Results From the Bipartisan Policy Center’s CEO Council Physical Activity Challenge to American Business

Jeff Berko, MPH, Ron Z. Goetzel, PhD, Enid Chung Roemer, PhD, Karen Kent, MPH, and Janet Marchibroda, MBA

Objective: The aim of this study was to describe findings from a survey of employees at 10 businesses participating in the “Building Better Health: Physical Activity Challenge,” an effort led by the Bipartisan Policy Center’s CEO Council on Health and Innovation. Methods: Employers provided employees with pedometers as part of an 8-week Physical Activity Challenge (Challenge). Employees were then asked to complete a survey about their awareness of, participation in, and satisfaction with the Challenge. Results: One hundred three thousand three hundred eighty-three employees participated in the Challenge, averaging 6886 steps per day per participant. Of the 3820 respondents to an employee survey sent to all workers, 62% reported enrolling in the program, and of those, the majority reported positive impacts on health (76%), fitness (73%), and lifestyle (70%). Conclusion: A brief, workplace-based physical activity challenge can achieve positive self-reported health impacts when supported by senior management of the company.

P
hysical inactivity is a major public health threat: inactive adults are at an elevated risk of early death, heart disease, stroke, type 2 diabetes, and depression. Despite these dire consequences, fewer than half of American adults meet the recommended guidelines for daily physical activity. Sedentary jobs contribute to this problem, but the workplace also presents an opportunity for intervention. Simple, workplace-friendly activities such as brisk walking have been shown to improve employees’ physical and mental health, contribute to lower health care spending, and increase worker engagement and productivity. According to the Centers for Disease Control and Prevention (CDC), regular physical activity is one of the most effective ways to prevent chronic diseases. Further, because of their relatively low cost, high impact, wide reach, and easy implementation, walking programs are attractive to employers who wish to help their employees reap the many health benefits of engaging in regular physical activity.

This paper describes an initiative spearheaded by the Bipartisan Policy Center (BPC), headquartered in Washington, DC and the BPC’s Chief Executive Officer Council on Health and Innovation (CEO Council) to engage business leaders in promoting physical activity in the workplace through the “Building Better Health: Physical Activity Challenge” (Challenge). Members of the CEO Council launched the Challenge with the intention of sharing best practices with other employers interested in improving physical activity among workers and ultimately achieving sustainable behavior change. The goals of the Challenge were to raise awareness of the importance of physical activity, improve the health and well-being of employees, and identify strategies that support successful program implementation by other businesses.

A more modest aim of the Challenge was to pilot test the feasibility of a multi-employer initiative aimed at improving the health and well-being of workers, with an initial emphasis placed on promoting physical activity. The initiative was designed as a “call to action” by CEOs of large companies and structured flexibly to encourage broad engagement of companies’ health promotion staffs, all of whom were already managing their unique programs.

BACKGROUND

Bipartisan Policy Center

BPC (http://bipartisanpolicy.org/) is a nonprofit organization that drives principled solutions through rigorous analysis, reasoned negotiation, and advocacy. As the only Washington, DC-based think tank that actively promotes bipartisanship, BPC works to address the key challenges facing the nation. Current areas of focus include health, energy, national and homeland security, the economy, housing, immigration, infrastructure, and governance.

CEO Council on Health and Innovation

BPC’s CEO Council on Health and Innovation (http://www.healthinnovationcouncil.org) is composed of nine companies employing more than one million people, and includes Aetna, Bank of America Corporation, Institute for Advanced Health and NantHealth, Johnson & Johnson, McKinsey & Company, The Coca-Cola Company, and Verizon. Council members initiated a pilot program to improve the health of their own employees through an initiative called Building Better Health: Physical Activity Challenge. The Challenge is part of a commitment CEO Council members made in September 2014 when they released the report entitled Building Better Health: Innovative Strategies from America’s Business Leaders, highlighting strategies and actions employers can take to improve employee health, community health, and health care delivery.

