Don't Throw Out the Baby with the Bathwater - A Measured Response to Critics of Workplace Health Promotion and Disease Prevention Programs

Ron Z. Goetzel, Ph.D.
Truven Health Analytics -- Johns Hopkins University
HERO Webinar -- April 22, 2015

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HERO

TRUVEN HEALTH ANALYTICS

Do Health Promotion (Wellness) Programs Work?

What Do We Mean When We Say: A Wellness Program Works?

- "Make workers aware of their health and how it improves quality of life."
- "High participation and engagement."
- "Lose weight, stop smoking, exercise more."
- "Medical claims costs should go down."
- "Less absenteeism, fewer safety incidents."
- "Attract the best talent."
- "Happier workers with more energy."
- "Create a culture of health."

What Do We Mean When We Say: A Wellness Program Works? (con't)

"Produce a positive return on investment (ROI)"

LA Times

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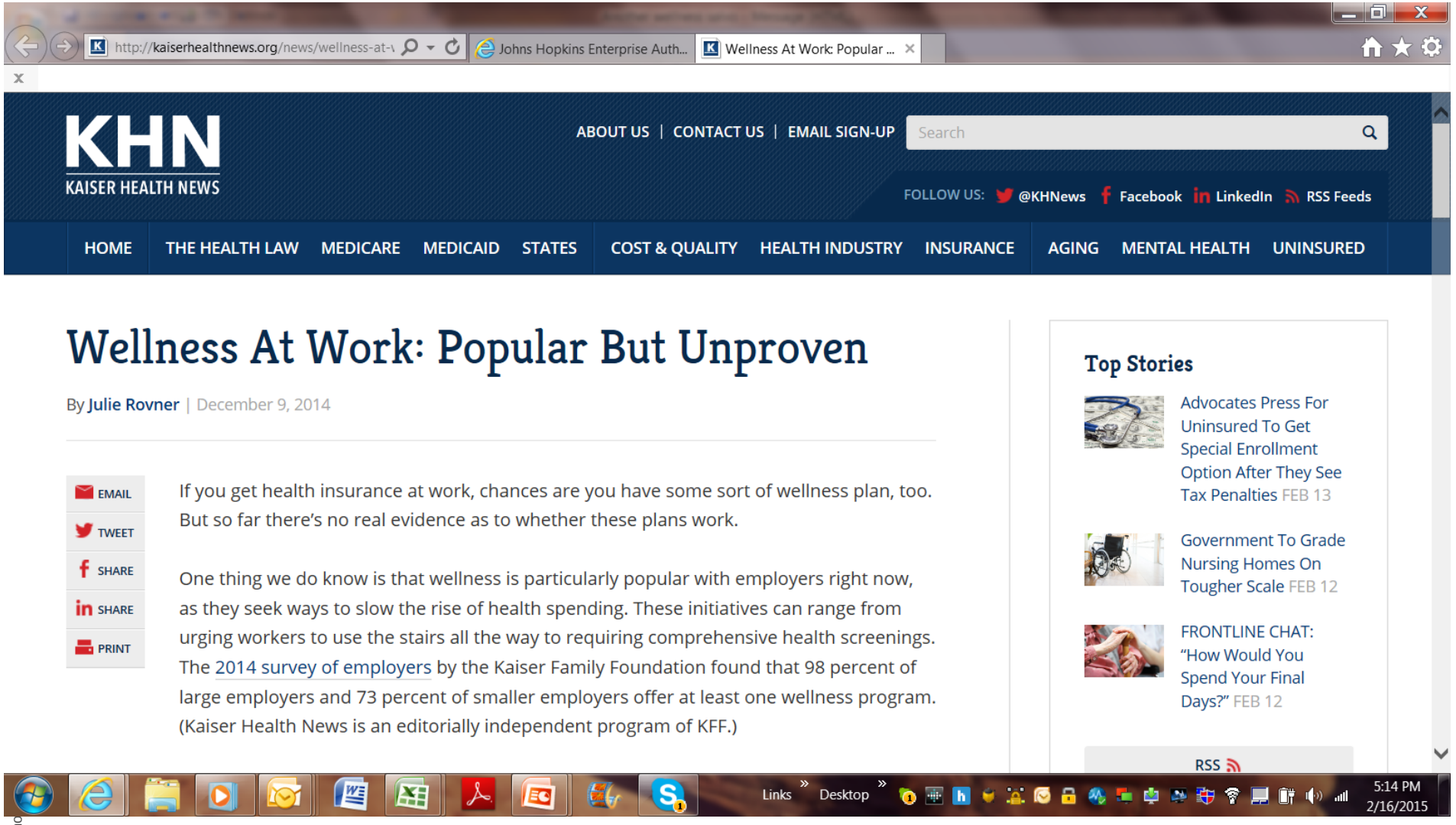
National Public Radio



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New York Times

http://www.nytimes.com/2014/09/12/upshot/do-w | Ronnie Goetzel - Outlook Web... | Do Workplace Wellness Pro... | Google Maps | Truven Health Analytics WebEx...

THE UPSHOT | Do Workplace Wellness Programs Work? Usually Not

SHARE 74

The Upshot

EDITED BY DAVID LEONHARDT

FOLLOW US:

THE NEW HEALTH CARE

Do Workplace Wellness Programs Work? Usually Not

SEPT. 11, 2014

By Austin Frakt and Aaron E. Carroll

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Most news coverage of the new Kaiser Family Foundation annual survey on employer-sponsored health plans has focused on the fact that growth in premiums in 2013 was as low as it has ever been in the 16 years of the survey. But buried in the details of the report are some interesting insights into how employers think about controlling health care costs. One example is that they're very fond of workplace wellness programs. This is surprising, because while such programs sound great, research shows they rarely work as advertised.

Wellness programs aim to encourage workers to be more healthy. Many use financial incentives to motivate workers to monitor and improve their health, sometimes through lifestyle-modification programs aimed at lowering cholesterol or blood pressure, for instance. Some

Roman Muradov

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A Review of the Evidence:

FAST TRACK ARTICLE

Do Workplace Health Promotion (Wellness) Programs Work?

Ron Z. Goetzel, PhD, Rachel Mosher Henke, PhD, Maryam Tabrizi, PhD, MS, Kenneth R. Pelletier, PhD, MD (hc), Ron Loeppke, MD, MPH, David W. Ballard, PsyD, MBA, Jessica Grossmeier, PhD, MPH, David R. Anderson, PhD, LP, Derek Yach, MBChB, MPH, Rebecca K. Kelly, PhD, RD, CDE, Tre' McCalister, MA, EdD, Seth Serxner, PhD, Christobel Selecky, MA, Leba G. Shallenberger, DrPh, James F. Fries, MD, Catherine Baase, MD, Fikry Isaac, MD, MPH, K. Andrew Crighton, MD, Peter Wald, MD, MPH, Ellen Exum, BS, Dexter Shurney, MD, MBA, MPH, and R. Douglas Metz, DC

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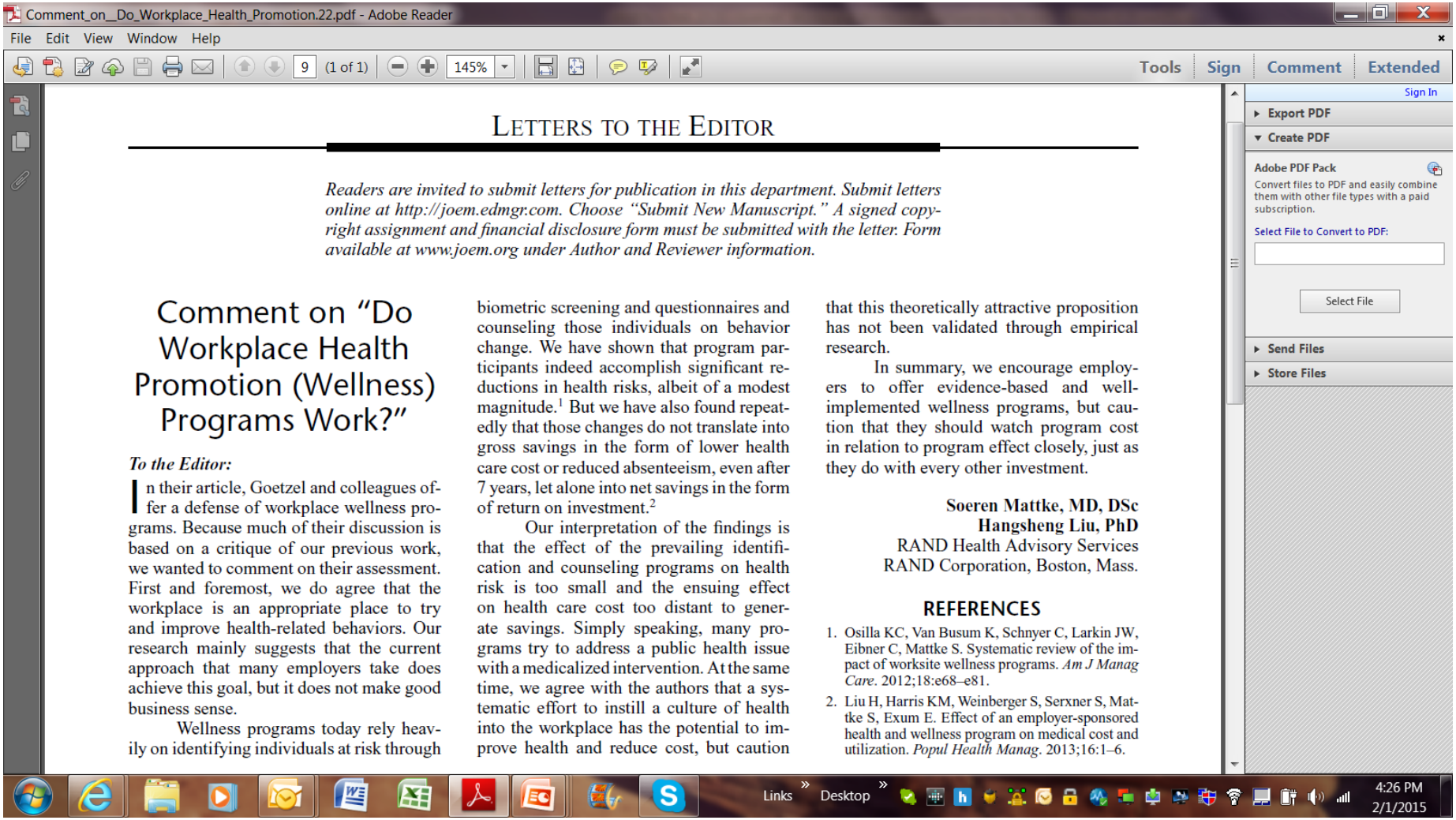
JOEM Article

The RAND Study

In 2013, RAND published results from a federally funded study focused on workplace health promotion programs.[37] The project was multifaceted and involved a literature review, site visits to companies, an employer survey, and analysis of a large multi-employer database comprising more than half a million employees whose medical and health risk records were analyzed over a period of several years, resulting in 1.8 million person-years of data. In media reports, the study purportedly "delivered a blow" to the wellness "industry" and "cast doubt" about programs' effectiveness given the "grim" results.[42]

Despite the media spin on the findings, the RAND study reported "significant," "clinically meaningful," and "long-lasting" improvements in employees' weight, smoking status, and physical activity—but not in cholesterol values. In terms of financial outcomes, RAND found that participants had lower health care costs and reduced service utilization compared with statistically matched non-participants, but the results were not statistically significant. Therefore, the study authors were unable to conclude that the programs saved money, although they inferred that they were probably cost neutral. The small number of individuals included in subcomponents of the RAND studies (eg, only 746 individuals were included in the smoking analysis and 12,127 in the cost analysis—out of 567,506 employees in the database) impacts the generalizability of results to the companies included in the study and to workplace health promotion programs in general.

Mattke and Liu Letter to the Editor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LETTERS TO THE EDITOR

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Comment on "Do Workplace Health Promotion (Wellness) Programs Work?"

To the Editor:

In their article, Goetzel and colleagues offer a defense of workplace wellness programs. Because much of their discussion is based on a critique of our previous work, we wanted to comment on their assessment. First and foremost, we do agree that the workplace is an appropriate place to try and improve health-related behaviors. Our research mainly suggests that the current approach that many employers take does achieve this goal, but it does not make good business sense.

Wellness programs today rely heavily on identifying individuals at risk through biometric screening and questionnaires and counseling those individuals on behavior change. We have shown that program participants indeed accomplish significant reductions in health risks, albeit of a modest magnitude.[1] But we have also found repeatedly that those changes do not translate into gross savings in the form of lower health care cost or reduced absenteeism, even after 7 years, let alone into net savings in the form of return on investment.[2]

Our interpretation of the findings is that the effect of the prevailing identification and counseling programs on health risk is too small and the ensuing effect on health care cost too distant to generate savings. Simply speaking, many programs try to address a public health issue with a medicalized intervention. At the same time, we agree with the authors that a systematic effort to instill a culture of health into the workplace has the potential to improve health and reduce cost, but caution that this theoretically attractive proposition has not been validated through empirical research.

In summary, we encourage employers to offer evidence-based and well-implemented wellness programs, but caution that they should watch program cost in relation to program effect closely, just as they do with every other investment.

Soeren Mattke, MD, DSc
Hangsheng Liu, PhD
RAND Health Advisory Services
RAND Corporation, Boston, Mass.

REFERENCES

1. Osilla KC, Van Busum K, Schnyer C, Larkin JW, Eibner C, Mattke S. Systematic review of the impact of worksite wellness programs. *Am J Manag Care*. 2012;18:e68–e81.
2. Liu H, Harris KM, Weinberger S, Serxner S, Mattke S, Exum E. Effect of an employer-sponsored health and wellness program on medical cost and utilization. *Popul Health Manag*. 2013;16:1–6.

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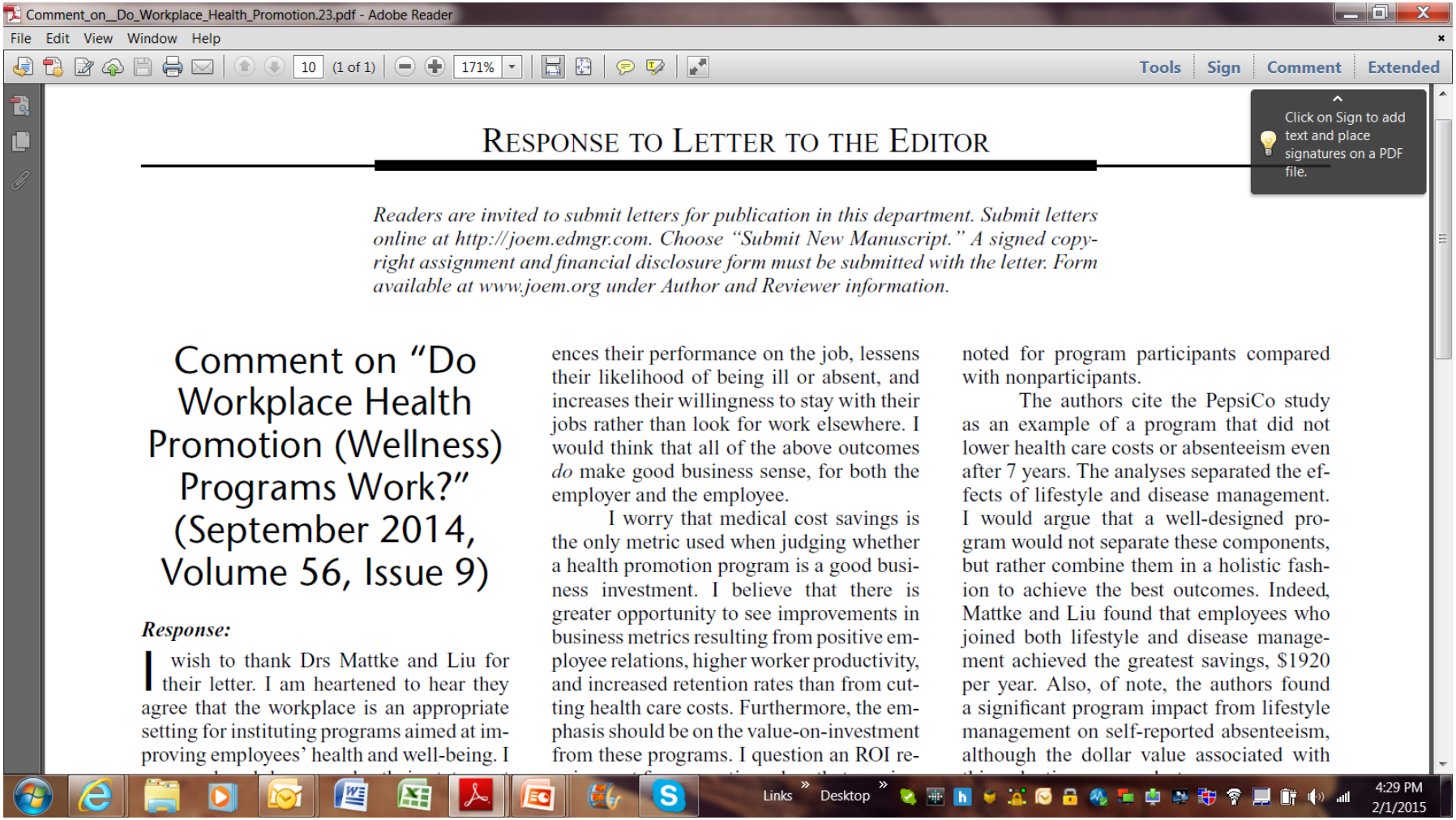
Goetzel Response to Mattke and Liu



RAND Report

Workplace Wellness Programs Study

Final Report

Soeren Mattke, Hangsheng Liu, John P. Caloyeras, Christina Y. Huang, Kristin R. Van Busum, Dmitry Khodyakov, Victoria Shier

RAND Health

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

RAND
CORPORATION

Findings of the Rand Report

Program Impact on Health-Related Behaviors and Health Status

In an analysis of the CCA database, when comparing wellness program participants to statistically matched nonparticipants, we find statistically significant and clinically meaningful improvements in exercise frequency, smoking behavior, and weight control, but not cholesterol control. Those improvements are sustainable over an observation period of four years, and our simulation analyses point to cumulative effects with ongoing program participation. However, we caution that our analyses cannot account for unobservable differences between program participants and nonparticipants, such as differential motivation to change behavior.

