AGENDA

State and Public School Life and Health Insurance Board

Benefits Sub-Committee

EBD Board Room - 501 Building - 5th Floor

October 4, 2013 9:00 a.m.

1. **Call to Order** .....*Lloyd Black, Chair*
2. **Approval of Minutes** (August 7th).....*Lloyd Black, Chair*
3. **Wellness Program Presentation .***Bob Alexander, EBD Executive Director*
4. **Director's Report** .....*Bob Alexander, EBD Executive Director*

Upcoming Meeting:

November 8th

State and Public School Life and Health Insurance Board Benefits Sub-Committee Minutes August 7, 2013

The Benefits Sub-Committee of the State and Public School Life and Health Insurance Board (hereinafter called the Committee) met on August 7, 2013 in the EBD Board Room, 501 Woodlane, Suite 500, Little Rock, Arkansas.

Members Present	**Members Absent**
Gwen Wiggins	
Janis Harrison	
Carla Wooley-Haugen	
Jeff Altemus	
Becky Walker	
Bob Alexander	
Lloyd Black	
John Kirtley	

Doug Shackelford, Interim Executive Director, Employee Benefits Division (EBD).

Others Present:

John Kirtley, Jill Johnson, David Keisner, UAMS; Michelle Hazelett, Marla Wallace, Doug Shackelford, Lori Eden, Stella Greene, Sherry Bryant, Leslie Smith, Tracy Butler Oberste, Janna Keathley, Melida Vasquez, Diann Shoptaw, Donna Cook, Malaika Austin, EBD; Ron DeBerry, Kathy Ryan, ABCBS/Health Advantage; Alan, AHTD; Ro McCooey, Rhonda Hill, ACHI; Alicia Hayden, CTRX; Steve Singleton, ARTA; Mark Watts, ASEA; Donna Morey, Peggy Nabors, AEA; Doug Brown, APSRC, Diann Shoptaw, Amanda Hatfield, ARCH; BJ Himes, Quail Choice; P. O'Malley, Retiree; Treg Long, American Cancer Society; Angela Morton, LRSD; Goodman, Cabot Public Schools; Karen Hicks, Rebecca Schatz, Sheridan Schools

Call to Order

The meeting was called to order by Lloyd Black, Chair

Approval of Minutes

A request was made by Black to approve the July 26, 2013 minutes. Harrison made the motion to approve. Wooley-Haugen seconded. All were in favor. Minutes approved.

PRELIMINARY RATES AND PLAN DESIGN FOR CY 2014, *John Colberg Cheiron*

Colberg reported on Modifying Health Programs, & Preliminary Impact of Requested Options. Modifying Health Programs with Setting/Verifying Goals and Objectives, Setting/Verifying Philosophies, & Satisfying Goals of Requested Alternatives are essential.

Colberg reported we will maintain three (3) plans for 2014. The Gold Plan will remain a co-pay plan, and the Bronze Plan will remain HSA qualified. The plans are different from the Exchange Gold, Silver, and Bronze Plans.

(1) **Funding** – Rebuild PSE Catastrophic Reserve by 12/31/2014 by adding a $5 increase in every employee/retiree monthly contribution rate would add $3.5 Million to the reserves. To add to the reserves you must add to the rates.

(2) **Benefits** – Changing the Benefits for both Non-Medicare Actives & Retiree's & Medicare Retiree's; except one scenario you can keep ASE rates the same due to additional funding from the contribution increase July 1, 2013 from $390.00 to $410.00 and what is already in the reserve, which is expected to be about $18 Million in reserve to spend on ASE rates.

Not changing the Medicare Eligibility Retiree Benefits, will result in an increase in ASE rates.

(3) **Selection** – Occurs when members choose the plan that is the best for them at the cost of the plan. This could add as much as 10% to the active contribution rate increase due to migration to the Bronze Plan, which is financially better. The changes in 2014 will be a reverse effect because it will depend on specific circumstances, which will decrease migration.

Colberg discussed the recommendations for several alternatives for the Gold, Silver, and Bronze Plans.

The following Table shows several Alternative's for recommendation:

In-Network:	Current Gold	Alternative 1 - Gold	Alternative 2 - Gold	Alternative 3 - Gold	Alternative 4 - Gold
Deductible – Individual	$0.00	$0.00	$0.00	$0.00	$0.00
Co-Insurance Limit – Ind, after deductible	$1,500.00	$2,000.00	$2,000.00	$2,500.00	$2,500.00
Max out-of-pkt (ded + co-ins)	$1,500.00	$2,000.00	$2,000.00	$2,500.00	$2,500.00
True Out-of-Pkt Deductible – Family	$6,350.00	$6,350.00	$6,350.00	$2,500.00	$2,500.00
Co-Ins Limit – Family (after ded)	$3,000.00	$4,000.00	$3,000.00	$5,000.00	$5,000.00
Max out-of pkt (ded + co-ins)	$3,000.00	$4,000.00	$3,000.00	$5,000.00	$5,000.00
Co-Insurance Rate	80%/20%	80%/20%	80%/20%	80%/20%	80%/20%
Phy-Office Visit – prim care co-pay	$25.00	$35.00	$35.00	$35.00	$35.00
Phy-Office Visit – Specialist co-pay	$35.00	$70.00	$70.00	$70.00	$70.00
RX Tier 1 Generic	$10.00	$15.00	$15.00	$15.00	$15.00
RX Tier 2 Preferred	$30.00	$40.00	$40.00	$40.00	$40.00
RX Tier 3 Non Pref.	$60.00	$80.00	$80.00	$80.00	$80.00
RX - Speciality	w/Tier	$100.00	$100.00	$100.00	$100.00
Hospital/Facility-In-Pat co-pay per adm	$250.00	$250.00	$250.00	$250.00	$250.00
Hospital/Facility-Out-Pat-co-pay	$100.00	$100.00	$100.00	$100.00	$100.00
Urgent Care	$100.00	$100.00	$100.00	$100.00	$100.00
Emergency Room Visit	$100.00	$250.00	$250.00	$250.00	$250.00
Emergency Room Trans-Ambulance	$0.00	$50.00	$50.00	$50.00	$50.00
High Tech					

