Do Workplace Wellness Programs Work?

2nd National Workplace Health Summit
New Orleans, Louisiana -- Nov. 11, 2016
Ron Z. Goetzel, Ph.D., Johns Hopkins University and Truven Health Analytics, an IBM Company
Agenda

• The business case for adopting evidence-based, comprehensive & well-resourced workplace health promotion programs
• Review the methods used to evaluate programs in the “real world”
• Acknowledge the limitations of “average” programs that may not produce expected outcomes
• Highlight “top ten” elements essential for effective wellness programs
• Review value-on-investment (VOI) approaches to assess workplace programs in contrast to traditional return-on-investment (ROI) models
• Discuss implications for public policy
The Controversy: Do Health Promotion Programs Work?
The Confusion

Why 'wellness' program scams cost employers and harm employees

How corporate wellness programs can hurt your health

Wellness At Work: Popular B

Wellness gone wrong

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

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 changes. Some companies have introduced wellness programs as an incentive for employees to get vaccinated.

In the past year, however, there has been a significant increase in the number of lawsuits involving employers who have implemented wellness programs. These lawsuits often center around the use of financial incentives to encourage employees to participate in health and wellness programs.

One thing we do know is as they seek way to do wellness programs that are effective, they need to be aware of the legal risks involved. Employers should be cautious about using financial incentives to encourage participation in wellness programs, as these incentives may be seen as a form of discrimination.

In the end, it's important for employers to ensure that their wellness programs are truly focused on improving employees' health and well-being, rather than simply as a way to save money. By doing so, they can avoid potential legal consequences and create a more positive work environment for all employees.
Do Workplace Wellness Programs Work? Usually Not

SEPT. 11, 2014

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
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

Yes, if you do them right!

JOEM • Volume 56, Number 9, September 2014
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)?”
Q: What problem are we trying to solve?  
A: Spending a lot of money on sick care!

- The United States will spend $3.351 trillion in healthcare in 2016, or $10,346 for every man, woman and child.
- Spending by sector
  - Private health insurance - $1.093 trillion
  - Medicare - $681.3 billion
  - Medicaid - $577.7 billion
  - Out of pocket -- $350.1 billion
- Health expenditures as percent of GDP:
  - 7.2% in 1970
  - 18.1% in 2016 (projected)
  - 20.1% in 2025 (projected)

Source: Keehan et al., *Health Affairs*, 35:8, August 2016
## LEADING CAUSES OF DEATH IN THE U.S.

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th># of Deaths</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Disease</td>
<td>710,760</td>
<td>30%</td>
</tr>
<tr>
<td>Malignant Neoplasm</td>
<td>553,091</td>
<td>23%</td>
</tr>
<tr>
<td>Cerebrovascular Disease</td>
<td>167,661</td>
<td>7%</td>
</tr>
<tr>
<td>Chronic Lower Respiratory Tract Disease</td>
<td>122,009</td>
<td>5%</td>
</tr>
<tr>
<td>Unintentional Injuries</td>
<td>97,900</td>
<td>4%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>69,301</td>
<td>3%</td>
</tr>
<tr>
<td>Influenza / Pneumonia</td>
<td>65,313</td>
<td>3%</td>
</tr>
<tr>
<td>Alzheimer's</td>
<td>49,558</td>
<td>2%</td>
</tr>
<tr>
<td>Nephritis</td>
<td>37,251</td>
<td>2%</td>
</tr>
<tr>
<td>Septicemia</td>
<td>31,224</td>
<td>1%</td>
</tr>
<tr>
<td>Other</td>
<td>499,283</td>
<td>21%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,403,351</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

*Source: Year 2000, Mokdad et al., JAMA,291:10, March, 2004*
The Good News: Heart Disease Rates are Declining

Figure 1. Number of deaths due to heart disease and cancer: United States, 1950–2014

NOTES: Leading cause is based on number of deaths. Access data table for Figure 1 at: http://www.cdc.gov/nchs/data/databriefs/
### Table 3.1.2. U.S. Deaths Related to Modifiable Risk Factors, 2005

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco Smoking</td>
<td>467,000</td>
</tr>
<tr>
<td>High Blood Pressure</td>
<td>395,000</td>
</tr>
<tr>
<td>Overweight – Obesity (high BMI)</td>
<td>216,000</td>
</tr>
<tr>
<td>Physical Inactivity</td>
<td>191,000</td>
</tr>
<tr>
<td>High Blood Glucose</td>
<td>190,000</td>
</tr>
<tr>
<td>High LDL Cholesterol</td>
<td>113,000</td>
</tr>
<tr>
<td>High Dietary Salt (sodium)</td>
<td>102,000</td>
</tr>
<tr>
<td>Low Dietary Omega-3 Fatty Acids</td>
<td>84,000</td>
</tr>
<tr>
<td>High Dietary Trans Fatty Acids</td>
<td>82,000</td>
</tr>
<tr>
<td>Alcohol Use</td>
<td>64,000</td>
</tr>
<tr>
<td>Low Intake of Fruits and Vegetables</td>
<td>58,000</td>
</tr>
<tr>
<td>Low Dietary Polyunsaturated Fatty Acids</td>
<td>15,000</td>
</tr>
</tbody>
</table>

Note. Source: Danaei et al. (2009).
And, Costs Continue to Rise
Employer Per Capita Spending on Healthcare

**TRENDS IN MEDICAL AND PHARMACY CLAIMS COSTS**

U.S. employers experienced average trends of 4.6% annually in the PMPY allowed amount for medical and pharmacy costs from 2007 through December 2013. Truven Health expects continued increases of 4.7% and 5.4% in 2014 and 2015, respectively. At this rate, these costs will have increased by $1,550, or nearly 45%, over the course of nine years.

![Bar chart showing medical and pharmacy costs from 2007 to 2015](chart.png)

Convince me…

Why should I invest in the health and well-being of my workers?
What Is the Evidence Base?