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Findings of the Rand Report

Health Care Cost and Utilization

In the RAND Employer Survey, employers overwhelmingly expressed confidence that workplace wellness programs reduce medical cost, absenteeism, and health-related productivity losses. But at the same time, only about half stated that they have evaluated program impacts formally and only 2 percent reported actual savings estimates. Similarly, none of our five case study employers had conducted a formal evaluation of their programs on cost; only one employer had requested an assessment of cost trends from its health plan. Our statistical analyses suggest that participation in a wellness program over five years is associated with a trend toward lower health care costs and decreasing health care use. We estimate the average annual difference to be $157, but the change is not statistically significant (Figure S.5).[1]

Sample Sizes

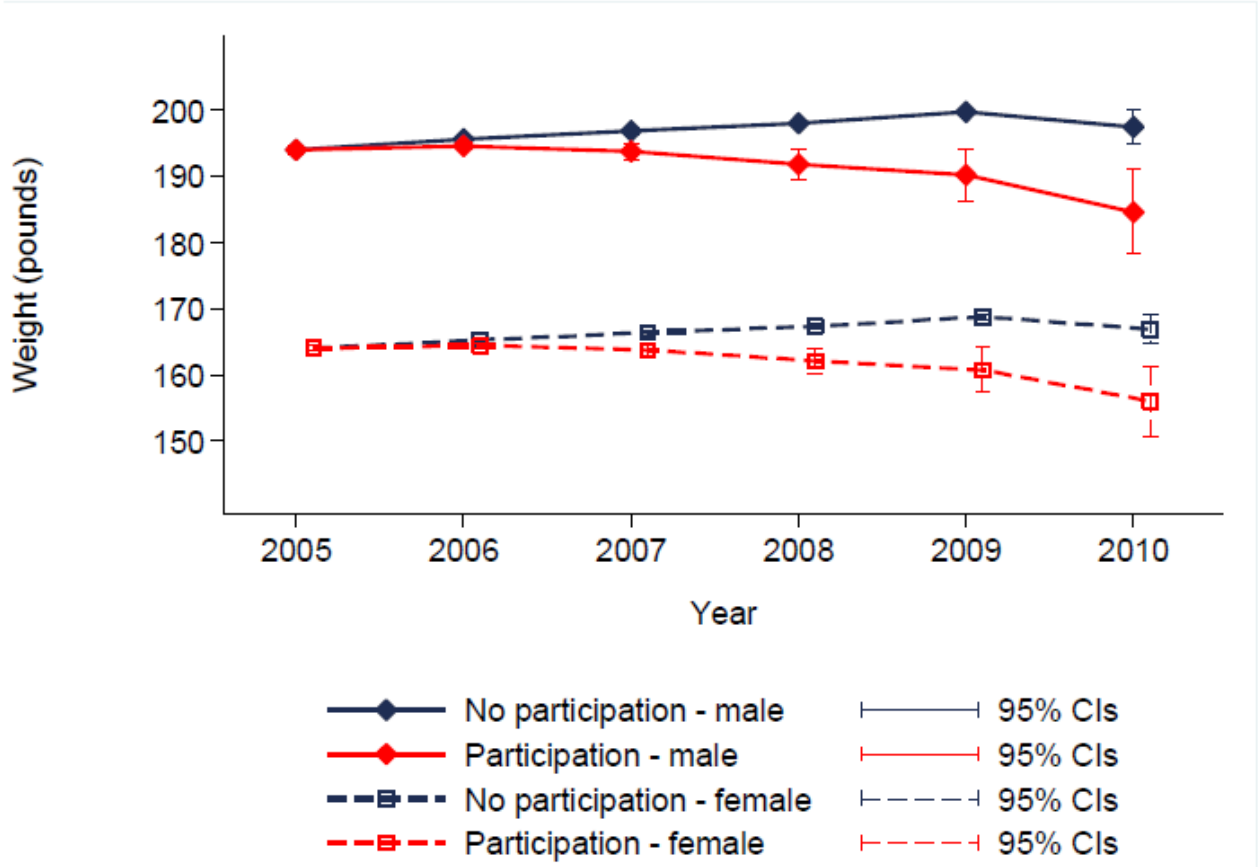
Table B1: Creation of an Analytic Sample from the Data Aggregation Project Secondary Data

Inclusion Criteria	Number of EmployeeYears	Number of Unique Employees	Number of Employers
1. Aged 18–64	1,793,884	567,506	7
2. One or more full-year enrollment	1,351,478	428,974	7
3. Active full-time	1,206,327	382,459	7
4. Not enrolled in HMO	1,039,136	327,024	7
5. With complete claims data	977,100	292,792	6
6. Not pregnant during data year	951,112	287,694	6
Additional criteria for analytic subsamples			
HRA data available	611,862	232,037	6
Program participation data available	615,770	173,382	4
BMI data available	306,950	149,844	6
Total cholesterol data available	104,086	66,301	6
Exercise data available	109,487	58,858	3
Smoking status data available	111,912	61,486	4

SOURCE: RAND analysis of health plan claims and screening and wellness program data in the CCA database.
NOTE: Data on high-density lipoprotein and low-density lipoprotein are not complete.

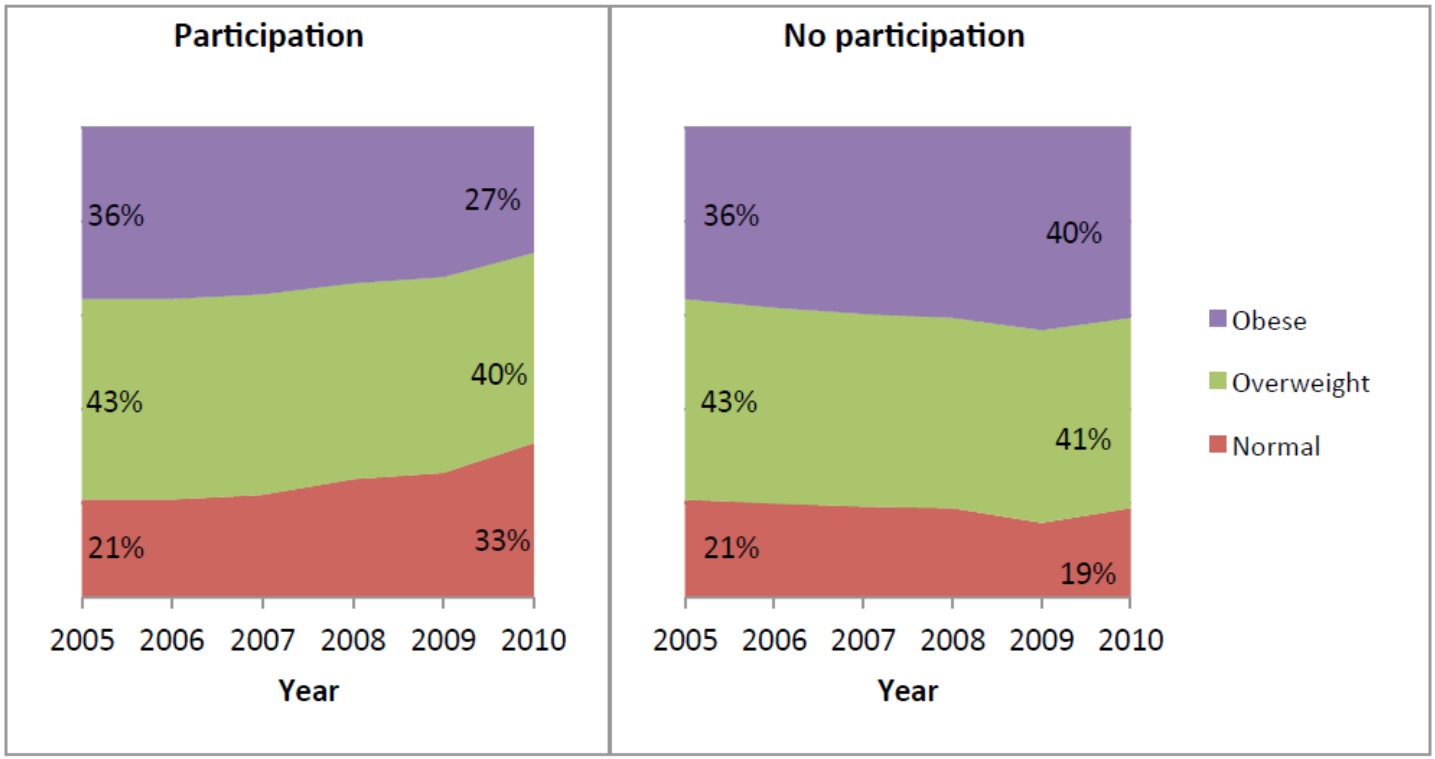
Weight Reduction Results (N=3,924)

Figure 4.16: Cumulative Simulated Effects of Participation in a Weight Control Program on Body Weight over Five Years



Over Five Years…Participants: 36% → 27% Obese
Non-Participants: 36% → 40% Obese

Figure 4.17: Percentage Distribution of the Cumulative Simulated Effects of Consecutive Participation in a Weight Control Program on Employee Weight Status



SOURCE: RAND analysis of health plan claims and screening and wellness program data in the CCA database.
NOTE: Simulation results are based on continuous participation in 2006–2010 of the model estimation sample.

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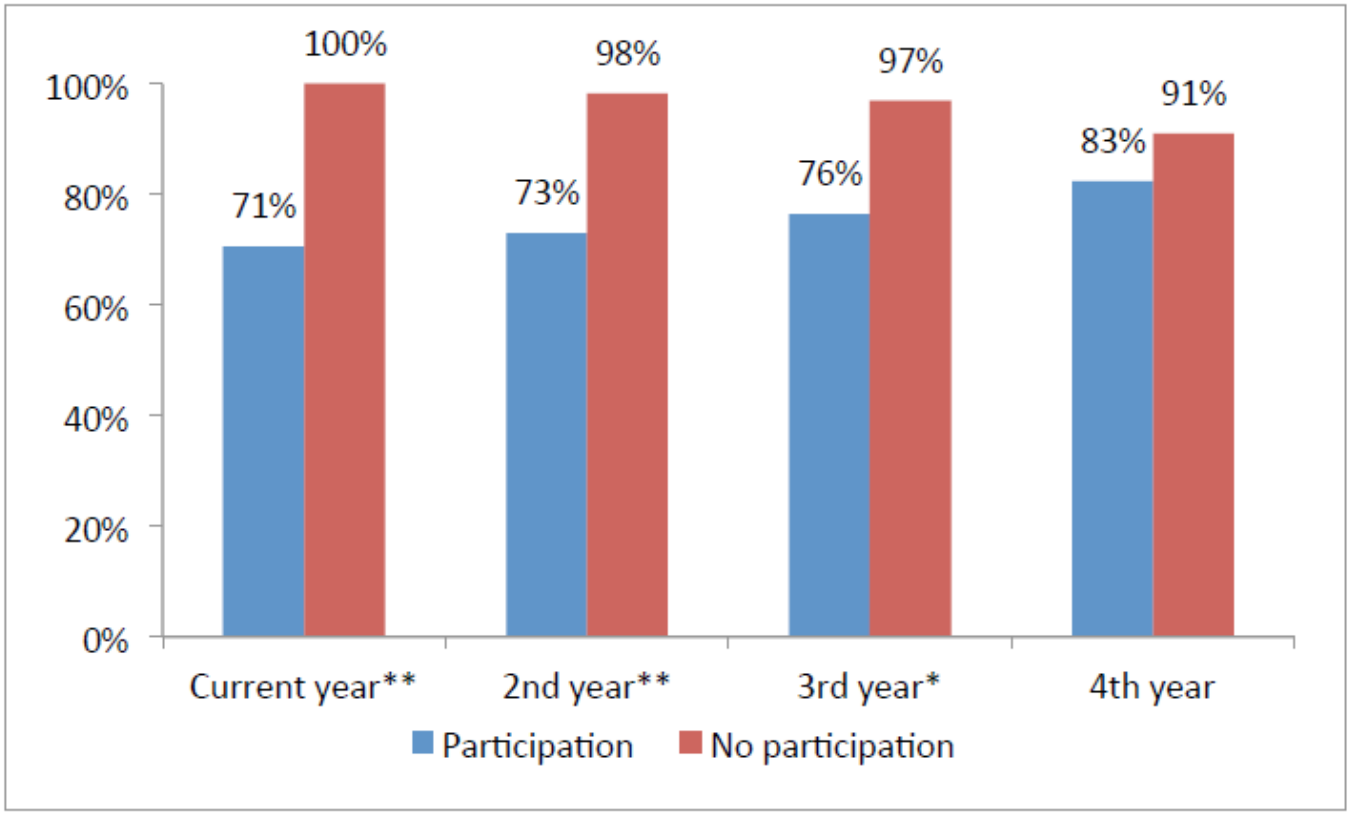
Smoking Results – 8%-29% quit rate (N=746)