Radiology-co-pay	$250.00	$250.00	$250.00	$250.00	$250.00
Rehab/Therapy-Out-Physical	80%/20%	$35.00	$35.00	$35.00	$35.00
Rehab/Therapy-Out-Speech/Occ	80%/20%	$35.00	$35.00	$35.00	$35.00
Rehab/Therapy-Out-Chiropractic co-pay	$35.00	$35.00	$35.00	$35.00	$35.00
Rehab/Therapy-Out-Chiropractic co-ins	80%/20%	$0.00	$0.00	$0.00	$0.00
Out-Of-Network:					
Deductible – Individual-Family	$1,000/$2,000	$1,000/$2,000	$1,000/$2,000	$1,000/$2,000	$1,000/$2,000
Co-Insurance	60%/40%	60%/40%	60%/40%	60%/40%	60%/40%
Co-Insurance Limit – Individual/Family (After Deductible)	$5,000/$10,000	$5,000/$10,000	$5,000/$10,000	$5,000/$10,000	$5,000/$10,000
Max. Out-Of-Pocket (Ded + Co-Ins.)	$12,700.00	$12,700.00	$12,700.00	$8,000.00	$8,000.00
Please Note: Co-Insurance also applies					
True Out-Of-Pocket Includes RX?	N	Y	Y	N	Y

Alternative 2 limits the out-of-pocket-max for family to 1 ½ times instead of 2.

Alternative 3 increases the out-of-pocket-max for individual and family, but includes only Medical co-pays. Alternative 4 increases the out-of-pocket-max for individual and family, but includes Medical and Drug co-pays. By law the out-of-pocket-maximum cannot not exceed $6350.00 for Medical co-pays. In 2014 drug co-pays are not required to be included in the $6350.00. Drug co-pays will be included beginning in 2015.

In-Network:	**Current Silver**	**Alternative 1 - Silver**	**Alternative 2 - Silver**	**Alternative 3 - Silver**	**Alternative 4 - Silver**
Deductible – Individual	$750.00	$1,000.00	$1,000.00	$1,000.00	$1,000.00
Co-Insurance Limit – Ind, after deductible	$2,000.00	$3,000.00	$3,000.00	$3,000.00	$3,000.00
Max out-of-pkt (ded + co-ins)	$2,750.00	$4,000.00	$4,000.00	$4,000.00	$4,000.00

Deductible – Family	$1,500.00	$2,000.00	$1,500.00	$2,000.00	$2,000.00
Co-Ins Limit – Family (after ded)	$4,000.00	$6,000.00	$4,500.00	$6,000.00	$6,000.00
Max out-of pkt (ded + co-ins)	$5,500.00	$8,000.00	$6,000.00	$8,000.00	$6,000.00
Co-Insurance Rate	80%/20%	80%/20%	80%/20%	80%/20%	80%/20%
Phy-Office Visit – prim care co-pay	$25.00	$35.00	$35.00	$35.00	$35.00
Phy-Office Visit – Specialist co-pay	$50.00	$70.00	$70.00	$70.00	$70.00
RX Tier 1 Generic	$10.00	$15.00	$15.00	$15.00	$15.00
RX Tier 2 Preferred	$35.00	$40.00	$40.00	$40.00	$40.00
RX Tier 3 Non Pref.	$70.00	$80.00	$80.00	$80.00	$80.00
RX - Speciality	W/Tier	$100.00	$100.00	$100.00	$100.00
Hospital/Facility-In-Pat co-pay per adm	$300.00	$300.00	$300.00	$300.00	$300.00
Hospital/Facility-Out-Pat-co-pay	$150.00	$150.00	$150.00	$150.00	$150.00
Urgent Care	$150.00	$150.00	$150.00	$150.00	$150.00
Emergency Room Visit	$150.00	$300.00	$300.00	$300.00	$300.00
Emergency Room Trans-Ambulance	$0.00	$50.00	$50.00	$50.00	$50.00
High Tech Radiology-co-pay 1 procedure	$300.00	$300.00	$300.00	$300.00	$300.00
Rehab/Therapy-Out-Physical	Ded+ 80%/20%	$35.00	$35.00	$35.00	$35.00
Rehab/Therapy-Out-Speech-Occ	Ded+ 80%/20%	$35.00	$35.00	$35.00	$35.00
Rehab/Therapy-Out-Chiropractic co-pay	$50.00	$50.00	$50.00	$50.00	$50.00
Rehab/Therapy-Out-Chiropractic co-ins	80%/20%	80%/20%	80%/20%	80%/20%	80%/20%
Out-Of-Network:					
Deductible – Individual-					

