	\$ 80,210	\$ 552,110
Asthma	.06	500	.088	44	\$50,000	\$ 132,000	\$803	\$ 35,332	\$ 167,332
Depression	.1712	500	.064	32	\$50,000	\$ 273,920	\$804	\$ 25,728	\$ 299,648
Diabetes	.2320	500	.083	42	\$50,000	\$ 487,200	\$1,176	\$ 49,244	\$ 536,444
High blood pressure	.0607	500	.287	144	\$50,000	\$ 437,040	\$447	\$ 64,368	\$ 501,408
High cholesterol	.0805	500	.375	188	\$50,000	\$ 756,700	\$892	\$ 167,696	\$ 924,396
Migraine	.0595	500	.06	30	\$50,000	\$ 89,250	\$723	\$ 21,690	\$110,940
Overweight/ obesity	.0970	500	.631	316	\$50,000	\$1,532,600	\$1,351	\$ 426,916	\$ 1,959,516
Physical inactivity	.0487	500	.490	245	\$50,000	\$ 596,575	\$982	\$ 240,590	\$ 837,165
Stress (high)	.0753	500	.430	215	\$50,000	\$ 809,475	\$764	\$ 164,260	\$ 973,735



In preparing to do an in-house estimate of risk-factor-specific lost productivity costs in your organization, follow these steps:

- 1. Prepare a framework as shown in Table 4.
- 2. Select one or more risk factors you would like to target.
- 3. Gather information on the prevalence of each risk factor in your workforce using employee health risk surveys and health screenings, or use national norms (listed in column C of Table 4).
- 4. Multiply the number of employees by the prevalence rate to determine the number of at-risk employees; insert the number of at-risk employees into the framework.
- 5. Calculate the employer cost for each risk factor by multiplying the percent workload lost (A) by the number of at-risk employees (D) by the median annual compensation (E).

CALCULATING TOTAL RISK FACTOR COSTS

Once lost productivity costs for selected risk factors have been calculated, you can calculate total risk factor costs by integrating each risk factor's medical care costs into the cost equation (column G of Table 5). Risk-factor-specific medical care costs can be calculated simply by multiplying medical care cost by the number of at-risk employees (number employees x prevalence).

For example, diabetes-related medical care costs within an organization of 500 employees would be computed as follows:

Number of employees with diabetes 42 (column D)X

Per employee

medical cost of diabetes \$1,176 (column G)

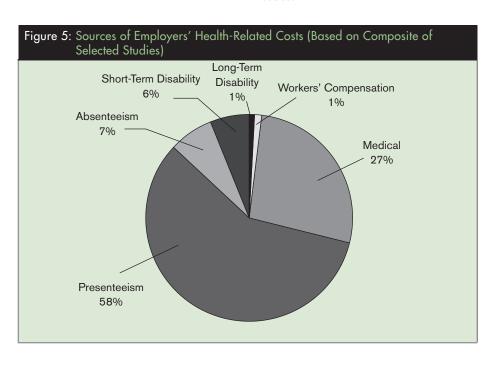
\$ 49,392 (column H)

Risk-factor-specific medical care costs for the organization are then inserted into column H and added to the lost productivity cost (column F) to calculate total costs (column I), as shown in Table 5.

IDENTIFYING RISK FACTORS

Considering the high prevalence rate of obesity, physical inactivity and other risk factors among workers, it is obvious that virtually every firm will bear financial liability for its unhealthy workers. Recognizing this reality, forward-thinking organizations identify their employees' risk factors before they become out-of-control cost drivers.

In many companies, HR managers are keen to take up this challenge and run with it. They have the vision to partner with other health management personnel in developing a proactive plan of action to address pivotal employee health and work behavior issues.



Of course, any good plan is based on good preparation. Take time to study the issue by asking important questions. How many employees are at risk? For which risk factors and health conditions? Do risk factors or levels vary by employee age, gender, income, job types or other demographics? Are these findings a recent phenomenon or a continuing trend?

Ideally, it helps to have broad-based skills and knowledge in wellness

programming to effectively develop and implement a strategic plan of action. Yet, in today's stressful, multi-tasking environment, human resource professionals may find themselves without sufficient time and knowledge to identify the best tools and approaches to meet their health management challenges. The key is to break each challenge down into a series of practical steps to enhance odds of success.

Health risk assessment. The first step is to be aware of several important issues relevant to employee risk assessment. Since health risk assessment (HRA) is the cornerstone of a good risk management plan, it pays to use appropriate HRA resources that will deliver accurate, reliable results.

Work site culture assessment. As the second step, take the time to carefully assess your work site culture to see how it may positively or negatively be influencing your employees' health.

Reality

Every organization has healthrelated risk issues among its workers.

Currently, more than 55 commercial health risk assessment (HRA) instruments are available in the marketplace, yet only a few have been rigorously field-tested for validity and reliability.

Relying solely on HRA surveys (especially if all data are self-reported) may result in skewed, inaccurate employee health status data.

Generally, only a small percentage of moderate- and high-risk employees voluntarily participate in HRAs.

Strategic Action

Develop a health management plan of action that includes appropriate health risk assessments (HRAs).

Establish a series of criteria to determine the quality and appropriateness of the HRA tool (validity, reliability, cost, length, administrative efficiency, target population, reading level).

Supplement HRA survey data with biometric screening data (blood pressure, cholesterol level, blood sugar), medical and workers' compensation claims data, and other health-related metrics.

To boost HRA participation, provide appropriate incentives that have perceived value for employeees, use effective communications to promote employee engagement and create a workplace culture supportive of wellness.

UNDERSTANDING WORK SITE CULTURE AND ENVIRONMENT

Considering that workplace culture contributes to profitability, sustainability and other success measures, it's not surprising to find that most organizations' cultures value profitability, customer service and innovation.³⁰

An organization's culture is characterized by the social forces that shape behavior and beliefs through mechanisms such as norms, support, modeling, training, rewards and communication.³¹ Norms are social expectations for behavior and beliefs—"the way we do things around here"—which become apparent only when they change or someone violates them.³²

Cultures work at both conscious and unconscious levels, from concrete procedures, such as no-smoking policies, to subtle influences, such as peer group attitudes about taking a lunch-time power walk.

Cultural norms and health. What types of cultural norms may affect employees' health? Some preliminary evidence suggests that flexible working arrangements, such as flextime and telecommuting, which give workers more choices or control, are likely to have positive effects on health and well-being.33 In addition, transforming portions of a work site's physical environment also can influence employee health behavior. One example is a study conducted by the Centers for Disease Control and Prevention (CDC) to see whether making physical changes to a stairwell in one of its buildings, combined with music and motivational signs, would motivate employees to use the stairs. A four-stage passive intervention was implemented over 3½ years that included painting and carpeting, framed artwork, motivational signs and music. Infrared beams were used to track the number of stair users. "StairWELL to Better Health" was a low-cost intervention, and the data suggest physical improvements, motivational signs and music increased stairwell use.34 Recent research also suggests employees working in a healthy work site culture are more likely to engage in health risk assessments.35

Employer responsibility for creating a healthy work culture.

In a healthy culture, employee well-being also makes the top tier of priorities—embracing the idea that healthy people are essential to overall strategy.³⁶ Yet managers and HR and wellness professionals are well aware that little, if any, lasting value, including health status improvements, can be achieved without a supportive cultural environment. In one survey of managers, only 34 percent thought information alone would be enough

to promote health changes.³⁷ And just 41 percent agreed employers have a responsibility to encourage employees' healthy lifestyle choices. In some organizations, employee health promotion programs may be seen as an encroachment on individual rights and responsibility. Nonetheless, more work sites are establishing healthrelated policies and programs and transforming work environments into evolving, dynamic systems to influence employees' health.38 For example, today's concept of the work environment is being expanded to include healthy eating options and updated cafeteria menus, smokefree policies, and opportunities for physical activity. Examples of these and other environmentally driven health promotion strategies are described later in this report.

It is essential to explore the underlying issues that govern human health and human behavior in the workplace. By identifying the factors that influence health and behavior, HR can determine which factors can be addressed by specific types of work site programs, policies and incentives to promote employees' health.

IDENTIFYING HEALTH DETERMINANTS

Considering the complex make-up of the human body, its not surprising to find that a person's health status is influenced by many factors (see Figure 6).³⁹

Collectively these health determinants can be grouped into four major dimensions, as shown in Figure 7.⁴⁰

While certain health determinants, such as genetics, are not modifiable, other determinants have a behavioral

basis and warrant a closer look for the purposes of this report. Because a person's lifestyle, behavior and health status are closely intertwined, it's important to understand what motivates some employees to adopt a healthy lifestyle while others do not.

Behavioral motivations. No single set of factors has been found to adequately account for why people eat healthily or do not eat healthily, smoke or do not smoke, and exercise or do not exercise. I Knowledge, attitudes, reactions to stress and motivation are certainly important individual determinants of health behavior.

Traditionally, health promoters focused only on individual factors such as a person's beliefs, knowledge and skills. However, contemporary thinking suggests that looking beyond the individual to the social milieu and environment can enhance the chances for motivating individuals to adopt healthier lifestyles.⁴² So, what are the keys to changing and achieving a healthier lifestyle? Among the most notable variables are:

- Past behavior (long-term behaviors tend to be deeply embedded in the neurological system and electro-chemically reinforced the more they are practiced).
- *Demographics* (gender, education and marital status).
- Personality traits (conscientiousness, delayed gratification and goal direction).
- *Social supports* (support from others can boost behavioral changes).
- Family functioning (dependents who have a stake in one's health).

- Ongoing contact with health advocates (reinforcement from health-minded co-workers and supervisors).
- Social ecology or networking (strong alignments among wellness, benefits, safety, workers' comp, work/life programs, etc.).⁴³

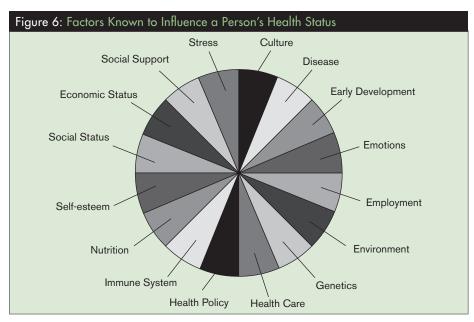
These variables represent significant predictors of dietary and exercise regimen adherence, smoking cessation, decreased alcohol consumption and adherence to medical treatment regimens. By understanding the variables that predict behavior changes, human resource professionals can

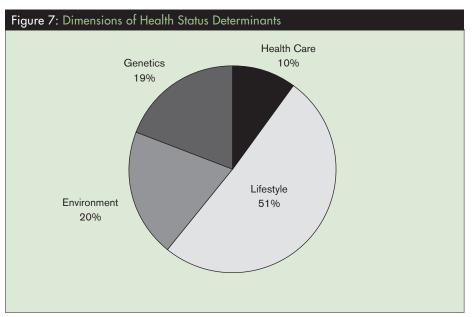
design appropriate programs, policies and incentives. The following sections of this report will highlight strategies for HR practioners to consider in building high-performance health and work behavior plans.

DEVELOPING A HEALTH AND WORK BEHAVIOR PLAN

Virtually all organizations have some type of health and work behavior issue that can be improved with the right type of planning, implementation and maintenance. Prior to developing a high-performing health and work behavior plan for your organization, take time to accurately diagnose your organization's most-pressing health and work behavior challenges. For example, a good starting point is to identify and assemble your health and work behavior team. Certainly, it's desirable to have several highly skilled health management staff members on your team. Yet, in today's downsized workforces, it's not uncommon to find HR leaders driving these plans with limited personnel. In any case, it's important to tap whatever resources are readily available and prepare some preliminary front-end questions, such as:

- How do the employees' risk factor prevalence, absenteeism, disability and health care utilization rates compare with published norms, industry benchmarks and/or internal expectations?
- What has been the average annual percentage rate increase of costs attributable to health and work site behavior? Is there a particular trend?





- Has the firm formally measured the impact of our current health and work behavior programs, policies and incentives relevant to:
 - Aging workers?
 - Those with a high demand for health care services?
 - Health cost claimants?
 - Those at risk of developing lifestyle-related illnesses?

- Workers with an existing chronic condition?
- Under-represented groups?
- Different age cohorts?
- At-risk job categories or departments?

It is important to collect and analyze as much data as possible, in order to identify real workforce-driven health and work site behavior issues. Once these issues are identified, they should be prioritized and used to drive your health and work behavior management plan.

Table 6 illustrates a framework of diagnostic methods you can consider to identify and quantify your organization's most pressing issues. No single diagnostic method listed in table 6 is good enough to be a stand-alone,

Table 6: Diagnostic Methods for Identifying Health and Work Behavior Issues								
Method	Managed by	Identifies	Comments					
Employee health records	Occupational nurse Medical director EAP manager	Common employee health risks and health conditions.	Data should only be accessed and used by HIPAA-authorized personnel.					
Environmental audit	Occupational nurse Risk manager Safety manager	Potential physical hazards (air, water, chemical, electrical, mechanical).	Include accident and injury trend data, if possible.					
Culture audit (hard copy or electronic copy)	Human resources	Employees' perceptions of healthy and unhealthy work site norms.	Limit format to no more than 20 questions for maximum efficiency.					
Employee focus groups	Human resources Benefits	Employees' preferences for work site programs, policies and incentives.	Convey purpose of focus groups to employees before meeting; tailor around employees' work schedules.					
Health risk assessment (HRA) survey/questionnaire (hard copy or electronic copy)	Human resources Wellness personnel Benefits External vendor	Employees' demographic profile, health status, daily health habits, interest level for improving health status, etc.	Exclude any questions regarding employee's personal or family medical history to ensure compliance with GINA (Genetic Information Non-discrimination Act).					
Biometric health screening (blood pressure, cholesterol, blood sugar, urinalysis, saliva, etc.)	Occupational nurse Medical director External vendor Certified screening personnel	Employees' biological health status indicators; identifies high risk employees and population-wide risk stratification.	Integrate all testing into a single encounter to minimize administrative and labor costs.					
Productivity survey (hard copy or electronic copy)	Human resources Benefits External vendor	Employees' perceived productivity; results can be used to investigate possible impact of health risks on absenteeism and/or presenteeism.	Optional: Include productivity questions, eliminating the need for a separate productivity survey; include questions for employees to specify their current health risks and conditions.					
Medical claims data analysis	Benefits Health plan External consultant	Employees' most common and costly medical claims.	Limit data to those who have used the health plan, not the total workforce; request data that is formatted by either DRG* or ICD** and separates employees from dependents.					