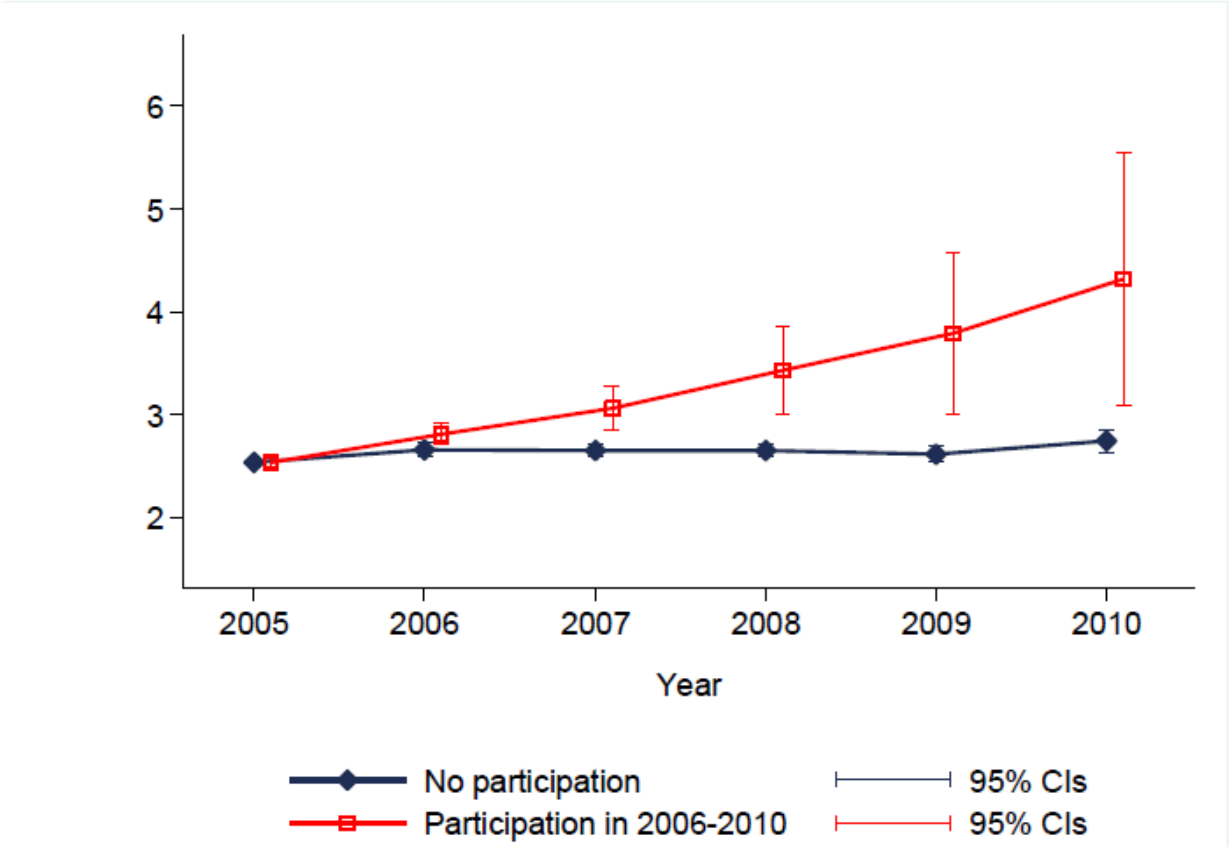
Figure 4.12: Percentage of Smokers Who Continue Smoking After One-Year Participation in a Smoking Cessation Program, Compared to Nonparticipating Smokers



SOURCE: RAND analysis of health plan claims and screening and wellness program data in the CCA database.
NOTES: 2005–2010 data are from one employer; 746 propensity score matched pairs.
*p < 0.05; **p < 0.01.

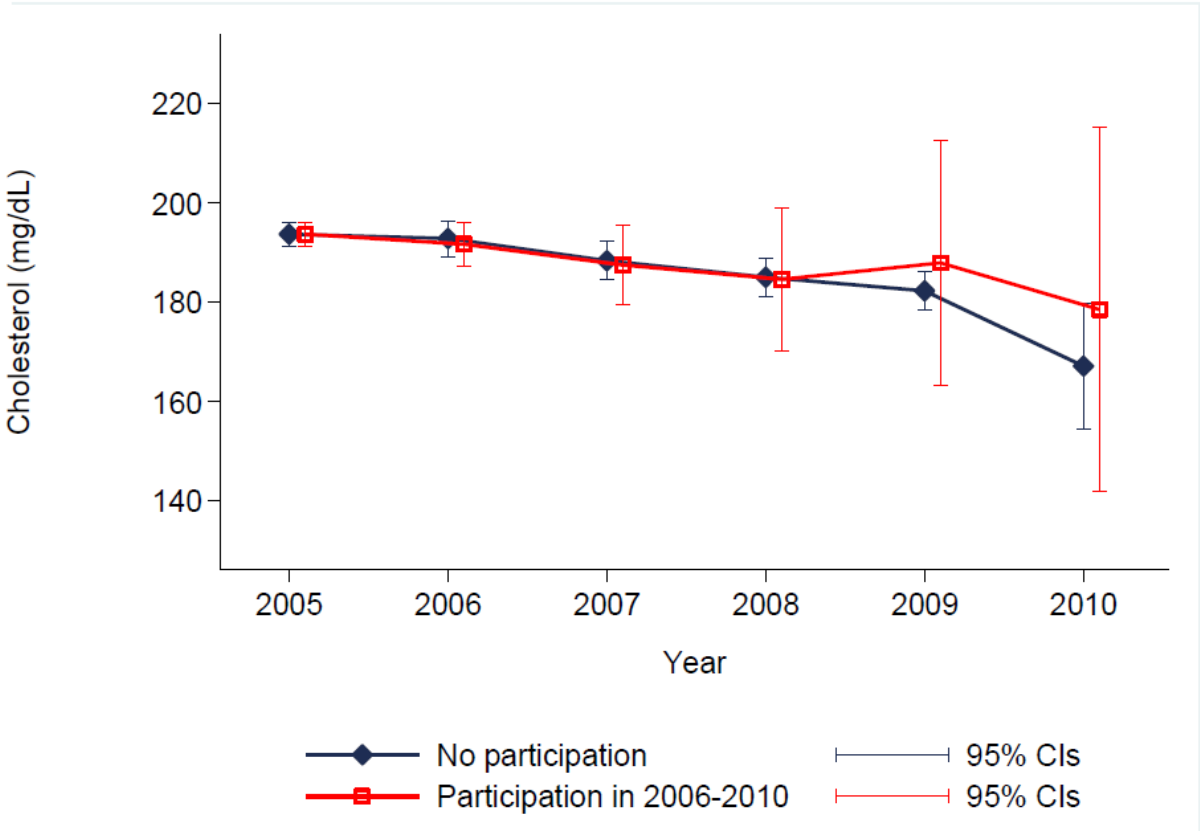
Exercise Results – 2.5 → 4.0 Days/Week (N=2,303)

Figure 4.11: Cumulative Simulated Effects of Exercise Program Participation on Exercise Frequency



Cholesterol Results – No Difference (N=1,341)

Figure 4.20: Cumulative Simulated Effects of Cholesterol Program Participation on Cholesterol Levels



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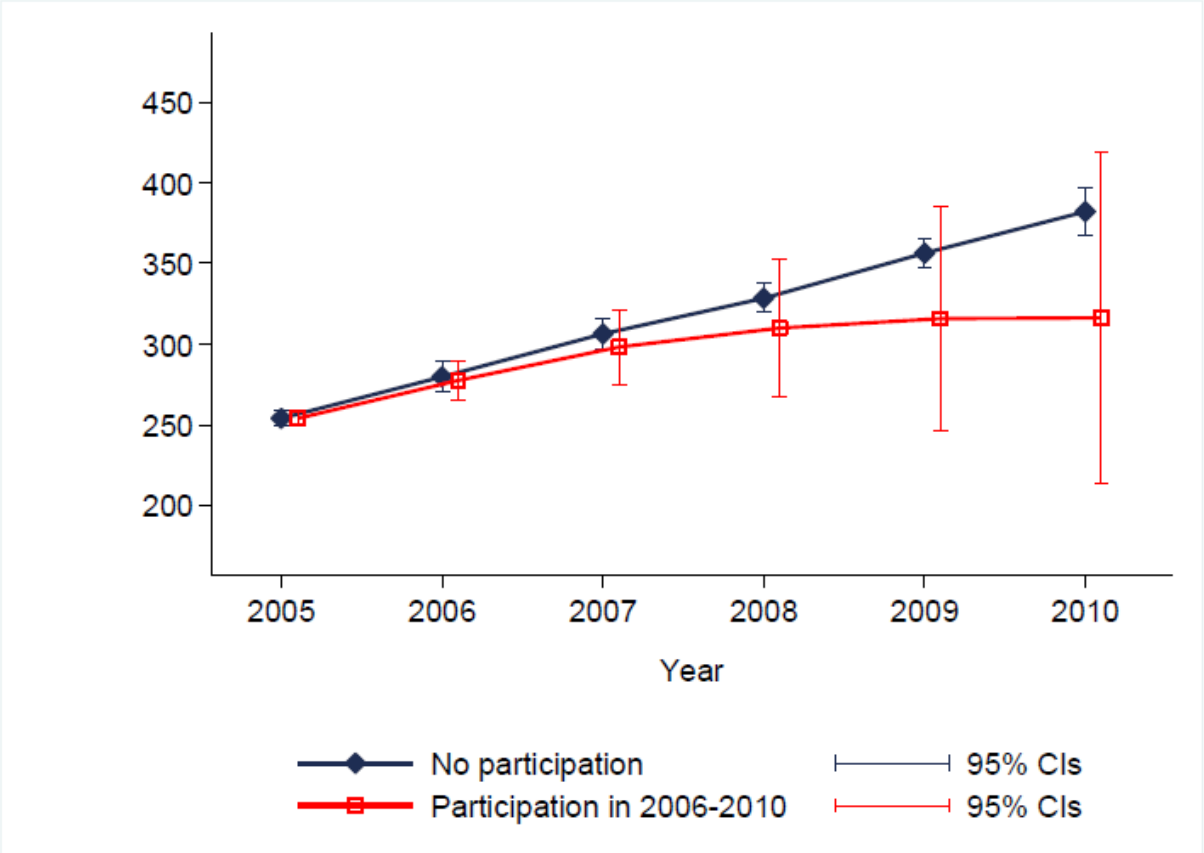
Cumulative PMPM Health Care Cost Differences: Partic Vs. Non-Partic = $65.50 (N=12,127)

Figure 4.24: Cumulative Simulated Effect of Wellness Program Participation on Total Health Care Costs per Health Plan Member per Month



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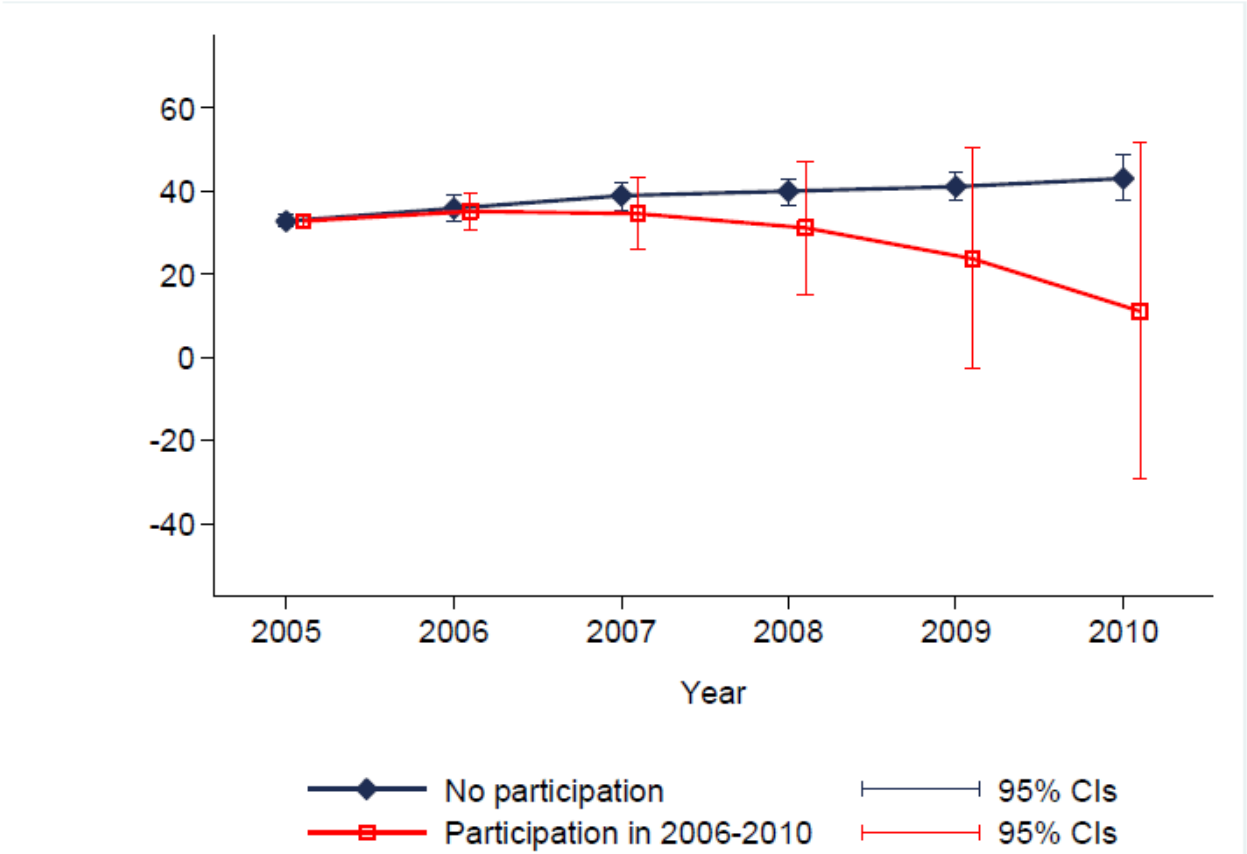
Inpatient Admissions

Figure 4.26: Cumulative Simulated Effects of Wellness Program Participation on Inpatient Admissions



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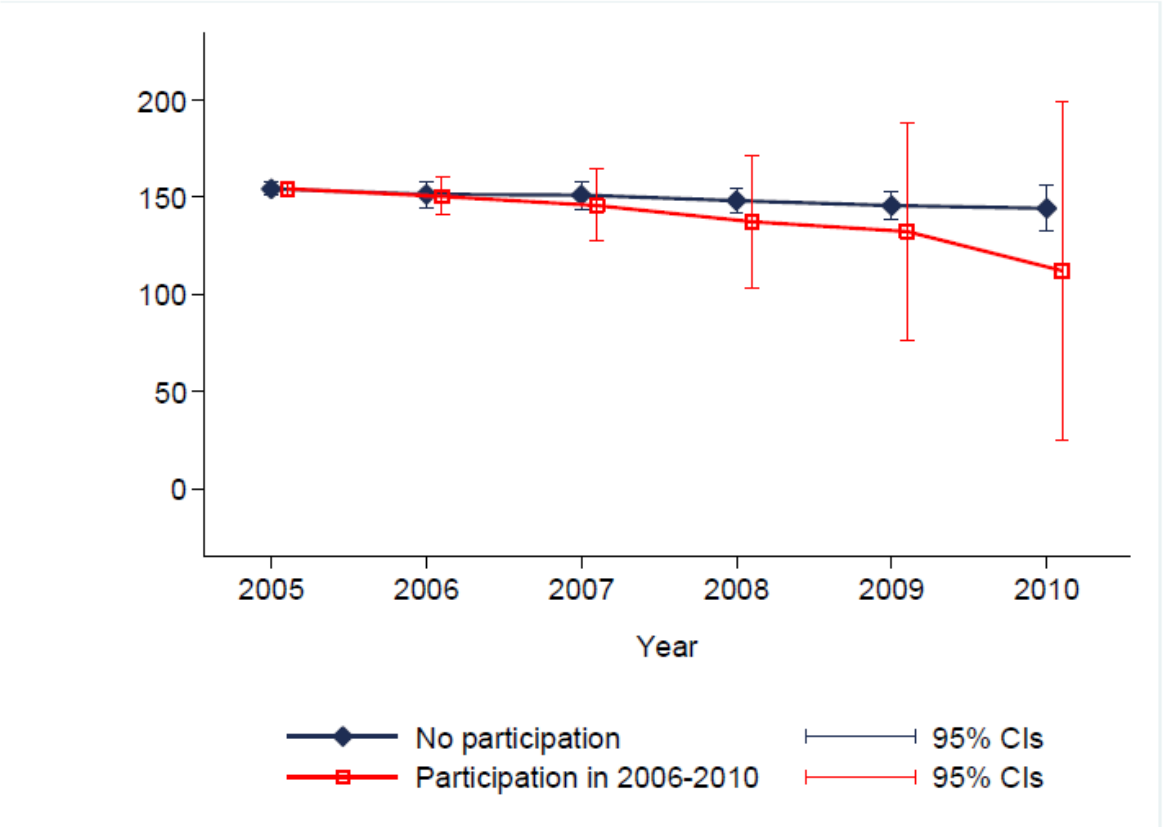
ER Visits