Family	$1,500/$3,000	$2,000/$4,000	$2,000/$4,000	$2,000/$4,000	$2,000/$4,000
Co-Insurance	60%/40%	60%/40%	60%/40%	60%/40%	60%/40%
Co-Insurance Limit – Individual/Family (After Deductible)	$5,000/$10,000	$6,000/$12,000	$6,000/$10,000	$6,000/$12,000	$6,000/$12,000
Max. Out-Of-Pocket (Ded + Co-Ins.)	$6,000/$12,000	$8,000/$16,000	$8,000/$14,000	$8,000/$16,000	$8,000/$16,000
Please Note: Co-Insurance also applies					
True Out-Of-Pocket Includes RX?	N	Y	Y	N	Y

For Silver co-pays were increased. Deductibles were increase as well as the out-of-pocket-maximum. Alternative's 1 & 2 do not include co-pays. Alternative 3 includes Medical co-pays only. Alternative 4 includes Medical & Drug co-pays.

In-Network:	**Current Bronze**	**Alternative 1 - Bronze**	**Alternative 2 - Bronze**		
Deductible – Individual	$1,500.00	$2,000.00	$2,000.00		
Co-Insurance Limit – Ind, after deductible	$2,500.00	$4,350.00	$4,350.00		
Max out-of-pkt (ded + co-ins)	$4,000.00	$6,350.00	$6,350.00		
Deductible – Family	$3,000.00	$4,000.00	$3,000.00		
Co-Ins Limit – Family (after ded)	$5,000.00	$8,700.00	$6,525.00		
Max out-of pkt (ded + co-ins)	$8,000.00	$12,700.00	$9,525.00		
Co-Insurance Rate	80%/20%	80%/20%	80%/20%		
Phy-Office Visit – prim care co-pay					
Phy-Office Visit – Specialist co-pay					
RX Tier 1 Generic					

RX Tier 2 Preferred					
RX Tier 3 Non Pref.					
RX - Speciality					
Hospital/Facility-In-Pat co-pay per adm					
Hospital/Facility-Out-Pat-co-pay					
Urgent Care					
Emergency Room Visit					
Emergency Room Trans-Ambulance					
High Tech Radiology-co-pay					
Rehab/Therapy-Out-Physical					
Rehab/Therapy-Out-Speech					
Rehab/Therapy-Out-Chiropractic co-pay					
Rehab/Therapy-Out-Chiropractic co-ins					
Out-Of-Network:					
Deductible – Individual-Family	$3,000/$6,000	$4,000/$8,000	$4,000/$8,000		
Co-Insurance	60%/40%	60%/40%	60%/40%		
Co-Insurance Limit – Individual/Family (After Deductible)	$5,000/$10,000	$8,700/$17,400	$8,700/$13,000		
Max. Out-Of-Pocket (Ded + Co-Ins.)	$8,000/$16,000	$8,700/$17,400	$8,700/$13,000		
Please Note: Co-Insurance also applies					
True Out-Of-Pocket Includes RX?	. Y	Y	Y		

For Bronze the out-of-pocket-maximum is going up to $6350.00 and Alternative 2 is going up to 1 ½ times for the deductible & co-insurance.
Dr. Kirtley inquired about Primary & Specialist Physician Office visits; is that including Mental Health Benefits under Specialist? Kirtley has concerns if we have members seeing a phyciatrist or a counselor weekly or monthly and we move them from $25.00 co-pay to $70.00 co-pay and encourage them to have it managed by their General Practitioner could result in a large and inappropriate use to pharmacy therapy that will be inappropriate for high cost drugs.
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Dr. Kirtley inquired was there abuse as to why we could be raising the Specialist co-pays.

Shackelford reports there are no red flags indicating any abuse. The change is due to increasing the cost sharing for the member.

Dr. Thompson inquired; what is our strategy for resolving the largest challenge, which is funding.

Shackelford reports look at the plan design and compare it to the federal level and continue moving forward with our current funding.

Dr. Thompson inquired at what point we say; “we cannot afford to offer the Gold Plan to PSE members”. Only offer Bronze and Silver.

Shackelford reports that has been discussed in previous meetings in 2013.

Alexander reports if we take the Gold Plan ASE and change the benefits so there are lesser Benefits for PSE you will have the Silver Plan. Do we need to put the Benefits together in the Bronze plan and only offer it to PSE? This could be a goal for 2015.

Altemus reports the Legislation that created this required parity in the plans and it was determined to be in benefits and not in the cost. Altemus also reports the system is broken and those who are able to repair it are not interested. Altemus recommends to ask Legislation for additional funding, and do not risk building a reserve. Altemus reports we should have Plans with the high limits, but also have a Plan with lower limits.

Shackelford reports without the one-time contribution from the Governor’s Office of $8 million there would have been a mid-year rate increase.

Dr. Kirtley reports looking to adjust the Gold Plan only; to base the pricing on the Gold Plan and not make adjustments to the Silver and Bronze Plans may not be feasible. It is suggested by Dr. Kirtley and Dr. Thompson not to make adjustments to the Gold Plan. This could force Members to look at the Silver and Bronze Plans.

Walker reports one of the reasons for the increase was to make our Plans more in line with The Exchange. Our Benefit design is equivalent to a Platinum Plan according to The Affordable Care Act.