^{*} Diagnostic-related group.

^{**} International Classification of Disease.

reliable approach.⁴⁴ It pays to integrate the findings from as many diagnostic efforts as possible to establish a true assessment. For example, officials at Chevron Texaco recently found that integrating laboratory (biometric screening) data and medical claims data provided greater prevalence rates and costs among employees with metabolic syndrome than relying solely on either approach.

A well-crafted matrix will reveal major health and work behavior issues based on an objective scanning of the respective columns. For example, start with the highest ranked finding in the first column, which is high blood pressure. Now, check to see if high blood pressure appears in any of the adjacent columns; it appears in two additional columns: biometric screening and medical claims. Once a particular finding has been identified, a point value can be assigned to it to see how much "representation" it carries across the eight-column matrix. A recommended rank-to-point scale is, as follows:

Rank	Points
1st	5
2nd	4
3rd	3
4th	2
5th	1

Applying this point system to high blood pressure, this particular finding has earned 13 points, as shown below:

Column	Rank	Points
Health records	1st	5
Biometric screening	1st	5
Medical claims	3rd	3
	Total	13

However, targeting only the primary finding of high blood pressure can misrepresent the actual influence that a particular variable has on your employees' health and work behavior. For example, by focusing only on a single finding, we assume, wrongly,

Table 7	Table 7: Sample Composite Matrix of Diagnostic Findings										
Rank	Health Records	Environmental Audit	Culture Audit	Focus Groups	HRA Survey	Biometric Screening	Medical Claims	Productivity Survey			
1st	High blood pressure	Most work areas based on concrete floor	Good peer support for health	Top management and supervisors not fully engaged wellness advocates	Poor nutrition	High blood pressure	Low back ache (mus-skeletal)	Clerical workers most productive			
2nd	Low back ache	Office equipment not ergonomically designed	Moderate supervisory support for health	Want more work site opportunities to exercise	Overall health rated: good	Poor flexibility	Diverticulosis (digestive)	Arthritis is greatest threat			
3rd	Tobacco use	75% of workers sit for >6 hours/ day	Top management: "Lip service"	Open up more jobs for flex- time work schedules	Inadequate physical activity	Obesity	High blood pressure (circulatory)	Non-exercisers are 10% less productive than exercisers			
4th	Obesity	Cafeteria/ vending items offer few healthy choices	Policies don't mesh with company mission	Rising cost of health benefits is a real financial worry	High stress at work	High blood cholesterol	Asthma and allergy (respiratory)	Workers with diabetes report highest level of lost productivity			
5th	High blood cholesterol	Stairways not well lit, clean or attractive	Company- driven wellness efforts are inconsistent	Healthier cafeteria and vending options are needed	Financial worries	Diabetes and pre- diabetes	Urethritis (genito-urinary)	Of four physical demand indices, lack of body strength is greatest threat			

that the variable has no relationship to other variables, when, in fact, no variable—especially a risk variable as complex as high blood pressure—exists independently of other influences. Therefore, it is highly desirable to identify factors listed in your matrix that are associated with a targeted finding. For example, two associated factors ("office equipment not ergonomically designed" and "high stress") can, and do, often contribute to low backache. Consequently, it's best to identify "clusters" of factors that are associated as you review your work site's particular matrix. By adopting a "cluster" philosophy, you can apply a simple rank-to-points value to low backache and its associated variables as follows:

Primary/Associated	Rank	Points
Low backache (health records)	2nd	4
Low backache (medical claims)	1st	5
- Office equipment (env. audit)	2nd	4
- High stress (HRA survey)	4th	2
	Total	15

The preceding example shows that only nine points would be credited to low backache on its own, compared with 15 points assigned when the two contributing factors are included. Thus, by adopting the "cluster" approach, diagnostic efforts are more likely to (1) identify the full-spectrum of relevant contributing factors and (2) enable you to assign a realistic weight-based ranking among all of your diagnostic outcomes. The cluster approach and weight scale can be

applied to the remaining diagnostic findings in the sample scale.

By preparing your own matrix of diagnostic findings and point rankings, you can determine which issues to address in preparing your strategic health and work behavior plan.

HR'S PIVOTAL ROLE

Recent research findings reinforce the valuable role that HR professionals assume in health and work behavior management.45 In particular, key findings from interviews conducted across a broad cross-section of work sites indicate the best wellness programs are closely integrated with related human resource functions, such as health care benefits administration, employee assistance programs and workers' compensation. Moreover, the research shows coordination across HR functions is facilitated when the wellness function is administratively situated in HR.

Considering their favorable position in highlighting the value of human capital, how can HR managers strategically leverage their knowledge, skills and resources to drive high-performing health and work behavior outcomes? By and large, there are at least five vehicles for achieving these outcomes:

- 1. *Organizational cultures* that can be transformed into dynamic, evolving health-promoting venues.
- 2. *Policies* that enhance employee health and productivity.
- 3. *Incentives* that create employee-valued incentives to motivate employees to engage in healthy practices.

- 4. Wellness programming that implements customized employeecentric health programs.
- 5. *Integration* of HR functions with employee wellness and work/life quality initiatives.

BUILDING HEALTHY ORGANIZATIONAL CULTURES

By and large, the odds are good that our behavior, attitude, health status, self-esteem and on-the-job productivity are largely influenced by our co-workers and work site culture. 46 Make sure your organizational culture is suitable for building and sustaining a proactive, employee-centered wellness program and its affiliated policies, incentives and strategies within an integrated HR network.

The current climate appears ripe for moving in this direction. A recent survey indicated that 70 percent of reporting work sites plan to make health-promoting changes in their work environment by 2012, compared to 58 percent a year ago.47 Yet, creating a culture of health takes passionate, persistent and persuasive leadership at all levels, from top management to middle managers to the wellness staff to wellness champions in various work units.⁴⁸ Transforming a typical work site setting is not a short-term endeavor but a long-term process that is best achieved systemically.⁴⁹ Fortunately, HR managers are in a strategically favorable position to drive this process due to their high-profile position, organizational familiarity and high credibility.

What is required for firms to successfully transform into more health-promoting landscapes? First and foremost, HR managers must cultivate multi-level leadership to achieve this transformation. In essence, input and engagement must be solicited at all levels to successfully drive a wellness-initiated cultural transformation. In fact, research suggests workers want and need to be involved in creating healthy workplaces. Thus, it's important to solicit employee input in crafting a front-end cultural transformation as well as involve them in actual programming decisions later on.

HR managers are keenly positioned for generating the multi-level leadership needed to achieve these changes. As the "point person" in such endeavors, the HR manager should first identify and engage individuals at all levels. With the help of a savvy HR manager, representatives can then:

- Provide input for establishing a vision of a healthy organizational culture.
- Develop a systematic plan of action that includes the various tasks that need to be carried out.
- Build a strong business case for a healthy organizational culture.
- Establish a list of criteria for considering organizational strategies.
- Craft a list of proposed strategies based on the collective input of all groups.
- Research the impact of the proposed strategies by consulting other work sites.
- Develop a list of strategies that meet minimum acceptable criteria.

- Establish a logical timetable for implementing the strategies.
- Phase-in the recommended strategies.
- Develop a method to periodically assess the impact of each strategy and procedures for revision, if necessary.

Building a healthy organizational culture involves both the physical work structure and the employees' perception of that work environment.52 At the most basic level, work environment can be defined as the physical characteristics of the workplace, including safety policies, noise levels, lighting, air quality, and ergonomically adapted equipment and furniture. More recently, the concept of the work environment has been extended to include healthy eating options and updated cafeteria menus, smoke-free policies and opportunities for physical activity.

The positive effects of environmental changes are strongly supported for improving nutrition and healthy eating and decreasing smoke exposure due to secondhand smoke.⁵³ In particular, environmental modifications that stimulate changes in nutrition combine food labeling, enhanced visibility of available healthy foods in company cafeterias and healthy food offerings in vending machines, with changes supported by the distribution of posters and bulletins.⁵⁴

BUILDING HEALTHY CULTURES IN SMALL WORKPLACES

A couple of years ago, PCL Construction Services, Inc., headquartered in Denver, Colo., started a companywide initiative to provide healthy snack alternatives in its office vending machines and at its job sites across the country. The chance to choose a banana or trail mix over potato chips might not seem like a big deal, but this was a small contribution to a bigger goal: happier, healthier employees. The company also covers the costs of gym memberships, local 5K runs and marathons, H1N1 and flu vaccines, and annual on-site health screenings. The Denver office even supported the purchase of a ping-pong table, funded by employee tournaments organized outside of working hours.

An employee-owned company, PCL has made *Fortune* magazine's "100 Best Companies for Work For" list for five consecutive years, ranking 31st in 2010. Businesses are chosen for the list based on an extensive employee survey that addresses management credibility, job satisfaction and camaraderie, plus a "culture audit" that evaluates benefits programs, hiring and diversity.

PCL's HR staff doesn't label its innovations a "program" because that implies separation from normal business practices. In moving well beyond standard benefits such as health insurance and vision coverage, the goal is to make health and wellness part of the everyday work culture. With the guidance of a nutritionist and human resource advisor Diana Canzona-Hindman, PCL targeted four keys to wellness:

- Physical well-being.
- Social and community well-being.
- Financial well-being.
- Mental and emotional well-being.

"We really wanted to focus on the whole person," Canzona-Hindman says. "If you can incorporate all of these different pieces, you're going to achieve your goal of a healthy work environment. It has to be part of the culture, not an add-on." This people-focused culture is, in part, a result of the fact that the company is employee-owned, says Canzona-Hindman. "You have a family-like community, a sense of pride, camaraderie and teamwork that filters into everything you do."

When budgets are tight, wellness programs are often the first to go. But PCL has seen so much enthusiasm— and return on investment—that company leaders continue to support the Keys to Wellness initiative financially. Part of the budget includes reimbursing employees \$200 a year for their gym enrollment costs. Canzona-Hindman says, "It's that little bit that motivates everyone."

Meanwhile, in San Diego, Calif., employees of Ledcor Construction are taking advantage of free membership to L.A. Fitness as part of that company's employee wellness initiative. Employees must visit the gym a minimum of six times a month to maintain the membership. Ledcor encourages its employees to work out at the gym, located across the street, during their lunch breaks.

Ledcor began offering the fitness benefit in 2008, in addition to replacing chips, candy and cookies with fruits and vegetables, and swapping its soda machine for a water treatment system. "At first people griped about the apples and bananas, but now everyone loves it," says Russell Hamilton, general manager of the San Diego office. Ledcor's regional offices each developed their own ways to encourage wellness. What makes the programs work, Hamilton explains, is the fact that employees inspired the change, not a corporate mandate. "It stemmed from within the company," he says. "All it took was a grassroots effort by employees to get the company to implement healthy lifestyle choices, and we listened to their ideas."

The changes came at little or no cost. "It hasn't required a big investment, and as far as I'm concerned, it's worth it to have employees who are more productive; they're happy and they're healthy. I would encourage every company to do something like this," Hamilton says.

Building a culture of health within a small company requires an awareness of worker perceptions. Workers with positive perceptions of a work environment generally have higher job satisfaction, higher loyalty levels and lower absenteeism than do their peers. Achieving those positive perceptions requires good communication strategies and ongoing support from managers and co-workers. And at the same time, healthy work environments appear to make individual healthy choices at the work site easier. 56

PRACTICAL STRATEGIES FOR A HEALTHY WORKPLACE

Although each situation is unique, an organization trying to establish a healthier workplace should consider low-cost strategies such as the following.

PHYSICAL ACTIVITY

- Post prompts at key locations to encourage physical activity. A sign that says "Take a Few Steps to Better Health" in a stairwell can encourage stair climbing instead of taking the elevator.
- Offer gentle fitness classes that combine yoga, lowimpact aerobics and relaxation techniques. These may appeal particularly to those who are new to exercise or have special physical needs or limitations.
- Develop trails near the work site and encourage employees to walk or jog during lunch and break times. Trails should be in safe, highly visible areas with established safeguards.
- Provide selected pieces of exercise equipment in suitable locations for use during breaks and lunchtime. Be sure to educate employees and establish guidelines and policies before usage to ensure safety.
- Encourage employees who sit a lot to take a stretch break for better circulation and work efficiency.
- Where feasible, equip a designated break area with basketball hoops, table-tennis equipment, horseshoe pitching stations, boxing bags and other recreational equipment.
- Offer discounts or subsidies for fitness-club memberships for those who meet minimum guidelines for use and adherence.

Greener, Healthier Communities

Pioneer Construction in Grand Rapids, Mich., has an all-encompassing approach to wellness. The company believes wellness stems from a collaborative environment that supports both personal and professional development, as well as safety, community service and sustainable work practices.

"We strive to create an inspiring and engaging workplace culture that attracts and retains the most talented and creative professionals in the construction industry," says Chris Beckering, director of business development at Pioneer Construction. "Community involvement is a cornerstone of our corporate culture, so we provide opportunities and encourage our team members to give back their time and talent."

Pioneer Construction rewards safe construction practices and behaviors while maintaining high levels of accountability. Associated Builders and Contractors' (ABC) Western Michigan Chapter awarded the company its Construction Safety Award of Excellence in 2009.

"Sustainable practices in the company offices foster environmental stewardship and a collective pride in efforts to reduce waste, energy consumption and inefficiency," says Tim Schowalter, president of Pioneer Construction. The company recently was named ABC's first Green Certified Contractor in the Midwest and was one of *Engineering News-Record's* "Top 100 Green Builders in America" for two consecutive years.