• A large proportion of diseases and disorders is preventable. Modifiable health risk factors are precursors to a large number of diseases and disorders and to premature death (Healthy People 2000, 2010, Amler & Dull, 1987, Breslow, 1993, McGinnis & Foege, 1993, Mokdad et al., 2004)


• Modifiable health risks can be improved through workplace sponsored health promotion and disease prevention programs (Wilson et al., 1996, Heaney & Goetzel, 1997, Pelletier, 1991-2011, Soler et al. 2010)

• Improvements in the health risk profile of a population can lead to reductions in health costs (Edington et al., 2001, Goetzel et al., 1999, Carls et al., 2011)

Diseases Caused (at Least Partially) by Lifestyle

- **Obesity:** Cholelithiasis, Coronary Artery Disease, Diabetes, Hypertension, Lipid Metabolism Disorders, Osteoarthritis, Sleep Apnea, Venous Embolism/Thrombosis, Cancers (Breast, Cervix, Colorectal, Gallbladder, Biliary Tract, Ovary, Prostate)

- **Tobacco Use:** Cerebrovascular Disease, Coronary Artery Disease, Osteoporosis, Peripheral Vascular Disease, Asthma, Acute Bronchitis, COPD, Pneumonia, Cancers (Bladder, Kidney, Urinary, Larynx, Lip, Oral Cavity, Pharynx, Pancreas, Trachea, Bronchus, Lung)

- **Lack of Exercise:** Coronary Artery Disease, Diabetes, Hypertension, Obesity, Osteoporosis

- **Poor Nutrition:** Cerebrovascular Disease, Coronary Artery Disease, Diabetes, Diverticular Disease, Hypertension, Oral Disease, Osteoporosis, Cancers (Breast, Colorectal, Prostate)

- **Alcohol Use:** Liver Damage, Alcohol Psychosis, Pancreatitis, Hypertension, Cerebrovascular Disease, Cancers (Breast, Esophagus, Larynx, Liver)

- **Stress, Anxiety, Depression:** Coronary Artery Disease, Hypertension

- **Uncontrolled Hypertension:** Coronary Artery Disease, Cerebrovascular Disease, Peripheral Vascular Disease

- **Uncontrolled Lipids:** Coronary Artery Disease, Lipid Metabolism Disorders, Pancreatitis, Peripheral Vascular Disease
Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

Obesity (BMI $\geq 30$ Kg/m$^2$) 1994

Diabetes

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

Obesity (BMI≥30 Kg/m^2)

- Missing Data
- 14.0%–17.9%
- 18.0%–21.9%
- 22.0%–25.9%
- ≥26.0%

Diabetes

- Missing data
- <4.5%
- 4.5%–5.9%
- 6.0%–7.4%
- 7.5%–8.9%
- ≥9.0%

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

Obesity (BMI ≥ 30 Kg/m²) 1996

Diabetes

- Missing Data
- 14.0%–17.9%
- 18.0%–21.9%
- 22.0%–25.9%
- ≥26.0%

- Missing data
- 4.5%–5.9%
- 6.0%–7.4%
- 7.5%–8.9%
- ≥9.0%

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

Obesity (BMI≥30 Kg/m²)

1997

Diabetes

- Missing Data
- 14.0%–17.9%
- 18.0%–21.9%
- 22.0%–25.9%
- ≥26.0%

- Missing data
- 4.5%–5.9%
- 6.0%–7.4%
- 7.5%–8.9%
- ≥9.0%

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

**Obesity (BMI ≥ 30 Kg/m²)**

- **<14.0%**
- **14.0%–17.9%**
- **18.0%–21.9%**
- **22.0%–25.9%**
- **≥26.0%**

**Diabetes**

- **<4.5%**
- **4.5%–5.9%**
- **6.0%–7.4%**
- **7.5%–8.9%**
- **≥9.0%**

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

**Obesity (BMI≥30 Kg/m²) 1999**

- Missing Data
- 14.0%–17.9%
- 22.0%–25.9%

**Diabetes**

- Missing data
- <4.5%
- 4.5%–5.9%
- 6.0%–7.4%
- 7.5%–8.9%
- ≥9.0%

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

Obesity (BMI≥30 Kg/m²)

- Missing Data
- 14.0%–17.9%
- 18.0%–21.9%
- 22.0%–25.9%
- ≥26.0%

Diabetes

- Missing data
- <4.5%
- 4.5%–5.9%
- 6.0%–7.4%
- 7.5%–8.9%
- ≥9.0%

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

Obesity (BMI ≥30 Kg/m²) 2001

Diabetes

<table>
<thead>
<tr>
<th>Age-Adjusted Prevalence</th>
<th>14.0%–17.9%</th>
<th>18.0%–21.9%</th>
<th>22.0%–25.9%</th>
<th>≥26.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obesity (BMI ≥30 Kg/m²)</td>
<td>2001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

![Map of Obesity and Diabetes Prevalence in 2002](image)

**Obesity (BMI ≥30 Kg/m²)**
- Missing Data
- 14.0%–17.9%
- 18.0%–21.9%
- 22.0%–25.9%
- ≥26.0%

**Diabetes**
- Missing data
- <4.5%
- 4.5%–5.9%
- 6.0%–7.4%
- 7.5%–8.9%
- ≥9.0%

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

Obesity (BMI≥30 Kg/m²) 2003

- Missing Data
- 14.0%–17.9%
- 18.0%–21.9%
- 22.0%–25.9%
- ≥26.0%

Diabetes

- Missing data
- <4.5%
- 4.5%–5.9%
- 6.0%–7.4%
- 7.5%–8.9%
- ≥9.0%

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

Obesity (BMI ≥ 30 Kg/m²)

- <14.0%
- 14.0%–17.9%
- 18.0%–21.9%
- 22.0%–25.9%
- ≥26.0%
- Missing Data

Diabetes

- <4.5%
- 4.5%–5.9%
- 6.0%–7.4%
- 7.5%–8.9%
- ≥9.0%
- Missing data


JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH

IBM Watson Health
Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

Obesity (BMI ≥ 30 Kg/m²) 2006

Diabetes

- Missing Data
- <14.0%
- 14.0%–17.9%
- 18.0%–21.9%
- 22.0%–25.9%
- ≥26.0%

- Missing data
- <4.5%
- 4.5%–5.9%
- 6.0%–7.4%
- 7.5%–8.9%
- ≥9.0%

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

![Map showing age-adjusted prevalence of obesity and diagnosed diabetes in the US in 2007.](image)

**Obesity (BMI ≥ 30 Kg/m²)**
- Missing Data
- 14.0%–17.9%
- 18.0%–21.9%
- 22.0%–25.9%
- ≥26.0%

**Diabetes**
- Missing data
- 4.5%–5.9%
- 6.0%–7.4%
- 7.5%–8.9%
- ≥9.0%

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

Obesity (BMI≥30 Kg/m²) 2008

- Missing Data
- 14.0%–17.9%
- 18.0%–21.9%
- 22.0%–25.9%
- ≥26.0%

Diabetes

- Missing data
- <4.5%
- 4.5%–5.9%
- 6.0%–7.4%
- 7.5%–8.9%
- ≥9.0%

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

Obesity (BMI≥30 Kg/m²) 2009

Diabetes

- Missing Data
- <14.0%
- 14.0%–17.9%
- 18.0%–21.9%
- 22.0%–25.9%
- ≥26.0%

- Missing data
- <4.5%
- 4.5%–5.9%
- 6.0%–7.4%
- 7.5%–8.9%
- ≥9.0%

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults


Obesity (BMI≥30 Kg/m²) 2011

Diabetes

Missing Data 14.0%–17.9% 22.0%–25.9%
<14.0% 18.0%–21.9%
≥26.0%

Missing data 4.5%–5.9% 6.0%–7.4%
7.5%–8.9%
≥9.0%
Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

