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P A P E R



A Review of the U.S. Workplace Wellness Market

Soeren Mattke, Christopher Schnyer,
Kristin R. Van Busum

Sponsored by the U.S. Department of Labor and the
U.S. Department of Health and Human Services

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A Review of the U.S. Workplace Wellness Market

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Prepared for

Office of Policy and Research
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PREFACE

This occasional paper was sponsored by the United States Department of Labor and the United States Department of Health and Human Services. It is based on a review of the current literature regarding workplace wellness programs and is intended to summarize the existing evidence with respect to typical program components, prevalence of programs among employers, the impact of wellness programs, and the use and impact of financial incentives in these programs. This report will be of interest to national and state policymakers, employers and wellness program vendors, employer and employee advocacy organizations, health researchers, and others with responsibilities related to designing, implementing, participating in, and monitoring workplace wellness programs.

This review was conducted under contract #DOLJ089327414 with the Department of Labor, as part of a study of workplace wellness programs that is required by the Patient Protection and Affordable Care Act of 2010. The Task Order Officers for the project are Anja Decressin and Keith Bergstresser of the Employee Benefits Security Administration, Department of Labor, and Wilma Robinson and Andrew Sommers of the Office of the Assistant Secretary for Planning and Evaluation, Department of Health and Human Services. We thank the Task Order Officers for their guidance and reviews of the document; however, we note that the material contained in this report is the responsibility of the research team and does not necessarily reflect the beliefs or opinions of the Task Order Officers, their respective agencies, or the federal government. The full findings of this study will be detailed in a report to be submitted to the United States Congress by March 2013.

The research was conducted in RAND Health, a division of the RAND Corporation. A profile of RAND Health, abstracts of its publications, and ordering information can be found at <http://www.rand.org/health>.

SUMMARY

Background and Objectives

The burden of chronic disease is growing in the United States, as rising rates of obesity and physical inactivity are leading to more diabetes and cardiovascular disease. Particularly worrisome is that the onset of chronic disease is shifting to younger-age cohorts, who are still participating in the labor market. This shift increases the economic burden of chronic disease, as illness-related loss of productivity is added to the cost of medical care. To counter this trend, employers are adopting health promotion and disease prevention strategies, taking advantage of their access to employees at an age when interventions directed at healthy behaviors can still change the trajectory of their long-term health. These strategies range from changes to the working environment, such as providing healthy food options in the cafeteria, to comprehensive interventions that support employees in adopting and sustaining healthy lifestyles. The Patient Protection and Affordable Care Act (Affordable Care Act) supports these initiatives with numerous provisions intended to leverage workplace health promotion and prevention as a means to reduce the burden of chronic illness and to limit growth of health care cost.

Against this background, the purpose of this report is to describe the current state of workplace wellness programs in the United States, including a description of typical program components; assess current uptake among U.S. employers; review the evidence for program impact; and evaluate the current use and the impact of incentives to promote employee engagement.

The Current State of Workplace Wellness Programs

Broadly, a workplace wellness program is an employment-based activity or employer-sponsored benefit aimed at promoting health-related behaviors (primary prevention or health promotion) and disease management (secondary prevention). It may include a combination of data collection on employee health risks and population-based strategies paired with individually focused interventions to reduce those risks. A formal and universally accepted definition of a workplace wellness program has yet to emerge, and employers define and manage their programs differently. Programs may be part of a group health plan or be offered outside of that context; they may range from narrow offerings, such as free gym memberships, to comprehensive counseling and lifestyle management interventions.

Wellness programs have become very common, as 92 percent of employers with 200 or more employees reported offering them in 2009. Survey data indicate that the most frequently targeted behaviors are exercise, addressed by 63 percent of employers with programs; smoking (60 percent); and weight loss (53 percent). In spite of widespread availability, the actual *participation* of employees in such programs remains limited. While no nationally representative data exist, a 2010 nonrepresentative survey suggests

that typically fewer than 20 percent of eligible employees participate in wellness interventions.

Program Impact

In industry surveys, employers typically express their conviction that workplace wellness programs are delivering on their promise to improve health and reduce costs. Numerous anecdotal accounts of positive program effects are consistent with this optimistic view. Further, several evaluations of individual programs and summative reviews in the scientific literature provide corroborating evidence for a positive impact.

Our own review of the most recent scientific literature evaluating the impact of workplace wellness programs on health-related behavior and medical cost outcomes identified 33 peer-reviewed publications that met our standards for methodological rigor. We found, consistent with previous reviews, evidence for positive effects on diet, exercise, smoking, alcohol use, physiologic markers, and health care costs, but limited evidence for effects on absenteeism and mental health. We could not conclusively determine whether or not program intensity was positively correlated with impact. Positive results found in this and other studies should be interpreted with caution, as many of these programs were not evaluated with a rigorous approach, and published results may not be representative of the typical experience of a U.S. employer.

A large body of literature exists in the form of government reports and trade and industry publications on key strategies to design and implement successful programs. While the effectiveness of those strategies has not yet been formally evaluated, the literature consistently mentions robust internal marketing, continuous evaluation and program improvement, and leadership accountability as critical to program success and provides tools to leverage those insights.

Role of Incentives

In addition to traditional communication strategies, employers have started using incentives to increase employee engagement in wellness programs. Incentives are offered in a variety of forms, such as cash, cash equivalents (e.g., merchandise and travel vouchers), and variances in health plan costs (e.g., plans with less cost-sharing or lower employee premiums). Estimates suggest that the average annual value of incentives per employee typically ranges between \$100 and \$500. Historically, employees could often qualify for incentives by undergoing screening for health risks or participating in a wellness program that promoted health but did not require particular health outcomes. More recently, a few employers are requiring program completion or documented success, such as verifiable smoking cessation.

The overall effects of incentives are poorly understood. While some studies suggest that rewards can promote behavior change, it is not clear how the type (e.g., cash or noncash), direction (reward versus penalty), and strength of incentives are related to employee

engagement and outcomes. There are also no data on potential unintended effects, such as discrimination against employees based on their health or health behaviors.

A number of laws and regulations at the federal and state level impose limits on the use of financial incentives as part of wellness programs, such as health plan premium discounts for program participants. In general, state insurance laws and federal laws under the Public Health Service Act, the Employee Retirement Income Security Act (ERISA), and the Internal Revenue Code regulate incentives offered through insured group health plans. Self-insured group health plans are exempt from state insurance regulations but remain subject to federal regulation. Incentives offered directly by an employer can fall under general employment laws and regulations.

Prior to the passage of the Affordable Care Act, the most significant applicable federal requirements were the Health Insurance Portability and Accountability Act (HIPAA) nondiscrimination provisions. These regulations impose certain requirements and limit the maximum reward that can be offered by a group health plan's wellness program, if achieving the reward requires an individual to satisfy a standard related to health. Under HIPAA the maximum reward cannot exceed 20 percent of the cost of health coverage. The Affordable Care Act raises the allowable value of incentives under these programs from 20 percent to 30 percent of the cost of coverage in 2014 and provides discretion to the secretaries of Labor, Health and Human Services, and the Treasury to increase the reward to up to 50 percent of the cost of coverage. The Affordable Care Act does not, however, supersede other federal requirements relating to the provision of incentives by group health plans, including requirements of the Genetic Information and Nondiscrimination Act (GINA) and the Americans with Disabilities Act (ADA).

Conclusions

Workplace wellness programs have achieved a high penetration in the United States, and most observers expect that uptake will continue to increase, especially as the Affordable Care Act will increase employment-based coverage and promotes workplace wellness programs through numerous provisions. At this point in time, there is insufficient objective evidence to definitively assess the impact of workplace wellness on health outcomes and cost. While employer sponsors are generally satisfied with the results, more than half stated in a recent survey that they did not know their program's return on investment. The peer-reviewed literature, while mostly positive, covers only a tiny proportion of the universe of programs, raising questions about the generalizability of the reported findings. The use of incentives to promote employee engagement, while increasingly popular, remains poorly understood, and it is not clear how the type (e.g., cash or noncash), direction (reward versus penalty), and strength of incentives are related to employee engagement and outcomes. There are also no data on potential unintended effects, such as discrimination against employees based on their health or health behaviors.

Thus, a dynamic and innovative wellness industry has outpaced its underlying evidence base. The available evidence provides “proof of concept,” but more research is needed to determine the impact of workplace wellness in real-world settings in order to adequately inform policy decisions. It should also be noted that there is no answer to the simple question “Do wellness programs work?” because that answer depends on the intervention, the opportunity, and the match between them. Programs vary widely with respect to what they target, how well they are designed, and how well they are executed. Future research should focus on finding out which wellness approaches deliver which results under which conditions to give much-needed guidance on best practices.