The focus on wellness and sustainability pays off in the form of positive relationships with customers and subcontractors. "Our commitment to a sustainable workplace culture and the passion of our team members demonstrates to our clients that we are walking the walk," Beckering says. He believes healthy workplaces can help contractors win more work. "Our subcontracting partners enjoy working with us and provide aggressive bids because they know our job sites will be clean, safe and well-supervised. This adds to our value proposition in an increasingly competitive marketplace," Beckering says.

With layoffs and slowdowns still a reality, it is more important than ever to maintain a positive work environment for employees who may be left carrying the workload of two or more individuals, or who may be feeling anxiety about fewer projects coming down the pipeline.

Even if your company has no wiggle room in the budget to cover the cost of gym memberships, many initiatives—including promoting healthier foods, recycling programs and community service—are free. The investment of resources in broadly defined wellness policies ultimately results in better employee retention rates. At Pioneer Construction, for example, many employees have been with the company for more than 30 years.

"We believe there is no better testament to our positive workplace culture than the exceptional average tenure for a company of our size," Schowalter says. "Our greatest assets are our intellectual capital and human resources. The success of our team relies upon the skilled hands and creative minds of our team members. We have seen a direct return on our investments in innovative health, safety and wellness programs."

Courtesy of ABC's Construction Executive magazine (http://constructionexec.com/issues/April_2010/Features.aspx).

- Provide showers and changing facilities for people who exercise at work.
- Create departmental competitions and reward teams that meet designated exercise levels each month. If the spirit of competition conflicts with the philosophy of the work site health promotion (WHP) program, sponsor individual participation and reward effort rather than outcomes.

NUTRITION

- Offer lunch-and-learn sessions in the company's cafeteria on a regular basis.
- Explore the prospect of offering these sessions on paid time or extending the designated lunch break for attendees. Consider videotaping these sessions and making them available for checkout, especially for employees who cannot attend scheduled sessions.
- Offer webinars or presentations on nutrition awareness and education through the company's in-house network.
 This may be particularly valuable for employees working at distant or multiple locations.
- Work with the vendingmachine contractor to place color-coded labels on healthy food and beverage items.
- Organize a healthy potluck, including a recipe exchange.
- Gradually change vendingmachine items to healthy foods and snacks.

- Offer fruit and vegetable snacks instead of junk food at meetings, in common areas and in break rooms.
- Place monthly nutrition tips on cafeteria tables.
- Offer coupons for healthconscious eateries and restaurants to employees who meet certain healthenhancement goals.
- Subsidize or discount the cost of heart-healthy entrée offerings in the company's cafeteria and vending machines.

INFORMATION AND EDUCATION

- E-mail daily or weekly health tips to all employees.
- Create and maintain bulletin boards with health information and self-development tips in high-density areas.
- If the work site has an electronic message board in a central location, use it to announce important WHP programs, activities and policies such as health fairs, annual vaccination, competitions and incentives.
- Create a library of books, videos and audio cassettes for employees to check out or peruse on site.
- Stock a cart with health magazines, booklets and brochures. Periodically move the cart to different locations around the work site and encourage employees to take complimentary copies home and to share with others.

- Place racks of health magazines in bathroom stalls.
- Include a personal health column in the company newsletter. Check to see if your health plan has a newsletter that can incorporate some news items that are specific to your company.
- Encourage program
 participants to write personal
 testimonial and endorsement
 letters in the company
 newsletter.

ADDITIONAL STRATEGIES

- Provide accessible water fountains or water coolers to encourage employees to hydrate at the work site.
 Distribute flyers to inform employees of the benefits of hydration.
- Convert a 10-by-10-foot (3-by-3 meter) area into a personal health kiosk, a self-contained screening and resource module equipped with an automatic blood-pressure cuff, weight scales, health brochures and other interactive resources.
- Provide a quiet room that is equipped with comfortable seating and soft music for employees to use in stressful times. Establish guidelines to ensure that it is used properly.
- Designate a period of time for employees to participate in company-sponsored health promotion activities. For example, devote the first five minutes of the work shift to stretching exercises or add 15

Services for Lactating Mothers

First National Bank (FNB) in Omaha, Neb., is a national leader in providing lactation services to its nursing employees. FNB's work site setting includes a lactation suite composed of six private nursing rooms, a refrigerator, a sink and pumping supplies. Each suite is furnished with a glider rocker, a table, a clock radio and other amenities to make working mothers feel at home.

Security and privacy are highly regarded in the lactation suite; only those with current clearance gain entry. Each nursing mother is issued an access card that allows her to enter the suite. Additionally, two outsourced lactation specialists staff the suite, coordinating registration, scheduling and training. The service is becoming more popular with new mothers each year. Best of all, nursing mothers need not worry about losing work time to spend time with their babies. Management at FNB decided that time spent in the lactation suite is well spent, and it does not have to be made up.

Source: Working Mothers. (2006). 100 best companies, 2006. (Press release).

- minutes to lunch for employees to take a walk.
- Review the company's absence policy to see if the traditional allowance of sick days can be reclassified to reflect a positive connotation.

- Offer employees with excellent attendance a financial bonus or an additional wellness day for each day their absences fall below the company average. Work with HR to ensure the policy does not discourage employees with real illnesses from seeking necessary health care.
- Establish smoke-free and safety belt policies in all company vehicles and facilities.

When planning appropriate culturebuilding strategies, also consider the demographic profile of your workforce. For example, women now make up more than 50 percent of America's workforce, with considerably higher representation in health care, education and financial services. In realizing the unique challenges that millions of women face in balancing the demands of work and family, progressive-minded employers have established femalefriendly policies, programs and work site cultures. One of the most visible examples of this cultural awakening is seen in the growth of work site lactation services and programs for working mothers.

Of course, building a healthy organizational culture cannot be done in a day—or even in a few weeks or months. Building a healthy culture takes time and is best done gradually. Programs implemented too quickly often vanish as quickly as they appear. Gradual change is much more reliable. Large-scale or new programs should not be sprung on employees all at once. Small, gradual changes can foster a health-sustaining culture, whereas big, sweeping changes are usually met with resistance.⁵⁷

While specific types of policies such as workplace safety and smokefree policies have enhanced the health of many work site cultures, it is important to consider the appropriateness of policies in your particular workplace.⁵⁸ What formal policies could be revised to align more effectively with your employee wellness goals? And what new or revised policies can stimulate and enhance healthier environmental and cultural norms? These questions should be addressed as you craft a strategic plan for improved health and work behavior outcomes.

CREATING HEALTH AND WORK BEHAVIOR POLICIES

By and large, the scope and type of company policies reflect an organization's philosophy about and commitment to the health and overall well-being of its employees. What types of policies does your organization currently have in place with employee health and work behavior implications? Many work sites have smoke-free, preemployment and incident-based drug testing, sick leave, personal leave, disability, safety, return to work, health care benefits and vacation policies designed to influence work behavior practices. For example, policy-driven norms relevant to smoke-free and safe work practices are particularly strong influences on work site behavior.⁵⁹ In addition, flexible working arrangements such as flextime and telecommuting have been shown to improve various employee health status indicators

such as blood pressure, fatigue, sleep quality and mental health.⁶⁰

HEALTH BENEFITS

Of all the policies that most employers currently provide, health care benefits are arguably the most financially and politically challenging in today's economy. Certainly, today's hot-button on the health benefits dashboard centers on the recently enacted Patient Protection and Affordable Care Act of 2010. Although all of the provisions of the Act may not withstand current appeals, some employers already are downsizing their health plans, shifting more costs and purchasing responsibility to employees or dropping health coverage altogether. Yet, despite today's contentious and uncertain political environment, there are reports indicating that a growing number of small businesses are actually purchasing employee health plan coverage for the first time.61 In the meantime, larger employers are trying all types of cost-containment strategies in order to affordably retain their health plans. Companies are reporting varying levels of success through their efforts. The most successful efforts indicate a combination of tactics is necessary: financial incentives, effective communication, health and productivity program, metrics, and quality improvement initiatives.⁶²

Consumer-directed health plans.

Amidst these cost-containment strategies is a gradual but noticeable growth in consumer-directed health plans (CDHP). In fact, more than 60 percent of large organizations

Building a Culture of Wellness at Baptist Health South Florida

Baptist Health South Florida's employee wellness program, Wellness Advantage, was created in 2000. It has been recognized by the National Business Group on Health, the Wellness Councils of America (WELCOA), the American College of Occupational & Environmental Medicine, and the Centers for Disease Control & Prevention (CDC) as one of the top employee wellness programs in the nation.

The vision of Wellness Advantage is to have the healthiest workforce in America, and the company is making great strides to achieve that goal. For example, the number of employees with diabetes, hypercholesterolemia and hypertension has dropped, as has the number of smokers. In addition, employees with a moderate or high level of risk factors participate in the disease management program, Health Check, which has resulted in measureable health status improvements and a positive return on investment.

Baptist Health has created a culture of wellness. Employees have access to eight on-site fitness centers with fitness specialists and an exercise physiologist to help employees reach their goals. Discounted personal training and fitness assessments are available to all members, along with free fitness orientations. Open houses are held twice a year at each fitness facility to provide a fun way for employees to get to know the staff and learn more about the program. Classes such as boot camp, urban training, walking and circuit training are available throughout the year. Even the application to the employee fitness center has been streamlined to create the best possible user experience. Wellness meals, hot or cold, with less than 600 calories and no more than 30 percent fat are available at all hospital dining rooms. These meals cost just \$3, including tax. Wellness meals are now the top-selling items. Small-scale interventions include "Take the Stairs! You Will Look and Feel Better" signs, which are placed at every elevator and stairwell throughout Baptist Health.

Wellness coaches coordinate biannual employee wellness fairs, where employees have free blood pressure, cholesterol, glucose, body composition and osteoporosis screenings. These data are fed into the health risk assessment for the most accurate evaluation of employees' health, as well as the organization's health. Another program that has been successful is the Weight Watchers™ powered by Peppy program; Baptist Health will pay for 50 percent of Weight Watchers membership dues for employees and a loved one. A smoking cessation program, TRIUMPH, is similarly administered and has success rates of up to 60 percent.

Courtesy of Baptist Health South Florida.

reportedly plan to adopt CDHPs by the end of 2011.63 Considering the evolving shift from employer-directed to employee-directed plans, workers undoubtedly will face new pressure to adopt a more proactive consumer mindset in order to navigate this new territory effectively. During this transition, some employers are recognizing the need to provide employees with the information, incentives and resources to cultivate a more balanced employer-employee partnership. For instance, nearly 50 percent of large employers reportedly indicate they will provide employees with more detailed benefits statements showing the financial value of health care benefits by 2012.64 Yet, a recent online survey of 1,106 working adults shows that across every age group, fewer employees report they received education about their overall benefits.⁶⁵ There appears to be a lack of consistency among employers when it comes to providing benefits information and education.

As you assess your organization's health and work behavior policies, including the employee health plan options, take some time to gauge what's working, what's not working and what employees like and dislike. Since the employee benefits package is arguably the most visible policy in your organization, it's a good place to start. After all, some research suggests that if employees perceive their employer is providing high-quality benefits education, they are more likely to have a favorable view of the workplace.66 Employees with positive opinions of their employers are more likely to engage in health-promoting actions.67

EDUCATING EMPLOYEES THROUGH INTEGRATION

Of course, providing a strong employee benefits education program is only part of the equation. There are many other policies to consider in driving better health and work behavior outcomes in your organization. Consider approaching this initiative in the context of integration, which will be more fully addressed later in this report. An integrated approach allows HR managers to strategically incorporate multiple environmental, cultural and employee health policies at the same time.⁶⁸

Combining multiple strategies into a singular theme can provide an efficient way to cultivate good health, consumerism and responsible work behavior. For instance, The Quaker Oats Company was one of the first companies to develop an integrated approach in the early 1980s, when it launched its Health Incentive Plan (HIP). The original framework of HIP consisted of (1) an employee wellness program ("Live Well, Be Well"), (2) printed employee benefits information, including a detailed annual summary of health care benefits, (3) a health care consumer education program called "Informed Choices," (4) a printed directory of local hospital costs for selected health care procedures, (5) a companyfunded health expense account for employees, and (6) a market-driven corporate health plan budget that directly influenced the cost of employee benefits in the following year.⁶⁹ In the 1990s, the company revised the plan around a more

flexible benefits approach and added healthy lifestyle cash incentives for things like aerobic exercise, use of seat belts while in automobiles, no tobacco, no alcohol abuse and no drug abuse. All flexible benefit credits are granted under the honor system.

The original benefits plan has been transformed several times over the past two decades. However, the current employee health plan at Quaker Oats remains on the timetested platform that appropriate policies and positive incentives linked with cash rewards place employees and their families in active roles as managers and keepers of their own best interests and health. A 10-year evaluation of this integrated program showed that more than 90 percent of all employee health status indicators improved, hospital admissions and days per 1,000 covered lives declined by almost 50 percent, and annual increases in company costs averaged 7 percent per year.⁷⁰ In essence, this example illustrates the power of integrating customized strategies to generate health and financial benefits for all parties.

Many companies have adopted key portions of the HIP model to drive high-performing health and work behavior outcomes. The next two sections of this report will address the role of incentives in developing an integrated approach to drive health and work behavior outcomes.

INCENTIVES

In order for any organization to achieve its health management

goals, it must generate and sustain employee engagement in health, consumer education and risk reduction programs.⁷¹ To that end, some employers are actively taking actions to boost program participation by offering a greater variety of (and more expensive) incentives. For instance, a research survey of 147 mid- to large-size companies in various industries found that financial incentives averaged \$460 in 2010, substantially more than the \$260 in 2009.⁷²

Some surveys suggest gift cards are the most popular incentive, closely followed by premium discounts and financial incentives, and then merchandise such as T-shirts, coffee mugs and the like.⁷³

HR managers should consider the use of incentives after answering the following questions:

- 1. What kind of participation and behavioral changes can realistically be achieved with incentives?
- 2. What types of incentives motivate and sustain employee participation?
- 3. What types of criteria should employees meet to earn an incentive?
- 4. What level of financial incentive generates the greatest impact?
- 5. When is the best time to use specific types of incentives?
- 6. What is the best way to administratively structure incentives?