Black reports the concern not to diminish the benefits, however do not have a large increase in rates as well.

Nabors reports there has been a 46% increase in Public School Premiums in two (2) years.

Alexander recommends Alternative 3 for The Gold Plan. Harrison seconded. Altemus votes no on all the rates increases. Wiggins votes no also. Motion is carried.

Harrison recommends Alternative 3 for The Silver Plan. Alexander seconded. Four members votes yes. Altemus and Wiggins votes no. Motion is carried.

Harrison recommends Alternative 2 for The Bronze Plan. Alexander seconded. Four members votes yes. Altemus and Wiggins votes no. Motion is carried.

Alexander recommends that the Benefits Committee not make any recommendations to the Board regarding contribution at this time. Harrison seconded. All were in favor. Motion approved.

Singleton reports for Medicare Alternative 4 would be his recommendation.

Alexander recommends Alternative M4 for Medicare Eligible Retiree's. Wiggins seconded. All were in favor. Motion approved.

DIRECTOR'S REPORT *by Doug Shackelford, Interim Executive Director*

Shackelford reports the next Benefits Meeting will be held October 4, 2013, and the next Board Meeting will be held August 20, 2013.

Alexander moved to adjourn. Harrison seconded.

Meeting adjourned.

State and Public School Life and Health Insurance Board Benefits Sub-Committee Minutes October 4, 2013

The Benefits Sub-Committee of the State and Public School Life and Health Insurance Board (hereinafter called the Committee) met on October 4, 2013 in the EBD Board Room, 501 Woodlane, Suite 500, Little Rock, Arkansas.

Members Present	**Members Absent**
Gwen Wiggins	Dan Honey
Janis Harrison	
Carla Wooley-Haugen	
Jeff Altemus	
Becky Walker	
Dr. Lloyd Black	
Dr. John Kirtley	

Bob Alexander, Executive Director, Employee Benefits Division (EBD).

Others Present:

John Kirtley, David Keisner, Dwight Davis, UAMS; Michelle Hazelett, Marla Wallace, Doug Shackelford, Ethel Whittaker, Sherry Bryant, Leslie Smith, Diann Shoptaw, Janna Keathley, EBD; Pamela Lawrence, AHH; Takisha Sanders, Kathy Ryan, ABCBS/Health Advantage; Ro Summers, Rhonda Hill, ACHI; Steve Singleton, ARTA; Mark Watts, ASEA; Ronda Walthall, AHTD; Debbie Johnson, ACH; BJ Himes, QualChoice; Sylvia Landers, Minnesota Life; John Greer, Humana; Mary Alice Hughes, ARTA

Call to Order

The meeting was called to order by Lloyd Black, Chair

Approval of Minutes

A request was made by Black to approve the August 7, 2013 minutes. Harrison made the motion to approve. Wooley-Haugen seconded. All were in favor.

Minutes approved.

WELLNESS PROGRAMS by *Bob Alexander, Executive Director EBD*

Executive Director, Bob Alexander presented information on various wellness programs. Alexander reports there are several variations of wellness programs.

Kirtley inquired about the specifics of the plan. Does it involve an employee to be self-driven to involve their medical staff and visits for the testing. Will a private group administer the plan?

Alexander reports this is a complex & comprehensive plan that requires different testing. Alexander reports there will be incentives to quit smoking, for weight management, and more. Alexander requested UAMS test the program & those results could be the deciding factor if it would be implemented.

Alexander reports this is the first of several benefits programs that will be presented to the Committee.

Wooley-Haugen inquired; whether the testing would benefit the member for out-of-pocket cost?

Alexander reports there will be benefits for the member as a result of the testing.

Alexander requested the Committee review the information, and a detailed presentation will follow at a later date.

DIRECTOR'S REPORT *by Bob Alexander, Executive Director*

Alexander reports there is movement towards increasing funding to reduce rates. The deadline is October 15th so there will be time to adjust the rates if there is a change. The next Board Meeting will be held October 15th as well. There is also the possibility of a special session in an effort to increase funding to reduce rates.

Alexander reports there have been meetings with Legislators regarding the Benefits structure in both plans. There has been a lot discussed on parity. Many questioned why we have a plan with no deductible. There is a huge push for Bronze & High Deductible Plans. There will be changes to the plans in 2015.

Black inquired how often is the Buzz sent out. Shackelford reports twice annually, due to our contract. The next one is due in spring 2014.

Alexander reports there is new implementation for Pre-Certification Requirements on Hospital Admission. This will give Case Managers the opportunity to intervene in large cases. There could be penalties for the Vendors as Pre-Certification is their requirement. Alexander reports The Quality of Care Committee will be activated and possibly a Risk Management Committee. The Benefits Committee could also be expanded.

Meeting adjourned.

Harvard Business Review
www.hbr.org

The ROI data will surprise you, and the softer evidence may inspire you.

What's the Hard Return on Employee Wellness Programs?

by Leonard L. Berry, Ann M. Mirabito, and William B. Baun

Included with this full-text *Harvard Business Review* article:

Reprint R1012J

What's the Hard Return on Employee Wellness Programs?

Idea in Brief

Employee wellness programs have often been viewed as a nice extra, not a strategic imperative. But the data show otherwise. The ROI on comprehensive, well-run employee wellness programs can be as high as 6 to 1.