Figure 4.27: Cumulative Simulated Effects of Wellness Program Participation on Emergency Department Visits



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Media Report – Rand Study

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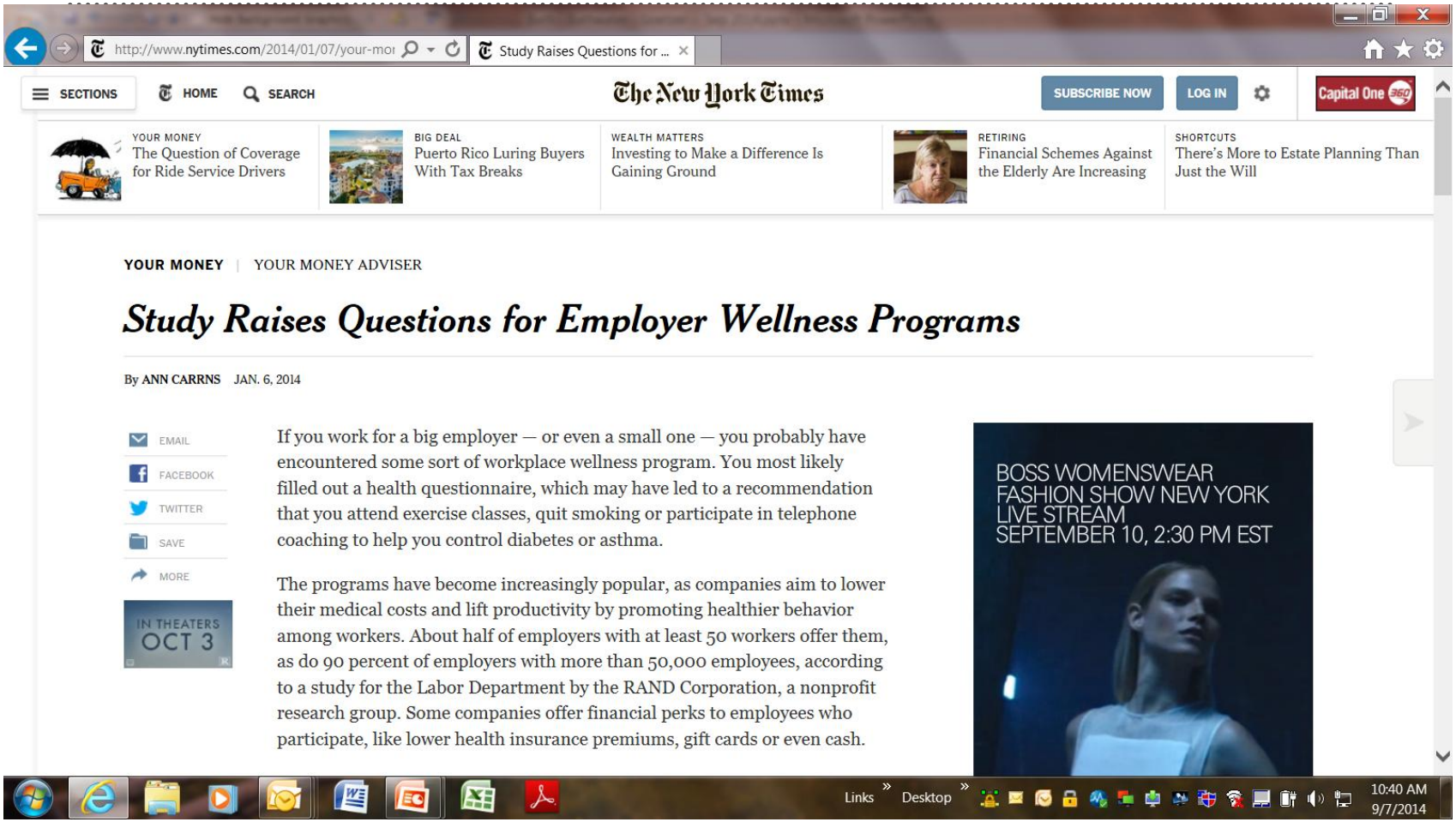
New York Times Story



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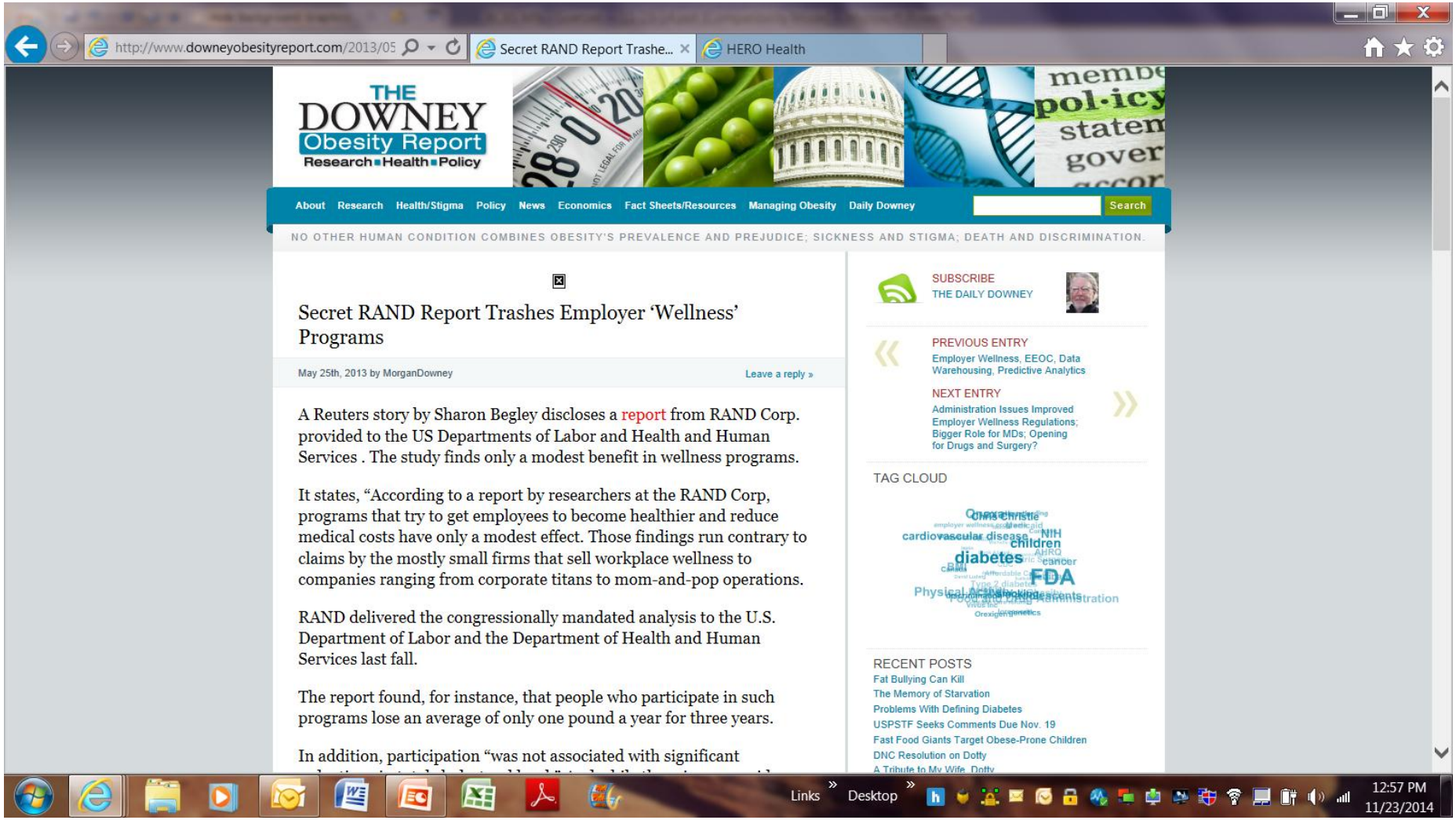
RAND Report – Media Translation



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PepsiCo Study

DOI: 10.1377/hlthaff.2013.0625
HEALTH AFFAIRS 33,
NO. 1 (2014): 124–131

By John P. Caloyeras, Hangsheng Liu, Ellen Exum, Megan Broderick, and Soeren Mattke

Managing Manifest Diseases, But Not Health Risks, Saved PepsiCo Money Over Seven Years

John P. Caloyeras is a doctoral fellow at the Pardee RAND Graduate School and an assistant policy analyst at the RAND Corporation in Santa Monica, California.

Hangsheng Liu is a policy researcher at the RAND Corporation in Boston, Massachusetts.

Ellen Exum is the director of global wellness at PepsiCo, in Purchase, New York.

Megan Broderick is the senior director of health and welfare benefits at PepsiCo, in Purchase, New York.

Soeren Mattke (mattke@rand.org) is a senior scientist at the RAND Corporation and the managing director of RAND Health Advisory Services, RAND Health's consulting practice, in Boston, Massachusetts.

ABSTRACT Workplace wellness programs are increasingly popular. Employers expect them to improve employee health and well-being, lower medical costs, increase productivity, and reduce absenteeism. To test whether such expectations are warranted, we evaluated the cost impact of the lifestyle and disease management components of PepsiCo's wellness program, Healthy Living. We found that seven years of continuous participation in one or both components was associated with an average reduction of $30 in health care cost per member per month. When we looked at each component individually, we found that the disease management component was associated with lower costs and that the lifestyle management component was not. We estimate disease management to reduce health care costs by $136 per member per month, driven by a 29 percent reduction in hospital admissions. Workplace wellness programs may reduce health risks, delay or avoid the onset of chronic diseases, and lower health care costs for employees with manifest chronic disease. But employers and policy makers should not take for granted that the lifestyle management component of such programs can reduce health care costs or even lead to net savings.

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Lifestyle and Disease Management

Disease Management

patient self-care knowledge and abilities. The ten conditions covered by the disease management program were asthma, coronary artery disease, atrial fibrillation, congestive heart failure, stroke, hyperlipidemia, hypertension, diabetes, low back pain, and chronic obstructive pulmonary disease. Completion of a disease management program typically requires six to nine months, during which participants have a series of calls with a nurse that average fifteen to twenty-five minutes per call. Completion of a

Lifestyle Management

coaching for those with higher risk levels. In 2011 there were five distinct lifestyle management programs: weight management, nutrition management, fitness, stress management, and smoking cessation. Completion of a telephonic lifestyle management program involves a series of calls with a wellness coach over a six-month period.

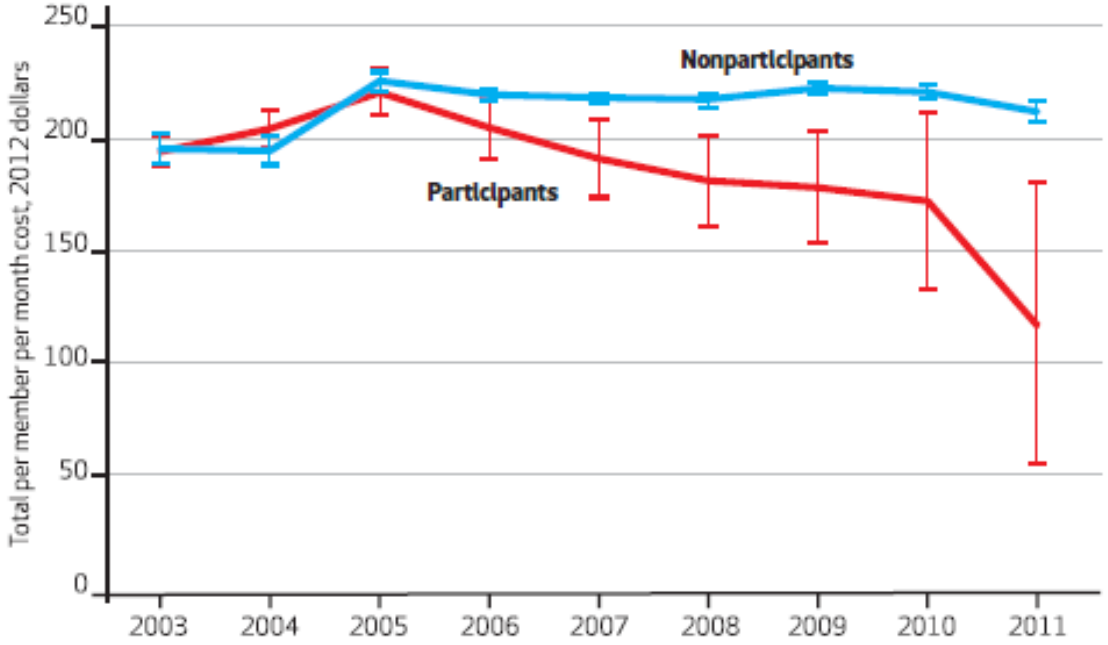
Healthy Living Program

THE PEPSICO PROGRAM PepsiCo introduced in 2003 what evolved into their Healthy Living program. Healthy Living is a wellness program made up of numerous components that include health risk assessments, on-site wellness events, lifestyle management, disease management, complex care management, a 24/7 nurse advice line, and maternity management. All PepsiCo employ-

Results

EXHIBIT 1

Aggregate Impact Of Lifestyle Management And Disease Management On Per Member Per Month Health Care Costs At PepsiCo, 2004–11



SOURCE Authors' analysis of PepsiCo health plan and Healthy Living program data. **NOTES** Cost estimates are adjusted by demographics, comorbidities, and calendar years based on propensity score matching and regression analyses. This exhibit assumes that members participated continuously during 2004–11; 2003 is the baseline year.

$1.46

Return on investment

Together, the lifestyle management and disease management components of Healthy Living returned an average of $1.46 for every dollar invested.

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Media Report

PepsiCo's workplace wellness program fails the bottom line: study

Mon, Jan 6 2014
By Sharon Begley

NEW YORK (Reuters) - A long-running and well-respected workplace wellness program at PepsiCo that encourages employees to adopt healthier habits has not reduced healthcare costs, according to the most comprehensive evaluation of a such a program ever published.

Released on Monday in the journal Health Affairs and based on data for thousands of PepsiCo employees over seven years, the findings "cast doubt on the widely held belief" that workplace wellness programs save employers significantly more than they cost, conclude Soeren Mattke of the RAND Corporation and his co-authors. "Blanket claims of 'wellness saves money' are not warranted."