Most employers currently offering wellness programs are using

incentives to drive employee participation, and nearly two-thirds of them are offering financial incentives.⁷⁴ A nationwide benchmarking study of work site wellness programs concluded most employers use some sort of incentive: 81 percent for engaging in some wellness activity, such as completing a health risk assessment, and 62 percent for successfully completing a behavior change.⁷⁵

The type and value of an incentive can affect HRA participation,⁷⁶ and without an incentive, you can expect only 10 percent to 15 percent of your employees to engage in a health risk assessment (HRA). Yet, generating high HRA participation is vital to drive better employee health outcomes.⁷⁷

Although incentive offerings vary, some research suggests HRA participation levels may be increased as much as 11 percent for every \$100 increase in financial incentives and can achieve maximum participation rates at \$600.78 Yet, other research suggests lower dollar incentives (about half the preceding amount) can achieve favorable HRA participation rates.79

When incentives fail. Although financial incentives can significantly affect participation and adherence in a health promotion program, this is not universally true across all types of programs. In fact, financial incentives often fail to drive substantial participation and adherence rates in smoking cessation and weight management programs. Moreover, there is no conclusive evidence that incentives promote long-term behavior change

in any health-related behavior.⁸¹ Thus, without some assurance that incentives can reliably drive long-term behavior change, it's important to realize that incentives alone, regardless of the financial level, are not a solution to an organization's health and work behavior challenges.⁸²

Choosing the right incentive.

Some research suggests financial incentives are particularly popular among young, minority and lowwage-earning employees, and ongoing cash rewards may not be financially sustainable and/or scalable, especially in the current economic climate. Compared with non-financial incentives such as merchandise, employees tend to consider cash as having less residual value, remembering it for the shortest period of time. And of course, cash is taxable.83 Gift cards also may involve service fees in addition to the cash value of the card and may be retailer-specific, which limits redemption options. In contrast, non-financial incentives such as T-shirts, water bottles and gym bags can be fun and useful in certain scenarios. However, they are not the most effective way to motivate someone to engage in an HRA or a follow-up program. In fact, they are often more effective when used to spike interest for special events such as fun runs, health fairs and other wellnessrelated events.

Overall, there is no single incentive or reward that will meet the eclectic needs of your employees. Before deciding what perks to offer, survey your employees about what type of incentives would motivate them. A relatively simple approach is to formulate a list of incentives that are affordable and approved by senior management and ask employees to rank the top five.

Incentives and work behavior.

Although most of the incentive research published on corporate health management has centered on HRA participation rates and employee health status, it is important to consider the impact incentives can have on work behavior. For instance, some research suggests a combination of financial and non-financial incentives have the greatest effect on workers' productivity.⁸⁴

The right incentive system—a blend of financial and non-financial incentives—in conjunction with quality wellness programs and a healthy work site culture can generate valuable business results.

STRUCTURING AN INCENTIVE PLAN

One of the most challenging aspects of designing an effective wellness incentive system is to establish reasonable and achievable incentive standards. Most workplaces offer wellness incentives to drive employees toward HRA and program participation. However, a growing number of work sites are designing employee wellness incentives to motivate lifestyle changes that will lead to healthier and more consumer-savvy workforces.⁸⁵

Many employers structure employee wellness incentives within the

health benefits portion of the comprehensive employee benefits plan. Providing an incentive linked to benefits design is potentially powerful. Employees recognize this as a clear value. It is a strategy that also can help offset costs for the employer by shifting higher contributions to employees who are not participating in the health promotion program, thereby paying, at least in part, for the expenses related to the programs being implemented.⁸⁶

There are various ways in which incentives can be structured. First, participation in a program or completion of an HRA can be linked to benefits as a prerequisite for health insurance eligibility. Second, a reduction in the health insurance premium contribution may be offered. Alternately, the benefits plan may be adjusted by providing a reduction in the health insurance deductible or co-payment. For example, employees who complete an HRA and a work site wellness program in year one can receive a \$50 reduction in their annual deductible or co-payment, or a premium reduction of \$15 per month (\$180 annual value) in year two.

One of the first companies to adopt a reduction strategy was Johnson & Johnson. After the company began offering a \$500 annual health insurance premium discount for participating in a wellness program, participation rapidly increased to 90 percent. Although many organizations cannot afford a financial incentive at this level, they can still achieve successful participation levels at lower rates, especially if they provide

regular communications to inform employees of the incentive plan and use a variety of employee-valued communication channels, such as e-mails, posters and pay stub inserts.⁸⁷

Rewards criteria. HR and benefits managers should carefully establish appropriate criteria for employees to meet in order to earn incentives. Organizations are more likely to reward HRA completion and program participation than to reward achievement of specific goals, such as smoking cessation or weight loss. However, more employers are tightening up their qualification standards, despite having to consider legal implications. Whatever incentive structure is designed, it is vital to establish the incentive on the primary behavior of interest. Standard questions to address when selecting the incentives include:

- Is it realistically achievable?
- Is the performance level based on scientific evidence?
- Are incentive-targeted programs easily available to employees?
- Is there a system in place to provide regular feedback to employees?

Some of the more common health status indicators used by employers as a basis to set minimum criteria are that employees should:

- Not use any tobacco products.
- Not use any illegal drugs, chemicals or substances.

- Use alcohol in moderation, if at all, and not drink and drive.
- Use automobile seat belts 100 percent of the time.
- Weigh within 15 percent of the desired weight or have a body mass index of less than 28.
- Maintain a cholesterol level of less than 200 or a total-to-HDL ratio of less than 4 to 1.
- Maintain a blood pressure reading below 130/85.
- Engage in moderate physical activity for a minimum of 30 minutes per day most days of the week.

In many cases, employees are required to meet only a minimum number of specified health status indicators (6 out of 8, for example) to qualify for an incentive. Another incentive option is to assign a designated dollar amount (\$50 per year, for example) that can be earned for each health status indicator that is achieved. For individuals who cannot achieve any of the preceding health indicators because of factors beyond their control, a provision can be made for employees to earn the incentive by meeting minimum participation or effort guidelines.

POSITIONING INCENTIVES TO DRIVE PARTICIPATION AND HEALTH EFFECTS

Virtually all incentives, including financial perks, eventually lose their perceived value.⁸⁸ In general, incentives tend to drive higher participation rates in one-time events than in short-term wellness competitions or ongoing programs. For example, a survey of 50

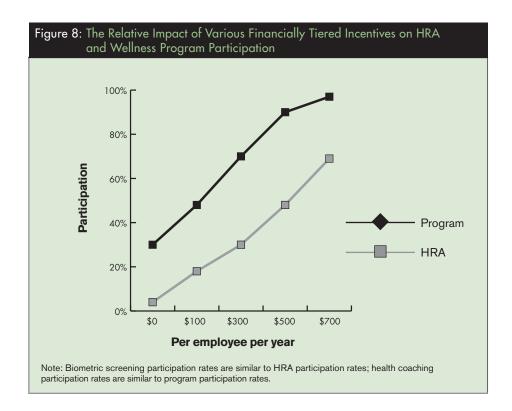
work site wellness survey programs showed that increasing the level of financial incentives results in higher employee participation. ⁸⁹ In general, comparably valued financial incentives drive HRA participation rates two to four times higher than wellness program participation rates (see Figure 8). ⁹⁰ When asked for their recommendations on incentive design, surveyed respondents offered the following suggestions:

- Provide a variety of incentives.
 This is more effective in sustaining long-term employee participation.
- If offering financial incentives, start with a modest allocation per employee (\$100 per year) that can be gradually increased, if needed, to boost or maintain participation.

- Regularly monitor the impact of existing incentives on participation.
- Revise the incentive mix when participation levels initially drop, rather than waiting until participation rates have substantially deteriorated.
- Always consider the type, level, variety and timing of incentives when planning your program.

LEGAL CONSIDERATIONS

There are several legal factors to consider when establishing a wellness incentive plan. It is important to comply with several federal laws, most notably the Americans with Disabilities Act (ADA), the Health Insurance Portability and Accountability Act (HIPAA) and the Genetic Information Non-



Discrimination Act (GINA). Although these acts are not always interpreted in the same way by corporate counsels, there is nothing in any of these regulations that prohibit employers from designing incentives in conjunction with a health plan for healthy behavior and even health improvement. If you follow the five-part exception to the HIPAA nondiscrimination rule, you can provide incentives for education and for improving health status indicators ranging from blood pressure to body weight. In particular, any wellness plan incentives or penalties are legally subject to the five-part exception to the rules⁹¹ (see "Wellness Program Rules" below).

KEY CONCEPTS TO CONSIDER IN GOING FORWARD

 Think of incentives as a tool to stimulate change that should be used in conjunction with quality health promotion programs.

- A healthy work culture and employee-focused communications are essential for incentives to work.
- One size doesn't fit all. Provide a variety of incentives based on employee preference, administrative feasibility and affordability.
- Incorporate financial incentives on a graduated basis to avoid promising more than your organization can deliver.
- Regularly monitor employee participation and impact to determine if, and when, to alter the incentive mix.

WORK SITE WELLNESS PROGRAMMING

Treating employees with respect and care is not just the right thing to do, it's also good business. An organization's culture conveys the level of this respect via its programs, policies, compensation, benefits and practices. Wellness programs have the potential to contribute to such a culture. However, in order to do so, wellness programs and activities must be created with employees' needs and interests in mind. That may be challenging for many American companies. A recent poll indicated the primary reasons for offering employee wellness programs are to:

- 1. Reduce/contain employee health care costs.
- 2. Improve productivity.
- 3. Reduce employee absenteeism.
- 4. Improve employee morale.
- 5. Further organizational values.92

Notice that only the fourth reason considers the employee's interests and needs. Furthermore, no organization can expect to achieve its health management goals without offering a comprehensive wellness program. Table 8 lists common denominators in any comprehensive program.⁹³

Wellness Program Rules

- 1. The program must be reasonably designed to promote health or prevent disease.
- 2. The incentive or penalty cannot exceed 20 percent of the cost of employee-only health care coverage; starting in 2014, this rate increases to 30 percent.
- 3. The program must give eligible individuals the opportunity to qualify at least once a year.
- 4. There must be a reasonable alternative standard to obtain the reward for any individual for whom it is unreasonably difficult due to a medical condition, or medically inadvisable, to satisfy the standard.
- 5. The plan must disclose program terms and conditions in all printed or online materials.

KEYS TO WELLNESS SUCCESS

Today, more than 80 percent of America's businesses with 50 or more employees offer some form of employee wellness program or activity. Approximately one-half of all participating companies report that their wellness programs are not achieving targeted goals. 4 So, what does it take for a work site wellness program to be successful? A recent survey of work site wellness programs with high-performance track records indicated the following keys for success: 95

Table 8. Common Features of a Comprehensive Work Site Wellness Program		
Program Elements	Operational Features	
Health education	Health coaching (person-to-person, telephone or Internet)	
	On-site wellness manager	
	Telephone health line	
Supportive social and physical environments	In-house health management center	
	Volunteer health teams and discretionary program budget	
Integration of the program	Health scorecard integrated with business goals	
Linkage to related programs	Cross-functional team (wellness, benefits, EAP) for strategic health-promotion planning	
Screening programs	Reduction of cost and access barriers to preventive screenings via benefits plan	
Follow-up interventions	Benchmark health data to set short- and long-term objectives to reduce at-risk behavior	
Evaluation and improvement process	Evaluation of return on investment (ROI) on selected interventions	
	Integrated data warehouse	
	Measurements of presenteeism for selective health conditions (arthritis, diabetes, etc.)	

- Multi-level leadership. Leadership and support for employee wellness at all levels is provided.
- *Alignment*. The wellness program is a natural extension of a firm's core values and aspirations.
- Scope, relevance and quality.
 Programs are comprehensive, employee-focused and of high quality.
- Accessibility. Low or no-cost services and on-site availability is offered.
- Partnerships. Active, ongoing collaboration with internal and external partners is encouraged.
- Communications. Wellness is not just a mission, it's a message.
 Sensitivity, creativity and media diversity are the cornerstones.

Each of these factors merit individual and collective consideration in designing a successful work site wellness program. ⁹⁶ In fact, organizations reporting the best employee health improvement and cost containment over the past four years credit much of their success to a variety of programming, communication, informational and collaborative strategies. ⁹⁷ Compared with average performing work site wellness programs, the most successful programs were:

- 92 percent more likely to provide managers and/or senior leaders with regular reports using health and productivity program utilization metrics.
- 80 percent more likely to develop integrated vendor systems to

- improve information delivery to employees and dependents.
- 77 percent more likely to offer healthier food options in cafeteria/vending machines.
- 30 percent more likely to engage and support employees to serve as wellness champions/advocates.
- 24 percent more likely to provide employees with personalized reminders about health screenings and other preventive protocols.
- 20 percent more likely to provide employees with information on health care costs and ways to manage these costs.
- 19 percent more likely to provide tools to help employees develop a consumer-oriented approach to managing their own health.
- 15 percent more likely to educate employees on how to be more informed and active consumers of health care.

Although the preceding distinctions are generally traced to medium- and large-sized organizations, many of these characteristics are evident in smaller work sites as well. (See the R.E. Mason Company case study.)

Population health management.

Given the variable health needs and interests of today's workers, it's easy to understand the importance of providing high-quality, comprehensive, employee-focused wellness programs in order to drive participation across your entire workforce. This organizational approach, known as population health management, is often used to assess employee risk and cost migration changes that frequently occur in many

R.E. Mason Company: Using an Integrative Buy-in From All Stakeholders

The R.E. Mason Company in Charlotte, N.C., has a long track record of providing a successful wellness program to its 100 employees. In fact, over the past two decades, the company has earned statewide awards for its outstanding work site wellness efforts.

In addition to programs initiated by the HR director and the president, activities for health promotion are developed and implemented by a committee of employees from various departments. Before an activity is launched, the committee seeks final approval from the HR director and the president to assure budgets are considered and that work time and productivity are not adversely affected. All managers and employees are reminded of healthy living and of the company's commitment to health and wellness through various avenues, including:

- Employee newsletter articles.
- Information posted on the intranet site and on bulletin boards.
- · Annual health screenings.
- · Annual health fairs.
- Weekly exercise classes held in the workout room.
- A healthy snack program.