The most successful programs have six essential pillars: engaged leadership at multiple levels; strategic alignment with the company's identity and aspirations; a design that is broad in scope and high in relevance and quality; broad accessibility; internal and external partnerships; and effective communications.

Companies in a variety of industries have included all six pillars in their employee wellness programs and have reaped big rewards in the form of lower health care costs, greater productivity, and higher morale.

The ROI data will surprise you, and the softer evidence may inspire you.

What's the Hard Return on Employee Wellness Programs?

by Leonard L. Berry, Ann M. Mirabito, and William B. Baun

Since 1995, the percentage of Johnson & Johnson employees who smoke has dropped by more than two-thirds. The number who have high blood pressure or who are physically inactive also has declined—by more than half. That's great, obviously, but should it matter to managers? Well, it turns out that a comprehensive, strategically designed investment in employees' social, mental, and physical health pays off. J&J's leaders estimate that wellness programs have cumulatively saved the company $250 million on health care costs over the past decade; from 2002 to 2008, the return was $2.71 for every dollar spent.

Wellness programs have often been viewed as a nice extra, not a strategic imperative. Newer evidence tells a different story. With tax incentives and grants available under recent federal health care legislation, U.S. companies can use wellness programs to chip away at their enormous health care costs, which are only rising with an aging workforce.

Government incentives or not, healthy employees cost you less. Doctors Richard Milani and Carl Lavie demonstrated that point by studying, at a single employer, a random sample of 185 workers and their spouses. The participants were not heart patients, but they received cardiac rehabilitation and exercise training from an expert team. Of those classified as high risk when the study started (according to body fat, blood pressure, anxiety, and other measures), 57% were converted to low-risk status by the end of the six-month program. Furthermore, medical claim costs had declined by $1,421 per participant, compared with those from the previous year. A control group showed no such improvements. The bottom line: Every dollar invested in the intervention yielded $6 in health care savings.

We've found similar results in our own experience. In 2001 MD Anderson Cancer Center created a workers' compensation and injury care unit within its employee health and well-being department, staffed by a physician and a nurse case manager. Within six years, lost work days declined by 80% and modified-duty days by 64%. Cost savings, calculated by multiplying

the reduction in lost work days by average pay rates, totaled $1.5 million; workers' comp insurance premiums declined by 50%.

What's more, healthy employees stay with your company. A study by Towers Watson and the National Business Group on Health shows that organizations with highly effective wellness programs report significantly lower voluntary attrition than do those whose programs have low effectiveness (9% vs. 15%). At the software firm SAS Institute, voluntary turnover is just 4%, thanks in part to such a program; at the Biltmore tourism enterprise, the rate was 9% in 2009, down from 19% in 2005. According to Vicki Banks, Biltmore's director of benefits and compensation, "Employees who participate in our wellness programs do not leave." Nelnet, an education finance firm, asks departing employees in exit interviews what they will miss most. The number one answer: the wellness program.

To understand the business case for investing in employee health, we examined existing research and then studied 10 organizations, across a variety of industries, whose wellness programs have systematically achieved measurable results. In group and individual interviews, we met with about 300 people, including many CEOs and CFOs. We asked about what works, what doesn't, and what overall impact the program had on the organization. Using our findings, we've identified six essential pillars of a successful, strategically integrated wellness program, regardless of an organization's size. Passes to fitness clubs and nutrition information in the cafeteria are not enough, as you'll see.

Pillar 1: Multilevel Leadership

It's easy to find employees who don't participate in wellness programs. Some cite lack of time, little perceived benefit, or just a distaste for exercise. Others don't know about available services or blame unsupportive managers. A few think their health is none of the company's business or mistrust management's motives. As with any worthwhile initiative, creating a culture of health takes passionate, persistent, and persuasive leadership.

The C-suite. Although employee health correlates with financial health, workers won't buy into a program that's just about money. If the CEO makes time for exercise, for instance, employees will feel less self-conscious about taking a fitness break. When MD Anderson initiated its wellness program, president John Mendelsohn took walks throughout the building with wellness coach Bill Baun. For many, it was the first time the president had been in their work space or had shaken their hand, and he tended to start conversations with "How's your wellness?"

Then there's Johnson & Johnson, which has about 250 distinct businesses around the world. J&J has only a few companywide mandates. Two concern health: Any employee with HIV/AIDS will have access to antiretroviral treatment, and all J&J facilities will be tobacco free. The latter mandate was implemented in 2007 after several years of intense internal discussion. Both decisions demonstrated serious commitment from the top.

Middle managers. Except in tiny companies, most employees report to a middle manager. By shaping minicultures in the workplace, middle managers can support employees' wellness efforts. Some companies even ask managers to adopt a personal health goal as one of their unit's business goals.

Wellness program managers. Every organization in our study has an expert who develops and coordinates a clear, comprehensive wellness program, continuously sells it throughout the organization, and measures its effectiveness. The best wellness managers connect their expertise to the culture and strategy of the organization. These people are collaborative by nature, and analytical and credible by background and performance. It's no ordinary management job.

Wellness champions. Volunteer health ambassadors offer local, on-the-ground encouragement, education, and mentoring—in addition to organizing and promoting local health events. No company in our study embodies this concept better than supermarket chain H-E-B, which has more than 70,000 employees at about 350 stores and other facilities. With more than 500 site-specific and nine regional wellness champions, the company hosts monthly conference calls for the wellness leaders, sponsors training webinars, and maintains an online wellness-resource center.