Physical Activity Challenge

In April 2015, to address physical inactivity in the workplace, BPC’s CEO Council launched the Physical Activity Challenge. Participating organizations invited their employees to enroll in a physical activity program, which consisted of workers voluntarily tracking their steps and exercise levels for an 8-week period. Wearable physical activity trackers were provided to participating employees via employer-sponsored health promotion vendor platforms, and platform providers reported either individual or aggregate data to independent researchers at the Johns Hopkins Bloomberg School of Public Health. After the 8-week program, all employees, including participants and nonparticipants in the Challenge, were asked to complete a brief survey asking about reasons for participating or not participating, their opinions on the impacts of the initiative on their health and well-being, and whether the initiative influenced their attitudes about their jobs and employers.

From the Institute for Health and Productivity Studies, Johns Hopkins Bloomberg School of Public Health, Baltimore (Mr Berko, Dr Goetzel, Dr Roemer, Ms Kent); Truven Health Analytics, an IBM Company, Bethesda, Maryland (Dr Goetzel); and Bipartisan Policy Center, Washington, District of Columbia (Marchibroda).

Funding for this study was provided by the BPC in Washington, DC. The authors declare no conflicts of interest.

Address correspondence to: Ron Z. Goetzel, PhD, Senior Scientist, Director, Institute for Health and Productivity Studies, Johns Hopkins Bloomberg School of Public Health, Vice President, Consulting and Applied Research, Truven Health Analytics, 7700 Old Georgetown Rd., Suite 650, Bethesda, Maryland 20814 (ron.goetzel@truvenhealth.com).

Copyright © 2016 American College of Occupational and Environmental Medicine. DOI: 10.1097/JOM.0000000000000897

JOEM • Volume 58, Number 12, December 2016
METHODOLOGY

Employer and Employee Recruitment

BPC recruited CEO Council members to participate in the Challenge and also invited other interested employers to join. Employee recruitment was intentionally kept flexible, and each company was allowed to tailor the program to align with its employees’ and the organization’s culture. For example, employers could choose to provide or subsidize tracking devices for their employees, opt for a “bring your own device” approach, or allow employees to manually track and self-report activity using a low-cost pedometer. Incentives for participation were not required but could be offered if employers so chose.

Employers were also allowed to choose a start date for the Challenge anytime between April 2015 and October 2015, based on their organization’s readiness for the initiative. Employers were encouraged to work out the logistics with their vendor partners if applicable. If an employer chose to work with a vendor, the vendor provided a turnkey program that included communication and promotion of the Challenge, a web platform for tracking and data capture, incentive fulfillment, and reporting.

Providing low barriers to participation and allowing flexibility in program design across organizations had key beneficial effects. First, low barriers to participation allowed many different organizations to become engaged, improving the external validity and generalizability of the study findings. Moreover, it is often difficult to get many companies to collaborate in a cross-organization initiative, so it was important that involvement be made easy for as many organizations as possible. Second, physical activity programs within organizations should be tailored to best fit their employees’ needs and interests. Rather than impose a strict protocol for the organizations wishing to be involved, initiative leaders decided to offer the flexibility needed to best tailor the Challenge to each employer’s population.

Sample

The study sample from which survey data were analyzed was composed of active employees at organizations participating in the Challenge. Further inclusion criteria required that participants be between the ages of 18 and 64 years during the study period and be active employees for the entire study period. While employers were allowed to include retirees, pregnant women, spouses, and dependents in the Challenge, these groups were not included in the evaluation analysis.

Data Sources

Physical activity data were derived from pedometers or fitness trackers worn by employees during the entire 8-week Challenge. Participating organizations provided these tracking devices to workers at either reduced or no cost. Employees either synchronized their pedometers to automatically upload steps data each day or manually logged steps into their web tracking platforms.

An “Engagement and Satisfaction Survey” was administered at the end of the 8-week Challenge to all employees eligible to participate, regardless of whether they participated. The tool used open- and closed-ended questions to assess awareness of, participation in, and satisfaction with the Challenge. (See Appendix A for a copy of the survey instrument) The survey also used a Likert-type scale to assess employees’ perceptions of the impact of the Challenge on health, fitness level, lifestyle, satisfaction with their employers, job satisfaction, and job performance. Open-ended responses were analyzed for common themes, and closed-ended responses were analyzed using descriptive statistics.