Incentives encourage employee participation in wellness activities. Payroll deductions for health insurance premiums are reduced if employees participate in annual health screenings. The current health insurance carrier allows employees to log into its web site to enter weekly points for healthy eating and exercise to earn gift cards and other prizes. Company contests and activities also offer a variety of prizes for participation.

R. E. Mason continually encourages employees and their families to be good consumers of their health care benefits, as a way to reduce both out-of-pocket costs to employees and costs to the plan. Because a focus on prevention is paramount, the company encourages all employees to pursue preventive health care services, to exercise and eat right, and to stay focused on leading a healthy lifestyle.

Courtesy of R.E. Mason Company.

work sites.⁹⁸ In one large-scale study of 356,275 employees, researchers tracked workers to see what level of risk migration and cost migration occurred over a three-year time frame. They found nearly 5 percent of the employees migrated to different risk levels, but more than 34 percent migrated to different cost levels.⁹⁹ These findings show that health risk levels can change in a relatively short period of time and even minor changes in health risk levels can significantly alter cost patterns.

Some level of health risk permeates all sectors of a workforce, so wellness programs must be targeted to reach as many employees as possible in order to generate wide-scale health and work behavior effects. 100 Some research actually shows that the costavoidance benefits of keeping low-risk employees at low risk may be greater than cost-savings from risk factor reductions among medium- and highrisk employees. 101 Simply put, one of the most effective wellness-based cost containment strategies is to keep low-risk employees at low risk.

WELLNESS PROGRAM FEATURES THAT WORK

Over the past two decades, the trend for work site wellness has shifted away from facility-based fitness centers to a broader array of informational, educational and motivational programs and activities. ¹⁰² This holistic approach is designed to promote the physical, mental, emotional, social and spiritual aspects of a person's health. Nowadays, it's not uncommon to find wellness programs that include financial wellness seminars, virtual fitness prescription and tracking programs, yoga/meditation

breaks, medical consumerism, departmental competitions, personal health coaching, "boot camps" and other employee-centric activities. In fact, a large international survey recently found that innovative and award-winning work site wellness programs have a holistic approach that addresses psychosocial and individual health issues.¹⁰³

Today's wellness programming efforts rely on a combination of low-tech and high-tech delivery systems. Employers are increasingly looking for ways to incorporate an on-site presence into their wellness programs. Whether through the use of wellness coordinators, health coaches or fitness centers, onsite programming that meets the specific needs of the workforce can bring added value and outcomes to employees and to an organization. It is important to include employee representation in as many aspects of program selection and programming as possible. Wellness programs cannot be billed as "employeefocused" if employees' input is not solicited and applied.

FINDING THE RESOURCES

All work site wellness programs require some level of resources—personnel, equipment and facilities—to drive and sustain initiatives.

Yet many work sites don't have readily available resources. But even short-handed firms can usually fill these gaps by identifying and using appropriate resources where and when needed. There are literally hundreds of wellness vendors and associations that offer products,

MD Anderson: Teamwork Generates Results

The employee wellness program at MD Anderson Cancer Center in Houston, Texas, is strategically a part of an integrated Employee Health & Well-being team composed of Employee Health, Employee Assistance and Wellness. This integrated approach has led to many innovative programs and cost savings. A good example is the workers' compensation and injury care unit. Staffed by a physician and nurse case manager, the unit has taken advantage of the integrated team and within six years has reported lost work days declining by 80 percent and modified duty-days by 64 percent. This resulted in a savings of \$1.5 million, and workers comp insurance premiums declined by 50 percent.

The wellness program is staffed by five wellness coaches that have developed a high-touch/high-tech department-focused model that touches between 1,200 and 5,000 employees each month. MD Anderson is located within the Texas Medical Center and has 18,000 employees representing more than 1,000 different departments. The delivery model focuses on sustaining a culture of health in all the different departments, giving ownership to local leaders and employees. Within the MD Anderson system there are 60 different languages spoken, which adds to the culture of health challenge. Institutionalizing a culture of health was impossible unless the ownership was truly at the departmental level.

Many unique programming ideas and implementations have helped move the program forward and keep up the momentum necessary to build and sustain a culture of health. Because the 24/7 hospital is a high-stress environment, 50 percent of the wellness coach teaching is in the area of relaxation or stress management. Wellness has developed many departmental classes and short stress breaks that have provided employees with techniques to de-stress during the day. There are also Stress Buster Stations set up around the institution that include an elliptical, strength chair and Precor Stretch Trainer. Hundreds of employees use these areas each day.

Employees in big systems can lose their sense of community, so the wellness program works hard to provide many different support groups. The center offers traditional running, walking and bike clubs, and has 10 lactation rooms that support more than 225 women each week. Simple Change groups composed of three to five employees focus on a specific behavior change. A wellness coach is assigned as a group facilitator, and for 4 to 8 weeks they meet once a week and work to support each other. The data from these groups are impressive, with 80 percent of participants successful in meeting their goals and 40 percent of the groups selecting to stay together when the program officially ends. In essence, MD Anderson's Be Well wellness program is a good example of a program that successfully addressed a big system challenge by breaking it into small doable steps.

Courtesy of MD Anderson Cancer Center.

tools and services ranging from health risk assessments to reward programs.

Although there are some excellent resources available on state and federal government websites for little or no cost, most other resources do involve a cost. It pays to carefully review each of your options to determine your best course of action. In addition, there are various journals and magazines that cover work site wellness issues. Here's a sampling of work site wellness associations and publications and their websites:

- American College of Sports Medicine: www.acsm.org
- American College of Occupational & Environmental Medicine: www.acoem.org
- Corporate Wellness magazine: www. corporatewellnessmagazine.com
- Employee Benefit Adviser: http://eba.benefitnews.com/
- Health Promotion Practitioner: www.hesonline.com
- HR Magazine: www.shrm.org
- Institute for Health & Productivity Management: www.ihpm.org
- Integrated Benefits Institute: www.ibiweb.org
- International Association of Work site Health Promotion: www.acsm-iawhp.org
- National Wellness Association: www.nationalwellness.org

• Wellness Council of America: www.welcoa.org

ENGAGING AND MOTIVATING EMPLOYEES TO ACT

What does it take to successfully engage more employees in work site wellness programs? A recent survey of nearly 200 HR leaders found three factors to be statistically significant predictors of high employee engagement:¹⁰⁴

- Employers that set measurable engagement goals experienced 63 percent higher engagement rates, regardless of whether the goals were achieved, compared with employers who did not set goals.
- Employers that provided incentives in any amount averaged engagement rates twice as high as those employers that did not provide any incentives.
- Employers relying primarily on an independent health and wellness vendor experienced 83 percent higher engagement rates across core programs than did employers relying on health plans as their primary health and wellness provider.

Supervisors also influence the level of employee engagement in wellness programs. ¹⁰⁵ In many work sites, supervisors have the opportunity to adapt work schedules and staffing arrangements to accommodate employee participation in wellness programs, seminars and other activities. So it is important to

inform, educate and motivate supervisors and other middle managers about the role they can play to support these initiatives.

Ecological perspective. Overall, wellness interventions are more likely to be effective if they incorporate an ecological perspective. 106 That is, they should target not only individuals, but also interpersonal, organizational and environmental factors influencing health behavior. One of the best examples of a successful employee health promotion program built upon leveraging the collective power of these factors is a competition launched by Wegman's Food Markets in Rochester, N.Y.¹⁰⁷ The competition was conceived in 2003 as a simple idea to improve employees' health and fitness by challenging them to eat five cups of fruits and vegetables and walk at least 10,000 steps a day. The competition pitted department against department and store against store, with results published weekly and prizes awarded to winners. Two years later, the program was so popular that Wegmans recruited six other Rochester-based employers, along with the Rochester Business Alliance, to join the campaign. In the past four years, more than 125,000 employees from more than 300 organizations have participated, walking more than 49 billion steps and consuming more than 20 million cups of fruits and vegetables.

Individual factors. Some of the most powerful predictors of health behavior are individual factors such as personality traits, social support,

family functioning, ongoing contact with health care providers and social network. ¹⁰⁸ In fact, lifestyle change interventions are more effective when others close to the individual are included in the intervention. Therefore, work site wellness programming should include:

- Individual health risk assessments.
- Gender-specific programming.
- Couples-specific programming.
- Family-targeted programming.
- Health and life coaching.

Motivation. Once employees initially engage in targeted wellness programs, it is essential to keep them actively engaged over the long term in order to generate a favorable return on investment. Of course, engaging employees to actively commit to work site wellness programs and activities is challenging. Moreover, simply learning that a health risk exists will not prompt an employee to take action. Once employees to change.

In realizing how difficult it is to motivate employees to participate in work site wellness programs on a consistent basis, many wellness professionals have incorporated the stages of change or "readiness to act" model into their programming efforts. The notion of readiness to change has been examined in health behavior research and found useful in explaining and predicting changes in several health-related areas such as smoking, physical activity and eating habits.¹¹¹ The model includes the following six stages:

- 1. *Pre-contemplation:* A person has not considered doing any healthenhancement action.
- 2. *Contemplation*: A person is considering action, but has not yet acted.
- 3. *Preparation:* A person has intentions to act soon and is planning a course of action.
- 4. *Action:* A person is actively participating.
- 5. *Maintenance*: A person has been participating for at least six months and has been working to prevent a relapse.
- 6. *Adoption:* A person has changed and will not return to unhealthy habits.

It's important to structure resources for all employees at all levels. Far too often, wellness practitioners assume that persons in the action, maintenance and adoption stages will automatically continue to be loyal participants in their programs, only to be surprised when these "diehards" end up on the sidelines because of an injury, work-related changes, greater family demands, boredom or other unforeseen circumstances.

Despite the popularity of the stages of change model, some research suggests that this particular stage-based approach is not always effective in facilitating real behavior change. One of the major criticisms is that individuals don't always sequentially migrate from one stage to a subsequent stage; people can skip some stages, regress and so forth. Nevertheless, the stages of change model can be used effectively

to understand why employees might not be ready to attempt behavior change.¹¹³

Coaching as a strategy. In realizing the need to tailor their motivational efforts around the diverse needs and interests of employees, wellness practitioners are using high-tech and low-tech strategies to reach more workers. In our high-tech society, one of the fastest-growing motivational strategies used by many wellness professionals is actually a low-tech phenomenon called coaching. In fact, coaching is one of the most common venues in which the stages of change behavioral model is being used. Personal and group coaching, long used by executives and elite athletes to boost performance, now has moved into the realm of health, fitness and wellness. The International Coach Federation (ICF) defines coaching as an ongoing professional relationship that helps people produce extraordinary results in their lives, careers, businesses or organizations. Through the process of coaching, clients (employees) deepen their learning, improve their performance and enhance their quality of life. Coaching accelerates the client's progress by providing greater focus and awareness of choice. The interaction creates clarity and moves the client into action. Major features of health coaching include all of the following:

- *Health assessment:* To establish a baseline on the client.
- Assessment data review:
 To establish an outline of procedures to use in guiding the initial sessions.

- Initial coaching session: For the coach and client to discuss and assess the client's readiness to act and ways to proceed.
- Follow-up coaching sessions:
 To assess the client's current status, recent progress and ways to continuously improve.

The most common health coaching format used today is the face-to-face approach. However, telephone- and computer-based health coaching services often provide a convenient way for some organizations to offer accessible health coaching services. Telephone-based coaching works well for work sites in multiple locations or with a small number of employees in a single location.

In considering various types of wellness delivery methods, research all options to ensure the right fit for your target population.¹¹⁴ Build in a system to regularly monitor how well you are reaching your workforce and meeting your goals.¹¹⁵

INTEGRATING EFFORTS TO DRIVE HEALTH MANAGEMENT OUTCOMES

As mentioned several times throughout this report, HR and wellness leaders must develop a plan to incorporate wellness into the company's operating strategy and align it with the organizational culture. With rare exceptions, wellness practitioners with high-performing programs credit much of their success to integration—the ability to create, forge and sustain collaboration of key personnel and resources toward

common goals.¹¹⁶ This is particularly true in multi-site, medium- and large-size firms. The greatest influence on the overall success of your organization's health management performance is the collective ability of HR, benefits, wellness, safety, medical and other managers to work together.

HR directors and wellness personnel should simultaneously explore potential integrated strategies to align your organization's culture, health benefits, wellness programs, policies and incentives. 117 Ask whether each of these factors is consistently encouraging and supporting a healthy and productive workforce.

HEALTH DATA AND AN INTEGRATED HEALTH DATA MANAGEMENT SYSTEM (IHDMS) FRAMEWORK

A good starting point in assessing your integration efforts is to review health and work behavior data.

- What type of data currently exists?
- Who is responsible for tracking it?
- Does it exist in an independent database or department?
- Is it part of an integrated system?

Organizations reporting the best health care cost containment outcomes tend to use various types of in-house data to strategically make health and work behavior decisions. ¹¹⁸ In doing so, they often rely on integrated health data management systems (IHDMS) to understand the inter-relationships that may exist between various

types of data. Figure 9 illustrates a sample IHDMS framework. Although IHDMS frameworks were initially established by several large organizations in the 1980s, these computerized dashboards are becoming more popular, even in medium-size organizations, as developmental costs are becoming more affordable with today's technology.¹¹⁹

IHDMS frameworks are ideally suited for organizations that need to consolidate various "silos" of data into a single network to study trends, gaps and opportunities for action. In the absence of an on-site IHDMS, decision-makers should consider developing some type of data-sharing network as a part of their overall health management strategy.

An IHDMS or alternate data-sharing approach provides a venue for HR and other health managers to share data to enhance strategic planning. The key is to convert data into strategic information that you and other decision-makers can confidently use in planning and implementing effective, employee-valued programming, policies and incentives.

STRATEGIC CONSIDERATIONS

As the range of strategies driving today's health and work behavior outcomes continues to expand on a daily basis, it's impossible to know all of them. Some of the most important are listed in Table 9. Although not comprehensive, this table should provide some ideas and concepts to enhance your health management efforts.