Pillar 2: Alignment

It's not unusual for firms to enter the wellness space with a big splash that subsides to a ripple. As management priorities shift, the op-

Leonard L. Berry is the Presidential Professor for Teaching Excellence, a distinguished professor of marketing, and the M.B. Zale Chair in Retailing and Marketing Leadership at Mays Business School, Texas A&M University. **Ann M. Mirabito** is an assistant professor of marketing at the Hankamer School of Business, Baylor University. **William B. Baun** is the manager of the wellness program at the MD Anderson Cancer Center, a director of the National Wellness Institute, and a director of the International Association for Worksite Health Promotion.

portunity to integrate a culture of health can pass. Ideally, a wellness program should be a natural extension of a firm's identity and aspirations. But many executives forget that the cultural shift takes time.

Planning and patience. At Healthwise, CEO Don Kemper's personal commitment has allowed wellness to permeate the culture from day one. The company holds monthly all-staff meetings that always include a wellness team report on current wellness activities and resources. It sponsors an annual Wellness Day, featuring speakers and health-related activities, when employees are encouraged to reflect on the question "How can I be well?" In addition, every other Wednesday afternoon, workers are invited to share a healthy snack and connect with others. One executive calls it "adult recess," an investment that "pays back in spades" by creating opportunities for cross-team connections.

In contrast, Nelnet's early investment in wellness rankled employees. Senior management unexpectedly required health screenings to educate workers about their health risk factors. Not ready to address such personal topics and confused about the company's motives, employees pushed back. The company then hired professional wellness staff and developed a comprehensive, long-term wellness strategy. It now emphasizes early communication and clear explanations to give employees time to ask questions and prepare for change. Today employees embrace Nelnet's wellness culture: 90% participate in health risk assessments (HRAs); about three quarters of those engage in wellness activities.

Carrots, not sticks. The organizations in our sample favor positive incentives because employees lose trust when they feel they're being forced to act against their wishes. There are, for example, many horror stories about managers who suddenly mandated smoke-free work sites, with violators risking termination. That just sends the behavior underground instead of providing support in beating an addiction.

Lowe's takes a measured approach by initially introducing a concept then eventually making it mandatory, if necessary. Before instituting its tobacco-free policy in 2005, the company gave advance notice and offered assistance to employees who were trying to quit smoking. Starting in January 2011, Lowe's will offer employees a monthly $50 discount on medical insurance if they pledge that they and covered dependents will not use any tobacco products.

A complement to business priorities. If a program doesn't make business sense, it's automatically vulnerable. Take Chevron, where 60% to 70% of all jobs are considered safety-sensitive, in that employees put themselves or others at risk. Fitness for duty is a central concern on oil platforms and rigs, in refineries, and during the transport of fuel. To reinforce the mantra that healthy workers are safer workers, Chevron has developed a strong wellness program that includes a comprehensive cardiovascular health component, a 10K-a-day walking activity, fitness centers, a repetitive-stress-injury prevention program, and work/life services.

Where Chevron does business in countries that lack basic health care resources, it plays a leadership role by partnering with local health ministries, NGOs, and other private sector firms to build infrastructure that helps to combat diseases such as HIV, malaria, and tuberculosis. It's a matter of both corporate responsibility and business necessity for a company that wants to sustain a healthy, talented, satisfied labor pool. For example, Chevron employees staff two hospitals and four clinics in Nigeria, including a riverboat clinic that sends health care providers to riverside communities.

Pillar 3: Scope, Relevance, and Quality

It's not unusual for a company to think about employee health narrowly. Exercise is exercise, right? But employees' wellness needs vary tremendously.

More than cholesterol. Wellness isn't just about physical fitness. Depression and stress, in particular, have proved to be major sources of lost productivity. Wellness program administrators need to think beyond diet and exercise. Biltmore, for example, offers a nondenominational chaplain service—on call 24 hours—to assist employees and immediate family members with divorce, serious illness, death and grief recovery, child rearing, and the care of aging parents. The services are confidential, free, and voluntary. The chaplains meet their clients at sites ranging from the family residence to a funeral home to Starbucks.

What Is Workplace Wellness?

Our extensive research on workplace wellness has led us to arrive at this definition of it: an organized, employer-sponsored program that is designed to support employees (and, sometimes, their families) as they adopt and sustain behaviors that reduce health risks, improve quality of life, enhance personal effectiveness, and benefit the organization's bottom line.

Individualization. Many organizations use online employee HRAs to guide investment in wellness. An HRA combines a lifestyle survey and biometric tests such as blood pressure, cholesterol, glucose, and body mass index. The lifestyle responses (stress levels, physical activity, eating patterns, tobacco and alcohol use, and other health behavior information) are often combined with the biometric data to calculate a health-risk status, or "real age." This information is shared confidentially with each participant to help him or her track wellness progress and, when appropriate, receive company-provided assistance in an area such as nutrition counseling. Employees can often complete their biometric tests at company health fairs or on-site medical clinics.

Companies are required by law to protect individual health information, but managers can receive aggregated data that identify categories of greatest need and document changes in workforce health status. H-E-B, for example, tracks the percentage of employees in each retail territory and business unit who are at risk in areas such as high blood pressure, physical inactivity, and smoking against benchmark goals. The information helps management decide where to allocate resources.