1. INTRODUCTION

1.1 Chronic Disease Is a Public Health Issue

Americans are in the midst of a “lifestyle disease” epidemic.¹ The Centers for Disease Control and Prevention (CDC) has identified four behaviors—inactivity, poor nutrition, tobacco use, and frequent alcohol consumption—as primary causes of chronic disease in the United States, causing increasing prevalence of diabetes, heart disease, and chronic pulmonary conditions.² Chronic diseases have become a major burden in the United States, as they lead to decreased quality of life,³ account for severe disability in 25 million Americans, and are the leading cause of death, claiming 1.7 million lives per year.²

Aside from the health impact, the costs attributed to treating chronic disease are estimated to account for over 75 percent of national health expenditures.² Furthermore, while chronic disease was once thought to be a problem of older age groups, the number of working-age adults with a chronic condition has grown by 25 percent in ten years, nearly equaling 58 million people.⁴ This shift toward earlier onset adds to the economic burden of chronic disease because of illness-related loss of productivity due to absence from work (absenteeism) and reduced performance while at work (presenteeism). Results from a 2008 PricewaterhouseCoopers survey found that indirect costs (e.g., days missed at work) were approximately four times higher for individuals with chronic disease compared with healthy individuals.⁸¹ Moreover, a 2007 report by DeVol et al., released by the Milken Institute, estimated that indirect illness-related losses were more expensive than the direct health care costs to treat chronic disease.⁵ The cumulative losses associated with chronic diseases totaled a startling \$1 trillion in 2003, compared with the \$277 billion spent on direct health care expenditures.⁵

1.2 Growing Interest in Wellness Programs Among Employers

With the increasing prevalence of chronic diseases in the working-age population, employers are concerned about their impact on the cost of employer-sponsored health coverage and productivity. In a recent survey by benefits consultant Towers Watson and the National Business Group on Health (NBGH), 67 percent of employers identified “employees’ poor health habits” as one of their top three challenges to maintaining affordable health coverage.⁶

To counter this trend, employers are increasingly adopting health promotion and disease prevention strategies, taking advantage of their access to employees at an age when interventions directed at healthy behaviors can still change the trajectory of their long-term health. These strategies range from changes to the working environment, such as providing healthy food options in the cafeteria, to comprehensive interventions that support employees in adopting and sustaining healthy lifestyles. Early proponents of workplace interventions, such as Johnson & Johnson, developed their own programs. The emergence of a workplace wellness industry in recent years now allows employers to

procure ready-made programs and interventions and has contributed to the uptake of those programs as they demonstrate favorable results. A recent meta-analysis, for example, suggests that wellness programs have a return on investment (ROI) of around 3 to 1 for both direct medical cost and productivity.⁷

Consequently, many employers today regard workplace wellness programs as an effective tool to contain health care costs and, thus, a viable business strategy. Almost half (44 percent) of all employers that offered wellness programs believed that they were effective in reducing the firm's health care costs, according to a 2010 survey by the Kaiser Family Foundation and the Health Research and Educational Trust (Kaiser/HRET).⁸ In addition to employers, health insurance issuers are increasingly incorporating wellness programs into their coverage products. The same Kaiser/HRET survey indicates that among employers with fewer than 200 employees that offered wellness programs, 59 percent did so because the programs were part of the insurance coverage provided by their health plan.⁸

1.3 The Patient Protection and Affordable Care Act

The Patient Protection and Affordable Care Act (Affordable Care Act) has numerous provisions intended to contain health care cost growth and expand health promotion and prevention activities.⁷⁵ A total of \$200 million has been authorized for wellness program start-up grants for businesses with fewer than 100 employees (Section 10408).⁷⁵ Also, a ten-state demonstration program will permit participating states to apply rewards for participating in wellness programs to health plans purchased in the individual market (Section 1201). Another provision establishes a technical assistance role for the Centers for Disease Control and Prevention (CDC) to provide resources for evaluating employer wellness programs (Section 4303). In addition, the Department of Health and Human Services (HHS) will award \$10 million from the Affordable Care Act's Prevention and Public Health Fund to organizations with expertise in working with employers to develop and expand workplace wellness activities, such as tobacco-free policies, flextime for physical activity, and healthier food choices in the workplace.*

The Affordable Care Act also raises the limit on rewards that employers are allowed to offer through a group health plan for participating in a wellness program that requires meeting health-related standards. This provision gives employers greater latitude in rewarding group health plan participants and beneficiaries for healthy lifestyles. The limit, currently set at 20 percent of the cost of coverage, will increase to 30 percent in 2014, and the secretaries of Labor, Health and Human Services, and the Treasury may increase the reward to up to 50 percent if they determine that such an increase is appropriate. These rewards may be provided in such forms as premium discounts, waivers of cost-sharing requirements, or improved benefits. While the Affordable Care Act and HIPAA allow flexibility for the use of incentives in wellness programs, requirements of other

* While not explicitly included in the Affordable Care Act, this funding was announced by HHS in June 2011. See U.S. Department of Health and Human Services, 2011.⁸⁰

federal laws, such as the Genetic Information and Nondiscrimination Act (GINA) and the Americans with Disabilities Act (ADA), and other state laws may be applicable.

In addition, the Affordable Care Act includes preventive and wellness services and chronic disease management in its list of essential health benefits that certain health plans will need to offer as of 2014 and specifies that certain recommended preventive services must be covered without cost-sharing as of September 23, 2010.[†]

1.4 Overview of the Report

This report seeks to describe the composition of currently deployed workplace wellness programs and current and expected program uptake among U.S. employers. We review the evidence for the impact of workplace wellness programs on health behaviors, risk factors, medical cost, and productivity and identify key strategies to successfully implement programs. Lastly, we assess the literature on the current use and the impact of incentives to promote employee engagement in programs and describe the regulatory framework that governs such incentives.

The report is based on a review of the scientific and trade literature and analyses of survey findings on the characteristics and prevalence of workplace wellness programs. We consulted with experts in government and academia, as well as with representatives of employers, employer organizations, benefits consultancies, and program vendors. Lastly, we draw on previous case studies of corporate wellness programs that we have conducted between 2009 and 2010.

[†] “Grandfathered” health insurance plans, which were in existence prior to the passage of the Affordable Care Act, are exempt from those requirements.

2. THE CURRENT STATE OF WORKPLACE WELLNESS PROGRAMS

2.1 Definition

The Affordable Care Act defines a wellness program as a program offered by an employer that is designed to promote health or prevent disease (Affordable Care Act, Section 12001).^{‡75} Disease prevention programs aim to either prevent the onset of diseases (primary prevention) or diagnose and treat disease at an early stage before complications occur (secondary prevention). Primary prevention addresses health-related behaviors and risk factors—for example, by encouraging a diet with lower fat and caloric content to prevent the onset of diabetes mellitus. Secondary prevention attempts to improve disease control—for example, by promoting medication adherence for patients with asthma to avoid symptom exacerbations that can lead to hospitalization. Health promotion is related to disease prevention in that it aims at fostering better health through behavior change. However, its focus is not a particular disease but the overall health of an individual. The World Health Organization defines health promotion as “the process of enabling people to increase control over their health and its determinants, and thereby improve their health.”⁷⁶

A formal and universally accepted definition that conclusively identifies the components of a workplace wellness program has yet to emerge, and employers define and manage their wellness programs differently. The Affordable Care Act definition cited previously is particularly broad, and different stakeholders have different perspectives on which health-related workplace benefits are considered part of workplace wellness programs. Some employers may not even think of their health promotion and disease prevention activities as a distinct program. There is a wide array of ways employers design and manage health promotion and disease prevention activities. These wellness programs may be related to benefits under an employer’s group health plan or may be offered outside the context of an employment-based group health plan. Some employers have instituted narrower activities, such as free gym memberships. Others have implemented comprehensive programs that may include a number of different activities, such as incentives for healthy behaviors offered through workplace health promotion activities, separate incentives provided through group health plan benefit design, and a variety of programs to support healthy lifestyles in the workplace and at home. Employers that offer more multifaceted programs differ in how they manage these health and wellness activities. While some may manage general health promotion activities separately from group health plan administration and occupational health and safety, others may integrate the management of all of these health-related programs within a single department.

[‡] While the Affordable Care Act defines a wellness program broadly, certain federal regulations may apply only to specific types of wellness programs. For instance, the nondiscrimination provisions of HIPAA discussed later in this report apply only to wellness programs offered through a group health plan.

2.2 Components of a Workplace Wellness Program

While no consensus definition of a workplace wellness program exists, there are a number of common elements among the programs offered by employers. They include disease prevention and health promotion initiatives undertaken using both population-based strategies and individually focused interventions. These programs are delivered in a variety of ways and in a range of settings. They may be run through a group health plan or administered separately by the employer, and how they are managed may determine which particular regulations apply to them. For example, programs offered through a group health plan may be subject to state and federal laws that apply specifically to these plans.

2.2.1 Core Program Components

A wellness program may include a combination of *data collection* on employee health risks and *interventions* designed to promote health-related behaviors (primary prevention or health promotion) and manage manifest disease (secondary prevention). There is a wide variety of activities that organizations may implement, but a number of key components have become especially common.

2.2.1.1 Data Collection

- **Health Risk Assessment (HRA):** An HRA (sometimes referred to as a health risk questionnaire [HRQ]) serves as the cornerstone of many wellness programs. An HRA identifies common modifiable risk factors, and at many organizations it functions as a “gateway” to additional health promotion offerings (e.g., counseling). HRAs generally take the form of a questionnaire and query the individual about behaviors and characteristics, such as nutrition, physical activity, smoking, cholesterol levels, weight, and blood pressure. The HRA gives employees the opportunity to understand their health risks and can be linked with additional tools to connect them with health education content, health management programs, or clinical services. If the HRA is administered online, these linkages are often part of an automated tool. However, an HRA alone may be limited in its impact if it only provides information and is not linked to tools for addressing identified risks. Findings from a 2003 RAND study found that HRA questionnaires coupled with follow-up interventions (e.g., information, support, and referrals) and interventions that combined HRA feedback with the provision of health promotion programs were most likely to be beneficial.⁹ Similarly, a more recent study found that an HRA alone only led to small changes in employee behavior.¹⁰ In addition to the HIPAA and Affordable Care Act requirements related to wellness programs, HRA use may implicate requirements under GINA and the ADA (see a more detailed discussion in Section 4.3 of this report.)
- **Clinical/biometric screenings:** Many employers offer free or low-cost clinical screenings of key biometric data for common risk factors and chronic conditions,

such as high blood pressure and diabetes. Screenings can be on site in occupational health or primary care clinics or in partnership with health plans through the employees' regular physicians. Clinical screenings usually measure height, weight, resting heart rate, blood pressure, blood glucose levels (for diabetes), and blood lipid levels (e.g., cholesterol). Some employers offer additional tests based on clinical guidelines, such as the cancer screening recommendations of the U.S. Preventive Services Task Force. These screenings rely on clinical measurement and therefore provide objective data to augment self-reported information from an HRA.