Media Coverage

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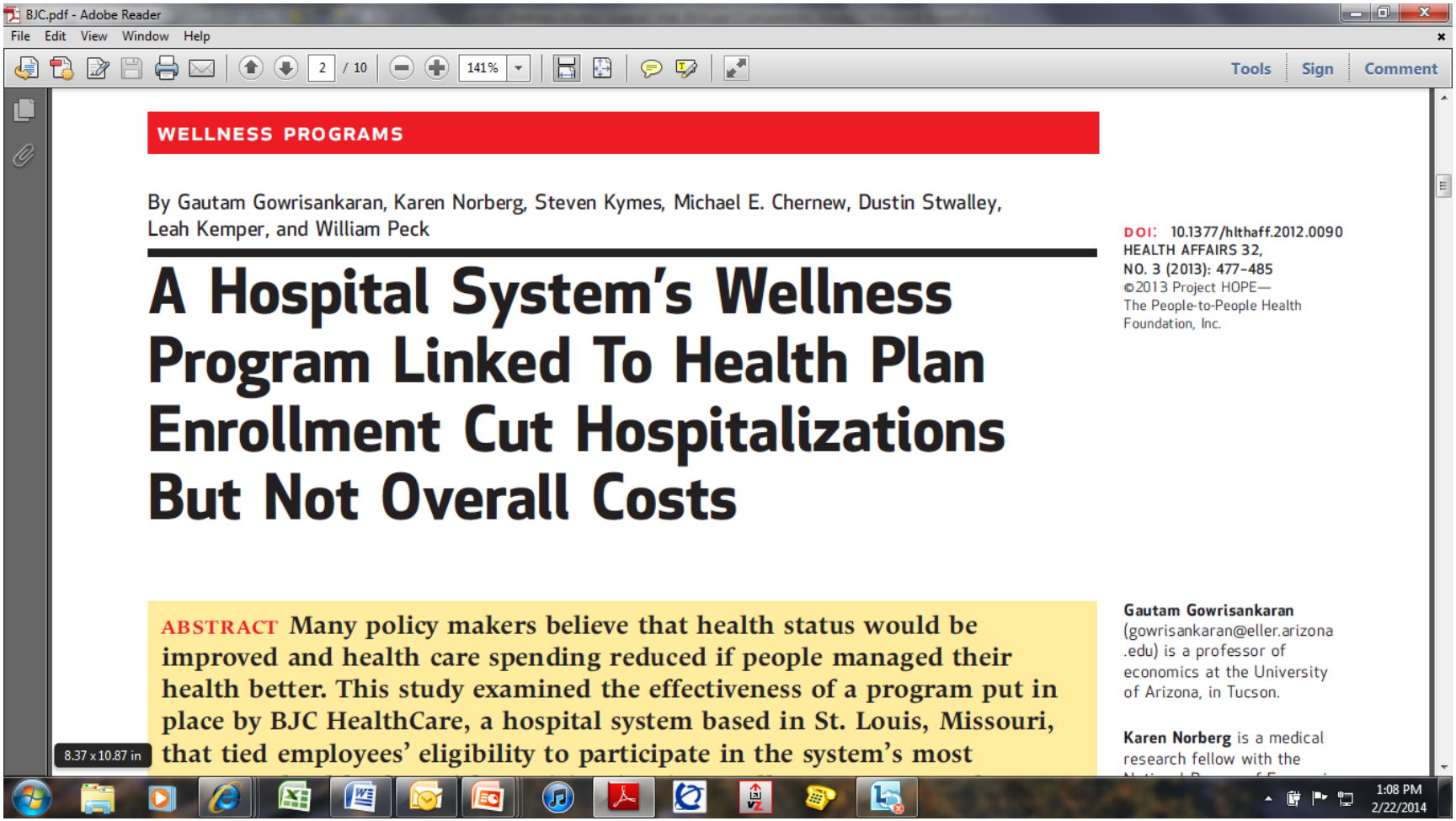
BJC Healthcare Study



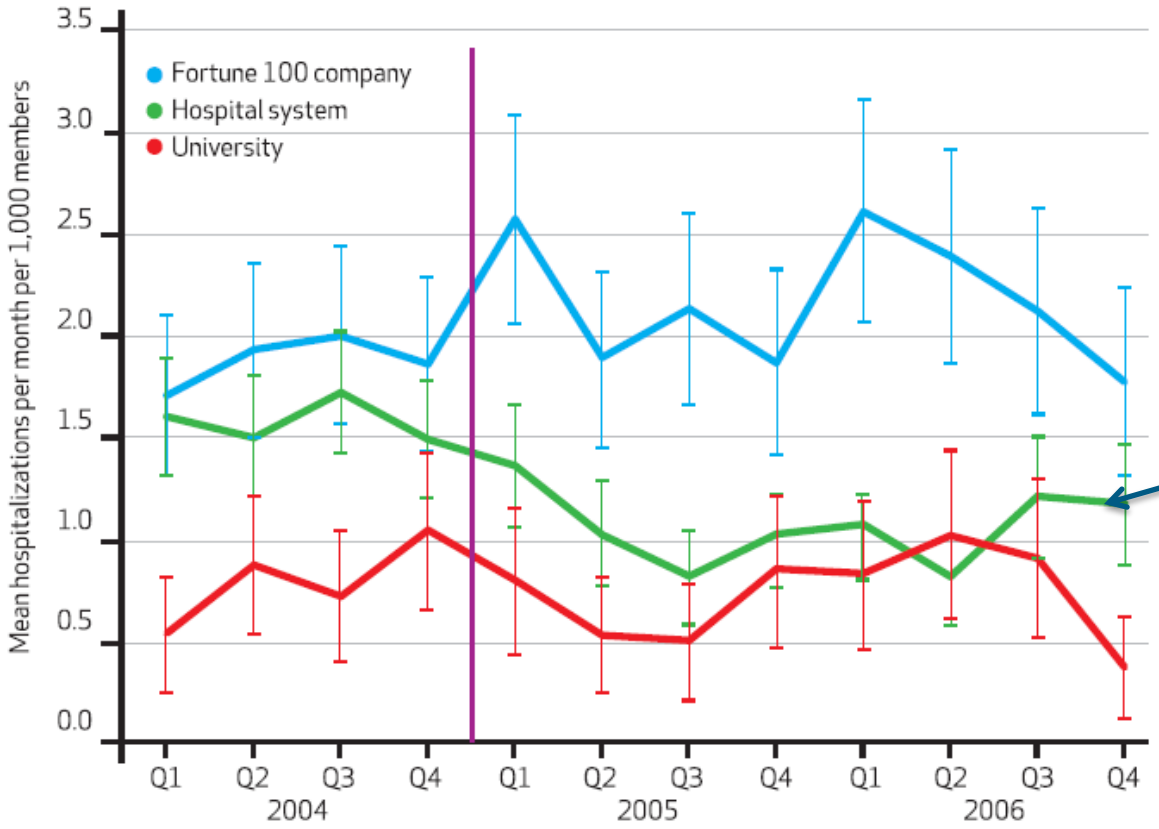
BJC Insurance-Based Wellness Incentive Program

The new program required that starting in January 2005, employees wanting to enroll in the most generous "Gold" plan needed to complete a web-based health risk assessment; sign a health pledge promising to maintain a healthy diet and exercise regularly; report their smoking status; and, for smokers, enroll in a smoking cessation program. If the employees did not complete these activities, they were prohibited from enrolling in the Gold plan.

BJC Results

EXHIBIT 2

Time Path Of Targeted Hospitalizations: Mean Inpatient Hospitalizations For A Targeted Condition At The Hospital System And Comparison Groups



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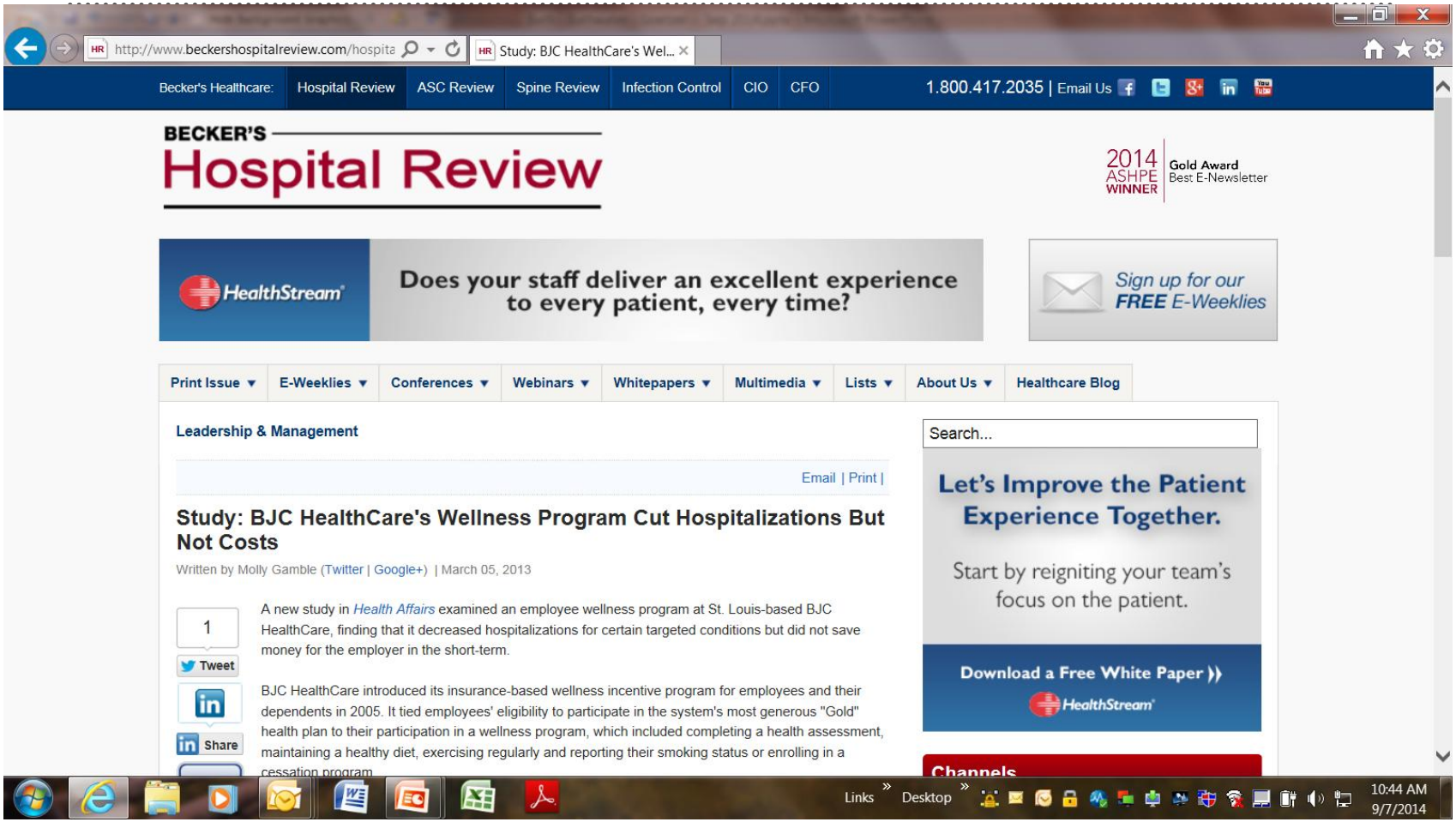
Media Report



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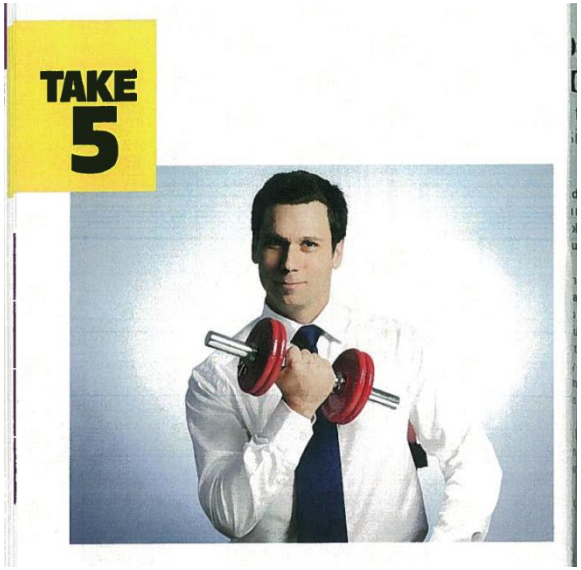
98% of Large Businesses Offer Wellness!



WELLNESS EMBRACED

EMPLOYERS CONTINUE TO EMBRACE THE USE OF WELLNESS PROGRAMS as a strategy to create a healthier workforce and lower their health care costs over time.

A whopping 98% of large firms (with 200 or more workers) and 73% of smaller firms (with less than 200 workers) are offering at least one wellness program this year, according to a study by the Kaiser Family Foundation and the Health Research & Educational Trust.

"Wellness is a cornerstone to good health and lower cost overall," says Maulik Joshi, president of the Health Research & Educational Trust and senior vice president of research at the American Hospital Association. "Since 2009, more firms both large and small are offering wellness programs, and more firms are offering incentives to encourage wellness."

Under the Affordable Care Act, employers may increase an employee's premium contribution up to 30% of the cost of the health plan for not completing wellness programs, as long as the wellness program is reasonably designed and there are alternatives for workers who cannot meet the standard.

Companies seem fairly pleased with the impact that the incentives are having. At least 14% of all firms that provide incentives to participate in a wellness program said the incentives are very effective, and 36% said they are somewhat effective, the survey found.

Joshi added, "Employers are moving toward programs that raise the bar for everyone in terms of health."

The most common wellness initiatives are:

- flu shots (87% of large firms)
- employee assistance programs (79%)
- online resources for healthy living (77%)
- smoking cessation programs (64%)
- gym membership discounts or on-site exercise facilities (64%)

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Hold Your Horses!

Wellness gone wrong

When putting together a wellness plan, pay attention to how the EEOC defines liability

BY KATHLEEN KOSTER

In order to avoid costly litigation, employers need to carefully design their wellness program — especially when they reward participants with incentives and discounts on their medical coverage. The EEOC recently sued a Wisconsin employer, claiming the penalty the employer imposed for non-participation in its program was too significant. The EEOC also determined the wellness requirements were involuntary under the Americans with Disabilities Act.

Employers and their advisers should pay careful attention to how the EEOC defines liability in this case, *EEOC v. Orion Energy Systems*. It is a reminder to stay in compliance with the Affordable Care Act's rules for wellness as well.

"In terms of staying compliant under the ACA, the ADA and HIPAA to protect employees' privacy, the more you focus on giving people multiple opportunities to participate, the more attractive your program is and the easier it is to stay compliant," says Adam Cox, director of wellness, Heffernan Insurance Brokerage.

He advises employers to watch their program's design and semantics. In other words, don't suggest to workers that activities are mandatory in order to receive a premium discount.

In the EEOC case, the employer paid 100% of the health insurance premiums for employees who participated in its "voluntary" wellness program. If the employee chose not to participate, the employee paid 100% of the premiums. The program contained two components. First, employees completed a health risk assessment, and second, a "fitness" component involved completing a medical history questionnaire and exercising on the employer's range of motion machines. The complaint also alleges that there was a $50 "penalty" for not participating in the fitness component of the wellness program.

This wellness program only offered one option for participation: the in-office motion machines. Not only could some employees have been medically unable to use these machines, but they also may not have been available to all shifts.

ACA requirements

Under the ACA, health contingent programs can come in two forms: "outcomes based" and "activity-only." Activity-only wellness programs require individuals to perform or complete an activity related to a health factor in order to obtain a reward, although a particular outcome is not required. In such programs, an employer must provide a reasonable alternative standard for obtaining the reward to individuals for whom it would

Challenges to Workplace Programs

By Jill R. Horwitz, Brenna D. Kelly, and John E. DiNardo

DOI: 10.1377/hlthaff.2012.0683
HEALTH AFFAIRS 32,
NO. 3 (2013): 468–476

Wellness Incentives In The Workplace: Cost Savings Through Cost Shifting To Unhealthy Workers

Jill R. Horwitz (Horwitz@law.ucla.edu) is a professor of law at the University of California, Los Angeles, School of Law.

Brenna D. Kelly is an associate in the New York office of the law firm Ropes and Gray.

John E. DiNardo is a professor of economics and public policy at the University of Michigan, in Ann Arbor.

ABSTRACT The Affordable Care Act encourages workplace wellness programs, chiefly by promoting programs that reward employees for changing health-related behavior or improving measurable health outcomes. Recognizing the risk that unhealthy employees might be punished rather than helped by such programs, the act also forbids health-based discrimination. We reviewed results of randomized controlled trials and identified challenges for workplace wellness programs to function as the act intends. For example, research results raise doubts that employees with health risk factors, such as obesity and tobacco use, spend more on medical care than others. Such groups may

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TRUVEN HEALTH ANALYTICS

Goetzel Response to DiNardo et al.