Persuading employees to complete HRAs is a challenge, of course, for reasons ranging from privacy, to limited self-awareness about biometric numbers such as blood pressure, to lack of computer access. J&J, however, has managed to achieve an HRA participation rate above 80%. That's in part because employees who complete an HRA and receive the recommended health counseling have their personal health insurance contributions reduced by $500 annually. High participation plus a comprehensive HRA instrument enables J&J to tailor its wellness programs from business to business: One may focus more on cancer prevention, another on diabetes, and so on.

A signature program. A high-profile, high-quality initiative within a broader wellness program can foster employee pride and involvement. Consider, for instance, when MD Anderson became the first health care organization to earn gold-standard accreditation from the CEO Roundtable on Cancer. Earning the accreditation is no small task: It requires tobacco-free work sites, benefit plans that cover recommended cancer screenings, assistance to employees with cancer in entering appropriate clinical trials, and investment in workers' physical activity and nutrition. Many people throughout the organization view this commitment as a badge of honor.

Fun. Never forget the pleasure principle in wellness initiatives. For example, Healthwise's

The Pillars of an Effective Workplace Wellness Program

Strategically integrated wellness programs have six strong pillars that simultaneously support their success, regardless of the size of the organization. Construct them well, and your institution could see the kinds of big returns that the 10 companies in our sample have garnered.

1. Multilevel Leadership
Creating a culture of health takes passionate, persistent, and persuasive leadership at all levels—from the C-suite to middle managers to the people who have "wellness" in their job descriptions.

2. Alignment
A wellness program should be a natural extension of a firm's identity and aspirations. Don't forget that a cultural shift takes time.

3. Scope, Relevance, and Quality
Wellness programs must be comprehensive, engaging, and just plain excellent. Otherwise, employees won't participate.

4. Accessibility
Aim to make low- or no-cost services a priority. True on-site integration is essential because convenience matters.

5. Partnerships
Active, ongoing collaboration with internal and external partners, including vendors, can provide a program with some of its essential components and many of its desirable enhancements.

6. Communications
Wellness is not just a mission—it's a message. How you deliver it can make all the difference. Sensitivity, creativity, and media diversity are the cornerstones.

Outcomes

Lower costs
The savings on health care costs alone make for an impressive ROI.

Greater productivity
Participants in wellness programs are absent less often and perform better at work than their nonparticipant counterparts.

Higher morale
Employee pride, trust, and commitment increase, contributing to a vigorous organization.

2009 Wellness Day—with the theme Joy, Play, Spirit—featured square dancing. Lowe's sponsors Step It Up, a 10-week walking challenge in which employees are given a pedometer and a step log. The first year's campaign pitted employees against senior management. And SAS's recreation center features a large swimming pool, where director Jack Poll says people can do anything that they do on land, including play basketball, lacrosse, and Ultimate Frisbee. It's a gymnasium on water.

High standards. Health-related services are, by nature, personal. Employees who perceive them as substandard won't use them. Communication services provider Comporium, for example, has an on-site health and wellness center staffed by an independent medical practice including nurse-practitioners (NPs), with a physician available as needed. It offers useful services such as hypertension management and treatment for strep throat and sinus infections. Initially, the program faltered because quality was not perceived as high. But the company turned that around, and now the experienced NPs enjoy a loyal following of employees, spouses, and eligible retirees. Program participation exceeds Comporium's 2010 goal.

At SAS's Cary, North Carolina, campus, 90% of employees used the on-site health services in 2009, and 73% currently choose the center for their primary care. In the words of Gale Adcock, the director of corporate health services, "Everyone will come for free and good; no one will come for free and lousy."

Pillar 4: Accessibility

Our sample companies make low- or no-cost services a priority, and they know that convenience matters. On the SAS main campus, 70% of employees use the recreation center at least twice a week. Director Jack Poll's explanation: "Our high participation rates are because, when we opened, we thought of all the reasons people wouldn't use the facility and we worked to eliminate every one of them." The center is open before and after work and on weekends, and the staff develops a variety of fresh, engaging programs.

True on-site integration. On-site fitness centers are sometimes criticized for attracting people who would exercise anyway. But employees at companies who have them love them, and employees at other companies want them. As one Healthwise employee put it, "You see coworkers working out every day. That makes me realize I can do it, too." And Chevron conducts daily "stretch breaks" within certain units at set times. In Houston, for example, professional trainers go to the trading floor each day at 2:30 for a 10-minute stretch series.

The Study

To learn how companies can support their employees' well-being in a way that makes good business sense, we conducted field visits with 10 organizations that have financially sound workplace wellness programs.

Biltmore—hospitality and tourism

Chevron—energy

Comporium—communications

Healthwise—health information publishing

H-E-B—grocery retail

Johnson & Johnson—health care products manufacturing

Lowe's—home-improvement retail

MD Anderson Cancer Center—health care

Nelnet—education planning and finance

SAS Institute—software

During our visits to this diverse array of companies, we conducted interviews, lasting 30 to 60 minutes, with senior executives (including the CEO and CFO in most cases); wellness managers and staff; and managers of related functions such as HR, occupational health, employee assistance services, on-site medical clinics, fitness centers, safety, and food service. We also conducted focus group conversations, lasting 60 to 90 minutes, with middle managers, employees who actively used the programs, and employees who chose not to participate in the programs. In all, about 300 people shared their perspectives.