RESULTS

Participating Organizations

Among participating organizations, there was diversity in terms of size (ranging from 85 to 220,000 employees), location (more than ten different cities), business types (both for profit and nonprofit), and industry. Table 1 displays the key characteristics of each organization participating in the Challenge.

Physical Activity Results—Steps Accumulated

Across the nine organizations that reported steps data, 544,435 employees were eligible to participate in the Challenge. Of these, 103,383 employees (19%) logged physical activity data. Collectively, these employees recorded almost 40 billion steps over the course of the 8-week Challenge, for an average of about 380,000 steps per employee, and an average of nearly 7000 steps per participant per day (Table 2).

| TABLE 1. Participating Organizations |
|--------------------------------------|
| Organization | Employees Eligible for Participation | Headquarters Location | Business Type | Primary Industry |
| 1. Bank of America | 220,000 | Charlotte, NC | For profit | Finance and Insurance |
| 2. The Coca-Cola Company | 170,000 | Atlanta, GA | For profit | Food Services |
| 3. Johnson & Johnson | 126,500 | New Brunswick, NJ | For profit | Health Care |
| 4. Verizon | 59,000 | New York, NY | For profit | Communications |
| 5. Aetna | 49,000 | Hartford, CT | For profit | Finance and Insurance |
| 6. McKinsey & Company, Inc. | 21,400 | Global (US Southern Offices used for this report) | For profit | Professional, Scientific, and Technical Consulting Services |
| 7. McGraw Hill Financial | 20,000 | New York, NY | For profit | Finance and Insurance |
| 8. Blue Cross Blue Shield of North Carolina | 4,800 | Chapel Hill, NC | For profit | Health Insurance |
| 9. The Academy of Nutrition and Dietetics | 150 | Chicago, IL | Nonprofit, other | Nonprofit |
| 10. Bipartisan Policy Center | 85 | Washington, DC | For profit, other | Nonprofit |
| Total | 670,935 | N/A | 80% For profit, other | 20% Nonprofit |

| TABLE 2. Aggregate Steps Data |
|-------------------------------|
| Total number of eligible employees | 544,435 |
| Total number of employees who logged steps | 103,383 |
| Total number of steps taken by Physical Activity Challenge participants | 39,762,693,070 |
| Average number of steps taken by employees over the course of 8 weeks | 384,615 |
| Average (mean) steps per employee per day | 6,886 |


### TABLE 3. Communication Strategies

| Do you Remember Seeing/Receiving any of the Following Promotional Information About the Challenge? (Select All That Apply) | Yes | % of Respondents |
|---|---|---|
| 1. Emails about programs from wellness teams or management | 2,757 | 72% |
| 2. Announcements/encouragement from management to participate in programs | 2,124 | 56% |
| 3. Calendar of health promotion events | 1,605 | 42% |
| 4. Posters throughout the building | 1,339 | 35% |
| 5. Table tents and/or placemats | 553 | 14% |
| 6. Other | 267 | 7% |

### Engagement and Satisfaction Survey Results

#### Outreach and Enrollment

A total of 3820 individuals from seven organizations completed the Engagement and Satisfaction Survey at the end of the 8-week Challenge. Vendors promoting the Challenge used a variety of advertising and outreach methods to recruit participants. When asked about this, employees were most likely to remember receiving emails (72%) and/or announcements from management (56%) (Table 3). Participants who selected the “Other” option most frequently explained that they teleworked or worked from home, and therefore did not see any in-office promotions such as posters, calendars, or table tents. Employees also frequently reported that they heard about the Challenge via word of mouth from peers, supervisors, wellness team members, and town-hall type meetings.