2.2.1.2 Interventions

- **Lifestyle and risk factor management:** A number of employers provide programs designed to help workers make positive changes to their lifestyle. These interventions may be either population-based or individually tailored and target health-related behaviors, such as diet, exercise, and tobacco use. For instance, employees may be encouraged to increase physical activity. “Step-counting” programs can motivate employees to build more walking into their daily routines, and discounted gym memberships increase access to opportunities for exercise. Similarly, employers may provide more nutritious food in the workplace and offer resources to help employees prepare healthier meals at home. In addition to diet, exercise, and tobacco use, programs targeting stress and anxiety are emerging.
- **Disease management programs:** Many organizations offer support programs for employees living with chronic diseases, such as heart disease, diabetes, and depression. Such disease management programs are often offered through an employer's health plans, some may be provided by a separate program vendor, and some are integrated with other wellness program components. These programs are individually targeted and provide ongoing support for issues related to chronic illness, such as medication adherence. They are likely to require long-term engagement with the employee and coordination with the employee's regular physician. For these reasons, disease management programs are often operated separately from the short-term behavioral interventions described above.
- **Structural improvements:** Employers sometimes make changes to the physical environment of the workplace as part of their wellness strategy, such as making stairs accessible and inviting or installing on-site fitness centers or walking paths.

2.2.2 Related Programs and Benefits

Many employers regard their workplace wellness program as part of an integrated health and wellness strategy that provides additional resources and benefits. Some of the following resources have become common, although specific employers may or may not define them as part of a wellness program and may administer and manage them separately.

- **Online health and wellness resources:** Many employers with a formal wellness program maintain an online resource that serves as a central repository of information for employees. These websites may be developed internally, although there are a number of vendors that offer “off-the-shelf” wellness web portals and can tailor these to an employer’s needs. These web portals can serve as a one-stop resource for information about company health insurance and accessing covered medical care, as well as wellness program offerings that may operate independently of health insurance. The portals offer a platform capable of providing a broad selection of health education materials. Organizations that use a vendor-provided resource often integrate the portal into their own company benefits website so that this information is available in one place. The HRA can be integrated with the website as well and can be linked with other resources to seamlessly provide individualized referrals.
- **On-site clinics:** A growing number of employers, particularly larger ones, now maintain on-site health clinics so that workers can seek certain types of care without leaving the workplace. These clinics vary widely in terms of staffing and scope. Some are staffed by nurses and physician assistants, while others provide access to physicians as well. The most common services offered are related to occupational health, including diagnosis, noncomplex treatment, and referral for work-related injury and illness. Employers are increasingly offering a wider array of primary care services at these clinics, including preventive screenings, disease management, and urgent care.¹¹ More robust clinical offerings may allow companies to reduce medical costs, since they can control these costs more directly. In addition, since these clinics allow employees to receive care on site, they can eliminate time away from the workplace associated with travel and wait times for off-site medical appointments.¹¹ On-site clinics that offer only occupational health services are more likely to be managed separately from wellness programs. While directly related to employee health, they are often managed from a safety and compliance perspective and are subject to a different regulatory framework. However, some occupational health conditions, such as chronic back pain, do overlap with conditions targeted by wellness programs. It is not uncommon for occupational health and wellness promotion programs to be managed separately, but integration of health-related activities is frequently cited in the trade literature as a management best practice.
- **Employee assistance programs:** Another wellness-related benefit that many employers offer is an employee assistance program (EAP). An EAP often provides employees with a phone number they can call to receive counseling and assistance for personal issues that can have a negative impact on their ability to be focused and productive at work. The types of concerns that are addressed through an EAP often relate to “work-life balance,” such as time management, and accessing resources for nonwork responsibilities, such as child or elder care. An important part of an EAP is providing referrals to counseling services or other community resources—for example, for mental health or substance abuse problems. Because of the sensitivity surrounding some of these issues, employers

usually contract their EAP to an independent vendor that can guarantee confidentiality for employees. In addition to the hotline, some EAPs provide in-person counseling sessions. Some preventive care needs identified in wellness programs may actually be serviced through the EAP, such as workplace stress relief programs, while other elements of EAPs, such as financial counseling, are not directly related to health promotion.

- **Short-term disability management:** Some companies have implemented programs to more actively manage employees' return to work from short-term disability leave. These programs are intended to help employees minimize time spent out of work following injuries or illnesses. Employers reach out to workers while they are recovering and help to make arrangements that allow workers to return to the workplace, sometimes in modified or restricted duty. By actively managing short-term disability, employers believe that they can reduce costs associated with lost productivity and keep employees from becoming disengaged when they are separated from the workplace.

2.2.3 Program Modalities

The various components that make up workplace wellness programs can be categorized into two modalities, *population-based strategies*, defined as programs targeted at groups of employees collectively, and *individualized interventions*, programs designed to meet an individual worker's preferences and needs.

- **Population-based approaches:** These approaches educate workers and promote healthy behaviors across an entire workforce or among a large group of employees. Population health activities frequently focus on preventive strategies or management of the most common health concerns. These can include one-time or *ad hoc* efforts, such as an on-site event to provide free flu shots or lunchtime sessions to provide information on specific issues. They can also be structured as ongoing, coordinated campaigns aimed at specific behaviors, like healthy eating, exercise, or sunscreen use. For instance, some companies provide employees with pedometers. Workers participate in individual or team-based contests or challenges to accumulate a certain number of steps over a given time frame. Health-related benefits that are offered to all employees and facilitate healthy activities fall into this category, including educational resources or the installation of walking trails.
- **Individualized interventions:** Individualized interventions are tailored to individual needs and preferences. Specific behavioral interventions can be offered to assist an individual in understanding how unhealthy or risky behaviors affect their health and then provide tools and guidance for modifying those behaviors. Two examples that are offered by many companies are smoking cessation and weight management programs. These types of interventions are often contracted out to vendors and made available to employees free of charge, like the Free and Clear® smoking cessation program and the Healthy Guidance® weight

management program offered by numerous employers. In many organizations, workers are linked to these interventions through “gateways,” such as an HRA, clinical screening, or personal health counseling. These interventions may be offered directly by the employer, or they may be offered as part of a group health plan.

2.2.4 Program Administration

Employers have several options for implementing and managing wellness programs. The firms that pioneered these initiatives generally developed them internally, assigning their own staff to create and manage the programs and services. As wellness programs have become more prevalent, an industry has emerged to provide these services. Today, the majority of employers purchase wellness services for their employees from their health plans or other vendors. This is particularly true for smaller employers, for whom it is more cost-effective to purchase wellness programs as off-the-shelf products. According to the 2010 Survey of Employer Health Benefits by Kaiser/HRET, most wellness benefits were provided by the health plan at 87 percent of all employers and 67 percent of firms with more than 200 workers.⁸ The 2009 National Survey of Employer-Sponsored Health Plans conducted by Mercer found that 88 percent of all firms with wellness programs and 73 percent of those with more than 500 employees offered their services through their health plan as “standard services”; 10 percent and 21 percent, respectively, offered them as “optional services” through their health plan; and 7 percent and 22 percent contracted with a specialty vendor to provide their wellness programs.¹²

2.3 The State of the Wellness Market in the United States

2.3.1 Current Uptake

Wellness programs have become very common among employers in the United States. The 2010 Kaiser/HRET survey indicates that 74 percent of all employers who offered health benefits also offered at least one wellness program. Among larger employers (defined in the Kaiser/HRET survey as those with 200 or more employees), program prevalence was 92 percent. This represents a marked increase from the 2009 results of the same survey, which found that 58 percent of employers offered at least one wellness program. The study report notes that most of this change was due to an increase among small firms adopting web-based resources for healthy living in 2010.⁸

This estimated uptake allows a very rough estimation of the overall size of the U.S. workplace wellness market. Census data show that about 73 million people work in companies that have more than 100 employees,⁷⁷ which is, according to our experts, the typical size at which companies start offering wellness programs. Thus, approximately 55 million employees have access to such a program. While program scope and thus cost vary considerably, our conversations with experts in the field indicate that program costs, conventionally expressed as cost per program-eligible employee rather than per actual participant, range between \$50 and \$150 per year for typical programs. Multiplying those

cost estimates by the number of employees with program access yields an estimate for the overall size of the workplace wellness market of roughly \$2.7 billion to \$8.2 billion per year.

2.3.1.1 Targeted Behaviors

Wellness programs target a broad range of health-related behaviors. As noted previously, smoking, diet, and exercise are commonly targeted, but employers are also interested in modifying behaviors ranging from seat belt use to substance abuse to skin care. Priority setting is commonly driven by the particular context, such as work environment, composition of the workforce, and burden of health risks. The Kaiser/HRET survey indicates that 29 percent of all firms and 53 percent of large firms offered weight loss programs, while 30 percent and 63 percent, respectively, offered gym memberships or on-site exercise facilities. Meanwhile, 24 percent of all employers and 60 percent of large employers offered smoking cessation resources.⁸

2.3.1.2 Prevalence by Type of Employer

As noted previously, industry surveys report consistently that uptake of wellness programs continues to be more common among large employers. For example, HRAs are offered by 11 percent of employers with fewer than 200 workers but 55 percent of larger employers.⁸

Adoption of wellness programs also differs by industry. The Kaiser/HRET survey suggests that wellness program uptake ranges between 55 percent and 93 percent across nine industry categories. This survey also demonstrates wide variation in the offerings of specific types of wellness programs. For instance, firms in the agriculture, mining, and construction category and those in the retail category offered gym membership discounts or on-site exercise facilities at a rate of only 5 percent, far below the overall rate of 30 percent. As another example, 81 percent of state and local government employers offered wellness newsletters, compared with 44 percent of all employers. Personal health coaching was particularly popular among financial firms, where 28 percent offered the benefit, compared with 12 percent of all firms.⁸

2.3.2 Trends in Uptake

The current levels of program implementation reflect steady growth of program use in recent years. In addition to the large increase among all employers from 2009 to 2010 noted previously, the Kaiser/HRET survey shows a year-over-year increase from 88 percent in 2008 to 93 percent in 2009 among employers with more than 200 employees.⁸ Despite indicating slightly lower overall prevalence, the National Survey of Employers, a representative survey by Families and Work Institute, shows a similar trend over a longer period, with wellness program prevalence increasing from 51 percent in 1998 to 60 percent in 2008.¹³ The variation in the levels of prevalence likely stems from differences in samples and how wellness programs are defined in each survey. However, these results,

as well as those from surveys by industry consultants, consistently show a steady increase in program prevalence.