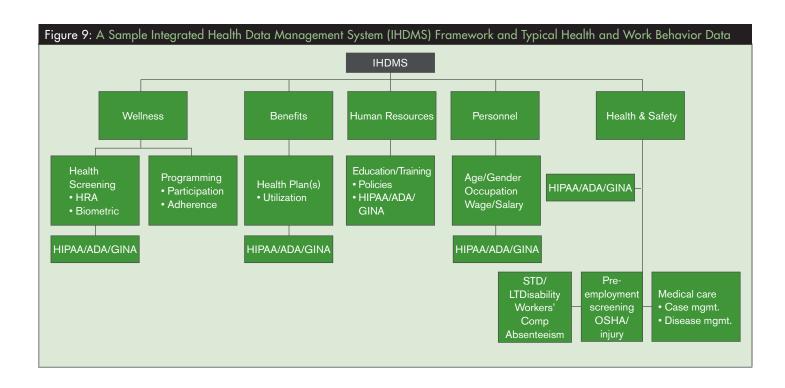


Table 9: A Sample Organizational Health Management Strategic Framework						
Strategic Dimension	Health and Work Behavior	Cost Management				
Wellness Programs	Aligned with company operations and vision Visible senior and middle-management support Individual and small-group options Clearly delineated goals Low/no cost Readily available Personalized coaching available HRA data supplemented with biometric screening data	Consumerism and medical self-care education and tools for employees and dependents Risk factor prevalence rates are regularly monitored to determine targeted risk reduction efforts				
Health Benefits Plan	Waived co-pays for maintenance medications	CDHP with focus on preventive care On-site clinic				
Policies	Smoke free; drug free; safety; healthy food options Women's needs (lactation, etc.) HIPAA, ADA and GINA compliant Flex-time and telecommuting, when feasible					
Culture	Healthy work environment: clean and safe Accessible stairways Healthy food options					
Incentives	Financial and non-financial Employee-valued: customized and varied Program participants earn health insurance discount Based on established participation guidelines	Cost savings used to reduce/contain employees' out-of-pocket health insurance premium				
Communications	Various distribution channels used	Major theme of "shared responsibility" Quarterly updates to employees and managers on health care cost performance				
Data Collection	IHDMS framework in place Build evaluation into programming Identify health and productivity correlations (e.g., risk factor prevalence and presenteesim) Integrated biometric screening data and medical claims data	Health care utilization and cost patterns monitored semi- annually				

CONCLUSION

In today's competitive business environment, it is critical for organizations to step forward and invest in human capital. As the research shows, an organization's health and prosperity are directly influenced by the health and well-being of its employees. Using the tools, techniques and resources outlined in this report, you can create a healthier, more engaged and more productive workforce. With some creativity and innovative planning, HR professionals can make the health and work equation add up to a higher performing and more prosperous organization.



"Employee health status directly influences employee work behavior, work attendance and on-the-job performance. Developing healthier employees will result in a more productive workforce."

REFERENCES

- ¹ CNW. National wellness survey shows Canadian organizations investing in work site wellness. Retrieved from http://newswire.ca/en/releases/archive/September2009/30/c2024.html
- ² Boles, M., Pelletier, B., & Lynch, W. (2004). The relationship between health risks and work productivity. Journal of Occupational and Environmental Medicine, 46, 737-745. Burton, W. et al. (1999). The role of health risk factors and disease on worker productivity. Journal of Occupational and Environmental Medicine, 41, 863-877. Burton, W. et al. (2006). The association between health risk change and presenteeism change. Journal of Occupational and Environmental Medicine, 48, 252-263. Chapman, L. (2007). Proof positive: An analysis of the cost-effectiveness of work site wellness. Seattle, WA: Northwest Health Management Publishing. Chapman, L. (2005). Meta-evaluation of work site health promotion economic return studies: 2005. 2005 Update Art of Health Promotion, 1-16. Goetzel, R. et al. (2009). The relationship between modifiable health risk factors and medical expenditures, absenteeism, short-term disability, and presenteeism among employees at Novartis. Journal of Occupational and Environmental Medicine, 51, 487-499.
- ³ Towers Watson. In Conjunction with the National Business Group on Health. (2010). *15th annual employer survey on purchasing value in health care*. Tucker, L., & Friedman, G. (1998). Obesity and absenteeism: an epidemiologic study of 10,825 employed adults. *American Journal of Health Promotion*, 12, 202-207.
- ⁴ Meyer, L., & Parton, R. (2011). How to drive value creation in the C-suite. *Corporate Wellness Magazine*, 18, 1-2.
- ⁵ Huang, Y. et al. (2011). Workers' health risk behaviors by state, demographic characteristics, and health insurance status. *Preventing Chronic Disease*, *Public Health Research*, *Practice*, *and Policy*. Centers for Disease Control & Prevention. Volume 8, No. 1. Urban Transport Fact Book. *National personal transportation survey*. Retrieved from www. publicpurpose.com/ut-6995commute.htm. U.S. Census Bureau, 2009.

- People quickfacts, 2009. Retrieved from http://quickfacts.census.gov/qfd/states/00000.html
- ⁶ Families USA/Lewin Group. (2004). Americans spending more for less health care services; workers' health costs rise faster than incomes. Retrieved from http://www.businessword.com/index.php?weblog/comments1230/Kronos, Inc. (2009). Workplace tug-of-war: workers want more work employers want to control costs. The Workforce Institute.
- ⁷ Society for Human Resource Management. (2008). *SHRM* workplace forecast. Alexandria, VA: SHRM.
- ⁸ Kaiser Foundation. (2009). Kaiser/ HRET Survey of employer-sponsored health benefits, 1999-2009. Loeppke, R. et al. (2009). Health and productivity as a business strategy: a multiemployer study. *Journal of Occupational & Environmental Medicine*, 51, 989-990.
- ⁹ Phillips, B., & Wade, H. (2008, June). Small business problems and priorities. National Federation of Independent Business Research Foundation.
- ¹⁰ Unum. (2010). New research from Unum points to gaps in benefits education. *Unum Investor Relations News Release*, June 10. UnumProvident Company. (2005). Health and productivity in the aging American workforce: Realities and opportunities. Chattanooga, TN.
- ¹¹ Centers for Medicare & Medicaid Services, Health and Human Services. (2009). *National health* expenditures accounts, 1965-2017.

- Washington, D.C. Rand Corporation (2009). Current and projected health care spending. Retrieved from www.randcompare.org /current/dimension/spending World Health Organization. (2009). World Health Statistics, 2009. Geneva, Switzerland.
- ¹² McKinsey Global Institute. (2008, December). Accounting for the cost of U.S. health care: A new look at why Americans spend more.
- ¹³ Center for Healthcare Research and Transformation. (2010, July). Health care cost drivers. University of Michigan and Blue Cross Blue Shield of Michigan.
- ¹⁴ Anderson, L. et al. (2005). Health care charges associated with physical inactivity, overweight, and obesity. Preventing Chronic Disease, 2, A09. Anderson, D., Brink, S. and Courtney, T. (1995). Health risks and behavior: their impact on medical costs. Unpublished research report prepared for the Chrysler Corporation and the International UAW Union by the StayWell Company and Milliman & Robertson, Inc. Milwaukee, WI. Anderson, L. et al. 2005. Health care charges associated with physical inactivity, overweight, and obesity. Preventing Chronic Disease, 2, A09. Chenoweth, D. (1989). Nurses' Intervention in specific risk factors in high risk employees. AAOHN Journal, 37, 367-373. Goetzel, R. et al. (1998). The relationship between modifiable health risks and health care expenditures: an analysis of the multi-employer HERO health risk and cost database. Journal of Occupational & Environmental Medicine, 40, 843-854. Henke,
- R. et al. (2010). The relationship between health risks and health and productivity costs among employees at Pepsi Bottling Group. Journal of Occupational and Environmental Medicine, 52, 519-527. Pronk, N. et al. (1999). Relationship between modifiable health risks and shortterm health care charges. *Journal of* the American Medical Association, 282, 2235-2239. Yen, L. et al. (2001). Changes in health risks among the participants in the United Auto Workers-General Motors lifesteps health promotion program. American Journal of Health Promotion, 16, 7-15.
- 15 Huang, Y., et al. (2011). *Urban* transport fact book. U.S. Census Bureau. (2009). Kessler, R., et al. (2008). The prevalence and correlates of workplace depression in the national co-morbidity survey replication. *Journal of Occupation* & Environmental Medicine, 50, 4, 381-390.
- Chenoweth, D. (1997). Claims Data analysis: Getting what you ask for. AWHP's Worksite Health, 4, 40-43. Chenoweth, D., & Hochberg, J. (2009). Using claims analysis to support intervention planning, design, and measurement. ACSM's Worksite Health Handbook, 2nd Edition. Nico Pronk (editor), 175-181.
- 17 Ibid.
- ¹⁸ Be Active North Carolina, Inc. (2008). Tipping the scales: how obesity and unhealthy lifestyles have become a weighty problem for the north carolina economy. Morrisville, NC. California Center for Public Health Advocacy. (2009). The economic

costs of overweight, obesity, and physical inactivity among california adults - 2006. Davis, California. Chenoweth, D., & Leutzinger, J. (2006). The economic cost of physical inactivity and excess weight in American adults. Journal of Physical Activity and Health, 3, 148-163. Chenoweth, D. (2000). The Economic cost of physical inactivity in New York state. American Medical Athletic Association Quarterly, 14, 5-7. Chenoweth, D. (2004). The medical cost of high serum cholesterol in Harris County, Texas. The Journal of Texas Medicine, 100, 49-53. Chenoweth, D., Pankowski, J., Martin, N., & Raymond. L. (2008). Nurse practitioner services: three-year impact on health care costs. Journal of Occupational & Environmental Medicine, 50, 1293-1298. Christakis, N., & Fowler, J. (2007). The spread of obesity in a large social network over 32 years. New England Journal of Medicine, 357, 370-379. Devol, R. et al., (2007). The economic burden of chronic disease: Charting a new course to save lives and increase productivity and economic growth. Milken Institute. Edington, D. (2001). Emerging research: A view from one research center. American Journal of Health Promotion, 15, 344-347. Goetzel, R. et al. (2005). Estimating the return-on-investment from changes in employee health risks on The Dow Chemical Company's health care costs. Journal of Occupational and Environmental Medicine, 47, 759-768. Hodgson T., & Caig, L. (2001). Medical care expenditures for hypertension, its implications, and it co-morbidities. Medical

Care, 39, 6, 599-615. Long, A., Reed, R., & Lehmann, G. (2006). The cost of lifestyle health risks: obesity. Journal of Occupational & Environmental Medicine, 48, 244-251. MMWR Weekly. (2008). Smoking-attributable mortality, years of potential life lost, and productivity losses – United States, 2000-2004, 57, 1226-1228. Musich, S. et al. (2003). The association between health risk status and health care costs among the membership of an Australian health plan. Health Promotion International, 18, 57-65. Pronk, N. et al. (1999). Relationship between modifiable health risks and short-term health care charges. Journal of the American Medical Association, 282, 2235-2239. Sturm, R. (2002). The effects of obesity, smoking, and problem drinking on chronic medical problems and health care costs. Health Affairs, 21, 245-253. Wang, F. (2006). Association of health care costs with per unit body mass index increase. *Journal* of Occupational & Environmental Medicine, July, 668-674. Anderson, L., et al. (2005). Chenoweth, D. (1989). Goetzel, R., et al. (1998). Henke, R., et al. (2010). Yen, L., et al. (2001).

¹⁹ See notes 2 and 18 above. Baun, W., Bernacki, E., & Tsai, S. (1986). A preliminary investigation: Effect of a corporate fitness program on absenteeism and health care cost. *Journal of Occupational Medicine*, 28, 18-26. Bjurstrom, L., & Alexiou, N. (1978). A program of heart disease intervention for public health employees: A five year report. *Journal of Occupational Medicine*, 26, 521-531. Blair, S. et

al. (1985). Health promotion for educators: Impact on absenteeism. Preventive Medicine, 15, 166-175. Cox, M., Shephard, R., & Corey, P. (1981). Influence of an employee fitness programme upon fitness, productivity, and absenteeism. Ergonomics, 24, 795-806. French, M., & Zarkin, G. (1998). Mental health, absenteeism, and earnings at a large manufacturing work site. The Journal of Mental Health and Economics, 1, 161-172. Gettman, L. (1986). Cost/benefit analysis of a corporate fitness program. Fitness in Business, August, 11-17. Halpern, M. et al. (2001). Impact of smoking status on workplace absenteeism and productivity. Tobacco Control, 10, 233-238. Integrated Benefits Institute. (2009). The real costs of depression in the workplace. San Francisco, CA. Jackson, S., Chenoweth, D., & Glover, E. (1989). Study indicates smoking cessation improves workplace absenteeism rate. Occupational Health & Safety, 58, 13-18. Johnston, K. et al. (2009). The direct and indirect costs of employee depression, anxiety, and emotional disorders – an employer case study. Journal of Occupational & Environmental Medicine, 51, 5, 564-577. Mangione, T. et al. (1999). Employee drinking practices and work performance. Journal of Studies on Alcohol, 60, 261-270. Marmot, M. (1993). Alcohol consumption and sickness absence: From the Whitehall II study. Addiction, 88, 369-382. Michigan Fitness Foundation. (2003). The economic cost of physical inactivity in Michigan. East Lansing, MI. Milliman, Inc. (2009). 2009 Milliman medical

Index. Seattle, WA. Minnesota Department of Health. (2002). Smoking-attributable mortality and economic costs in Minnesota: Smokingattributable expenditures (SAE), Fact Sheet, 1998. Ossila, K. et al. (2010). Exploring productivity outcomes from a brief intervention for at-risk drinking in an employee assistance program. Addictive Behaviors, 35, 194-200. Ostbye, T. et al. (2007). Obesity and workers' compensation: Results from the Duke health and safety surveillance system. Archives of Internal Medicine, 167, 766-773. Schultz, A., & Edington, D.W. (2007). Employee health and presenteeism: A systematic review. Journal of Occupational Rehabilitation, 17, 547-579. Quanbeck, A. et al. (2010). A cost-benefit analysis of Wisconsin's screening, brief intervention, and referral to treatment program: Adding the employer's perspective. NIH Pub Med, 9, 9-14. Seymour, J. et al. (2004). Impact of nutrition environmental interventions on point-of-purchase behavior in adults: A review. Preventive Medicine, 39, 108-136. Shepherd, R. (1992). A critical analysis of work-site fitness programs and their impact. Medicine and Science in Sports and Exercise, 24, 354-370. Stewart, W. et al. (2003). Lost productive work time costs from health conditions in the United States: Results from the American Productivity Audit. Journal of Occupational and Environmental Medicine, 45, 1234-1246. Wang, F. et al. (2003). The relationship between National Heart, Lung, and Blood Institute weight guidelines and concurrent medical costs in a manufacturing

population. American Journal of Health Promotion, 17, I3, 183. Weaver, M. et al. (1998). Health risk influence on medical care costs and utilization among 2,898 municipal employees. American Journal of Preventive Medicine, 15, 250-253. West Virginia Department of Health and Human Services. (2006). Health care costs related to smoking in West Virginia, Section IV. Wilkerson, G., Boer, N., Smith, C., & Heath, G. (2008). Health-related factors associated with the healthcare costs of office workers. Journal of Occupational & Environmental Medicine, 50, 593-601. Wolf, A., & Colditz, G. (1998). Current estimates of the economic cost of obesity in the U.S. Obesity Research, 6, 97-106. Wood, A. et al. (1989). An evaluation of lifestyle risk factors and absenteeism after two years in a work site health promotion program. American Journal of Health Promotion, 4, 128-133. Wright, D., Beard, M., & Edington, D. (2002). Association of health risks with the cost of time away from work. Journal of Occupational & Environmental Medicine, 44, 1126-1134. Boles, M., Pelletier, B., & Lynch, W. (2004). Burton, W., et al. (1999). Burton, W., et al. (2006). Chapman, L. (2007). Chapman, L. (2005). Goetzel, R., et al. (2009). Towers Watson. (2010). Tucker, L., & Friedman, G. (1998).