Obesity (BMI ≥30 Kg/m²) 2012

-Missing Data
-14.0%–17.9%
-18.0%–21.9%
-22.0%–25.9%
-≥26.0%

Diabetes

-Missing data
-<4.5%
-4.5%–5.9%
-6.0%–7.4%
-7.5%–8.9%
-≥9.0%

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

Obesity (BMI ≥ 30 Kg/m²) 2013

Diabetes

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

Obesity (BMI ≥ 30 Kg/m²) 2014

Diabetes

- Missing Data
- 14.0%–17.9%
- 22.0%–25.9%
- <14.0%
- 18.0%–21.9%
- 22.0%–25.9%
- ≥26.0%

- Missing data
- 4.5%–5.9%
- 7.5%–8.9%
- ≥9.0%
- <4.5%
- 6.0%–7.4%
- ≥9.0%

THE EVOLUTION OF FRENCH-FRY SIZING

REGULAR  LARGE  SUPER  IDAHO
Is This True for Employers? 
Vanderbilt – 8-Year Study

Health Risk Factor Modification Predicts Incidence of Diabetes in an Employee Population

Results of an 8-Year Longitudinal Cohort Study

Lori Rolando, MD, MPH, Daniel W. Byrne, MS, Paula W. McGown, MSN, Mace, RN, FNP-BC, CPA, Ron Z. Goetzel, PhD, Tom Elasy, MD, MPH, and Mary I. Yarborough, MD, MPH, FACOEM, FACPM

Objective: To understand risk factor modification effect on Type 2 diabetes incidence in a workforce population. Methods: Annual health risk assessment data (N = 3125) in years 1 through 4 were used to predict diabetes development in years 5 through 8. Results: Employees who reduced their body mass index from 30 or more to less than 30 decreased their chances of developing diabetes (odds ratio = 0.22, 95% confidence interval: 0.05 to 0.95), while those who became obese increased their diabetes risk (odds ratio = 8.85, 95% confidence interval: 2.53 to 31.0). Conclusions: Weight reduction observed over a long period can result in clinically important reductions in diabetes incidence. Workplace health promotion programs may prevent diabetes among workers by encouraging weight loss and adoption of healthy lifestyle habits.

With results from clinical studies as background, many employers have introduced workplace health promotion programs to support their workers who wish to improve their health, with the ultimate aim of preventing unnecessary health care spending and boosting productivity.11-18 Nevertheless, a challenge faced by practitioners and researchers alike is documenting the scalability of risk-reduction programs and their ability to prevent chronic diseases such as diabetes in large populations. Few long-term studies have been performed in workplace settings in which workers are observed over several years in an attempt to determine whether changes in certain health habits and biometric measures lead to the onset of diseases or, alternately, their prevention. One exception is a 7-year study of Vanderbilt University employees, whose changes in health risks were reported previously.16 At Vanderbilt University, researchers found
## Obesity and Diabetes

### TABLE 2. Obesity*

<table>
<thead>
<tr>
<th>Group</th>
<th>Year 1</th>
<th>Years 2–4</th>
<th>Developed Diabetes in Years 5–8</th>
<th>OR (95% CI)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keep risk factor</td>
<td>BMI ≥30</td>
<td>BMI ≥30</td>
<td>55/544 (10.1%)</td>
<td>0.22 (0.05–0.93)</td>
<td>0.039</td>
</tr>
<tr>
<td>Lose risk factor</td>
<td>BMI ≥30</td>
<td>BMI &lt;30</td>
<td>2/82 (2.4%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keep healthy habit</td>
<td>BMI &lt;30</td>
<td>BMI &lt;30</td>
<td>25/2,163 (1.2%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lose healthy habit</td>
<td>BMI &lt;30</td>
<td>BMI ≥30</td>
<td>3/32 (9.4%)</td>
<td>8.85 (2.53–31.0)</td>
<td>0.001</td>
</tr>
<tr>
<td>Mixed/unstable weight pattern (“yo-yo”)</td>
<td></td>
<td></td>
<td>13/304 (4.3%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

BMI, body mass index; CI, confidence interval; OR, odds ratio.

*P < 0.001 using a chi-squared test with 5 groups.
The Centers for Disease Control and Prevention (CDC) estimates…
• 80% of heart disease and stroke
• 80% of type 2 diabetes
• 40% of cancer

…could be prevented if only Americans were to do three things:
• Stop smoking
• Start eating healthy
• Get in shape
Good News – Worksite Health Promotion Works!  
*Caveat: If you do it right…*
A Systematic Review of Selected Interventions for Worksite Health Promotion

The Assessment of Health Risks with Feedback

## Summary Results and Team Consensus

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Body of Evidence</th>
<th>Consistent Results</th>
<th>Magnitude of Effect</th>
<th>Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol Use</td>
<td>9</td>
<td>Yes</td>
<td>Variable</td>
<td>Sufficient</td>
</tr>
<tr>
<td>Fruits &amp; Vegetables</td>
<td>9</td>
<td>No</td>
<td>0.09 serving</td>
<td>Insufficient</td>
</tr>
<tr>
<td>% Fat Intake</td>
<td>13</td>
<td>Yes</td>
<td>-5.4%</td>
<td>Strong</td>
</tr>
<tr>
<td>% Change in Those Physically Active</td>
<td>18</td>
<td>Yes</td>
<td>+15.3 pct pt</td>
<td>Sufficient</td>
</tr>
<tr>
<td>Tobacco Use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prevalence</td>
<td>23</td>
<td>Yes</td>
<td>-2.3 pct pt</td>
<td>Strong</td>
</tr>
<tr>
<td>Cessation</td>
<td>11</td>
<td>Yes</td>
<td>+3.8 pct pt</td>
<td></td>
</tr>
<tr>
<td>Seat Belt Non-Use</td>
<td>10</td>
<td>Yes</td>
<td>-27.6 pct pt</td>
<td>Sufficient</td>
</tr>
</tbody>
</table>
## Summary Results and Team Consensus

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

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Body of Evidence</th>
<th>Consistent Results</th>
<th>Magnitude of Effect</th>
<th>Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Risk</td>
<td>15</td>
<td>Yes</td>
<td>Moderate</td>
<td>Sufficient</td>
</tr>
<tr>
<td>Healthcare Use</td>
<td>6</td>
<td>Yes</td>
<td>Moderate</td>
<td>Sufficient</td>
</tr>
<tr>
<td>Worker Productivity</td>
<td>10</td>
<td>Yes</td>
<td>Moderate</td>
<td>Strong</td>
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</tbody>
</table>
What About ROI?
Critical Steps to Success