Companies continue to be committed to maintaining or expanding their investments in wellness in spite of the economic downturn. Though mostly nonrepresentative, surveys of employers by a number of management consulting firms indicate that employers will continue to increase their wellness efforts. PwC Consulting found that 67 percent of employers intended to expand or improve wellness programs in the United States,¹⁴ while Hewitt Associates reports in its 2010 *The Road Ahead* survey that 42 percent of employers expected to increase their wellness program offerings in spite of the economic downturn.¹⁵ Similarly, the Integrated Benefits Institute (IBI), a membership organization representing large employers, reports from its 2009 survey that 68 percent of employers planned to expand financial resources devoted to health and productivity management programs.¹⁶

2.3.3 Prevalence of Use of Different Components

2.3.3.1 Health Risk Assessment

HRAs are a common offering, particularly among large employers, because of their central role in raising awareness among employees, collecting data for program planning and evaluation, and directing staff to appropriate offerings. A 2009 survey by Mercer found, similar to the results of the Kaiser/HRET survey mentioned previously, that 73 percent of employers with more than 500 workers but only 27 percent of those with fewer than 500 employees offered an HRA.¹²

2.3.3.2 Lifestyle Management

Employers provide structured education and health counseling to workers in both individual and group formats, through classes and individual health coaching, respectively. According to the Kaiser/HRET survey, 24 percent of all firms and 47 percent of large firms offered classes in nutrition or healthy living. Similarly, 12 percent and 42 percent, respectively, offered personal health coaching.⁸ The 2009 Mercer survey found that 23 percent of all employers and 51 percent of large ones offered behavior modification programs, while 32 percent of all employers and 82 percent of large firms offered case management services.¹²

2.3.3.3 Informational Resources

A number of organizations distribute educational materials and tools on diet, exercise, and other health behaviors through a variety of means, such as written and electronic mailings, posters, and web-based resources. The Kaiser/HRET survey indicates that 51 percent of all employers and 80 percent of large firms provided web-based wellness resources. Among these employer groups, 44 percent and 60 percent, respectively, offered wellness newsletters. The same survey reports that 9 percent of all employers and 51 percent of large firms held health fairs to connect workers with wellness programs.⁸ Similarly, Mercer found in its 2009 survey that 63 percent of all employers and 85

percent of those with more than 500 workers had implemented a health website for their employees.¹²

2.3.3.4 Other Resources and Benefits

Our analysis shows that employers provide a broad range of resources to help their staff improve health and reduce modifiable risk factors, often by encouraging physical activity and healthier eating. Many have invested in worksite infrastructure to make it more conducive to healthy behaviors. These investments include upgrading staircases and walkways to encourage walking, improved dietary choices in company cafeterias and vending machines, and on-site exercise facilities. In parallel, employers provide staff with options to live more healthfully outside their workplace through subsidized gym memberships and programs to purchase discounted exercise equipment. The Kaiser/HRET survey indicates that 30 percent of all employers and 63 percent of large firms provided either gym membership discounts or on-site exercise facilities.⁸

On-site health clinics are another investment in workplace infrastructure that employers make. The National Business Group on Health (NBGH), a membership organization representing large employers, surveyed their members with more than 1,000 employees and found that 36 percent currently had an on-site health clinic in at least one of their locations, while an additional 13 percent were considering the strategy for the future.¹⁷ In their 2009 survey report, Kaiser/HRET found that 20 percent of employers with more than 200 workers had an on-site clinic, and 79 percent of those provided treatment for non-work-related illness,⁸ but these results were not reported for 2010.

2.3.4 Employee Engagement

Achieving an adequate participation rate is essential for an employer to realize the full value of its investment in health promotion.¹⁸ However, the large proportion of employers *offering* wellness programs does not necessarily mean that employees are actually *utilizing* these benefits, let alone improving their health. Participation rates vary widely among employers and among different types of wellness activities. Although there are no nationally representative data available at this point, industry data suggest that relatively few working adults participate in a wellness program, despite the high penetration of these programs. For example, in a 2010 nonrepresentative survey, HRA and biometric screening rates over 50 percent were only achieved by about a third and a sixth of organizations, respectively.⁸² Take-up rates were much lower for individualized interventions, such as weight management and health coaching. The lack of uptake is difficult to quantify precisely because between 35 and 40 percent of employers were not aware of the actual participation rates for many activities (Table 2.1).⁸²

Table 2.1
Participation Rates in Selected Wellness Program Activities

	Percentage of Employers Reporting the Following Participation Rates				
Wellness Activity	0–20%	21–50%	51–75%	>75%	Don't Know
HRA	32%	20%	19%	13%	16%
Biometric screening	30%	19%	9%	7%	35%
Health coach	56%	3%	2%	1%	38%
Smoking cessation	64%	1%	0%	0%	34%
Weight management	57%	3%	0%	0%	40%

SOURCE: Nyce, 2010.⁸² (Participation rates reflect only employees who qualify and/or are recommended for the programs.)

Surveys of employees tell a similar story. A 2010 nonrepresentative survey of employees by Hewitt Associates (now Aon Hewitt) and NBGH suggests that biometric screenings are the wellness activity with the highest participation rate, at 61 percent. The same survey indicates that 41 percent of workers reported completing an HRA. More than half of the workers who were offered an HRA but did not complete it believed that their employer did not offer one.⁶

3. PROGRAM IMPACT

3.1 Employer-Reported Results

Overall, employers seem convinced that workplace wellness programs are delivering on their promise to improve health and reduce costs.[§] According to the 2010 Kaiser/HRET survey, 59 percent of respondents that offered wellness programs stated that these programs improved employee health, and 44 percent believed that they reduced costs. Larger firms (≥ 200 workers) were significantly more positive, as 81 percent affirmed that workplace wellness improved health and 69 percent said that it reduced cost, as opposed to 57 percent and 42 percent, respectively, among smaller firms.⁸ Among employers in the NBGH 2010 survey, 56 percent named workplace wellness as one of the three most effective approaches to control health care costs, putting it ahead of disease management, consumer-directed health plans, and pharmacy benefit changes.¹⁹ Forty percent of respondents to a survey by Buck Consultants indicated that they had measured the impact of their wellness program on the growth trend of their health care costs, and of these, 45 percent reported a reduction in that growth trend. The majority of these employers, 61 percent, reported that the reduction in growth trend of their health care costs was between 2 and 5 percentage points per year.²⁰

3.2 Previously Published Reviews of Workplace Wellness Programs

There are numerous accounts of the positive impact of workplace wellness programs in all industries, regions, and types of employers. For example, a recent article published by the Harvard Business Review cited positive outcomes reported by private-sector employers along several different dimensions, including health care savings, reduced absenteeism, and employee satisfaction.²¹ A similar report by the National Governors' Association Center for Best Practices highlighted similar outcomes reported by state governments, including a health coaching program in North Carolina with an estimated ROI of \$2.00 per dollar spent, and a health risk management program in Oklahoma estimated to save \$2.30 per dollar invested.²² These findings reinforce health plan and wellness industry email alerts and newsletters that include anecdotal success stories on a weekly basis.

Results published in the peer-reviewed literature are largely consistent with the trade literature in reporting positive impacts of workplace wellness programs. The most rigorous review was conducted by Baicker et al. (2009). They performed a meta-analysis of 22 program evaluations and estimated average reductions of medical costs of about \$3.27 for every dollar spent and of absenteeism costs of about \$2.73 for every dollar spent.⁷ Kenneth Pelletier has summarized wellness program evaluations several times

[§] Employers' self-evaluation of workplace wellness programs may be systematically biased toward more positive results because wellness programs are often implemented contemporaneously with other cost-saving programs, such as a high-deductible health plan. Such contemporaneous changes make it difficult to isolate the true impact of a wellness program.

over the last two decades and also typically found positive effects.^{23,24} Chapman calculated average reductions in sick leave, health plan costs, and workers' compensation and disability costs of about 25 percent in a review of 56 studies, corresponding to an average ROI of \$5.81 per dollar spent.²⁵

3.3 Systematic Review of Published Evaluations

We conducted a systematic review to assess the most recent literature on worksite health and evaluate the impact of wellness programs on health-related behavior and medical cost outcomes. We examined articles that evaluated outcomes of comprehensive workplace wellness programs (i.e., that had multiple wellness components focused on health promotion or disease prevention), utilized a control or other comparison group, were published after 2000, and were conducted in the United States. A total of 33 articles met the inclusion criteria and were included in our final sample for analysis.

Wellness programs were most likely to focus on identifying and improving specific health behaviors as outcomes. Exercise was the most commonly reported outcome (n=13), followed by diet (n=12). Control of physiological markers (e.g., body mass index [BMI] and blood pressure) was evaluated in 12 studies. Other outcomes of interest included employer savings defined by health care costs (n=8) or employee absenteeism (n=4), smoking (n=7) or alcohol use (n=3), and mental health (n=4). Below we categorize and evaluate the impact of wellness programs by outcome.