- ²⁰ See notes 3 and 19 above.
- ²¹ Ibid.
- ²² CCH. (2007). CCH unscheduled absence survey. Riverwoods, IL. Harrison, D., & Martocchio, J. (1998). Time for absenteeism: A 20-

- year review of origins, offshoots and outcomes. *Journal of Management*, 24, 305-350.
- ²³ Hemp, P. (2004). Presenteeism: at work but out of it. *Harvard Business Review*, October, 1-9.
- ²⁴ Baun, W., et. al. (1986). Bjurstrom, L., & Alexiou, N. (1978). Blair, S., et al. (1985). Shephard, R., & Corey, P. (1981). French, M., & Zarkin, G. (1998). Gettman, L. (1986). Halpern, M., et al. (2001). Jackson, S., Chenoweth, D., & Glover, E. (1989). Johnston, K., et al. (2009). Mangione, T., et al. (1999). Marmot, M. (1993). Michigan Fitness Foundation. (2003). Milliman, Inc. (2009). Minnesota Department of Health. (2002). Ossila, K., et al. (2010). Ostbye, T., et al. (2007). Schultz, A., & Edington, D.W. (2007). Quanbeck, A., et al. (2010). Seymour, J., et al. (2004). Shepherd, R. (1992). Stewart, W., et al. (2003). Wang, F., et al. (2003). Weaver, M., et al. (1998). West Virginia Department of Health and Human Services. (2006). Wilkerson, G., Boer, N., Smith, C., & Heath, G. (2008). Wolf, A., & Colditz, G. (1998). Wood, A., et al. (1989). Wright, D., Beard, M., & Edington, D. (2002). Boles, M., Pelletier, B., & Lynch, W. (2004). Burton, W., et al. (1999). Burton, W., et al. (2006). Chapman, L. (2007). Chapman, L. (2005). Goetzel, R., et al. (2009). Towers Watson. (2010). Tucker, L., & Friedman, G. (1998).
- ²⁵ Burton, W., Morrison, A.,
 & Wertheimer, A. (2003).
 Pharmaceuticals and worker productivity loss: A critical review

- of the literature. Journal of Occupational and Environmental Medicine, 45, 610-621.
- ²⁶ Anthem Blue Cross Blue Shield of Maine. (2006). An economic cost appraisal of physical inactivity, overweight, and obesity among Maine adults. Portland, ME. Brun, J. (2008). Work-related stress: Scientific evidenced-base of risk factors, prevention, and cost. World Health Organization. Bunn, W. (2006). Effect of smoking on productivity loss. Journal of Occupational & Environmental Medicine, 48, 1099-1108. Texas Comptroller of Public Accounts. (March 2007). Counting costs and calories: Measuring the cost of obesity to Texas employers. Austin, TX. Washington State Department of Health. (2004). Physical inactivity costs billions in Washington State. Olympia, WA. Be Active North Carolina, Inc. (2008). California Center for Public Health Advocacy. (2009). Chenoweth, D., & Leutzinger, J. (2006). Chenoweth, D. (2000). Chenoweth, D. (2004). Chenoweth, D., Pankowski, J., Martin, N., & Raymond, L. (2008). Christakis, N., & Fowler, J. (2007). Devol, R., et al. (2007). Edington, D. (2001). Goetzel, R., et al. (2005). Hodgson T., & Caig, L. (2001). Long, A., Reed, R., & Lehmann, G. (2006). CDC. (2008). Musich, S., et al. (2003). Pronk, N., et al. (1999). Sturm, R. (2002). Wang, F. (2006). Anderson, L., et al. (2005). Anderson, D., Brink, S., & Courtney, T. (1995). Anderson, L., et al. (2005). Chenoweth, D. (1989). Goetzel, R., et al. (1998). Henke, R., et al. (2010). Pronk, N., et al. (1999). Yen, L., et al. (2001).
- ²⁷ Chenoweth, D. (1988). The impact

- of health education on absenteeism in a health care setting. *Journal of Fitness in Business*, 133-136.

 Bowne, D. et al. (1984). Reduced disability and health care costs in an industrial fitness program. *Journal of Occupational Medicine*, 26, 809-816.

 Boyce, R. et al. (2006). Physical fitness, absenteeism, and workers' compensation in smoking and non-smoking police officers. *Journal of Occupational Medicine*, 56, 353-356.
- ²⁸ Pauly, M. et al. (2008). Value reductions in on-the-job illness: 'Presenteeism' from managerial and economic perspectives. *Health Economics*, 17, 469-485.
- ²⁹ Druss, B. et al. (2000). Health and disability costs of depressive illness in a major U.S. corporation. American Journal of Psychiatry, 157, 1274-1278. Goetzel, R. et al. (2004). Health, absence, disability, and presenteeism cost estimates of certain physical and mental health conditions affecting U.S. employers. Journal of Occupational and Environmental Medicine, 46, 398-412. Serxner, S. et al. (2001). The impact of a work site health promotion program on short-term disability usage. Journal of Occupational and Environmental Medicine, 43, 25-29. Yelin, E., & Callahan, L. (1995). The economic cost and social and psychological impact of musculoskeletal conditions. Arthritis & Rheumatism, 18, 1351-1362.
- Allen, J. (2008). Achieving a
 [culture] of health: The business case.
 White paper published by Health
 Enhancement Systems, Midland,
 MI. Schein, E. (1999). The corporate
 culture survival guide. San Francisco:
 Jossey-Bass Publishers.

- ³¹ Sugimura, H., & Theriault, G. (2010). Impact of supervisor support on work ability in an IT company. *Journal of Occupational Medicine*, 60, 451-457.
- ³² Allen, J. (1998). Wellness mentoring can help rebuild the corporate culture. *AWHP's Worksite Health*, Summer, 27-30.
- Donaldson, S., Sussman, S.
 Dent, C. et al. (1999). Health
 behavior, quality of work life, and
 organizational effectiveness in the
 lumber industry. *Health Education*& Behavior, 26, 579-591. Joyce,
 K. et al. (2010). Flexible working
 conditions and their effects on
 employee health and wellbeing.
 Cochrane Database of Systematic
 Reviews, 2, No. CD0088009.
- ³⁴ Centers for Disease Control and Prevention. *StairWELL to Better Health. Healthier Worksite Initiative*. Retrieved from www.cdc.gov /nccdphp/dnpao/hwi/toolkits /stairwell/index.htm
- 35 Kerr, N. et al. (2004). Increasing stair use in a work site through environmental changes. American Journal of Health Promotion, 18, 312-315. McLellan, R. et al. (2009). Impact of workplace sociocultural attributes on participation in health assessments. *Journal of* Occupational & Environmental Medicine, 51, 797-803. Mireille, N., Poppel, V., & Engbers, L. (2009). Programs designed to improve employee through changes in the built environment. Chapter 31 in ACSM's Worksite Health Promotion Handbook, Champaign, IL: Human Kinetics. Seaverson, E. et al. (2009). The role of incentive design, incentive value, communications

- strategy, and work site culture on health risk assessment participation. *American Journal of Health Promotion*, 23, 343-352.
- ³⁶ See note 32.
- ³⁷ Linnan, L. et al. (2005). Norms and their relationship to behavior in work site settings: An application of the Jackson Return Potential Model. *American Journal of Health Behavior*, 29, 258-268.
- Population health management as a strategy for creation of optimal healing environments in work site and corporate settings. *The Journal of Alternative and Complementary Medicine*, 10, S127-S140. Musich, S. et al. (2002). Excess healthcare costs associated with excess health risks in diseased and non-diseased health risk appraisal participants. *Disease Management & Health Outcomes*, 10, 251-258.
- ³⁹ Evans, R., Barer, M., & Marmor, T. (1994). Why are some people healthy and others not? Aldine de Gruyter Publishers.
- ⁴⁰ LaLonde, M. (1981). A new perspective on the health of Canadians: A working document. Ministry of Supply and Services, Canada.
- ⁴¹ Glanz, K. (2009). The application of behavior change theory in the work site setting. Chapter 22 in ACSM's Worksite Health Promotion Handbook. Champaign, IL: Human Kinetics.
- ⁴² Mhurchu, C., Aston, L., & Jebb, S. (2010). Effects of work site health promotion interventions on employee diets: A systematic review. *BMC Public Health*, *10*, doi:10.1186/1471-2458-10-62.

- Sallis, J., & Owen, N. (2002). Ecological models. In Glanz, K., Rimer, B., and Lewis, F. (editors). Health behavior and health education: Theory, research, and practice, 3rd edition. San Francisco: Jossey-Bass Publishers.
- 43 Harris, M., Oelbaum, R., & Flomo, D. (2007). State of the art reviews: Changing and adhering to lifestyle changes – what are the keys? American Journal of Lifestyle Medicine, 1, 214-219. Hernandez, L. (2010). Predicting walking using the theory of planned behavior in a work site wellness setting. ETD Collection for University of Texas, El Paso. http://digitalcommons.utep. edu/dissertations/AAI1477793. Joslin, B., Lowe, J., & Peterson, N. (2006). Employee characteristics and participation in a work site wellness programme. Health Education Journal, 65, 308-319.
- Cooper, N. (2009). Workplace demographic analytics yield health-care savings. Employment Relations Today. DOI 10.1002/ert.20256.
 FitzHenry, F., & Shultz, E. (2000). Health-risk assessment tools used to predict costs in defined populations. Journal of Healthcare Information Management, 14, 31-54.
- ⁴⁵ Berry, L., Mirabito, A., & Baun, W. (2010). What's the hard return on employee wellness programs? *Harvard Business Review*, December, 104-112.
- ⁴⁶ Holmgren, K., Hensing, G., & Dellve, L. (2010). The association between poor organizational climate and high work commitments, and sick leave in a population of women and men. *Journal of Occupational & Environmental Medicine*, 52, 1179-1185. Lauver, K., & Hester, S.

- (2009). Supervisor support and risk perception: Their relationship with unreported injuries and new misses. *Journal of Managerial Issues*, 19, 397-413. Linnan, L., et al. (2007). Manager beliefs regarding work site health promotion: Findings from the working healthy project 2. *American Journal of Health Promotion*, 21, 521-528.
- ⁴⁷ See note 3.
- ⁴⁸ Cooper, N. (2009). FitzHenry, F., & Shultz, E. (2000).
- ⁴⁹ Nowack, K. (2005). Longitudinal evaluation of a 360-degree feedback program: Implications for best practices. Paper presented at the 20th Annual Conference of the Society for Industrial and Organizational Psychology. Los Angeles, CA.
- 50 Allen, J., Hunnicutt, D., & Johnson, J. (1999). Fostering wellness leadership: A new model. Special Report from the Wellness Council of America: Omaha, Nebraska. Allen, R. et al. (1987). The organizational unconscious: How to create the corporate culture you want and need. 2nd edition. Burlington, VT: Human Resources Institute.
- ⁵¹ MacDermid, J. et al. (2008). Work organization and health: A qualitative study of the perceptions of workers. *Work: A Journal of Prevention, Assessment, and Rehabilitation, 30*, 241-254.
- ⁵² Linnan, L., et al. (2005).
- 53 CDC (Centers for Disease Control and Prevention). (2006). State-specific prevalence of current cigarette smoking among adults and secondhand smoke rules and policies in homes and work sites

- United States, 2005. Morbidity and Mortality Weekly Report, 55, 1148-1151. Engbers, L. et al., (2005). Work site health promotion programs with environmental changes: A systematic review. American Iournal of Preventive Medicine, 29, 61-70. Kirsten, W. (2010). Making a link between health and productivity at the workplace - a global perspective. Industrial Health, 48, 251-255. Robroek, S. et al. (2010). Demographic, behavioral, and psychosocial correlates of using the website component of a work site physical activity and healthy nutrition promotion program: A longitudinal study. Journal of Medical Internet Research, 12, e44.
- ⁵⁴ Nowack, K. (2005).
- Regulating employees' health behaviors: The effects of personal health-related orientations on legitimacy perceptions of organizational programs and policies. *International Journal of Business Science and Applied Management*, 6. Lowe, G., Schellenberg, G. and Shannon, H. (2003). Correlates of employees' perception of a healthy work environment. *American Journal of Health Promotion*, 17, 390-399.
- ⁵⁶ Pelletier, K. (2001). A review and analysis of the clinical and cost-effectiveness studies of comprehensive health and disease management programs at the job site: 1998 2000 update. *American Journal of Health Promotion*, 16, 107-116.
- ⁵⁷ Homan, S., Nickelson, P., and Zhu, B. (2007). *Health promotion*