- Financial ROI
- Reduced Utilization
- Risk Reduction
- Behavior Change
- Improved Attitudes
- Increased Knowledge
- Participation
- Awareness
Health Affairs ROI Literature Review

PREVENTION

By Katherine Baicker, David Cutler, and Zirui Song

Workplace Wellness Programs Can Generate Savings

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.
## Results - Medical Care Cost Savings

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Average ROI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studies reporting costs and savings</td>
<td>15</td>
<td>$3.37</td>
</tr>
<tr>
<td>Studies reporting savings only</td>
<td>7</td>
<td>Not Available</td>
</tr>
<tr>
<td>Studies with randomized or matched control group</td>
<td>9</td>
<td>$3.36</td>
</tr>
<tr>
<td>Studies with non-randomized or matched control group</td>
<td>6</td>
<td>$2.38</td>
</tr>
<tr>
<td>All studies examining medical care savings</td>
<td>22</td>
<td>$3.27</td>
</tr>
</tbody>
</table>
# Results – Absenteeism Savings

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Average ROI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studies reporting costs and savings</td>
<td>12</td>
<td>$3.27</td>
</tr>
<tr>
<td>All studies examining absenteeism savings</td>
<td>22</td>
<td>$2.73</td>
</tr>
</tbody>
</table>
Goetzel’s Rule:
an ROI of 1:1 Is Good Enough…
…if You Can Demonstrate Health Improvement!
Poor Health Costs Money

Drill Down…

• Medical
• Absence/work loss
• Safety
• Presenteeism
Top 10 Most Costly Physical Health Conditions

Medical, Drug, Absence, STD Expenditures (1999 annual $ per eligible), by Component
The Big Picture: Overall Burden of Illness

Using Average Impairment and Prevalence Rates for Presenteeism

($23.15/hour wage estimate)
Ten Modifiable Health Risk Factors Are Linked To More Than One-Fifth Of Employer-Employee Health Care Spending

**ABSTRACT** An underlying premise of the Affordable Care Act provisions that encourage employers to adopt health promotion programs is an association between workers’ modifiable health risks and increased health care costs. Employers, consultants, and vendors have cited risk-cost estimates developed in the 1990s and wondered whether they still hold true. Examining ten of these common health risk factors in a working population, we found that similar relationships between such risks and total medical costs documented in a widely cited study published in 1998 still hold. Based on our sample of 93,486 employees at seven organizations over an average of three years, $38,072,456, or 22.4 percent of the $366,373,301 spent annually by the seven employers and their employees in the study was attributed to the ten risk factors studied. This amount was similar to almost a quarter of spending linked to risk factors (21.9 percent) in the 1998 study. High risk for depression remained most strongly associated with increased per capita annual medical spending (49 percent, or $2,384, higher). High blood glucose, high blood pressure, and obesity were strongly related to increased health care costs (31.8 percent, 31.6 percent, and 27.4 percent higher, respectively), as were tobacco use, physical inactivity, and high stress. These findings indicate ongoing opportunities for well-designed and properly targeted employer-sponsored health promotion programs to produce substantial savings.

Section 4303 of the Affordable Care Act of 2010 and section 2705 of the Public Health Service Act of 1944, which was amended by the Affordable Care Act, contain provisions that encourage employers to adopt health promotion and risk reduction programs, also known as wellness wellness programs. An underlying premise of these provisions is that modifiable health risks, such as obesity and high blood pressure, are associated with increased health care costs in the employed population. Therefore, employers that undertake risk reduction programs may save on health care expenditures. The largest employer-based study that supported the association between higher health risks and higher costs used data that are now seventeen years old. Also, both personal health behavior and health care services have changed over time. We therefore revised this prior analysis using more current data. In doing so, we demonstrated that the relationships shown more than a decade ago between employer health risks and subsequent total health care costs still hold today. These enduring rela-
Cost Per Capita of Risk Factors

- Obesity: 347
- Depression: 178.6
- Tobacco Use: 128.2
- Blood Glucose: 106.2
- Blood Pressure: 104.1
- Stress: 80.8
- Serum Cholesterol: 38.3
- Alcohol Consumption: -6.4
- Diet: -14
- Physical Inactivity: -75.4
## IMPACT OF COEXISTING MULTIPLE RISK FACTORS

<table>
<thead>
<tr>
<th></th>
<th>With multiple risk factors</th>
<th>Without any of the risk factors</th>
<th>% difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>High risk for heart disease</td>
<td>$10,134</td>
<td>$3,232</td>
<td>213.57%</td>
</tr>
<tr>
<td>High risk for stroke</td>
<td>$6,137</td>
<td>$3,786</td>
<td>62.09%</td>
</tr>
<tr>
<td>High risk for psychosocial problems</td>
<td>$6,165</td>
<td>$3,838</td>
<td>60.62%</td>
</tr>
</tbody>
</table>

Risk-free individual is estimated to have medical expenditures of $3,207

Risks for heart disease include: tobacco use, high blood pressure, high blood glucose, high cholesterol, lack of exercise, obesity and stress

Risks for stroke include: tobacco use, high blood pressure, high cholesterol, and stress

Risks for psychosocial problems include: stress and depression
The Relationship Between Modifiable Health Risk Factors and Medical Expenditures, Absenteeism, Short-Term Disability, and Presenteeism Among Employees at Novartis

Ron Z. Goetzel, PhD
Ginger Smith Carls, MA
ShaoHung Wang, PhD
Emily Kelly, MA
Edward Mauzer, MD
Daniel Columbus, MBA
Ann Cavuoti, CEBS

Objective: To quantify the impact of health risks on medical care and productivity costs in an employed population. Methods: Health risk, medical care, and productivity data were obtained for 5875 Novartis employees in 2005–2006. Factor analysis was performed to identify relationships among health risks. Multiple regression analyses were applied to estimate relationships between combined risk factors and costs. Results: We found a significant and consistent association among three factors (high biometric laboratory values, cigarette and alcohol use, and poor emotional health) and increased presenteeism for both men and women and increased absenteeism for women. Medical care expenditures were 13–22% higher for men and women at risk for the high biometric laboratory values and the emotional health factor. Conclusions: There is a potential for medical and productivity savings for employers able to reduce health risks among their workers. (J Occup Environ Med. 2009;51:487–499)

A healthy and productive workforce is essential to business success. Although much emphasis has been placed on optimal management of acute and chronic disease as a way to contain employer health care costs and lessen employee time lost due to illness, there is growing recognition that a more efficient approach to achieving cost savings is by promoting employee health.

Research with employers has documented the relationship between health risk status and important work-related cost and productivity outcomes.\(^1\)\(^\text{a-d}\) and this research suggests that risk reduction among workers may be a practical way to improve these outcomes.\(^10\)\(^\text{-}^{13}\)

Employers are interested in knowing how various risk factors can affect employee health and productivity, and eventually documenting the benefits associated with programs directed at changing these risks.