3.3.1 Results by Target Outcome

3.3.1.1 Exercise

Thirteen studies evaluated exercise as an outcome, of which eight (62 percent) found improvements in physical activity.^{18, 26-32} Programs commonly consisted of providing educational materials and counseling, at both the individual and group levels, to motivate employees toward positive behavior change. For example, Faghri et al. evaluated the impact of a 15-minute consultation with a health educator after completion of a health risk appraisal.²⁷ Results showed that employees reported greater readiness to change their exercise behavior than those who did not receive the consultation. Similar studies evaluated the impact of counseling and education-based interventions^{30, 32} and found that participants increased hours of weekend activity and total minutes walked per week,³² and had markedly improved aerobic fitness and exercise habits that were sustained four years after program initiation.³⁰

3.3.1.2 Diet

Diet was another commonly targeted health behavior. Twelve studies evaluated diet, and six (50 percent) found significant improvements,^{26, 28, 30, 33-35} including higher fruit and vegetable consumption and lower fat and energy intake. Programs consisted of group- and individual-level counseling,²⁸ web-based self-help programs, and access to farmers markets and health expos.³⁴ Overall, effects were typically small to moderate, such as

consumption of an average of 0.2 fewer fast food meals per week,³⁴ reduction of fat intake by 3 grams (from 51 to 48.1 grams) per day,²⁶ or an increase of 0.7 servings (from 2.9 to 3.6 servings) of fruits and vegetables per day.²⁶

3.3.1.3 Physiological Markers

Twelve studies evaluated physiological markers, such as BMI, cholesterol levels, and blood pressure. Programs were multifaceted, offering virtual support for activity logging, telephone support from health professionals,^{29, 35} and health education materials.³⁵ One program offered pedometers, healthy snack carts, weight-loss meetings, group exercise classes, and rewards for participating in wellness activities.³⁶ Six of these studies found beneficial effects in one or more outcomes, including BMI or weight,^{29, 30, 35–38} diastolic blood pressure,³⁵ and body fat.³⁶ Three studies found that participants showed a modest decrease in weight of 0.8 kg or BMI of 0.14 kg/m², while nonparticipants showed slight increases in weight of 0.6 kg and BMI of 0.42 kg/m².^{36–38} Though the magnitude between the two groups is small, wellness programs may help reverse weight gain over time.³⁷

3.3.1.4 Smoking

Six of the seven studies (85 percent) that looked at smoking found significantly higher quit rates^{39–42} or less tobacco use.^{28, 29, 35} Smoking cessation programs typically offered education and counseling to increase social support.^{39, 40} Other programs, tailored for union and blue-collar workers, offered educational programs highlighting the dual risks of smoking and occupational hazards.^{41, 42} Overall, the results of smoking programs showed meaningful beneficial effects. Two studies reported that the percentage of individuals in the treatment group who quit was ten points higher than the percentage in the control group,^{39, 41} and another reported that 42 percent of participants who used tobacco had reduced their risk, compared with 18 percent of nonparticipants.²⁸ However, these effects should be interpreted with caution. One study showed significant differences in smoking rates at one-month follow-up, but no significant differences in quit rates at six months, highlighting the importance of long-term follow-up to investigate the sustainability of results.⁴¹

3.3.1.5 Alcohol Use

Three studies evaluated alcohol use as an outcome. Two studies found positive impacts, both of which compared a motivational interviewing-based prevention program with a no-treatment control group.^{43, 44} The studies showing a beneficial effect reported meaningful outcomes, such as decreased drinking on weekends, decreased frequency of intoxication,⁴⁴ and 0.4 fewer days of alcohol consumption per week.⁴³ The authors of the study that did not detect an impact³⁹ attributed the result to the small sample size of at-risk drinkers.

3.3.1.6 Health Care Costs

Eight studies evaluated the impact of wellness programs on health care costs, and all except one⁴⁵ found significant decreases. Programs consisted of online health promotion tools,⁴⁵ coaching and counseling sessions, and on-site health management classes.⁴⁶⁻⁵⁰ Effects of these programs included a reduction in direct medical costs ranging from \$176 to \$1,539 per participant per year.^{46, 47, 51} Other studies took a broader view on costs and found \$613 in savings when including disability cost savings⁴⁸ and \$180 in savings when combining health care costs and absenteeism.⁵²

3.3.1.7 Productivity Loss

Four studies evaluated the impact of wellness programs on productivity, measured as the cost of lost work days (absenteeism). Such studies capture missed work hours because of illness based on employee self-reports and convert lost time to costs based on employees' salaries. Studies evaluated programs offering online health promotion tools,^{29, 45} educational materials, and phone calls from health facilitators to encourage commitment to personal health goals.²⁸ All studies found significant program effects, expressed as an ROI of \$15.60 per dollar spent,⁴⁵ \$1,350 saved per employee in short-term disability costs,²⁸ a 0.1-percent risk reduction in illness days,²⁹ and \$180 per participant per year saved when including health care costs.⁵²

3.3.1.8 Mental Health

Four studies evaluated program impact on perceived mental health⁵³ and stress,^{28, 33, 35} three of which resulted in positive findings. Programs focused on improving mental health and stress by using telephone or in-person counseling interventions. For example, Gold et al. found that highly motivated individuals in a telephone-based health promotion program were two times as likely to practice stress management compared with nonparticipants.²⁸ A similar study found that individuals receiving educational materials coupled with telephone counseling support showed a 6.1-percent risk reduction for stress.³⁵ Butterworth et al. evaluated the impact of employees receiving an individually tailored coaching intervention and found that participants reported improvements in their general mental health.⁵³

3.3.2 Role of Program Intensity

Six of the 33 studies in our sample evaluated the impact of comprehensive wellness programs compared with a control group receiving only one or two components of the program. With these studies, we sought to examine whether intensive (multifaceted) wellness programs are more likely to produce greater benefits than programs offering a basic wellness program. Two studies found improved outcomes among participants in intensive programs only, while four studies reported improvements in both groups, albeit, in some cases, on fewer outcome measures in the control group.

Two studies found that intensive programs integrating behavioral education, health coaches,⁴⁰ and social support groups²⁸ have stronger effects on outcomes than programs that merely provide access to information. Gold et al. evaluated the effect of providing educational materials and telephone consultations with active outreach compared with giving access to a health facilitator without outreach.²⁸ The active outreach group decreased their overall health risk, while the comparison group's health risk significantly increased over time. Similarly, McMahon et al. evaluated a smoking cessation program that provided participants a self-help guide to quit smoking and three weeks of classes incorporating cognitive behavioral techniques and social support.⁴⁰ Individuals in the comparison group received the same self-help guide but did not enroll in the classes. Support group participants reported feeling increased positive support, which was associated with successful quitting at a 24-month follow-up.

In contrast, Nichols et al.³¹ and others^{36, 51, 54} found beneficial program effects in both intensive and basic wellness programs. One study evaluated the impact of a program in which participants attended support group meetings, were given the option to enroll in semistructured exercise classes, and received a free gym membership, while control subjects received a gym membership exclusively. Program participants increased their overall energy expenditure, while both groups increased their moderate and vigorous activity levels.³¹ Similarly, Elberson et al. evaluated a program in which both control and treatment groups had access to exercise facilities.⁵⁴ The treatment group enrolled in exercise classes and was given an exercise plan. Despite the additional exercise programs, both groups showed similar improvements in cholesterol, triglycerides, and BMI.

Racette et al.³⁶ assessed the effectiveness of an intensive program consisting of various health promotion activities, including group seminars, exercise classes, healthy snack carts, and team competitions. At the start of the program, both nonparticipants and participants were given an HRA along with a packet describing their individualized results. Following the assessment, both groups were able to discuss their results with a health professional. Participants in the comprehensive program reduced their cardiovascular health risks, but many of the same improvements were made in the assessment-only group. Finally, Lowe et al. found that small modifications to workplace cafeterias can improve dietary choices.⁵¹ In the study, calories were reduced and nutritional labels were provided for food sold in a workplace cafeteria. The treatment group received a training program consisting of four 60-minute class sessions that provided guidance on how to reduce calories both in and outside of the workplace. Results showed that providing nutrition labels and healthier food options was associated with improved food choices for both groups.

The heterogeneity of approaches and outcomes makes it difficult to conclusively determine whether more intensive programs deliver greater benefits. Some findings suggest that basic interventions, like small adjustments to food environments,⁵¹ can improve health behaviors, while others suggest that ongoing support groups and educational clinics are the key to improving health outcomes.^{28, 40} Other studies lean toward the middle ground, suggesting that short-term educational interventions raise sufficient awareness to stimulate healthful behavioral change.³⁶ Future research is needed

to determine which approaches in wellness programs are in fact more effective at improving health outcomes and determine if a clear dose-response relationship exists.

3.3.3 Summary of Evidence for Program Impact

Our review assessed the more recent literature covering 33 peer-reviewed publications and found, consistent with previous studies, positive effects of workplace wellness programs on health-related behaviors, physiologic parameters, substance use, and costs in many, but not all, studies. ROI estimates were provided in five studies and ranged from \$1.65 to \$6 per dollar spent. Because of the heterogeneity of outcome measures and evaluation designs, it is difficult to provide a general answer on the impact of wellness programs. Based on the available literature, we find evidence for a positive impact of workplace wellness programs on diet, exercise, smoking, alcohol use, physiologic markers, and health care costs, but limited evidence for effects on absenteeism and mental health. We could not conclusively determine whether and to what degree the intensity of a wellness program influences its impact.

The positive results that we and others have found need to be viewed with caution, however, because they may not be representative of the typical experience of a U.S. employer. First, many programs are not assessed at all. Results from the 2009 Mercer survey indicate that 93 percent of all employers and 70 percent of those with 500 or more employees did not measure the ROI of their health management programs,⁵⁵ which suggests that many programs are operated without any impact assessment. Only a subset of programs undergo rigorous scrutiny, as the number of studies included in systematic reviews and meta-analyses is quite small and the included studies often overlap. To illustrate, our review found 33 studies published since 2000 that met our inclusion criteria in terms of rigor of the evaluation approach,⁵⁶ but prevalence data imply that about 100,000 employers in the United States currently offer a workplace wellness program. Thus, publication bias may lead to an overly optimistic assessment, because employers and program operators are more likely to attempt publication of successful interventions, and journal editors and reviewers are more likely to accept these submissions than studies that show no effect.

Second, both surveys and published reviews tend to include a disproportionate share of larger employers, as mentioned previously. Over 90 percent of programs in Baicker's review and more than half in ours were operated in organizations with more than 1,000 employees.⁷ It is not clear whether the results can be extrapolated to smaller companies.

3.4 Key Strategies for Workplace Wellness Programs

Several government and industry reports, as well as studies based on expert opinion, have put forward key strategies for successful workplace wellness programs. While the actual impact of those strategies has yet to be evaluated empirically, three common themes emerged in the literature:

- internal marketing
- evaluation and program improvement

- leadership and accountability.