- worksite initiative: A literature review. Jefferson City, MO: Missouri Department of Health and Senior Services. Division of Community and Public Health.
- ⁵⁸ Bauer, J., Hyland, A., Li, Q. et al. (2005). A longitudinal assessment of the impact of smoke-free work site policies on tobacco use. *American Journal of Public Health*, 95, 1024-1029. Fichtenberg, C. and Glantz, S. (2002). Effect of smoke-free workplaces on smoking behavior: systematic review. *British Medical Journal*, 325, 188-191.
- ⁵⁹ Sugimura, H., & Theriault, G. (2010).
- 60 Allen, J. (1998).
- ⁶¹ Levy, N. (2010, December 27). More small businesses are offering health benefits to workers. *Los Angeles Times*. www.latimes.com/health/healthcare/la-fi-healthcoverage-20101227,0,5024491. story
- ⁶² See note 3.
- ⁶³ McKinsey Company. (2008). CDHP Consumer Research Report, 2008.
- 64 See note 3.
- 65 See note 10.
- 66 See note 3.
- ⁶⁷ Holmgren, K., et al. (2010). Kerr, N., et al. (2004). Lauver, K., & Hester, S. (2009). Linnan, L., et al. (2007). McLellan, R., et al. (2009). Mireille, N., et al. (2009). Seaverson, E., et al. (2009).
- 68 Borghese, A. (2008). Integrating health how integrating wellness programs into health plans can increase effectiveness. Smart Business

- Indianapolis, November.
- ⁶⁹ Penzkover, R. (1984). Building a better benefit plan at Quaker Oats. Business & Health, 10, 33-36.
- ⁷⁰ Barchet, S. et al. (1994). Medical savings accounts: A building block for sound health care. *The Washington Medical Savings Account Project*. Evergreen Freedom Foundation: Olympia, WA.
- 71 Chapman, L. (2004). Increasing participation in wellness programs. National Wellness Institute Newsletter, July/August. Clymer, J. et al. 2009. Health care policy and health promotion. Chapter 7 in ACSM's Worksite Health Promotion Handbook, Champaign, IL: Human Kinetics.
- ⁷² Fidelity Investments (in conjunction with the National Business Group on Health). (2010). 2010 Annual Wellness Survey.
- 73 Health2 Resources. (2009). How employers use incentives to keep employees healthy: Perks, programs, and peers. IncentOne. (2008). Employee health and productivity management programs: the use of incentives a survey of major U.S. employers. (In conjunction with the National Association of Manufacturers).
- ⁷⁴ ERISA Industry Committee (ERIC), the National Association of Manufacturers (NAM) and IncentOne Inc. (2008). Miller, S. (2009). Size and scope of wellness incentives grow larger. www.shrm. org/hrdisciplines/benefits/Articles /Pages/Wellincentives.aspx
- ⁷⁵ O'Donnell, M. et al. (1997). Benchmarking best practices in

- workplace health promotion. Art and Science of Health Promotion, American Journal of Health Promotion, 1, 1-8.
- ⁷⁶ See note 33.
- 77 Pai, C., & Edington, D. (2008).

 Association between behavioral intention and actual change for physical activity, smoking, and body weight among an employed population. Journal of Occupational & Environmental Medicine, 50, 1077-1083. Pai, C. et al. (2009). Effect of health risk appraisal frequency on change in health status. Journal of Occupational & Environment Medicine, 51, 429-434.
- ⁷⁸ See note 3.
- 79 Kim, A. et al. (2011). Why are financial incentives not effective at influencing some smokers to quit? Results of a process evaluation of a work site trial assessing the effects of financial incentives for smoking cessation. *Journal of Occupational & Environmental Medicine*, 53, 62-67. WELCOA. (2004). *Ask the expert Larry Chapman*. Increasing participation in wellness programs. July/August.
- 80 See notes 3 and 10.
- 81 Robison, J. (1998). To reward? ... or not to reward?: Questioning the wisdom of using external reinforcement in health promotion programs. American Journal of Health Promotion: The Science of Health Promotion, 13, 1-3.
- ⁸² Faghri, P. et al. (2008). The role of tailored consultation following health-risk appraisals in employees' health behavior. *Journal of*

- Occupational and Environmental Medicine, 50, 1378-1385. Harvard School of Public Health. (2009). Employer health incentives. Harvard Public Health Review, Winter.
- 83 Incentive Central. (2005). Incentive federation survey of motivation and incentive applications.
- 84 Stajkovic, A., & Luthans, F. (2003). Behavioral management and task performance in organizations: Conceptual background, metaanalysis, and test of alternative models. *Personnel Psychology*, 56, 155–194.
- 85 See note 3.
- ⁸⁶ VanWormer, J. and Pronk, N. (2009). Rewarding change: Principles for implementing work site incentive programs. Chapter 28 in ACSM's Worksite Health Promotion Handbook, Champaign, IL: Human Kinetics.
- ⁸⁷ Kim, A., et al. (2011). WELCOA (2004). Kirenan, M. (2000).
- ⁸⁸ Kiernan, M. (2000). Using direct mail to recruit Hispanic adults into a dietary intervention: An experimental study. *Annals of Behavioral Medicine*, 22, 89-93.
- 89 Nyce, S. (2010). Boosting wellness participation without breaking the bank. Towers Perrin/National Business Group on Health. (2010). 15th annual employer survey on purchasing value in health care. Taital, M. et al. (2008). Incentives and other factors associated with employee participation in health risk assessments. Journal of Occupational and Environmental Medicine, 50, 863-872.

- Ohenoweth & Associates, Inc. Client database, 1979-2010. New Bern, NC. Health2Resources. (2009). IncentOne. (2008). Incentive Central. (2005).
- ⁹¹ Earles, A., & Heinen, L. (2009). Health promotion: A legal perspective. Chapter 6 in ACSM's Worksite Health Promotion Handbook, Champaign, IL: Human Kinetics.
- ⁹² CDC. (2006). Engbers, L., et al. (2005). Kirsten, W. (2010). Robroek, S., et al. (2010).
- ⁹³ Pronk, N. (2009). Population health management at the work site. In ACSM's Worksite Health Handbook: A Guide to Building Healthy and Productive Companies. Champaign, IL: Human Kinetics.
- ⁹⁴ Towers Watson. (2010). Tucker, L., & Friedman, G. (1998). Pai, C., & Edington, D. (2008). Pai, C., et al. (2009).
- ⁹⁵ Chenoweth, D. (1997). Chenoweth, D., & Hochberg, J. (2009).
- 96 Sorensen, G., & Quintiliani, L. (2009). Effective programs to promote worker health within healthy and safe work sites. Chapter 30 in ACSM's Worksite Health Promotion Handbook, Champaign, IL: Human Kinetics.
- 97 See note 3.
- ⁹⁸ Rager, R., Leutzinger, J., Hochberg, J., Kirsten, W., & Chenoweth, D. (2008). Integrating strategies and expanding the scope of employee disease management in U.S. and global workplaces. *Journal of Disease Management*, 16, 87-94.
- ⁹⁹ Yen, L. et al. (2010). Long-term return on investment of an employee

- health management program at a Midwest utility company from 1999 to 2007. International Journal of Workplace Health Management, 3, 79-96.
- Mills, P., & Colling, J. (2009). Health promotion, participation, and productivity: A case study at Unilever PLC. Chapter 37 in ACSM's Worksite Health Promotion Handbook, Champaign, IL: Human Kinetics.
- ¹⁰¹ Be Active North Carolina, Inc. (2008). California Center for Public Health Advocacy. (2009). Chenoweth, D., & Leutzinger, J. (2006). Chenoweth, D. (2004). Chenoweth, D. (2004). Chenoweth, D., et al. (2008). Christakis, N., & Fowler, J. (2007). Devol, R., et al. (2007). Edington, D. (2001). Goetzel, R., et al. (2005). Hodgson, T., & Craig, L. (2001). Long, A., et al. (2006). CDC. (2008). Musich, S., et al. (2003). Pronk, N et al. (1999). Sturm, R. (2002). Wang, F. (2006).
- 102 Watson Wyatt Worldwide. (2009). Companies continue to add wellness programs, Watson Wyatt/National Business Group on Health Survey Finds. Retrieved from www. watsonwyatt.com/news/press. asp?ID=20961
- ¹⁰³ CDC. (2006). Engbers, L., et al. (2005). Kirsten, W. (2010). Robroek, S., et al. (2010).
- ¹⁰⁴ RedBrick Health. (2010). The financial impact of Redbrick health – white paper. Minneapolis, MN.
- Berry, L., et al. (2010). Gilbreath,B., & Benson, P. (2004). The

- contribution of supervisor behavior to employee psychological wellbeing. Work & Stress, 18, 255-266.
- McLeroy, K., Bibeau, D., Streckler, A., & Glanz, K. (1988). An ecological perspective on health promotion programs. Health Education Quarterly, 15, 351-377. Mhurchu, C., et al. (2010). Pelletier, K. (2005). A review and analysis of the clinical and cost-effectiveness studies of comprehensive health and disease management programs at the job site: Update VI 2000-2004. Journal of Occupational & Environmental Medicine, 47, 1051-1058. Sallis, J., & Owen, N. (2002).
- ¹⁰⁷ Wells, S. (2010). Does work make you fat? *HR Magazine*, October.
- 108 Be Active North Carolina. (2008). California Center for Public Health Advocacy. (2009). Chenoweth, D., & Leutzinger, J. (2006). Chenoweth, D. (2000). Chenoweth, D. (2004). Chenoweth, D., et al. (2008). Christakis, N., & Fowler, J. (2007). Devol, R., et al. (2007). Edington, D. (2001). Goetzel, R., et al. (2005). Harris, M., et al. (2007). Hernandez, L. (2010). Joslin, B., et al. (2006). Hodgson, T., & Caig, L. (2001). Long, A., et al. (2006). CDC. (2008). Musich, S., et al. (2003). Payne, N., Jones, F., & Harris, P. (2001). The impact of working life on health behavior: The effect of job strain on the cognitive predictors of exercise. Journal of Occupational Health Psychology, 7, 342-353. Pronk, N., et al. (1999). Sturm, R. (2002). Wang, F. (2006).

- ¹⁰⁹ Yen, L. et al. (2010).
- 110 Fishbein, M., & Ajzen, I. (1975).

 Belief, attitude, intention, and
 behavior: An introduction to theory
 & research. Reading, MA: AddisonWesley. Huskamp, H., & Rosenthal,
 M. (2009). Health risk appraisals:
 How much do they influence
 employees' health behavior? Health
 Affairs, 28, 1532-1540.
- 111 Glanz, K. et al. (1998). Impact of work site health promotion on stages of dietary change: The working well trial. Health Education and Behavior, 25, 448-463. Griffin-Blake, C., & DeJoy, D. (2006). Evaluation of social-cognitive versus stage-matched, self-help physical activity interventions at the workplace. American Journal of Health Promotion, 20, 200-209. Prochaska, J., Norcross, J., & DiClemente, C. (1994). Changing for good: The revolutionary program that explains the six stages of change and teaches you how to free yourself from bad habits. New York: W. Morrow. Prochaska, J., Redding, C., & Evers, K. (2002). The transtheoretical model of behavior change. In Glanz, K., Rimer, B., & Lewis, F. (ed). Health behavior and health education: Theory, research and practice. San Francisco: Jossey-Bass. Prochaska, J., & Velicer, W. (1997). The transtheoretical model of health behavior change. American Journal of Health Promotion, 12, 38-48.
- Adams, J., & White, M. (2005). Why don't stage-based activity promotion interventions work? *Health Education Research*, 20, 237-243. Aveyard, P. et al. (2009). The

effect of transtheoretical model based interventions on smoking cessation. Social Science & Medicine, 68, 397-403. Salmela, S. et al. (2009). Transtheoretical model-based dietary interventions in primary care: A review of the evidence in diabetes. Health Education and Research, 24, 237-252.

- 113 Glanz, K. (2009).
- Krist, A. et al. (2010). Patient costs as a barrier to intensive health behavior counseling.
 American Journal of Preventive Medicine, 38, 344-348. Rollnick, S., & Miller, W. (1995). What is motivational interviewing?
 Behavioral and Cognitive Psychotherapy, 23, 325-334.
- Wellness Council of America.
 How to build a well workplace: the 7 C's of building a well workplace.
 Retrieved from http://infopoint.welcoa.org/blueprints/blueprint1/intro.html
- ¹¹⁶ Holbrook, K. (2010). Five best practices for employee wellness programs. ACSM's Health-Fitness Journal, 15, 38-40.
- Promising practices in employer health and productivity management efforts; findings from a benchmarking study.
 Journal of Occupational and Environmental Medicine, 49, 111-130. Yaktine, A., & Parkinson, M. (2009). The case for change: From segregated to integrated employee health management. Chapter 8 in ACSM's Worksite

- Health Promotion Handbook, Champaign, IL: Human Kinetics.
- ¹¹⁸ See number 3.
- Tao, X. et al. (2009) Monitoring work site clinic performance using a cost-benefit tool. *Journal* of Occupational & Environmental Medicine, 51, 1151-1157.



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SOURCES AND SUGGESTED READINGS

Burud, S., & Tumolo, M. (2004). *Leveraging the new human capital*. Palo Alto, CA:Davies-Black Publishing.

Cascio, W. (2000). Costing human resources: The financial impact of behavior in organizations, 4th edition. Cincinnati, OH: South-Western College Publishing.

Chenoweth, D. (2011). Worksite health promotion, 3rd edition. Champaign, IL: Human Kinetics.

Edington, D. 2009. *Zero trends: Health as a serious economic sAttrategy.* University of Michigan Health Management Research Center.

Shumaker, S., Ockene, J., & Riekert, K., (Eds.) (2008). *The handbook of health behavior change*, 3rd edition. Springer Publishing.

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