A body of evidence suggests a clear relationship between common
## Risk Factors and Presenteeism (N = 5,875)

Risk factors predicted .80 – 1.67 additional presenteeism days/year

<table>
<thead>
<tr>
<th>Outcomes and group of health risks</th>
<th>Predicted Scenario</th>
<th>Predicted Mean</th>
<th>Impact on dollars or days (95% CI)</th>
<th>Impact as percent difference from scenario without the risk (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presenteeism</td>
<td>Annual Unproductive Days</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEMALES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Biometric Lab Values</td>
<td>Without risk(s)</td>
<td>0.73</td>
<td>0.95</td>
<td>130.3%</td>
</tr>
<tr>
<td></td>
<td>With risk(s)</td>
<td>1.69</td>
<td>(0.85, 1.05)</td>
<td>(116.7%, 144.0%)</td>
</tr>
<tr>
<td>Alcohol / Tobacco Use</td>
<td>Without risk(s)</td>
<td>0.77</td>
<td>1.67</td>
<td>217.0%</td>
</tr>
<tr>
<td></td>
<td>With risk(s)</td>
<td>2.44</td>
<td>(1.56, 1.78)</td>
<td>(203.1%, 230.9%)</td>
</tr>
<tr>
<td>Emotional Health</td>
<td>Without risk(s)</td>
<td>0.75</td>
<td>0.92</td>
<td>122.5%</td>
</tr>
<tr>
<td></td>
<td>With risk(s)</td>
<td>1.66</td>
<td>(0.82, 1.02)</td>
<td>(109.1%, 135.9%)</td>
</tr>
<tr>
<td>MALES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Biometric Lab Values</td>
<td>Without risk(s)</td>
<td>0.49</td>
<td>0.80</td>
<td>162.3%</td>
</tr>
<tr>
<td></td>
<td>With risk(s)</td>
<td>1.29</td>
<td>(0.70, 0.90)</td>
<td>(142.2%, 182.3%)</td>
</tr>
<tr>
<td>Alcohol / Tobacco Use</td>
<td>Without risk(s)</td>
<td>0.55</td>
<td>1.43</td>
<td>258.6%</td>
</tr>
<tr>
<td></td>
<td>With risk(s)</td>
<td>1.99</td>
<td>(1.16, 1.71)</td>
<td>(209.4%, 307.8%)</td>
</tr>
<tr>
<td>Emotional Health</td>
<td>Without risk(s)</td>
<td>0.53</td>
<td>0.91</td>
<td>171.3%</td>
</tr>
<tr>
<td></td>
<td>With risk(s)</td>
<td>1.44</td>
<td>(0.79, 1.03)</td>
<td>(149.1%, 193.6%)</td>
</tr>
</tbody>
</table>
The Relationship Between Health Risks and Health and Productivity Costs Among Employees at Pepsi Bottling Group

Rachel M. Henke, PhD, Ginger S. Carls, PhD, Meghan E. Short, MPH, Xiaofei Pei, PhD, Shaohung Wang, PhD, Susan Moiley, BBA, Mark Sullivan, BA, and Ron Z. Goetzl, PhD

Objective: To evaluate relationships between modifiable health risks and costs and measure potential cost savings from risk reduction programs. Methods: Health risk information from active Pepsi Bottling Group employees who completed health risk assessments between 2004 and 2006 (N = 11,217) were linked to medical care, workers’ compensation, and short-term disability costs data. Ten health risks were examined. Multivariate analyses were performed to estimate costs associated with having high risk, holding demographics, and other risks constant. Potential savings from risk reduction were estimated. Results: High risk for weight, blood pressure, glucose, and cholesterol had the greatest impact on total costs. A one-percentage point annual reduction in the health risks assessed would yield annual per capita savings of $8310 to $10339. Conclusions: Targeted programs that address modifiable health risks are expected to produce substantial cost reductions in multiple benefit categories.

Employees with modifiable health risks have higher medical care and productivity expenses when compared with lower risk employees.1-11 Employees seeking to contain health and productivity costs are turning to workplace health promotion programs to reduce the prevalence of risk factors among their workers. Knowledge of the association between health risks and costs can help employers determine where to target workplace programs and estimate cost savings resulting from interventions. This information, in turn, can help them calculate a potential return-on-investment before making program investments.

Additional research has found that costs associated with health risks increase when productivity losses are included. Annual costs due to lost productivity have been estimated at $1,392 to $2,582 per employee at risk.12 Employees tend to have multiple risk factors, which can impact the magnitude of these productivity costs.13 As the direct and indirect costs associated with having health risks can be high, further research on workplace programs that aim to lower health risks and better manage health care expenditures is warranted.

This study examined the relationship between modifiable health risks and health and productivity costs among U.S. employees at the Pepsi Bottling Group (PBG). PBG is the world’s largest manufacturer, seller, and distributor of Pepsi-Cola beverages and has a workforce with a large number of male, blue-collar employees. PBG has implemented various health improvement programs over the years and was awarded the C. Everett Koop National Health Award for its “Healthy Living Program” in 2007. Among PBG’s Healthy Living initiatives are its offerings of comprehensive preventive care benefits, on-site medical clinics and screenings, lifestyle management programs, flu shot campaigns, and a local wellness champions program that works with volunteer employee leaders at each worksite to facilitate local engagement. Meaningful incentives have enhanced participation rates, and marketing and branding techniques are used to sell “health” as a product.

Study Objectives
We sought to determine the relationships between individual health risks and costs across multiple benefit program categories and to predict the cost savings from improvements in the health risk
BMI Breakdown by Category

- **Normal BMI < 25**: 25%
- **Overweight BMI 25-30**: 44%
- **Class I BMI 30-35**: 22%
- **Class II BMI 35-40**: 7%
- **Class III BMI 40+**: 3%
PepsiCo – Overweight / Obese Analysis (N=11,217)

Adjusted predicted annual costs for employees by BMI

Difference between combined overweight/obese categories and normal weight is displayed.