3.4.1 Internal Marketing

Companies have developed a number of strategies to actively engage their workforce in health promotion. Organizations are taking concrete steps to ensure that employees know which programs and services are available to them and that they understand how to access them and use different communication channels, ranging from face-to-face interaction to mass dissemination. These efforts often resemble marketing campaigns, complete with independent branding and logos, such as Johnson & Johnson's award-winning "Live for Life" campaign.

- **New hire process:** Many companies leverage the new hire intake and orientation process as an opportunity to explain the scope of and rationale for wellness programs. For example, new employees at Caterpillar (CAT) are informed about the importance of the voluntary HRA during orientation, and a paper version is mailed to them soon after starting work. John Deere encourages employees to complete an online HRA within 60 days of initiating employment by including a link on the checklist for new hires.
- **Multiple communication channels:** Broader communication strategies consist of messages and media that are directed toward the overall workforce. A number of the organizations cited the use of posters or bulletin boards to deliver information about programs or reminders about the importance of healthy behaviors. Many organizations create awareness through health and wellness-themed newsletters, and others hold events, like health fairs and "lunch and learn" sessions, to raise the profile of their wellness activities. These events not only build awareness, but they also can provide an opportunity for employees to become immediately engaged through screenings, assessments, or interventions that are made available at the event.

General Electric (GE) uses a number of these strategies to promote wellness efforts, often deployed by local business units with corporate support. On October 27, 2009, the GE Transportation business unit held a "Global Day of Health" to promote its corporate employee health and wellness efforts. This event included an address by the CEO emphasizing the company's commitment to these efforts, programs such as on-site flu vaccinations, and information on a wide range of health-related topics.⁵⁷

3.4.2 Planning, Evaluation, and Program Improvement

Organizations can approach their workplace wellness program with a continuous quality improvement attitude that has several main components:

- **Needs assessment:** Organizations use a number of different strategies to develop an understanding of the health risks and needs of their workforce. These activities

allow program planners to design wellness programs that address their employees' specific challenges and concerns. The CDC offers a number of resources for needs assessment through its Healthier Worksite Initiative (HWI).⁷⁸ Employee surveys are used to assess workers' interests and preferences for the purposes of wellness program planning, and HRA data is crucial to identifying priorities early in wellness program implementation. Some organizations form voluntary employee committees made up of individuals with an interest in health and wellness to coordinate employee input into the planning process. In addition to understanding employee needs and preferences, employers often assess their organizational assets and resources for promoting health and wellness. These can include any aspects of the environment that might influence the effectiveness of a wellness program, including the physical characteristics of the workplace, the surrounding community, and the management climate of the organization.⁵⁸

- **Data integration:** Wellness programs and other health-related benefits create a substantial amount of data that can provide a full picture of the health risks and burden of disease in the employee and dependent population and can be used to track program impact. The data include self-reported health risks from HRAs, physiologic markers from clinical screening programs, health care cost and utilization data from health plans, program utilization data, and employee survey data in areas such as awareness and satisfaction with the program. Different vendors often generate the data, so employers must organize and store it in an integrated way to use the data effectively for program management and performance improvement. For example, CAT has developed a single integrated database that combines data from HRAs with health care claims. NASA has implemented an electronic health record for its occupational health clinics and plans to integrate HRA data as well. In addition to HIPAA and Affordable Care Act requirements related to wellness programs, other federal and state laws, including privacy laws, may be applicable to such data integration practices.
- **Performance measurement:** In order to make the best use of management data, successful wellness managers evaluate programs based on actionable performance measures. These include metrics from health cost and utilization to such “soft targets” as improved morale or enhanced reputation in the community. In a recent review of successful programs, Goetzel and colleagues found no uniform set of data points, but each organization identified key indicators that were most relevant to its business context.¹⁸ Metrics also need to be compared to appropriate benchmarks. Many organizations employ a combination of internal and external benchmarks. NASA, for example, uses benchmarks based on data from the Health Enhancement Research Organization (HERO),^{**} a research collaborative that works with employers to advance the field of employee health promotion. Internal benchmarking is frequently based on comparisons between subunits, such as individual facilities or business units, or comparisons over time. At GE, for example, data for individual worksites are compared within business units and

^{**} For more information, see: “The Health Enhancement Research Organization—Hero,” 2009.⁷⁹

with “best-in-class” worksites.⁵⁹ Some companies use external evaluations or audits. Johnson & Johnson, which has one of the longest-standing programs, has participated in a number of evaluations with outside researchers. NASA conducts comprehensive audits of implementation every three years at all program sites. These external evaluation efforts are often more resource-intensive than internal assessments, but they are generally more rigorous and yield more credible results.

- **Data sharing:** Our review indicates that successful organizations make performance data available to managers at different levels, from the top executives to line managers.⁶⁰ CAT noted that local managers receive worksite-specific data to support local implementation and outreach events. GE provides worksite-specific reports on a quarterly basis that inform local managers about the proportion of their workers in compliance with preventive health screening recommendations.

3.4.3 Leadership Buy-In

Successful programs are characterized by a strong commitment at all levels of the organization to ensure visibility and buy-in. The CDC notes in its HWI resources that support from company leadership, unions, employees, and external stakeholders is an important attribute of a workplace wellness program.⁵⁸ Similarly, Healthy People 2010 includes integration of the program into the employer’s organizational structure as one of its recommendations for comprehensive workplace wellness. The Partnership for Prevention has produced a guide entitled “Healthy Workforce 2010 and Beyond” that outlines these recommendations and provides a number of strategies and tools for developing wellness programs in the workplace, putting a heavy focus on building buy-in among organizational leaders.⁶¹ Three specific themes emerge from our review of these sources and industry reports:

- **Senior management support:** Successful implementation of a wellness strategy requires the support of senior management. Research suggests that employers with strong institutional backing can achieve a program participation rate of 50 percent by offering employees an incentive of \$40, while those with lower levels of management support would have to spend \$120 to achieve a similar participation rate.⁶² In a recent review of successful programs by Goetzel and colleagues, the following statement received the highest level of agreement among company leaders:¹⁸

“Our senior management is committed to health promotion as an important investment in human capital” (96.7 percent agree or strongly agree).

Johnson & Johnson identifies a “champion” for each component of wellness programs. The champion is a member of the senior management team who is responsible for taking the lead in developing and promoting his or her component. This creates a sense of ownership and allows incentivizing individuals for the success of the program.

- **Alignment with mission:** A characteristic of many successful programs is an explicit linkage between the goals of these efforts and an overarching organizational mission. In the aforementioned study by Goetzel et al.,¹⁸ the following statement achieved the second-highest level of agreement:

“Our health and productivity strategies are aligned with our business goals” (93.3 percent agree or strongly agree).

For instance, CAT connects its corporate emphasis on employee health and wellness to its commitment to serving its customers over the full life cycle of its products. Similarly, FedEx makes a direct connection between its Human Capital Management program and the centrality of customer service to its business model. NASA’s leadership has in recent years promoted an agency-wide emphasis on health, seeking to become a model for the federal government by integrating employee health with their mission. They have achieved this by making a long-term effort to connect health with safety and encouraging a sense of mutual responsibility and accountability among all employees. GE is promoting its internal employee health initiative as an extension of its corporation-wide emphasis on improving health and health care through its products and services.

Such a strategic approach creates an opportunity for the alignment of health and wellness with the overall business strategy of the organization. Organizational leadership can capitalize on this opportunity by linking the importance of programs to the organization’s overall mission.^{58, 63}

- **Empowerment of middle managers:** Front-line managers need to have adequate resources and support to make wellness programs work successfully. Support comes, for example, in the form of advisory teams that provide input on wellness programming. These teams can be made up of managers, who have experience with local implementation or monitoring at other sites, or volunteers with an interest in health and wellness. Both NASA and CAT use such teams, which meet periodically to discuss program implementation issues and emerging needs in order to inform ongoing program planning. Other companies, like FedEx and Johnson & Johnson, offer standardized training for managers to promote consistency in implementation. FedEx conducts standard training for all managers, an approach consistent with FedEx’s model of strong central leadership. Johnson & Johnson allows sites flexibility but maintains a consulting staff that can provide guidance to local implementers. These consultants receive standard training to ensure conformity to core organizational principles, as well as company-wide policies and procedures.

4. THE ROLE OF INCENTIVES

As outlined previously, persuading employees to take advantage of wellness programs remains a challenge, and achieving an adequate participation rate is essential to realizing the full value of a firm's investment.¹⁸ Obviously, the best-intended and best-designed program will not reach its goals if people are not using it. While there are many strategies available to employers for boosting participation in wellness programs, as we discuss in the section on key strategies, rewarding employees for participating in program activities through financial and nonfinancial incentives has become a popular approach.

4.1 Rationale for Incentives

There is substantial interest in the use of incentives as part of workplace wellness programs, as employers are well aware of low participation rates, and some evidence suggests that incentives can encourage healthy lifestyles. But given the newness of this field, many questions have not been answered. Significant gaps exist in terms of rigorous empirical evidence for the impact of incentives to encourage program uptake and behavior change. A growing body of literature suggests that targeted incentives can help to influence behaviors that are normally difficult to alter.⁶⁴ As limited program engagement continues to be a key obstacle to success, employers and program vendors have eagerly responded to the emerging evidence by building rewards into their offerings.

4.2 Current Use of Incentives

Overall, surveys suggest that a relatively small percentage of employers utilize incentives for wellness programs, although incentive use is more prevalent among larger employers. Data from the 2010 Kaiser/HRET Survey of Employer Health Benefits indicate that 8 percent of all employers offered cash, gift cards, merchandise, or travel as incentives for wellness program participation. Among large firms (defined as those with more than 200 workers in the Kaiser/HRET survey), 23 percent offered these kinds of incentives.⁸ Mercer Consulting's 2009 National Survey of Employer-Sponsored Health Plans found similar patterns, estimating that 6 percent of all firms and 21 percent of those with 500 or more employees provided financial incentives for participating in at least one program.¹² While providing a valuable insight into the uptake of wellness programs, such surveys do not consistently focus on whether the incentives are provided through the group health plan or otherwise.