Although the majority (62%) of survey respondents (N=2310) enrolled in the Challenge, nearly 40% did not (N=1406). The most commonly cited reason for not participating was employees reporting that they were already exercising on their own (N=502, 36% of nonenrollees) (Table 4). The second most common reason for not enrolling was being unaware of the Challenge (N=428, 30% of nonenrollees).

Thematic analysis of “other” responses indicated that employees often did not enroll because they lost, broke, or did not have a pedometer. Many employees mentioned that they did not have enough information about enrollment or how to become involved (eg, “Didn’t know if I needed to have a membership to the exercise facility”). Some employees reported having trouble finding a team to join. Several employees mentioned that they were already exercising on their own, or they teleworked and therefore felt they could not participate in local events. A few employees mentioned that they preferred to work out alone or to keep work and other activities separate, and a few mentioned health issues that prevented them from participating.

#### TABLE 4. Reasons for Not Enrolling in the Challenge

| If You Did Not (Enroll), Why Not? (Select All That Apply) | N | % of Nonenrollees |
|---|---|---|
| 1. Already exercising on my own/participating in other classes/exercise groups | 502 | 36% |
| 2. Did not know about it | 428 | 30% |
| 3. Lack of time | 326 | 23% |
| 4. Was not interested | 167 | 12% |
| 5. None of my friends or coworkers were participating | 153 | 11% |
| 6. Missed the deadline to enroll | 101 | 7% |
| 7. Not motivated to exercise | 62 | 4% |
| 8. Other | 309 | 22% |

#### TABLE 5. Reasons for Participating in the Challenge

| If You Did Enroll, Why Did You Choose to Participate? (Select All That Apply) | N | % of Enrollees |
|---|---|---|
| 1. Enjoy participating in worksite health activities | 1,320 | 57% |
| 2. Enjoy participating in team competitions | 1,180 | 51% |
| 3. Wanted to make a healthy change | 1,101 | 48% |
| 4. Incentives were provided | 832 | 36% |
| 5. Received encouragement to participate from coworkers or management | 813 | 35% |
| 6. Felt pressure from management or colleagues | 39 | 2% |
| 7. Other | 114 | 5% |
Self-Reported Impacts

The Challenge had predominantly positive effects on all health-related domains, such as overall health, fitness level, and lifestyle (Table 9). According to most respondents, the Challenge exerted neither a positive nor negative effect on work-related domains, such as job performance and job satisfaction. There were almost no self-reported negative effects on either health- or work-related domains.

Future Plans

When asked about the future, 95% of respondents (N = 3114) reported they planned to continue exercising on their own even after the end of the Challenge. Moreover, 86% of respondents (N = 2778) indicated they would participate in other Challenges if they were offered. Interestingly, more respondents indicated they would participate in a future Challenge than those enrolled in the current Challenge (N = 2778 and N = 2310, respectively).

When asked about reasons for participating in another Challenge, respondents answered that the current Challenge was fun, motivating, engaging, good for team-building, and health promoting (eg, “Because it builds morale and competition,” “Because I would like to meet more people,” “It really motivated me and I felt much better from getting the additional exercise . . . it really improved my energy level and physical feeling of well-being by the end of the challenge”). A number of employees also indicated support for incentive-based programs. The most common reasons offered for not participating in another Challenge were that they already exercised on their own, did not have enough time, or would wait until the end of the Challenge. Moreover, 86% of respondents (N = 2310) reported they planned to continue exercising on their own even after the end of the Challenge. When asked about reasons for participating in another Challenge, respondents answered that the current Challenge was fun, motivating, engaging, good for team-building, and health promoting (eg, “Because it builds morale and competition,” “Because I would like to meet more people,” “It really motivated me and I felt much better from getting the additional exercise . . . it really improved my energy level and physical feeling of well-being by the end of the challenge”). A number of employees also indicated support for incentive-based programs. The most common reasons offered for not participating in another Challenge were that they already exercised on their own, did not have enough time, or would wait until the end of the Challenge. Moreover, 86% of respondents (N = 2310) reported they planned to continue exercising on their own even after the end of the Challenge.