NHLBI Multi-Center Study: Estimated Annual Costs of Healthcare Utilization, Absenteeism, and Presenteeism by BMI Category

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

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

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 $365 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.
Health Risks – Biometric Measures -- Adjusted

Results adjusted for age, sex, region * p<0.05 ** p<0.01
Health Risks – Health Behaviors -- Adjusted

High Risk Alcohol

High Risk Nutrition

High Risk Physical Inactivity

High Risk Tobacco

Results adjusted for age, sex, region * p<0.05 ** p<0.01
Health Risks – Psychosocial -- Adjusted

High Risk Depression

High Risk Stress

Results adjusted for age, sex, region * p<0.05 ** p<0.01
Adjusted Medical and Drug Costs vs. Expected Costs from Comparison Group

Average Savings 2002-2008 = $565/employee/year
Estimated ROI: $1.88 - $3.92 to $1.00
But…what about the Value-on-Investment (VOI)?
Free Refill on Large Popcorn and Large Coca-Cola Fountain Drinks
Sodas in the year 2040.
Wall Street Studies
Ray Fabius’ 2013 study

The Link Between Workforce Health and Safety and the Health of the Bottom Line

Tracking Market Performance of Companies That Nurture a “Culture of Health”

Raymond Fabius, MD, R. Dixon Thayer, BA, Doris L. Konicki, MHS, Charles M. Yarborough, MD, Kent W. Peterson, MD, Fikry Isaac, MD, Ronald R. Loepke, MD, MPH, Barry S. Eisenberg, MA, and Marianne Dreger, MA

Objective: To test the hypothesis that comprehensive efforts to reduce a workforce’s health and safety risks can be associated with a company’s stock market performance. Methods: Stock market performance of Corporate Health Achievement Award winners was tracked under different scenarios using simulation and past market performance. Results: A portfolio of companies recognized as award winning for their approach to the health and safety of their workforce outperformed the market. Evidence seems to support that building cultures of health and safety provides a competitive advantage in the marketplace. This research may have also identified an association between companies that focus on health and safety and companies that manage other aspects of their business equally well. Conclusions: Companies that build a culture of health by focusing on the well-being and safety of their workforce yield greater value for their investors.

- Recently, an article by Loepke and colleagues,\(^4\) reported that for every dollar of medical and pharmaceutical costs spent, an employer lost an additional $2.30 of health-related productivity costs. Health-related presenteeism (health risks and medical conditions impacting work performance) was shown to have a larger impact on lost productivity than absenteeism, with executives and managers suffering higher losses. Comorbidities demonstrated the largest effects on productivity loss.\(^4\)

These facts led to a hypothesis: Companies that create an environment for their employees and dependents that reinforces both conscious and unconscious safer and healthier lifestyle choices as well as provides more effective accessing of appropriate health care (ie, surround them with a “culture of health”) should be more productive and that productivity should drive business performance and
American College of Occupational and Environmental Medicine (AECOM) Corporate Health Achievement Award (CHAA) Winners – 1996 - 2013

<table>
<thead>
<tr>
<th>Year</th>
<th>Recipient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996–1997</td>
<td>Hughes Electronics</td>
</tr>
<tr>
<td></td>
<td>Lockheed Martin</td>
</tr>
<tr>
<td>1997–1998</td>
<td>Boeing</td>
</tr>
<tr>
<td></td>
<td>IBM</td>
</tr>
<tr>
<td></td>
<td>Johnson &amp; Johnson</td>
</tr>
<tr>
<td></td>
<td>First Chicago</td>
</tr>
<tr>
<td>1998–1999</td>
<td>Glaxo Wellcome</td>
</tr>
<tr>
<td></td>
<td>AlliedSignal</td>
</tr>
<tr>
<td></td>
<td>Baltimore Gas &amp; Electric</td>
</tr>
<tr>
<td></td>
<td>City of Indianapolis</td>
</tr>
<tr>
<td>1999–2000</td>
<td>Sherman Health</td>
</tr>
<tr>
<td></td>
<td>Dow Chemical</td>
</tr>
<tr>
<td></td>
<td>GE Power</td>
</tr>
<tr>
<td>2000–2001</td>
<td>National Security Agency</td>
</tr>
<tr>
<td>2001–2002</td>
<td>Bristol-Myers Squibb</td>
</tr>
<tr>
<td></td>
<td>Eli Lilly</td>
</tr>
<tr>
<td></td>
<td>IBM</td>
</tr>
<tr>
<td></td>
<td>Kerr-McGee</td>
</tr>
<tr>
<td>2002–2003</td>
<td>BAE Systems</td>
</tr>
<tr>
<td></td>
<td>Marathon Oil</td>
</tr>
<tr>
<td></td>
<td>Union Pacific</td>
</tr>
<tr>
<td>2003–2004</td>
<td>Cambro Corporation</td>
</tr>
<tr>
<td>2004–2005</td>
<td>Daimler Chrysler</td>
</tr>
<tr>
<td></td>
<td>QuadGraphics</td>
</tr>
<tr>
<td>2005–2006</td>
<td>No recipients</td>
</tr>
<tr>
<td>2006–2007</td>
<td>Caterpillar</td>
</tr>
<tr>
<td>2007–2008</td>
<td>No recipients</td>
</tr>
<tr>
<td>2008–2009</td>
<td>Southeastern Transportation Authority</td>
</tr>
<tr>
<td>2009–2010</td>
<td>Baptist Health System</td>
</tr>
<tr>
<td>2010–2011</td>
<td>EG&amp;G-URS</td>
</tr>
<tr>
<td>2011–2012</td>
<td>Johnson &amp; Johnson</td>
</tr>
<tr>
<td></td>
<td>Smithsonian Institutions</td>
</tr>
<tr>
<td>2012–2013</td>
<td>American Express</td>
</tr>
</tbody>
</table>

**FIGURE 1.** Portfolio starting at five winners versus S&P 500.
ACOEM Winners vs. S&P 500

HERO Study: Connecting Corporate Health and Wellness Best Practices to Superior Market Performance
Grossmeier et al., HERO S&P Study

Linking Workplace Health Promotion Best Practices and Organizational Financial Performance

Tracking Market Performance of Companies With Highest Scores on the HERO Scorecard

Jessica Grossmeier, PhD, MPH, Ray Fabius, MD, Jennifer P. Flynn, MS, Steven P. Noeldner, PhD, Dan Fabius, MD, Ron Z. Goetzel, PhD, and David R. Anderson, PhD, LP

Objective: The aim of the study was to evaluate the stock performance of publicly traded companies that received high scores on the HERO Employee Health Management Best Practices Scorecard in Collaboration with Mercer based on their implementation of evidence-based workplace health promotion practices. Methods: A portfolio of companies that received high scores in a corporate health and wellness self-assessment was simulated based on past market performance and compared with past performance of companies represented on the Standard and Poor’s (S&P) 500 Index. Results: Stock values for a portfolio of companies that received high scores in a corporate health and wellness self-assessment appreciated by 235% compared with the S&P 500 Index appreciation of 159% over a 6-year simulation period. Conclusions: Robust investment in workforce health and well-being appears to be one of multiple practices pursued by high-performing, well-managed companies.

evidence that traders find information about company investments in human capital meaningful, suggesting that they may also have an appetite for sources of information about company investments in workforce health and well-being. Further evidence is found in a movement to incorporate information about employer investments in workforce health, safety, and productivity into corporate responsibility reporting.19–23 In summary, there are emerging indications that investments in workforce health and well-being are correlated with financial impacts and this evidence has garnered the attention of forward-thinking employers and members of the investment community. In response to this desire for information about investments in workforce health and well-being, additional strategies are needed to identify the companies implementing the level and type of WHP initiatives that align with a company’s financial success.