- Currently, the most commonly incentivized program appears to be completion of an HRA. According to the 2009 Mercer survey, 10 percent of all firms and 23 percent of large employers that offered an HRA provided an incentive for completing the assessment. For other types of health management programs that the survey assessed, only 2 to 4 percent of all employers and 13 to 19 percent of large employers offered incentives.¹² This finding that HRA completion is the most commonly incentivized wellness activity is backed up by a number of nonrepresentative industry surveys^{14, 15, 19, 20} and is consistent with the central role that HRAs play in identifying at-risk employees and linking them with

appropriate resources. The Kaiser/HRET 2010 survey found that 22 percent of all employers and 36 percent of large firms that offered an HRA provided a financial incentive to employees who completed it.⁸ In addition to the HIPAA and Affordable Care Act requirements related to wellness programs, HRA use may implicate requirements under GINA and the ADA (see a more detailed discussion in the following section of this report).

4.3 Regulatory Constraints on the Use of Incentives

A number of laws and regulations at the federal and state level impose limits on the use of financial incentives in certain types of wellness programs. In general, state insurance regulations and federal regulations under the Public Health Service Act, ERISA, and the tax code affect incentives offered through insured group health plans. Self-insured group health plans are generally exempt from state insurance regulations but remain subject to federal regulation. Mello and Rosenthal recently provided an overview focusing on the federal statutes.⁶⁵ Incentives offered by an employer outside of the context of a group health plan may still be subject to state or federal laws and regulations.

Prior to the passage of the Affordable Care Act, the most significant applicable federal requirements were the HIPAA nondiscrimination provisions. In addition to HIPAA, other federal laws, such as GINA and the ADA, may apply to certain wellness programs. Under the HIPAA nondiscrimination rules, an individual cannot be denied eligibility or continued eligibility for benefits or charged more for group health coverage based on any health factor. However, there is an exception that allows plans to offer incentives in the context of a wellness program that meets certain requirements. If none of the conditions for obtaining a reward under a wellness program are based on an individual satisfying a standard related to a health factor and participation in the program is made available to all similarly situated individuals, then, generally, the program will be outside the scope of the nondiscrimination requirements. Wellness programs that condition a reward on an individual satisfying a standard related to a health factor must meet the following requirements in order to be permissible under the nondiscrimination rules.⁶⁶

1. The total reward for all the plan's wellness programs that require satisfaction of a standard related to a health factor is limited: Generally, it must not exceed 20 percent of the cost of employee-only coverage under the plan. If dependents (such as spouses and/or dependent children) may participate in the wellness program, the reward must not exceed 20 percent of the cost of the coverage in which an employee and any dependents are enrolled.
2. The program must be reasonably designed to promote health and prevent disease.
3. The program must give individuals eligible to participate the opportunity to qualify for the reward at least once per year.
4. The reward must be available to all similarly situated individuals. The program must allow a reasonable alternative standard (or waiver of the initial standard) for obtaining the reward to any individual for whom it is unreasonably difficult due to a medical condition, or medically inadvisable, to satisfy the initial standard.

5. The plan must disclose in all materials describing the terms of the program the availability of a reasonable alternative standard (or the possibility of a waiver of the initial standard).

The Affordable Care Act substantially adopted the requirements of the HIPAA nondiscrimination regulations, with some changes. The Affordable Care Act raises the allowable value of incentives from 20 percent to 30 percent of the cost of coverage in 2014 and provides discretion to the secretaries of Labor, Health and Human Services, and the Treasury to increase the reward to up to 50 percent of the cost of coverage if they determine that such an increase is appropriate.

Other federal laws impose restrictions on incentives for health standard attainment under wellness programs irrespective of whether they are offered under an employer's group health plan or outside of this plan (i.e., directly by the employer). The ADA states that individuals with health conditions that qualify as a disability under ADA must not be penalized (or have a reward withheld) on the basis of their disability. Certain conditions, such as severe obesity, may qualify as a disability, which would limit an employer's ability to offer incentives for weight loss.⁶⁷

In contrast to the restrictions on incentives for attaining health standards, rewarding only program participation or only completion of HRAs (regardless of health outcomes or HRA results) is largely permissible under federal law. Some restrictions exist on the scope of data collection from HRAs. The ADA largely prohibits the employer from collecting information about disabilities but allows questions on lifestyles and disabilities on HRAs as long as participation is voluntary and information is not used to discriminate and is kept separate from employment records. A recent opinion letter of the U.S. Equal Employment Opportunity Commission states that this may prohibit employers from making completion of an HRA a condition for obtaining coverage.⁶⁸ Similarly, strong financial incentives could be interpreted by the courts as violating the ADA requirement of voluntary data provision.⁶⁵

In addition, GINA prohibits employers from collecting genetic information (which includes family medical history) for underwriting purposes (which includes such rewards as a premium discount for completing an HRA). Thus, wellness incentives can only be offered for completion of an HRA that contains questions about family medical history if answers to those particular questions are not required to receive the incentive. While experts disagree on the value of this information to wellness programs, some suggest that the practical impact has been the elimination of these questions from most HRAs.⁶⁹

A number of other federal laws and regulations can affect incentives under workplace wellness programs, although all potential ramifications are unclear and would ultimately be determined through the courts. These statutes include provisions of ERISA, in addition to the HIPAA nondiscrimination and GINA rules, COBRA, and federal civil rights and privacy laws, including the ADA and various aspects of the tax code.⁶⁵

The HIPAA nondiscrimination rules and the Affordable Care Act market reforms regarding wellness programs provide a federal floor. State laws and regulations must be at least as protective as the federal requirements but may be more protective. Most states have nondiscrimination laws applicable to insured group health plans that limit the use of incentives for wellness programs. These regulations generally limit the types of information that can be used as the basis for charging different premiums for different employees. A number of states have passed laws that mirror the HIPAA nondiscrimination rules and include the exception to allow for incentives within the context of wellness programs that meet certain requirements. These rules facilitate the use of wellness program incentives by group health plans and align with the requirements of the federal legislation under the Affordable Care Act. Many states have passed laws that prohibit employers from penalizing workers for legal activities outside of work, with some laws specifically protecting off-the-job tobacco use. Civil rights laws, including privacy protections, may restrict what information an employer can collect or what tests they can impose on employees on a nonvoluntary basis. In one frequently cited example, the Massachusetts Supreme Court ruled against lawn-care company Scotts, finding that the termination of an employee based on a positive biometric screening for nicotine was illegal. The employee had never smoked on the job, and although Massachusetts did not have a statute in place specifically protecting legal behavior outside of work, the court ruled that the drug screen constituted an unreasonable search and had violated the employee's right to privacy.

The trade literature and our experts suggest that employers are cautious in expanding incentives to reward wellness program results, based on real and perceived legal restrictions under the different applicable statutes. Employers view incentives for health standard attainment as an area with substantial compliance risk and therefore may be less likely to use incentives to reward results rather than program participation.

4.4 Types of Incentives

Incentives are offered in a variety of forms, such as cash, gift cards, merchandise, time off, awards, recognition, raffles or lotteries, reduced health plan premiums and co-pays, and contributions to flexible spending or health savings accounts. As noted previously, the Kaiser/HRET 2010 survey reported that among firms offering health benefits with more than 200 workers, 23 percent offered cash or cash equivalent incentives (including gift cards, merchandise, or travel incentives). In addition, 10 percent of these firms offered lower employee health plan premiums to wellness participants, 2 percent offered lower deductibles, and 7 percent offered higher health reimbursement account or health savings account contributions. Meanwhile, 7 percent of firms with fewer than 200 workers offered cash or equivalent incentives, and each of the other types of incentives were offered by only 1 percent or less of firms.⁸

Cash and cash-equivalent incentives remain the most popular incentive for completion of an HRA. The Kaiser/HRET 2010 survey reports that among employers incentivizing HRA completion, 39 percent offered cash, gift cards, merchandise or travel, 14 percent allowed workers to pay a smaller proportion of premiums, 8 percent offered lower

deductibles, and 1 percent offered lower coinsurance. Among large employers, 54 percent utilized cash incentives, 29 percent offered smaller premiums, 8 percent provided lower deductibles, and 5 percent provided lower coinsurance.⁸ Findings from Mercer's 2009 survey suggest similar trends, with 5 percent of all employers and 10 percent of those with 500 or more workers providing cash incentives for HRA completion; 1 percent and 2 percent, respectively, offering lower cost sharing; and 2 percent and 7 percent, respectively, offering lower premium contributions.¹² Note that in the Mercer survey, the results cited reflect the incentives provided by all firms that offer an HRA, while the Kaiser/HRET results previously mentioned reflect only firms that incentivize HRA completion.

Recently some employers have begun experimenting with more far-reaching health plan benefit and cost-sharing structures that build in rewards for wellness program participation. For example, one employer has switched to a high-deductible health plan and offers wellness program rewards to allow participants and beneficiaries to offset the cost of the deductible.⁷⁰ A number of employers, including several county governments, have adopted tiered health plan structures, with wellness program participation-based eligibility requirements for tiers with lower cost-sharing.⁶⁹ A nonrepresentative 2010 survey by the NBGH and benefits consultant Towers Watson indicates that 12 percent of large employers required employees to complete an HRA to be eligible for the preferred health plan option, and another 9 percent of employers were considering implementing such a policy. Similarly, 5 percent of employers required a biometric screening, and another 5 percent required both an HRA and biometric screening to enroll in the preferred plan. Another 8 percent and 10 percent, respectively, were considering implementing those policies.¹⁹

Incentives are usually offered as rewards provided to employees for engaging in activities that the employer seeks to encourage or avoiding activities that the employer would like to reduce. However, in some cases, incentives are structured as penalties levied against employees for engaging in undesirable behaviors or failing to take actions that firms want to encourage. In many cases, regardless of whether an incentive is structured as a penalty or a reward, the same financial and regulatory implications will apply. For instance, an organization may seek to add a surcharge to an employee's share of his or her health plan premium for failing to participate in a wellness program. However, the same financial result can be achieved by increasing the share of the cost by the same amount for all employees and then offering an equivalent reward payment (or discount) to those that do participate. Either approach will be subject to applicable state and federal laws. Anecdotal evidence suggests that some employers do incorporate penalties into their incentive schemes. However, in general, employers attempt to frame incentives as rewards, based on their experience and some evidence suggesting that employees view being assessed a penalty more negatively than having an equivalent reward withheld.