AT THE INTERSECTION OF HEALTH, HEALTH CARE, AND POLICY

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Structuring Legal, Ethical, And Practical Workplace Health Incentives: A Reply to Horwitz, Kelly, And DiNardo

April 23rd, 2013

by Ron Goetzel

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This commentary is in response to the March 5, 2013 *Health Affairs* article, "Wellness Incentives in the Workplace: Cost Savings through Cost Shifting to Unhealthy Lifestyles." In that article, Jill Horwitz and

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Penn State Controversy

The New York Times

September 14, 2013

On Campus, a Faculty Uprising Over Personal Data

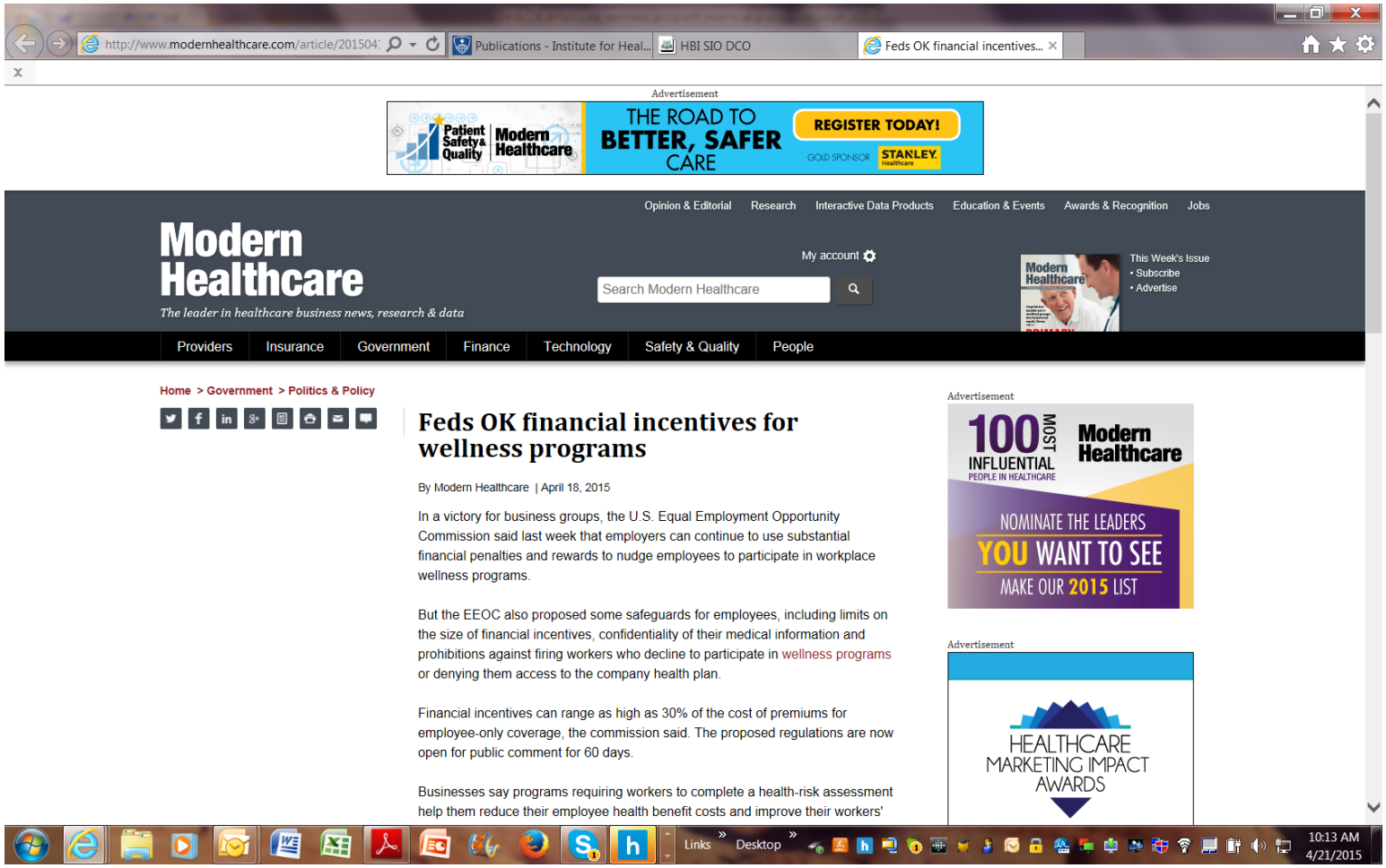
By NATASHA SINGER

IMPROVING health while holding down health care costs is the kind of having-your-cake-and-eating-it combination that most people can get behind. In fact, both ideas are embedded in the Obama administration's Affordable Care Act. But an uprising among faculty members at Pennsylvania State University over a new employee wellness plan is challenging at least some of the methods designed to achieve those aims.

Penn State administrators quietly introduced the plan, called "Take Care of Your Health," this summer in the deadest part of the academic calendar. But that didn't prevent some conscientious objectors from organizing a protest online and on their campuses, culminating last week in an emotionally charged faculty senate meeting. The plan, they argued, is coercive, punitive and invades university employees' privacy.

The plan requires nonunion employees, like professors and clerical staff members, to visit their doctors for a checkup, undergo several biometric tests and submit to an extensive online health risk questionnaire that asks, among other questions, whether they have recently had problems with a co-worker, a supervisor or a divorce. If they don't fill out the form, $100 a month will be deducted from their pay for noncompliance. Employees who do participate will receive detailed feedback on how to address their health issues.

Latest Word from EEOC



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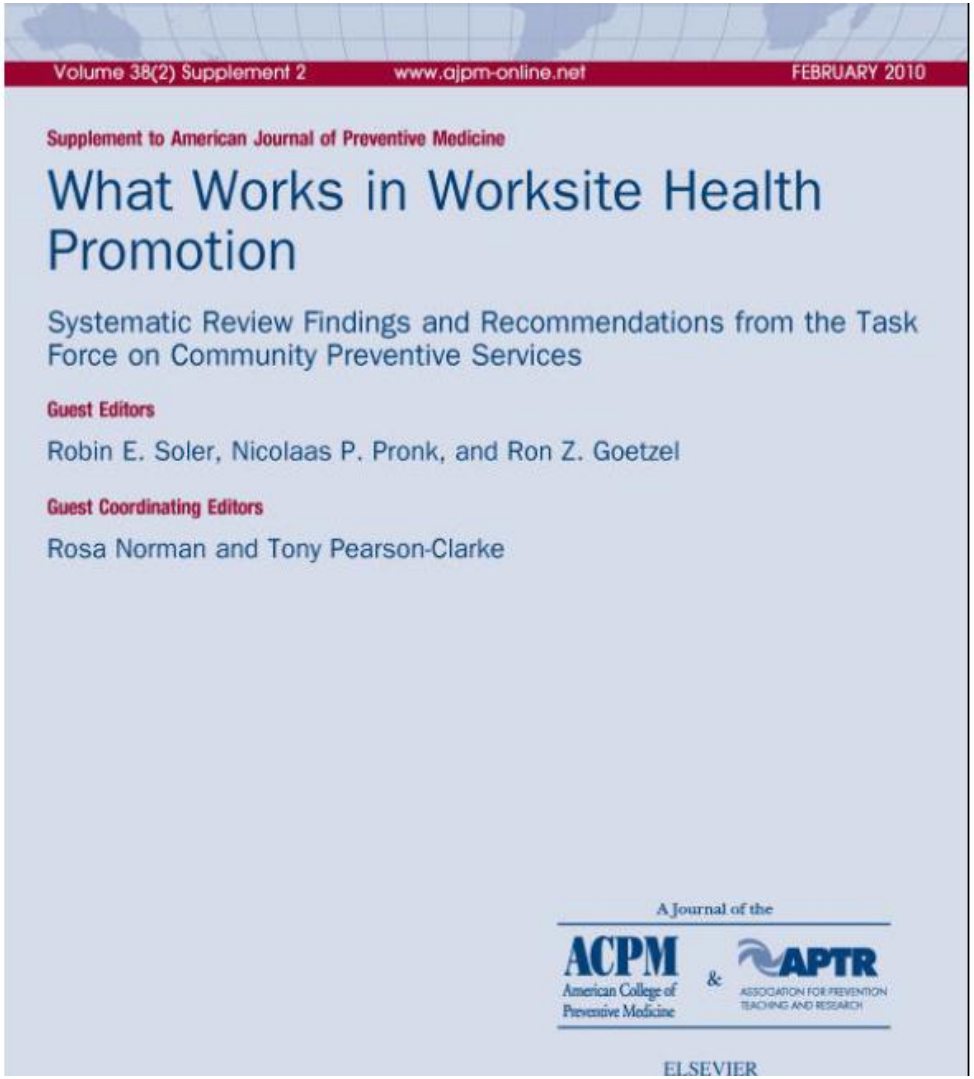
Worksite Health Promotion Works! (When Done Right)



CDC Community Guide to Preventive Services Review – AJPM, February 2010

86 Studies Reviewed

A Systematic Review of Selected Interventions for Worksite Health Promotion

The Assessment of Health Risks with Feedback

Robin E. Soler, PhD, Kimberly D. Leeks, PhD, MPH, Sima Razi, MPH, David P. Hopkins, MD, MPH, Matt Griffith, MPH, Adam Aten, MPH, Sajal K. Chattopadhyay, PhD, Susan C. Smith, MPA, MLIS, Nancy Habarta, MPH, Ron Z. Goetzel, PhD, Nicolaas P. Pronk, PhD, Dennis E. Richling, MD, Deborah R. Bauer, MPH, RN, CHES, Leigh Ramsey Buchanan, PhD, MPH, Curtis S. Florence, PhD, Lisa Koonin, MN, MPH, Debbie MacLean, BS, ATC/L, Abby Rosenthal, MPH, Dyann Matson Koffman, DrPH, MPH, James V. Grizzell, MBA, MA, CHES, Andrew M. Walker, MPH, CHES, the Task Force on Community Preventive Services

SUMMARY RESULTS AND TEAM CONSENSUS

Outcome	Body of Evidence	Consistent Results	Magnitude of Effect	Finding
Alcohol Use	9	Yes	Variable	**Sufficient**
Fruits & Vegetables	9	No	0.09 serving	Insufficient
% Fat Intake	13	Yes	-5.4%	**Strong**
% Change in Those Physically Active	18	Yes	+15.3 pct pt	**Sufficient**
Tobacco Use				**Strong**
Prevalence	23	Yes	–2.3 pct pt	
Cessation	11	Yes	+3.8 pct pt	
Seat Belt Non-Use	10	Yes	–27.6 pct pt	**Sufficient**

SUMMARY RESULTS AND TEAM CONSENSUS

Outcome	Body of Evidence	Consistent Results	Magnitude of Effect	Finding
Diastolic blood pressure	17	Yes	Diastolic:–1.8 mm Hq	**Strong**
Systolic blood pressure	19	Yes	Systolic:–2.6 mm Hg	
Risk prevalence	12	Yes	–4.5 pct pt	
BMI	6	Yes	–0.5 pt BMI	Insufficient
Weight	12	No	–0.56 pounds	
% body fat	5	Yes	–2.2% body fat	
Risk prevalence	5	No	–2.2% at risk	
Total Cholesterol	19	Yes	–4.8 mg/dL (total)	**Strong**
HDL Cholesterol	8	No	+.94 mg/dL	
Risk prevalence	11	Yes	–6.6 pct pt	
Fitness	5	Yes	Small	Insufficient

CDC Community Guide Obesity Review

Guide to Community Preventive Services

The Effectiveness of Worksite Nutrition and Physical Activity Interventions for Controlling Employee Overweight and Obesity

A Systematic Review

Laurie M. Anderson, PhD, MPH, Toby A. Quinn, MPA, Karen Glanz, PhD, MPH, Gilbert Ramirez, DrPH, Leila C. Kahwati, MD, MPH, Donna B. Johnson, PhD, Leigh Ramsey Buchanan, PhD, W. Roodly Archer, PhD, Sajal Chattopadhyay, PhD, Geetika P. Kalra, MPA, David L. Katz, MD, Task Force on Community Preventive Services

This review found that worksite nutrition and physical activity programs achieve modest improvements in employee weight status at the 6–12-month follow-up. A pooled effect estimate of −2.8 pounds (95% CI=−4.6, −1.0) was found based on nine RCTs, and a decrease in BMI of −0.5 (95% CI=−0.8, −0.2) was found based on six RCTs. The findings appear to be applicable to both male and female employees, across a range of worksite settings.

Am J Prev Med 2009;37(4)

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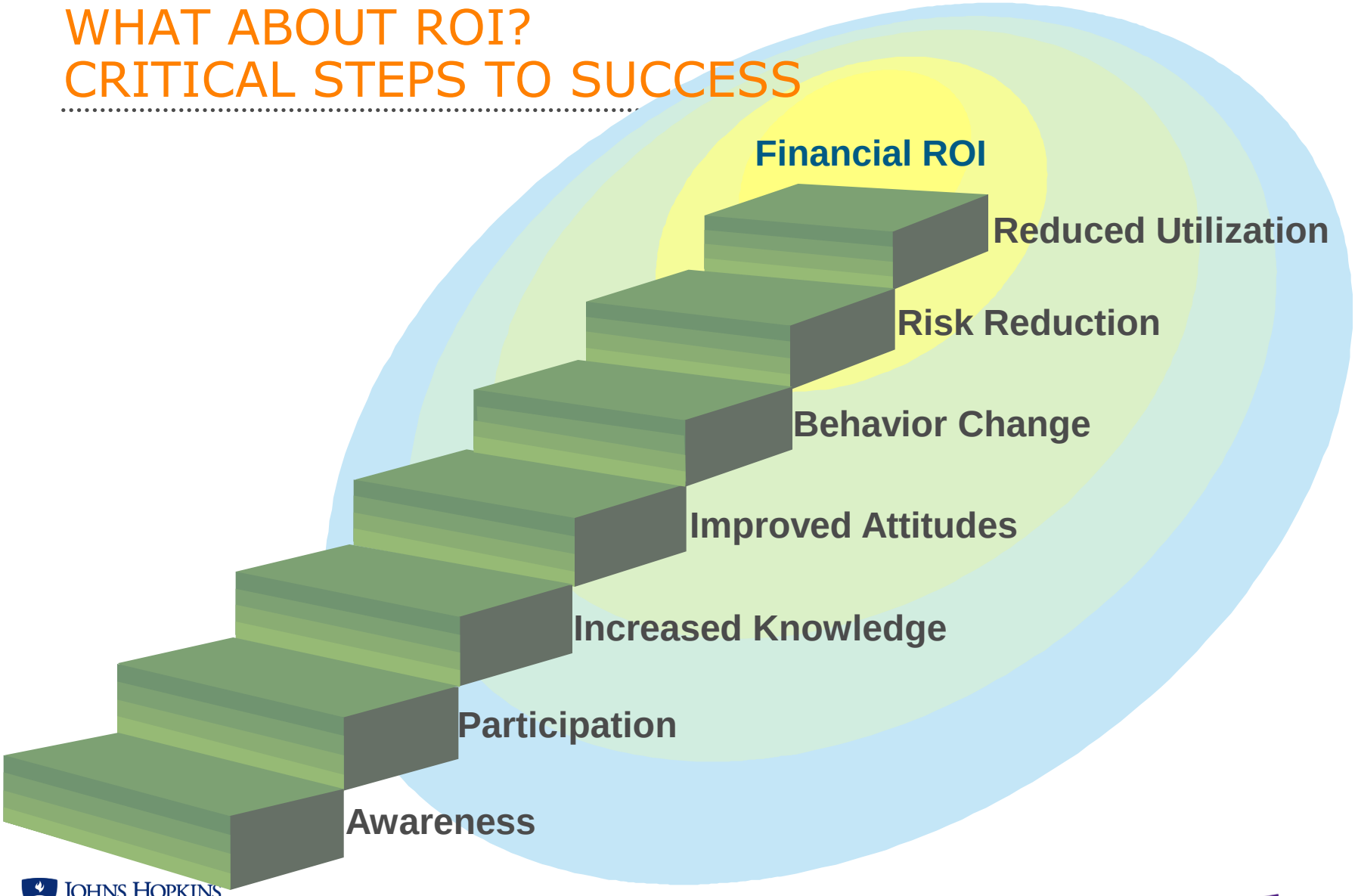
SUMMARY RESULTS AND TEAM CONSENSUS

Outcome	Body of Evidence	Consistent Results	Magnitude of Effect	Finding
Estimated Risk	15	Yes	Moderate	**Sufficient**
Healthcare Use	6	Yes	Moderate	**Sufficient**
Worker Productivity	10	Yes	Moderate	**Strong**

WHAT ABOUT ROI?
CRITICAL STEPS TO SUCCESS



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HEALTH AFFAIRS ROI LITERATURE REVIEW

Baicker K, Cutler D, Song Z. Workplace Wellness Programs Can Generate Savings. Health Aff (Millwood). 2010; 29(2). Published online 14 January 2010.