DISCUSSION

BPC engaged a group of CEOs from some of America’s largest companies through the CEO Council on Health and Innovation to address the problem of poor health in the United States. CEO Council members acknowledged that employers play an important role in improving the health of individuals and their communities by promoting positive health habits that may prevent the onset of costly and debilitating chronic diseases. The goals of the CEO Council are to share innovative strategies and best practices to promote health and wellness and the quality and cost of care, encourage employers to take action to improve health and health care, and promote learning and improvement within the business community by tracking and sharing outcomes and best practices. CEO Council member goals and activities focused on three areas: improving the health and wellness of individuals, improving the health of communities, and improving the health care system.

To promote learning and improvement by sharing outcomes and best practices, the CEO Council initiated a program aimed at evaluating effective strategies for increasing physical activity among their employees. CEO Council members and a small group of other employers collected data associated with physical activity programs conducted as part of the Challenge.

One important achievement of the Challenge was that it may have motivated some workers who were sedentary to move: more than 39 billion steps were taken over the course of 8 weeks, an average of nearly 7000 steps per participant per day (roughly 3.5 miles per day). To put these numbers in context, American adults average only 5117 steps per day. U.S. public health agencies, such as the CDC, do not recommend a standard number of steps that people should take each day, but research has indicated that those who achieve 7000 to 8000 daily steps are likely to meet the minimum recommended amount of moderate-to-vigorous daily physical activity (specifically, 150 minutes of moderate or 75 minutes of vigorous physical activity per week). The U.S. Department of Health and Human Services’ Physical Activity Guidelines for Americans found that meeting the minimum daily physical activity requirement can result in significant improvements in health and well-being, and additional benefits occur with greater physical activity. Thus, if some employees participating in the Challenge increased their physical activity by only small amounts, that alone may have resulted in significant health benefits for those individuals.

The survey found high satisfaction levels and self-reported positive impacts on several health domains. While only 10 organizations participated, those entities represented a wide range of sizes, business types, and industries, suggesting that a well-implemented workplace-based walking program can “work” at any institution.

Survey results also showed that employees choose to participate in health promotion programs like the Challenge because of the social aspects related to physical activity and an interest in employer-sponsored initiatives to support healthy lifestyles. An opportunity to earn incentives was cited as important but not a decisive factor. Organizations lacking financial resources for health promotion should be encouraged that participation in wellness programs can be driven to some degree by employees’ intrinsic desire for health improvement and morale-boosting activities, rather than for cash rewards alone.

The Challenge produced many positive impacts and, practically speaking, no negative feedback from participants.

TABLE 6. Satisfaction With the Challenge

| In General, How Satisfied are you With the Physical Activity Challenge? | N | % of Enrollees |
|---|---|---|
| Completely dissatisfied | 19 | 1% |
| Somewhat dissatisfied | 103 | 5% |
| Neither satisfied nor unsatisfied | 765 | 33% |
| Somewhat satisfied | 583 | 25% |
| Completely satisfied | 824 | 36% |

TABLE 7. Positive Features of the Challenge

| What did you Like Most About the Physical Activity Challenge? (Select all That Apply) | N | % of Enrollees |
|---|---|---|
| 1. It was fun/engaging | 1230 | 53% |
| 2. The platform was easy to use | 1085 | 47% |
| 3. It was a great way to build teamwork | 792 | 34% |
| 4. I achieved my goal | 580 | 25% |
| 5. I lost weight | 424 | 18% |
| 6. The pressure of the competition with others/other teams | 329 | 14% |
| 7. Other | 153 | 7% |

TABLE 8. Negative Features of the Challenge

| What did you Like Least About the Physical Activity Challenge? (Select all That Apply) | N | % of Enrollees |
|---|---|---|
| 1. Too much effort to log activity | 596 | 26% |
| 2. It was not fun/engaging | 512 | 22% |
| 3. It was too hard to keep up | 445 | 19% |
| 4. The pressure of the competition with others/other teams | 258 | 11% |
| 5. Other | 551 | 41% |
Moreover, employees reported that the Challenge was fun, engaging, and motivating. With high satisfaction rates and positive self-reported impacts, it is not surprising that a large majority reported they would continue exercising on their own and would participate in another Challenge if given the opportunity.