4.5 Incentive Triggers

Incentives may be triggered by a range of different levels of employee engagement. The simplest incentives are triggered by program enrollment—that is, by merely signing up

for a wellness program. At the next level, incentives are triggered by program participation—for instance, attending a class or initiating a program, such as a smoking cessation intervention. Stricter incentive programs may require completion of a program, whether or not any particular health-related goals are achieved, to earn an incentive. The most demanding incentive programs require successfully meeting a specific health outcome (or an alternative standard) to trigger an incentive, such as verifiably quitting smoking.

There is little representative data indicating the relative prevalence of these different types of triggers. Industry reports and trade literature indicate that incentives historically have been tied primarily to program participation. However, those sources and our discussions with experts in the field suggest that companies are increasingly interested in tying incentives to outcomes, particularly in the context of individualized behavioral interventions. The most common form of outcome-based incentives is reportedly awarded for smoking cessation. The 2010 survey by NBGH and Towers Watson indicated that while 25 percent of responding employers offered a financial incentive for employees to become tobacco-free, only 4 percent offered financial incentives for maintaining a BMI within target levels, 3 percent did so for maintaining blood pressure within targets, and 3 percent for maintaining targeted cholesterol levels.¹⁹ In addition, several large employers have implemented programs in which employees set individualized goals with a personal health coach and receive rewards for meeting those personal goals.

4.6 Incentive Value

The value of incentives can vary widely. Estimates from representative surveys of the average value of incentives per year range between \$152¹² and \$557⁷¹ among employees who receive them. A number of additional nonrepresentative industry surveys provide estimates within this range. This suggests that companies are typically not close to the ceiling of 20 percent of the total cost of coverage, as specified by the HIPAA nondiscrimination requirements, considering that the average cost of individual coverage was \$5,049 in 2010.⁸ A 2010 survey by Buck Consultants found that the average incentive among respondents was \$220 per employee, and 43 percent of employers spent \$100 or less per employee, 46 percent spent between \$101 and \$500 per employee, and 11 percent spent more than \$500 per employee.²⁰

While maximum amounts of \$1,000 and higher have been reported, experts who we interviewed for this review confirmed that token rewards, like merchandise and small-amount gift cards, are still much more common than high-powered incentives. We could not identify systematic data on how frequently larger incentives are linked to health status attainment, nor whether such incentives are part of the employer's group health benefit and would therefore fall under the HIPAA and Affordable Care Act nondiscrimination and wellness program rules. However, we learned anecdotally that concerns about the business rationale, rather than regulatory and legal constraints, are the main reasons that employers do not use strong incentives.

4.7 Impact of Incentives

In spite of their growing popularity and variety, the effect of incentives is poorly understood. There are very limited data on which levels of incentives are required to obtain desired outcomes, whether payment levels differ by type of incentive, and how contextual factors mitigate the incentive effect. In practice, we learned, incentive schemes are typically designed based on consultant input and peer reports, with little empirical support.

Our review found that incentives were offered in 76 percent of the studies published in the peer-reviewed literature, but they were in all but one case part of the intervention and not evaluated independently.⁵⁶ In this study, program participants were randomized to receive a \$150 cash incentive for logging minutes exercised compared with those who did not. Compared to the nonincentivized group, incentive group participants had significant improvements in exercise and body weight.²⁹ In another example, GE conducted an experiment that suggested employees were three times as likely to successfully quit smoking when they were paid a large incentive of \$750 for becoming verifiably tobacco-free.⁷² This finding is noteworthy because it suggests a possible dose-response relationship between incentive amount and effect. But, given the small number of studies on the effect of incentives, the exact relationship of incentive amount and behavior change remains unclear.

4.8 Unintended Consequences of Use of Incentives

Some policymakers, labor advocates, and workers have expressed reservations about the potential for wellness programs, specifically those that use incentives, to have negative, discriminatory impacts on employees, particularly those with medical problems. Workers may regard attempts by employers to collect information about their health-related behaviors and to potentially try to influence those behaviors as an undue intrusion into their privacy. Their chief concern is that wellness programs, particularly those relying on incentives, will lead to discrimination against employees based on their health or health behaviors. In our review, we were unable to find research examining the prevalence of real or perceived discrimination in wellness programs.

5. CONCLUSIONS

5.1 State of the Workplace Wellness Market

Workplace wellness programs have achieved a high penetration in the United States. Our analysis suggests that about three-quarters of employers with more than 50 employees now offer such a program, which translates into about 100,000 organizations. It is more difficult to generate estimates for smaller businesses because many surveys do not cover them, but uptake rates for those are reportedly much lower.

Most observers expect that uptake will continue to increase as programs become more comprehensive and more accessible for smaller worksites. In spite of the economic downturn, employers seem committed to maintaining their investments and are taking a long view on returns. The Affordable Care Act will help to sustain this trend, as it is likely to increase employment-based coverage and, hence, employers' interest in potentially cost-saving measures. It also supports the development and uptake of workplace wellness programs through numerous provisions.

5.2 Evidence for Impact

Against this rapid uptake of workplace wellness programs, a key question is whether the benefits justify the investment. Intuitively, promoting health and preventing disease is a very appealing proposition because it could unite the two goals of improving population health status and reducing health care costs. Surely keeping people healthy must be less costly than treating manifest conditions. What must be kept in mind, however, is that all preventive approaches have to be delivered to large populations, a good proportion of which would never acquire the targeted disease even in the absence of the intervention. Thus, whether or not a preventive intervention is cost-effective or even cost-saving depends on such factors as the cost of the intervention, the probability of disease onset in the targeted population, the effectiveness of the intervention, and the cost of the manifest disease. Cohen et al. presented data that some preventive measures, like selected vaccinations, are cost-saving, while some, like smoking cessation programs, increase costs but represent good value for the investment, and others, like routine diabetes screening starting at age 35, are vastly more expensive than high-tech medical care.⁷³

At this point in time, it is difficult to definitively determine which category workplace wellness programs occupy. While employer sponsors are mostly satisfied with the results, more than half stated in a recent survey that they do not know their program's ROI.²⁰ The peer-reviewed literature, while predominately positive, is sparse compared with the broad uptake. Evaluating such complex interventions is difficult and poses substantial methodological challenges that can invalidate findings.

Two observations need to be mentioned. First, reported estimates for ROI are declining over time. Initial evaluations (from a 2005 study) put it at around 6 to 1,²⁵ a study including programs up to 2009 estimated it at around 3 to 1,⁷ and many experts, with

whom we talked for this review, stated that current programs are probably only cost-neutral to modestly cost-saving. This may mean that the lowest-hanging fruit has been harvested or that increasing scrutiny has led to more conservative and more realistic estimates. In any case, the expectation of very high cost savings may not materialize. Second, few evaluations attempt to provide an integrated account of how a program unfolded over time, starting with behavioral changes to reduction of health risks to eventual changes in health status and costs. They usually look at only one component in isolation.

5.3 Implications for Future Research

To summarize, a dynamic and innovative industry has outpaced its underlying evidence base, as we have already seen in the case of disease management.⁷⁴ The available evidence clearly provides proof of concept, showing that certain selected organizations are able to improve employee health and reduce cost, but it is important to evaluate program impact in a larger sample of organizations to obtain generalizable estimates. Particularly, more research is needed on the effect of wellness programs in small and medium-sized organizations, as most evaluations so far have been conducted in large companies.

In addition, wellness programs are complex and heterogeneous interventions and therefore the simple question of whether wellness programs work cannot be answered. Future research needs to have a more differentiated look at workplace wellness programs and investigate, at a minimum, the following questions:

- What components are subsumed under the label “workplace wellness,” and how does program composition vary by industry, region, and firm size?
- What is the effect of individual components on health, cost, and utilization outcomes?
- How do program components interact—i.e., are specific components additive, multiplicative, or possibly duplicative?
- Is there a dose-response relationship between program intensity and effect, and what is the form of this relationship—i.e., at what level of intensity will additional investment improve outcomes substantially, and at what level will returns be small?

Future program evaluations should allow for sufficient follow-up of at least three years, because only longer observations can verify whether sustainable behavior change has been achieved and whether changes in behavior translate into changes in cost and utilization. While experimental designs may not be feasible, evaluations should have a robust comparison strategy to allow distinguishing program effects from secular trends.

As with any complex intervention, it can be expected that the details of the implementation will influence the program effect. The existing literature offers many plausible best practices, such as support of organizational leaders and middle managers

and multifaceted internal marketing, but the actual impact of those practices has not been documented. Similarly, we need better data on how baseline characteristics of the workforce, such as health status, health literacy, and educational level, interact with program impact. In other words, future research ought to focus on finding out what wellness approaches deliver which results under which conditions to give much-needed guidance on best practices.

Lastly, more research on the use of incentives under wellness programs is needed. There is substantial interest in such incentives, as employers are well aware of low participation rates and the difficulty of achieving lasting behavior change. But given the newness of this field, many questions have not been answered, such as the following:

- What are current patterns of incentive use?
 - prevalence of use and variation by industry, region, and firm size
 - amounts at stake
 - framing as reward or penalty (surcharge)
 - form of delivery, such as cash payment or premium discount
 - incentive triggers, such as participation in screening, program participation, behavior change, and change in health-related status.
- What is the effect of incentives on outcomes of interest?
 - dose-response relationships
 - differential impact on outcomes, such as program participation versus behavior change
 - sustainability of effects.
- Are there unintended consequences?
 - cost shifting to employees with higher health risk
 - discrimination in hiring and retention.

More research covering a broad variety of incentive arrangements and more discourse will be needed and should be conducted to settle those questions and to provide employers and policymakers with guidance on effective but fair incentive programs.

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