PREVENTION

By Katherine Baicker, David Cutler, and Zirui Song

Workplace Wellness Programs Can Generate Savings

doi: 10.1377/hlthaff.2009.0626
HEALTH AFFAIRS 29,
NO. 2 (2010): –

ABSTRACT Amid soaring health spending, there is growing interest in workplace disease prevention and wellness programs to improve health and lower costs. In a critical meta-analysis of the literature on costs and savings associated with such programs, we found that medical costs fall by about $3.27 for every dollar spent on wellness programs and that absenteeism costs fall by about $2.73 for every dollar spent. Although further exploration of the mechanisms at work and broader applicability of the findings is needed, this return on investment suggests that the wider adoption of such programs could prove beneficial for budgets and productivity as well as health outcomes.

Katherine Baicker (Kbaicker@hsph.harvard.edu) is a professor of health economics at the School of Public Health, Harvard University, in Boston, Massachusetts.

David Cutler is a professor of economics at Harvard University.

Zirui Song is a doctoral candidate at Harvard Medical School.

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RESULTS - MEDICAL CARE COST SAVINGS

Description	N	Average ROI
Studies reporting costs and savings	15	$3.37
Studies reporting savings only	7	Not Available
Studies with randomized or matched control group	9	$3.36
Studies with non-randomized or matched control group	6	$2.38
All studies examining medical care savings	22	$3.27

Results – Absenteeism Savings

Description	N	Average ROI
Studies reporting costs and savings	12	$3.27
All studies examining absenteeism savings	22	$2.73

Baxter et al., Review

Literature Review: Financial Analysis

The Relationship Between Return on Investment and Quality of Study Methodology in Workplace Health Promotion Programs

Siyan Baxter, BNRN (Hons); Kristy Sanderson, BSc(Psych), PhD; Alison J. Venn, BSc (Hons), PhD; C. Leigh Blizzard, BEc (Hons), MSc, MEc, PhD; Andrew J. Palmer, BMedSci, MBBS

Abstract

Objective. *To determine the relationship between return on investment (ROI) and quality of study methodology in workplace health promotion programs.*

Data Source. *Data were obtained through a systematic literature search of National Health Service Economic Evaluation Database (NHS EED), Database of Abstracts of Reviews of Effects (DARE), Health Technology Database (HTA), Cost Effectiveness Analysis (CEA) Registry, EconLit, PubMed, Embase, Wiley, and Scopus.*

Study Inclusion and Exclusion Criteria. *Included were articles written in English or German reporting cost(s) and benefit(s) and single or multicomponent health promotion programs on working adults. Return-to-work and workplace injury prevention studies were excluded.*

Data Extraction. *Methodological quality was graded using British Medical Journal Economic*

INTRODUCTION

Workplace health promotion (WHP) encompasses health promoting and illness prevention activities that are available in the workplace. Activities can range from single, one-off interventions (e.g., influenza vaccination) to multicomponent, multilevel health interventions. Economic evalu-

Criteria for Economic Evaluation of Interventions

Table 2
Thirty-Six–Item *British Medical Journal* Economic Evaluation Working Party (*BMJ* checklist)*

Study design

1. Was the research question stated?
2. Was the economic importance of the research question stated?
3. Was/were the viewpoint(s) of the analysis clearly stated and justified?
4. Was a rationale reported for the choice of the alternative programmes or interventions compared?
5. Were the alternatives being compared clearly described?
6. Was the form of economic evaluation stated?
7. Was the choice of form of economic evaluation justified in relation to the questions addressed?

* From *Systematic Reviews: CRD's Guidance for Undertaking Reviews in Health Care*. 3rd ed. York, UK: Centre for Reviews and Dissemination; 2009:210–211. Available at: http://www.york.ac.uk/inst/crd/index_guidance.htm. Reproduced with permission from CRD, York, UK.

Criteria for Economic Evaluation of Interventions

Data collection

8. Was/were the source(s) of effectiveness estimates used stated?
9. Were details of the design and results of the effectiveness study given (if based on a single study)?
10. Were details of the methods of synthesis or meta-analysis of estimates given (if based on an overview of a number of effectiveness studies)?
11. Were the primary outcome measure(s) for the economic evaluation clearly stated?
12. Were the methods used to value health states and other benefits stated?
13. Were the details of the subjects from whom valuations were obtained given?
14. Were productivity changes (if included) reported separately?
15. Was the relevance of productivity changes to the study question discussed?
16. Were quantities of resources reported separately from their unit cost?
17. Were the methods for the estimation of quantities and unit costs described?
18. Were currency and price data recorded?
19. Were details of price adjustments for inflation or currency conversion given?
20. Were details of any model used given?
21. Was there a justification for the choice of model used and the key parameters on which it was based?

Criteria for Economic Evaluation of Interventions

Analysis and interpretation of results

22. Was time horizon of cost and benefits stated?
23. Was the discount rate stated?
24. Was the choice of rate justified?
25. Was an explanation given if cost or benefits were not discounted?
26. Were the details of statistical test(s) and confidence intervals given for stochastic data?
27. Was the approach to sensitivity analysis described?
28. Was the choice of variables for sensitivity analysis justified?
29. Were the ranges over which the parameters were varied stated?
30. Were relevant alternatives compared? (i.e., Were appropriate comparisons made when conducting the incremental analysis?)
31. Was an incremental analysis reported?
32. Were major outcomes presented in a disaggregated as well as aggregated form?
33. Was the answer to the study question given?
34. Did conclusions follow from the data reported?
35. Were conclusions accompanied by the appropriate caveats?
36. Were generalisability issues addressed?

Newest ROI Literature Review

Relationship Between Return on Investment and Quality of Study Methodology in Workplace Health Promotion Programs, *AJHP*, July/August 2014.

- Fifty-one studies (61 intervention arms) published between 1984 and 2012 included 261,901 participants and 122,242 controls from nine industry types across 12 countries.
- Overall weighted ROI was ***1.38 : 1.00***, which indicated a 138% return on investment.
- When accounting for methodological quality, an inverse relationship to ROI was found.
- Randomized control trials (RCTs) (n = 12) exhibited negative ROI, −0.22 ± 2.41(−.27 to −.16).
- **Conclusion.** Overall, mean weighted ROI in workplace health promotion demonstrated a positive ROI.

RCT Studies

Intervention Period

Sample Size

Intervention Type

Table 3
Study Characteristics

Studies (N = 51)	Year	Study Design	Origin	Duration (years)	Organization Size*	Industry	Participant (no.)	Control (no.)	Intervention	Currency	Time Value	ROI	BCR
Categorized high quality (N = 15); quality score >75%													
Traditional health promotion programs													
Groeneveld et al.[66]	2011	RCT	Netherlands	0.5	NS	Construction	293	280	Wt, Ind	EUR	2008	−0.24†	0.76
Proper et al.[68]	2004	RCT	Netherlands	0.75	PS	Local Gov.	97	167	N, PA, Ind	EUR	NS	−0.71‡	0.29
Meenan et al.[67]	2010	RCT	USA	2	Large	Hospitality	3346	3612	HRA, N, Wt, Ind	USD	2008	−0.74†	0.26
McEachan et al.[39]§	2011	RCT	UK	0.25	NS	Various	662	598	PA	GBP	NS	−4.30‡	−3.30
Greene et al.[65]§	2009	Model	USA	0.5	Large	El-Gas-Oil-W	499	499‖	CM, Dx	USD	2007	3.42‡	4.42
Naydeck et al.[78]	2008	Model	USA	4	Large+	Insurance	1892	1892‖	HRA, Sm, N, Wt, PA, MH, CM, Dx	USD	2005	0.27¶	1.27
Taimela et al.[69]§	2008	RCT	Finland	1	Large	Construction	134	138	HRA, Ind	EUR	2004	3.47‡	4.47
Shi et al.[35]	1993	Non-exp	USA	1.5	Large+	Electricity-Gas-Oil-Water	412	412#	HRA	USD	1988	1.49†	2.49
							301	301#	+SH			1.37†	2.37
							295	295#	+Sm, N, Wt, R, PA, MH, CM			3.07†	4.07
							180	180#	+Dx, Ind			1.43†	2.43
Medical/dental programs													
At'kov et al.[42]§	2011	Quasi	Russia	0.67	Large+	Transport	701	630	Vacc	EUR	2006	0.40‡	1.40
Bridges et al.[51]§	2001	RCT	USA	0.42	NS	Manufacturing	587	604	Vacc	USD	1999	−0.45†	0.55
Cohen et al.[41]§	2003	RCT	Australia	0.12	Large+	Manufacturing	280	270	Vacc	AUD	NS	0.92‡	1.92

ROI indicates return on investment (calculated); BCR, benefit/cost ratio (calculated); RCT, randomized control trial; Model, modeled; Non-exp, nonexperimental (i.e., pre-post only, a before/after comparison group); Quasi, quasi-experimental (i.e., a nonrandomized comparison group); PS, public service; HRA, health risk assessment; Sm, smoking; PA, physical activity; MH, stress, resilience, life management, employee assistance program (EAP); Psych, psych distress, crisis management, anxiety, depression; Ind, individualized, personalized care; Vacc, vaccination; Screen, screening, health screening (i.e., cancer, mammogram, glucose, etc.); Dx, disease management, case management; Cog, cognitive; CM, cardiometabolic (changes in blood pressure, lipids, and cholesterol); N, nutrition; Wt, weight management; Dental, dental (light = 1 visit/7 yr, medium = 2–4 visits/7 yr, heavy = 5–6 visits/7 yr); R, risky behavior, substance abuse; SF, sleep and fatigue; Tmt, treatment either in a clinic or center using health professionals (doctors or nurses); SH, self-help resources; NS, not stated; USD, U.S. dollar; EUR, Euro; GBP, British pound; AUD, Australian dollar; FIM, Finnish markka; and CAD, Canadian dollar.

Vaccine Interventions

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Quasi-Experimental and Modeling Studies

Categorized moderate quality (N = 14); quality score 50%–75%

Traditional health promotion programs

Goetzel et al.[63]§	2005	Model	USA	10	Large+	Electricity-Gas-Oil-Water	25,828	25,828‖	HRA, CM	USD	2001	0.76¶	1.76
Baker et al.[38]	2008	Model	USA	1	Various	Various	890	890‖	HRA, N, Wt, PA, Ind	USD	2007	0.17†	1.17
Ozminkowski et al.[36]	1999	Quasi	USA	0.97	Large+	Finance	11,194	11,644	HRA, Dx, Ind	USD	1996	3.56¶	4.56
Mills et al.[61]	2007	Quasi	UK	1	NS	Manufacturing	618	2500	HRA, N, PA, MH, SF, Ind	GBP	NS	27.71‡	28.71
Bertera et al.[49]	1990	Quasi	USA	2	Large+	Manufacturing	29,315	14,573	HRA, Sm, N, Wt, PA, MH, Psych, CM, Dental	USD	1986	0.22‡	1.22
Nyman et al.[34]§	2012	Quasi	USA	3	Large+	Education	6413**	6413**	HRA, PA, Dx	USD	2008	0.46†	1.46
Aldana et al.[76]	1993	Quasi	USA	2	PS	Local Gov	340	340	HRA, CM, Screen, Ind	USD	1990	2.60¶	3.60
Schwartz et al.[33]§	2010	Model	USA	1	Large+	Insurance	413	360‖	Dx	USD	2008	3.20¶	4.20
Golaszewski et al.[64]	1992	Model	USA	14	Large+	Insurance	NS	NS‖	HRA, Wt, PA, MH, CM, Dx	USD	1986	2.10†	3.10

Categorized low quality (N = 22); quality score <50%

Traditional health promotion programs

Foote et al.[84]	1991	Quasi	USA	3	NS	Manufacturing	337	169	CM			1.50	2.50
							367		+Follow-up	USD	1982	0.89	1.89
							183		+Tmt			1.72	2.72
Henke et al.[37]	2011	Model	USA	6	Large+	Manufacturing	31,823	31823†	HRA, Sm, N, Wt, PA, MH, CM, Screen, Dx, Ind	USD	2009	2.92	3.92

Johnson & Johnson Study

Dow ROI Study – Moderate Quality

JOEM • Volume 47, Number 8, August 2005

CME Available for this Article at ACOEM.org

Estimating the Return-on-Investment From Changes in Employee Health Risks on The Dow Chemical Company's Health Care Costs

Ron Z. Goetzel, PhD
Ronald J. Ozminkowski, PhD
Catherine M. Baase, MD, FAAFP, FACOEM
Gary M. Billotti, MS

Learning Objectives

- Recall the risk factors evaluated in the company's health assessment program, and the effects of advancing age over the 10-year study period on employees' risk factor profiles.
- Relate the degree of risk reduction to the company's health care expenditures under three scenarios: a large and a modest impact of risk reduction efforts on health risk, and a "break-even" condition in which the company saves the same amount it invests.
- Conclude whether health risk reduction efforts are worthwhile to companies in terms of the financial pay back.

Medical directors often need to build a business case for investing in health promotion as part of a comprehensive health management strategy. Their business case can be greatly strengthened if it includes a projected return-on-investment (ROI). How to best formulate a compelling ROI analysis has been a challenge, and several investigators have commented on the topic.[1–6] This article illustrates an approach used by staff at The Dow Chemical Company (Dow) to develop a credible ROI estimate as a component of their a business case for ongoing investment in the health and well-being of Dow's employees

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TRUVEN HEALTH ANALYTICS

Johnson & Johnson – "Low Quality Study"

WELLNESS

By Rachel M. Henke, Ron Z. Goetzel, Janice McHugh, and Fik Isaac

DOI: 10.1377/hlthaff.2010.0806
HEALTH AFFAIRS 30,
NO. 3 (2011): 490–499

Recent Experience In Health Promotion At Johnson & Johnson: Lower Health Spending, Strong Return On Investment

Rachel M. Henke (rachel.henke@thomsonreuters.com) is a senior research leader at Thomson Reuters, in Cambridge, Massachusetts.

Ron Z. Goetzel is vice president of consulting and applied research at Thomson Reuters, in Washington, D.C. He also directs the Institute for Health and Productivity Studies at Emory University, in Atlanta, Georgia.

Janice McHugh is manager of integrated health services at Johnson & Johnson, in New Brunswick, New Jersey.

Fik Isaac is executive director of global health services at Johnson & Johnson and chief medical officer, Wellness &

ABSTRACT **Johnson & Johnson Family of Companies introduced its worksite health promotion program in 1979. The program evolved and is still in place after more than thirty years. We evaluated the program's effect on employees' health risks and health care costs for the period 2002–08. Measured against similar large companies, Johnson & Johnson experienced average annual growth in total medical spending that was 3.7 percentage points lower. Company employees benefited from meaningful reductions in rates of obesity, high blood pressure, high cholesterol, tobacco use, physical inactivity, and poor nutrition. Average annual per employee savings were $565 in 2009 dollars, producing a return on investment equal to a range of $1.88—$3.92 saved for every dollar spent on the program. Because the vast majority of US adults participate in the workforce, positive effects from similar programs could lead to better health and to savings for the nation as a whole.**

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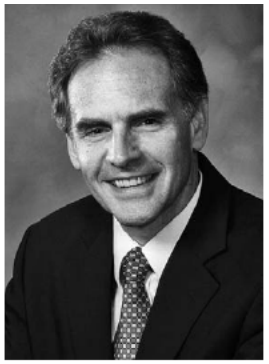
HEALTH ANALYTICS

Michael O'Donnell Analysis of ROI Review

–AJHP, Jan/Feb 2015, 29:3, v-viii



Editor's Notes

What Is the ROI for Workplace Health Promotion? It Really Does Depend, and That's the Point

A recent systematic review of the literature on the financial impact of workplace health promotion found that 46 of 47 programs saved money, 41 saved more than they cost, and that the returns on investment varied greatly based on the quality of the study methodology, year of publication, sample size, scope of the program, direct or indirect measurement of savings and costs, and several other factors. A close examination of the methodology of the single study that reported net financial loss illustrates the complexity of drawing conclusions from summaries of the literature without also examining the details. Next steps in advancing studies of the financial impact of workplace health promotion programs include developing a scale to measure methodology quality that is appropriate for workplace health promotion programs, and engaging independent third parties to

measured claims costs, rather than imputing them based on normal and customary charges or other methods. The authors reported 68 different mean ROIs to reflect weighting or unweighting of the sample, methodology quality rating, study design, location of the employer, year of publication, sample size, intervention focus, scope of the program, method to measure differences, source of the ROI calculation, direct or indirect measure of savings and costs, and method used to determine costs.