One potential identification tool is the HERO Employee
HERO Study Results

**FIGURE 2.** Relative performance of HERO Scorecard high-scoring portfolio compared with S&P 500—percent return.
The Stock Performance of C. Everett Koop Award Winners Compared With the Standard & Poor’s 500 Index

Ron Z. Goetzel, PhD, Raymond Fabius, MD, Daniel Fabius, DO, Enid C. Roemer, PhD, Nicole Thornton, BA, Rebecca K. Kelly, PhD, RD, and Kenneth R. Pelletier, PhD, MD (hc)

Objective: The aim of the study was to explore the link between companies investing in the health and well-being programs of their employees and stock market performance. Methods: Stock performance of C. Everett Koop National Health Award winners (n = 26) was measured over time and compared with the average performance of companies comprising the Standard and Poor’s (S&P) 500 Index. Results: The Koop Award portfolio outperformed the S&P 500 Index. In the 14-year period tracked (2000–2014), Koop Award winners’ stock values appreciated by 235% compared with the market average appreciation of 105%. Conclusions: This study supports prior and ongoing research demonstrating a higher market valuation—an affirmation of business success by Wall Street investors—of socially responsible companies that invest in the health and well-being of their workers when compared with other publicly traded firms.

Workplace health promotion programs are designed to improve businesses, partly fueled by a specific provision of the 2010 Affordable Care Act (Section 2705) that encourages employers to implement comprehensive worksite health promotion programs. Currently, approximately half of all employers with more than 50 employees offer wellness programs of varying comprehensiveness, with large employers being more likely to have a complex program.¹ Initiation and expansion of these programs has been spurred by the belief that organizations will benefit at the business or enterprise level by reducing the company’s operating costs, in the form of medical expenditures, as well as improving worker productivity, although that assumption has been challenged by some critics.²³

The connection between a company’s health promotion program and overall business results assumes high employee awareness of and engagement in workplace health promotion and disease prevention programs. A further assumption is that participation in the workplace program will lead to improved health, more engaged
The mission of The Health Project (THP) is to seek out, evaluate, promote, and disseminate information about exemplary health promotion and disease prevention programs with demonstrated effectiveness in improving population health and producing net savings.
## Koop Winners: 1999-2014

<table>
<thead>
<tr>
<th>Company</th>
<th>Symbol</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP America</td>
<td>BP</td>
<td>2014</td>
</tr>
<tr>
<td>Eastman Chemical</td>
<td>EMN</td>
<td>2011</td>
</tr>
<tr>
<td>Prudential Financial</td>
<td>PRU</td>
<td>2011</td>
</tr>
<tr>
<td>Pfizer, Inc.</td>
<td>PFE</td>
<td>2010</td>
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<tr>
<td>The Volvo Group</td>
<td>VOLVF</td>
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<tr>
<td>Alliance Data Systems Corp</td>
<td>ADS</td>
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<td>Dow Chemical Company</td>
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<td>International Business Machines</td>
<td>IBM</td>
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<td>Pepsi Bottling Group</td>
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<tr>
<td>WE Energies</td>
<td>WEC</td>
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<td>Union Pacific Railroad</td>
<td>UNP</td>
<td>2005</td>
</tr>
<tr>
<td>UAW-GM</td>
<td>GM</td>
<td>2004</td>
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<tr>
<td>Johnson &amp; Johnson Services, Inc</td>
<td>JNJ</td>
<td>2003</td>
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<tr>
<td>FedEx Corp.</td>
<td>FDX</td>
<td>2002</td>
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<td>Motorola Solutions Inc.</td>
<td>MSI</td>
<td>2002</td>
</tr>
<tr>
<td>Citibank</td>
<td>C</td>
<td>2001</td>
</tr>
<tr>
<td>Union Pacific Railroad</td>
<td>UNP</td>
<td>2001</td>
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<tr>
<td>Northeast Utilities</td>
<td>NU</td>
<td>2001</td>
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<tr>
<td>Caterpillar Inc.</td>
<td>CAT</td>
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<tr>
<td>Cigna Corp.</td>
<td>CI</td>
<td>2000</td>
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<tr>
<td>DaimlerChrysler Corporation</td>
<td>DDAIF</td>
<td>2000</td>
</tr>
<tr>
<td>Fannie Mae</td>
<td>FNMA</td>
<td>2000</td>
</tr>
<tr>
<td>Aetna</td>
<td>AET</td>
<td>1999</td>
</tr>
<tr>
<td>Pfizer, Inc.</td>
<td>PFE</td>
<td>1999</td>
</tr>
<tr>
<td>Glaxo Wellcome</td>
<td>GSK</td>
<td>1999</td>
</tr>
<tr>
<td>UNUM/ Provident</td>
<td>UNM</td>
<td>1999</td>
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</table>
Getting the Word Out on Best and Promising Practices in Workplace Health Promotion
Promoting Healthy Workplaces

www.jhsph.edu/research/centers-and-institutes/institute-for-health-and-productivity-studies
Case Studies – Companies That Do It “Right”
Kent et al., JOEM Study

Promoting Healthy Workplaces by Building Cultures of Health and Applying Strategic Communications

Karen Kent, MPH, Ron Z. Goetzel, PhD, Enid C. Roemer, PhD, Aishwarya Prasad, MPH, MBBS, and Naomi Freundlich, MA

Objective: The aim of the study was to identify key success elements of employer-sponsored health promotion (wellness) programs. Methods: We conducted an updated literature review, held discussions with subject matter experts, and visited nine companies with exemplary programs to examine current best and promising practices in workplace health promotion programs. Results: Best practices include establishing a culture of health and using strategic communications. Key elements that contribute to a culture of health are leadership commitment, social and physical environmental support, and employee involvement. Strategic communications are designed to educate, motivate, market offerings, and build trust. They are tailored and targeted, multichanneled, bidirectional, with optimum timing, frequency, and placement. Conclusions: Increased efforts are needed to disseminate lessons learned from employers who have built cultures of health and excellent communications strategies and apply these insights more broadly in workplace settings.

Learning Objectives

- Summarize the methods used by Goetzel et al in their updated analysis of best practices in employer-sponsored health promotion (wellness) programs.
- Discuss the concept of building a culture of health and identify key elements contributing to it.
- Discuss the importance of strategic communications and the goals and characteristics of an effective communications strategy.

This updated review of workplace programs examines the establishment of cultures of health within the workplace, as well as a renewed focus on strategic communications, and the necessary elements that underlie culture and communications to form the foundation for a healthy workplace.
How to Design a Corporate Wellness Plan That Actually Works

by Hector De La Torre and Ron Goetzel, Ph.D.