Survey responses indicated several areas for improvement in future challenges. For example, of those who did not participate in the Challenge, 30% indicated that the reason they did not participate was because they were unaware of it. This suggests that additional or more strategic communication efforts may have boosted enrollment. Moreover, nonenrollees often reported that they did not know what participation would entail, suggesting that making Challenge-related advertisements more descriptive may have boosted enrollment. Survey responses also indicated that teleworkers remain a difficult population to reach, in part because they are less likely to see in-office advertisements, and because they may have a harder time feeling connected and joining a team. Creating subgroups or affinity teams of telecommuters may be one way to address the issue of engaging remote workers.

While the overall results of the Challenge were positive, it is important to note some of its shortcomings. As a reminder, the central aim of the CEO Council was broad—to pilot test a multi-employer initiative for engaging companies in improving the health and well-being of workers, with an initial emphasis being placed on promoting physical activity. The initiative was not designed to support a research study with clear pre- and postoutcome measures.

Moreover, designing and executing a multi-employer health promotion initiative is complicated. This pilot program was launched within a relatively short time horizon. Further, the Challenge was intentionally designed to be flexible and to encourage broad engagement of companies’ health promotion staff, all of whom were already managing their unique programs. Consequently, the manner in which the initiative was offered was variable and the data collected were nonuniform. Several layers of approval were required on the part of participating companies, promotion vendors, and data analytic firms, which introduced additional complexity and challenges to conducting a rigorous evaluation of the initiative. In most cases, the Challenge was offered as a complement to already existing programs and a clear distinction between programs in place and this new activity was not highlighted to employees. To heighten the impact of similar initiatives in the future, we strongly recommend that senior leadership be more visible and engaged when campaigning for and championing this or any workplace health promotion programs.

As for next steps, BPC, with support of the CEO Council, will conduct additional awareness building activities. It will share and disseminate results of the pilot evaluation through a press release and other outreach to national and trade media covering corporate health and wellness. BPC will also upload updates to the BPC CEO Council on Health and Innovation website and provide briefings, meetings, and events targeting employer, payer, community, public health, and provider audiences. Finally, BPC plans to develop, publish, and widely disseminate case examples, guides, and other tools to support employer success in implementing physical activity and general health and wellness programs.

**LIMITATIONS**

There were several limitations to this analysis. First, survey response rates were relatively low, meaning that employees who participated in the Challenge and follow-up survey may not have been representative of the target employee population among the employers involved.

Second, organizations were able to tailor the program to best fit their employees’ and their organizational needs, making it difficult to maintain program fidelity and consequently determine precisely which recruitment and engagement practices were most effective. For example, organizations were free to use any pedometers, app, or other tracking devices as deemed appropriate. Further, there were no standard sets of instructions or protocols related to pedometer use. We speculate that employees were asked to wear their pedometers all days including weekends, while at work or at home, and to accumulate as many steps as possible during a given week, but we did not collect data to validate this assumption.

Third, there were no baseline steps data collected to determine whether employees were walking any more than before they became involved in the Challenge. This lack of baseline data prevents any assessment on effects that the Challenge may have had. Future investigations should consider using sealed pedometers to collect baseline data and minimize reactivity.

**CONCLUSION**

Physical inactivity remains a major public health threat, and the workplace offers an underutilized opportunity for intervention. As a result of this pilot program promoted by BPC’s CEO Council, employees improved their self-rated health, fitness, and lifestyle. This pilot study underscores the importance of partnerships among businesses, public health advocacy organizations, and political leaders whose shared goal is to improve the health and well-being of Americans and enhance the global competitiveness of domestic enterprises.