The responses to the article were widely divergent but not surprising. Scientists recognized its thoughtful structure and thorough nature. Critics of the field were delighted to see that the ROI among the highest-quality RCTs was less than 1.0 (.78), adding fuel to the flames of their claims that workplace health promotion programs do not save money. Blind loyalists to the field were distressed that any of the reported ROIs were lower than the ROI (3.27 from medical costs and 2.73 from absenteeism) in the widely cited meta-

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Criteria for Evaluating Study Design
5 = Excellent, 4 = Very Good, 3 = Good, 2 = Fair, 1 = Poor

- Randomized controlled trial (RCT) (experimental design) = 5
- Well-designed controlled trial without randomization (quasi-experimental design with adjustment for confounders) = 5
- Well-designed cohort or case-control study (quasi- and pre-experimental designs, with adjustment for confounders) = 4
- Multiple time series, correlation studies = 3
- Descriptive analysis – posttest only or pre-post = 2
- Modeling study with explicit assumptions = 2
- Expert opinion = 1

Robert Wood Johnson Foundation

CULTURE OF HEALTH!

Promoting Healthy Workplaces

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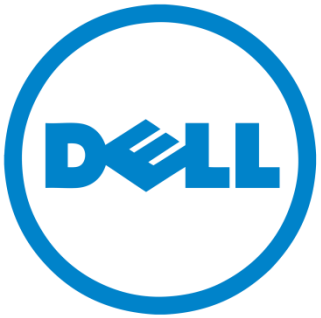
TRUVEN HEALTH ANALYTICS

Case Studies – Companies That Do It "Right"



Best Practice Companies

Table 4: Organizations Visited

Organization	Headquarters	Employees	Industry Type
Citibank	New York, NY	259,000	Banking
Dell, Inc.	Round Rock, TX	109,000	Manufacturing software development
Graco	Minneapolis, MN	2,600	Manufacturing
Johnson & Johnson	New Brunswick, NJ	118,000	Medical equipment, pharmaceutical
Lincoln Industries	Lincoln, NE	600	Manufacturing
LL Bean	Freeport, ME	5,500	Retail
Next Jump	New York, NY	200	eCommerce
Turck	Minneapolis, MN	3,200	Manufacturing
USAA	San Antonio, TX	25,000	Financial services

Citibank Study

THE SCIENCE OF HEALTH PROMOTION

Methods, Issues, and Results in Evaluation and Research

A Return on Investment Evaluation of the Citibank, N.A., Health Management Program

Ronald J. Ozminkowski, Rodney L. Dunn, Ron Z. Goetzel, Richard I. Cantor, Jan Murnane, Mary Harrison

Abstract

Objectives. *Citibank, N.A., initiated a comprehensive health, demand, and disease management program in 1994, using program services offered by Healthtrac, Inc., of Menlo Park, California. Program components included an initial screening of employees, computerized triage of subjects into higher and lower risk intervention programs, extensive follow-up with the higher risk subjects, and general health education and awareness building. The objective of this study was to estimate the financial impact of this program on medical expenditures.*

Methods. *A quasiexperimental design was applied comparing medical expenditures before vs. after the intervention for program participants and nonparticipants. The 22,838 subjects (11,194 program participants and 11,644 nonparticipants) were followed for an average of 38 months before and after administration of a Healthtrac health risk appraisal (HRA) instrument that triggered the start of the program. To adjust for selection bias to the extent possible with these data, multiple regression models were used to estimate the savings in medical expenditures associated with program participation. The resulting dollar savings were compared to program costs to estimate the economic return on the company's investment in the program.*

Results. *The return on investment (ROI) was estimated to be between $4.56 and $4.73*

PURPOSE

Corporate worksite health management, health promotion, and wellness programs have often been sold to senior management with the promise that they will save money. The rationale for savings is derived from the intuitive belief that if employees improve their health habits and lead healthier lifestyles, they will become sick less often, use health care benefits infrequently, and spend more time at work being productive.

Increasingly, program supporters recognize the need for better research to support this economic argument for corporate health management.[1] There are, however, several obstacles that stand in the way.

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TRUVEN HEALTH ANALYTICS

Highmark Study

CME Available for this Article at ACOEM.org

The Impact of the Highmark Employee Wellness Programs on 4-Year Healthcare Costs

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Ronald J. Ozminkowski, PhD
Brian T. Day, EdD
Ron Z. Goetzel, PhD

Learning Objectives

- Identify those elements of the Highmark Wellness Program that gained the most participants in the course of the 4-year study period.
- Compare employees who chose to take part in the program with risk-matched non-participants in regard to total healthcare expenditures, annual increases in healthcare expenditures, and return on investment.
- Recall whether and in what way participation in wellness programs influenced spending for preventive care.

Objective: *To determine the return on investment (ROI) of Highmark*

According to Thorpe[1], about a quarter of the increase in health care spending in the United States between 1987 and 2002 can be explained by health conditions attributable to lifestyle changes among Americans, especially the dramatic rise in overweight and obesity rates. Reducing morbidity associated with behavioral and biometric risk factors is a public health priority for the nation.[2] Employers, too, are beginning to recognize that they play an important role in improving the health and well-being of their workers, and they can do so by providing evidence-based worksite health promotion programs.[3]

A 1999 survey of worksite health

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TRUVEN HEALTH ANALYTICS

Dell Study

Financial Analysis

An Evaluation of the Well at Dell Health Management Program: Health Risk Change and Financial Return on Investment

Shirley Musich, PhD; Tre' McCalister, EdD; Sara Wang, PhD; Kevin Hawkins, PhD

Abstract

Purpose. *To investigate the effectiveness of the Well at Dell comprehensive health management program in delivering health care and productivity cost savings relative to program investment (i.e., return on investment).*

Design. *A quasi-experimental design was used to quantify the financial impact of the program and nonexperimental pre-post design to evaluate change in health risks.*

Setting. *Ongoing worksite health management program implemented across multiple U.S. locations.*

Subjects. *Subjects were 24,651 employees with continuous medical enrollment in 2010–2011 who were eligible for 2011 health management programming.*

Intervention. *Incentive-driven, outcomes-based multicomponent corporate health management program including health risk appraisal (HRA)/wellness, lifestyle management, and disease management coaching programs.*

Measures. *Medical, pharmacy, and short-term disability pre/post expenditure trends adjusted for demographics, health status, and baseline costs. Self-reported health risks from repeat HRA completers.*

Analysis. *Propensity score–weighted and multivariate regression–adjusted comparison of baseline to post trends in health care expenditures and productivity costs for program participants and nonparticipants (i.e., difference in difference) relative to programmatic investment.*

Results. *The Well at Dell program achieved an overall return on investment of 2.48 in 2011. Most of the savings were realized from the HRA/wellness component of the program. Cost savings*

PURPOSE

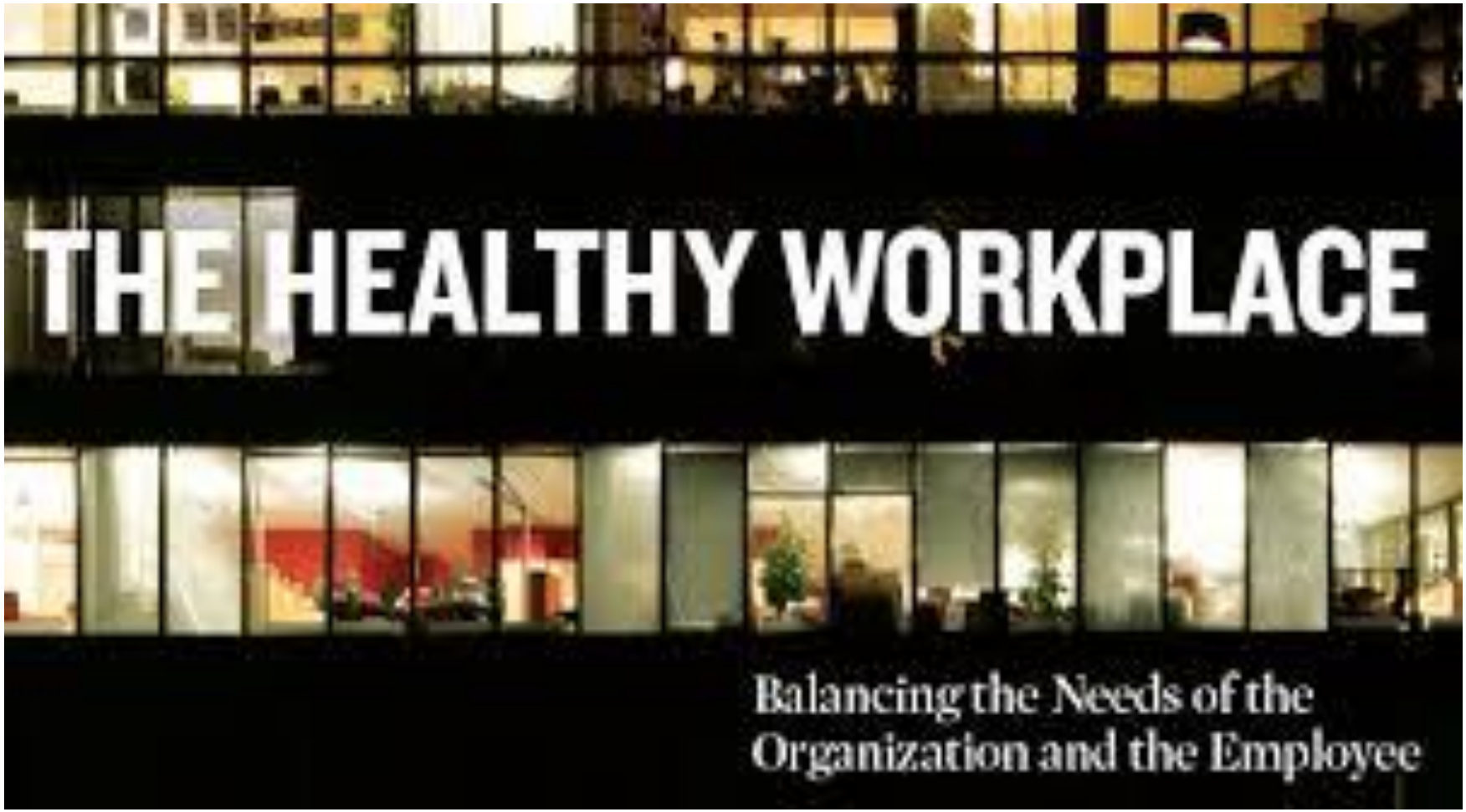
Employers offer health management programs as a defined strategy to improve employee health, mitigate rising health care costs, enhance employee morale and satisfaction, and increase productivity.[1] A 2013 national employer survey by the Kaiser Foundation found that 77% of employers offering health care benefits also sponsored at least one wellness program.[2] Given their popularity, and the advent of lower-cost online wellness programs, health management programs have increasingly migrated to midsized and small employers.[3]

The value of health management programs to employers has been dem-

What Is Needed to Achieve Success?

1. Leadership commitment
2. Specific goals and expectations
3. Healthy company culture
4. Employee driven program design
5. Excellent communication
6. Smart incentives
7. Effective screening and triage
8. State-of-the-art interventions
9. Effective implementation
10. Measurement and evaluation

Creating a…



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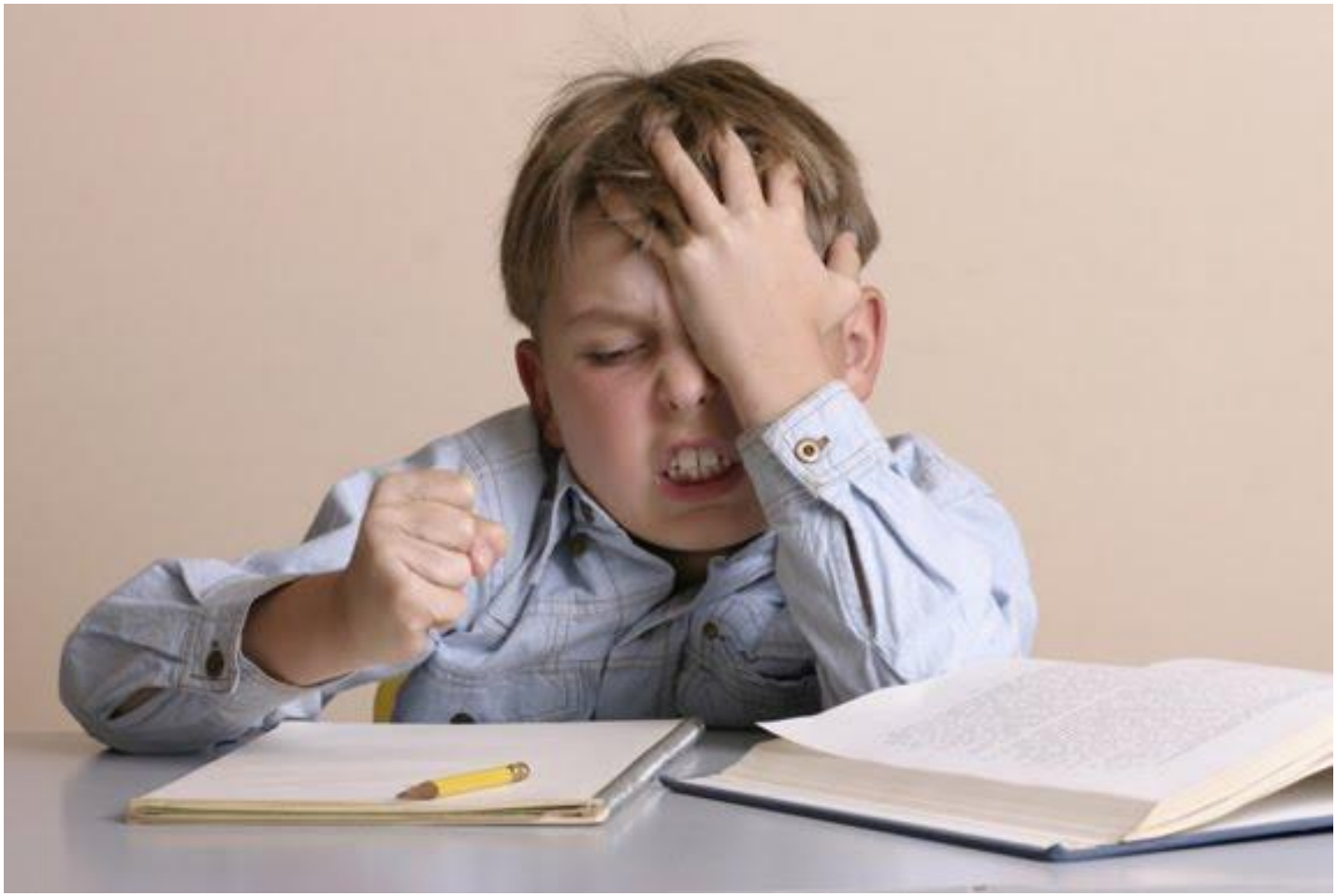
This Is Hard!



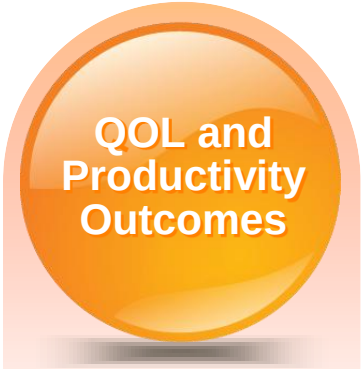
Workplace Health Promotion (Wellness) Works – If You Do it Right!

Cost savings, return on investment (ROI) and net present value (NPV).

Where to find savings:

- Medical costs
- Absenteeism
- Short term disability (STD)
- Safety/Workers' Comp
- Presenteeism

- Adherence to evidence based medicine.
- Behavior change, risk reduction, health improvement.



- Improved "functioning" and productivity
- Attraction/retention – employer of choice
- Employee engagement
- Corporate social responsibility (CSR)
- Balanced scorecard

I’m Open to New Ideas…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