MARCH 31, 2016

WHAT TO READ NEXT
- Breaking Out of the Innovation Box
- Predicting the Unpredictable
- Which Messages Go Viral and Which Ones Don’t
The Secret Sauce
1. Culture of Health

• More than just a wellness program – It’s a way of life

• Ingrained in every part of the organization
  – Business Mission
  – Built Environment
  – Performance Metrics
  – Programs, Policies, Health Benefits
2. Leadership Commitment

- CEO Driven
- Lead by Example
- Middle Management Support
- Budget/business plan
- Empowered workers/unions
3. Specific Goals and Expectations

- Think big, start small, act fast -- one step at a time

- Set short and long term objectives

- Be realistic about what can be achieved in 1, 3, 5, 10+ years

- Accountability – leaders and employees are accountable for doing their part to support a culture of health
4. Strategic Communications

**Relentless**

- Messages need to be:
  - Consistent
  - Constant
  - Engaging
  - Targeted

**Surround Sound**

- Two-way dialogue using a variety of channels
- Wellness champions
5. Employee Engagement in Program Design/Implementation

- Wellness Committees

- Employee Feedback Surveys

- Participatory Based Program Design

- Focus Groups
6. Best Practice Interventions

• Convenience, removing barriers

• Many choices

• Making the healthy choice the easy choice

• Applying behavior change theory/practice
7. Effective Screening and Triage

- Health Risk Assessments with Follow-up -- PLUS
- Biometric Screenings (USPSTF Guidelines)
- On-site Clinics and Counselors
8. Smart Incentives

- Tailoring, and providing alternative paths to motivate, reward, and help employees achieve their goals
- Tiered Incentive Programs
- Non-Monetary Incentives
- Carrots, Not Sticks
- Voluntary – reasonable dollar amounts
- Long-term view - retirement
9. Effective Implementation

- Tailored to the company’s culture
- Integrated solutions
- Flexibility
- Fresh ideas
- Fun
10. Measurement and Evaluation

Modified Worksite Health Promotion (Assessment of Health Risk with Follow-Up) Logic Model adopted by the CDC Community Guide Task Force
This Is Hard!
Policies Anyone?

**Policy Specifics**

**Figure 1: Policy recommendations to broaden implementation of comprehensive workplace health promotion programs**

<table>
<thead>
<tr>
<th>BARRIERS</th>
<th>POLICY SOLUTIONS</th>
<th>COST (over 10 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organizations not aware of potential</td>
<td>- Promote benefits of CWHP</td>
<td>- $100 million for</td>
</tr>
<tr>
<td>benefits of CWHP</td>
<td>- More research and evaluation (since political</td>
<td>Research and</td>
</tr>
<tr>
<td></td>
<td>disputes/private doubts about value result in</td>
<td>Evaluation;</td>
</tr>
<tr>
<td></td>
<td>shortage of funding for wellness programs)</td>
<td>$50 million for</td>
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<tr>
<td></td>
<td>- Better dissemination of information (e.g.,</td>
<td>dissemination;</td>
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<tr>
<td></td>
<td>through government run/sponsored clearinghouse</td>
<td>$10 million for</td>
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<tr>
<td></td>
<td>website)</td>
<td>social marketing</td>
</tr>
<tr>
<td></td>
<td>- Social marketing with business leaders acting as</td>
<td>(Government can</td>
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<tr>
<td></td>
<td>champions</td>
<td>leverage existing</td>
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<tr>
<td></td>
<td></td>
<td>funds and resources)</td>
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<tr>
<td>2. Organizations don’t understand how</td>
<td>- Provide resources</td>
<td>- $100 million for</td>
</tr>
<tr>
<td>to implement CWHP/what to do</td>
<td>- Develop tools and resources (e.g., CDC</td>
<td>tools and resources;</td>
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<tr>
<td></td>
<td>Worksite Health ScoreCard)</td>
<td>See above ($50 million</td>
</tr>
<tr>
<td></td>
<td>- Create a comprehensive health promotion</td>
<td>total for</td>
</tr>
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<td></td>
<td>resource center (of both private and public</td>
<td>dissemination)</td>
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<td></td>
<td>resources) on a federal website (e.g., National</td>
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<td></td>
<td>Healthy Workplace Program, LEAN Works!)</td>
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<td></td>
<td>- Provide technical assistance</td>
<td>$100 million for</td>
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<tr>
<td>3. Cost of CWHP</td>
<td>- Reduce cost for businesses</td>
<td>technical assistance;</td>
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<tr>
<td></td>
<td>- Fund and implement workplace wellness provision</td>
<td></td>
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<tr>
<td></td>
<td>of ACA that provides grants to small businesses</td>
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</tr>
<tr>
<td></td>
<td>(Sec 10408), extend to medium-sized companies</td>
<td></td>
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<tr>
<td></td>
<td>- Establish purchasing consortium for small</td>
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<td></td>
<td>businesses (in the veins of health insurance</td>
<td></td>
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<td></td>
<td>exchanges)</td>
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</tr>
<tr>
<td></td>
<td>- Provide technical assistance</td>
<td></td>
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<tr>
<td>4. No credit/recognized for CWHP</td>
<td>- Provide incentives</td>
<td>- No new funding</td>
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<td>- Honor and reward healthiest organizations</td>
<td>required for</td>
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<td></td>
<td>through development/promotion of awards, or</td>
<td>supporting awards;</td>
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<td></td>
<td>assistance in applying for awards</td>
<td>$10 million for</td>
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<td></td>
<td>- Support the development of a private certification</td>
<td>supporting</td>
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<td></td>
<td>(like LEED certification) that encourages even</td>
<td>certification</td>
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<td></td>
<td>small businesses to work towards a checklist of</td>
<td></td>
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<tr>
<td></td>
<td>CWHP elements</td>
<td></td>
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</tbody>
</table>

**TOTAL FEDERAL INVESTMENT = $780 million**
Let’s Just Do It!
Workplace Health and Wellbeing Works – If You Do it Right!

Financial Outcomes
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

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

QOL and Productivity Outcomes
- Improved “functioning” and productivity
- Attraction/retention – employer of choice
- Employee engagement
- Corporate social responsibility (CSR)
- Balanced scorecard
Another Benefit: Engaged Workers Who Love Their Job!
Where We Need to Go…..

Old Paradigm
• Bad behavior (poor diet)…leads to
• High risk condition (obesity)…leads to
• Disease (diabetes)…leads to
• Death

New Paradigm
• Good health (physical, mental, emotional, social, financial, spiritual)…leads to
• Well-being (energy)…leads to
• Purposeful life
  AND HIGH VALUE
Thank You!

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Vice President at Truven Health Analytics, an IBM Company
ron.goetzel@truvenhealth.com

Learn about *Promoting Healthy Workplaces* project at: http://goo.gl/ui1rBQ

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