**ACKNOWLEDGMENTS**

The authors would like to acknowledge several individuals within CEO Council member companies who devoted their leadership and time to the Challenge and data collection associated with its evaluation. They include Jim Huffman, Bank of America; Audrietta Elzar, Verizon Communications; Mary Lou Boersig, McKinsey & Company; Bob Florio, The Coca-Cola Company; Deb Gorhan, Johnson & Johnson; Nancy Lasignan, Aetna; Lina Uribe, Johnson & Johnson; and Jennifer Yakey-Ault, Aetna.
REFERENCES

1. Centers for Disease Control and Prevention. Facts About Physical Activity. Physical Activity | CDC. (2014). Available at: http://www.cdc.gov/physicalactivity/data/facts.htm. Accessed May 6, 2016.

2. National Center for Health Statistics, Centers for Disease Control and Prevention. Leisure-Time Physical Activity. 2015. Available at: http://www.cdc.gov/nchs/data/series/sr_13/sr13_210.pdf. Accessed May 10, 2016.

3. U.S. Department of Health and Human Services. Healthy People 2010: Understanding and Improving Health and Objectives for Health, 2nd ed. Washington, DC: U.S. Government Printing Office; 2000.

4. Goetzel RZ, Ozminkowski RJ. The health and cost benefits of worksite health-promotion programs. Annu Rev Public Health. 2008;29:303–323.

5. Malik SH, Blake H, Suggs LS. A systematic review of workplace health promotion interventions for increasing physical activity. Br J Health Psychol. 2014;19:149–180.

6. Centers for Disease Control and Prevention. Workplace Health - Implementation - Physical Activity. 2013. Available at: http://www.cdc.gov/workplacehealthpromotion/implementation/topics/physical-activity.html. Accessed April 16, 2015.

7. To QQ, Chen TTI, Magnussen CG, To KG. Workplace physical activity interventions: a systematic review. Am J Health Promot AJHP. 2013;27:e113–e123.

8. Iverson D, Lewis KL, Caputi P, Knope S. The cumulative impact and associated costs of multiple health conditions on employee productivity. J Occup Environ Med. 2010;52:1206–1211.

9. Goetzel RZ, Shechter D, Ozminkowski RJ, et al. Promising practices in employer health and productivity management efforts: findings from a benchmarking study. J Occup Environ Med. 2007;49:111–130.

10. Goetzel RZ, Henke RM, Tabrizi M, et al. Do workplace health promotion (wellness) programs work? J Occup Environ Med. 2014;56:927–934.

11. Centers for Disease Control and Prevention. The Power of Prevention: Chronic Disease, the Public Health Challenge of the 21st Century. Atlanta, GA: National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention; 2009.

12. CEO Council on Health and Innovation and the Bipartisan Policy Center. Building Better Health: Physical Activity Challenge. Washington, DC: CEO Council on Health and Innovation; 2014.

13. Towers Watson and the Bipartisan Policy Center CEO Council on Health and Innovation. Physical Activity Challenge Employer Toolkit. Arlington, VA and Washington, DC: Towers Watson and Bipartisan Policy Center CEO Council on Health and Innovation; 2015.

14. American College of Sports Medicine. ACSM Information on Selecting and Effectively Using a Pedometer. Indianapolis, IN: American College of Sports Medicine; 2011.

15. Bassett DR, Wyatt HR, Thompson H, Peters JC, Hill JO. Pedometer-measured physical activity and health behaviors in U.S. adults. Med Sci Sports Exerc. 2010;42:1819–1825.

16. Tudor-Locke C, Craig CL, Brown WJ, et al. How many steps/day are enough? For adults. Int J Behav Nutr Phys Act. 2011;8:79–95.

17. Centers for Disease Control and Prevention. How Much Physical Activity do Adults Need? 2015. Available at: http://www.cdc.gov/physicalactivity/basics/adults/. Accessed May 27, 2016.

18. Surgeon General, U.S. Department of Health & Human Services. Active Living. 2014. Available at: http://www.surgeongeneral.gov/priorities/prevention/strategy/active-living.html. Accessed May 27, 2016.

19. Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services. Summary—2008 Physical Activity Guidelines. 2016. Available at: http://health.gov/paguidelines/guidelines/summary.aspx. Accessed May 27, 2016.