We tailored our questions to the respondents. Senior executives, for example, discussed lessons they had learned, what they would do differently, the business case for wellness, and their vision for the future. We asked middle managers about the on-the-ground management advantages and challenges of the program. Employee participants spoke about what they considered to be the most successful parts of the program, how it could be improved, and why they thought nonparticipants had opted out. We directly asked nonparticipants why they didn't use the program, whether they were considering using it in the future, and what might change their minds.

Biltmore's two-day health fairs twice a year focus on physical, financial, and spiritual wellness. A wide variety of screenings are offered, including bone scans, cholesterol, blood sugar, lung capacity, and hearing. Women can make appointments for mammograms. Chiropractors are available. The local fire department demonstrates how to install a smoke detector, and the police conduct sessions on home safety and give children a chance to be fingerprinted for safety. Yoga instructors, chaplains, and many others lead seminars. Local bank representatives provide private consultations. Vendors for health and dental insurance and 401K plans are available.

Employees typically consume one or several meals plus snacks during work hours. Healthful food at work has to be tasty, convenient, and affordable. Chevron's food service vendor has a "stealth health" philosophy: It uses quality ingredients and few highly processed foods to offer menu items that delight rather than require sacrifice. Instead of seeing a daily "healthy entrée," employees choose from an array of appetizing healthful options, such as meatloaf made with whole grains and low-sodium soups made from scratch.

Going mobile. Organizations increasingly use online resources to deliver wellness messages and to let individuals input information such as HRA data and activity reports. Companies can also make wellness websites available on smartphones to increase portability. For decentralized companies such as Lowe's and J&J, online access is critical, although high-tech tools must be complemented by high-touch programs that unite individuals in a culture of health.

Pillar 5: Partnerships

Internal partnerships help wellness programs gain credibility. At Biltmore, for example, wellness professionals partner with the company's finance division to vet the cost-effectiveness of various programs. External partnerships with specialized vendors enable wellness staffs to benefit from vendor competencies and infrastructure without extra internal investment. Lowe's has contracted with a partner to drive custom-built laboratory buses to stores, distribution centers, and corporate offices so that employees can conveniently receive biometric health screenings and complete their HRAs in private kiosks.

A Dashboard for Workplace Wellness Programs

Companies in our sample of 10 adopted wellness programs because, as Biltmore executive VP Steve Miller said, "It's the right thing to do for our people." Managers also have a responsibility to invest resources wisely, and all the companies in our study emphasized the importance of measuring a wellness program's success.

By capturing key metrics, a wellness dashboard helps to connect investments in a program with short- and long-term results. Sophisticated companies set metrics-related goals and examine trends closely, just as they do for other facets of the business.

Our example dashboard (below) is based on our work in the wellness field. This rubric of the most useful metrics incorporates (1) employee measures of participation, satisfaction, and well-being; and (2) organizational measures of financial, productivity, and cultural outcomes. Items are typically measured monthly, quarterly, or yearly, depending on the metric, and are tracked over time.

Employee Metrics

Employee participation

Utilization—the total number of employees involved in specific program activities

Penetration—the percentage of employees who have participated in at least one wellness activity

Depth—the percentage breakdown of employees who are light or heavy users of wellness activities

Sustainability—the number of employees who continue to engage in a specific risk-reducing behavior

Satisfaction with the program's scope, relevance, quality, and accessibility (from survey data)

Health-risk status identifying the percentages of employees at high, moderate, or low health risk (from HRAs)

Organizational Metrics

Health care

Medical care and pharmaceutical costs and utilization (from claims analysis)

Disability costs

Workers' compensation costs

Safety

Safety incident rates by category or type

Lost and modified work days related to safety incidents

Productivity

Absenteeism

Presenteeism

Organizational culture

Trust in management (from anonymous survey data)

Voluntary turnover

Willingness to recommend the firm as an employer

The smallest companies in our study have developed comprehensive wellness programs in part by leveraging the resources of vendor partners. Comporium worked with the YMCA and a local medical practice to design a "metabolic makeover" program for willing at-risk employees. Described by one participant as "pure torture" but "a great thing," it is a low-investment way for the company, which has just over 1,000 employees, to enhance its wellness program.

Pillar 6: Communications

Wellness communications must overcome individual apathy, the sensitivity of personal health issues, and the geographic, demographic, and cultural heterogeneity of employees. The range and complexity of wellness services also can pose challenges.

Our sample companies have honed effective practices over time. For one, they tailor their messages to fit the intended audience. H-E-B's culture, for example, is highly competitive, so the company created internally public wellness scorecards for geographic and other company units. Intranet videos featuring employees' health-success stories are especially popular at H-E-B, which recognizes that not all employees read a lot.

57% of people with high health risk reached low-risk status by completing a worksite cardiac rehabilitation and exercise program.

Media diversity also helps. Nelnet, for example, includes information about wellness in its regular corporate e-mail on Wednesdays, features health-related messages on its intranet portal, advertises specific wellness benefits, posts flyers about health in elevators and stairwells, and distributes wellness stickers and magnets. At health screening time, employees are greeted with an attention-getting "desk drop" such as a piece of fruit.

Wellness "clues" can be embedded throughout the workplace. According to Dr. Martin Gabica, the chief medical officer at Healthwise, "Wellness is a viral thing. When I meet with a new employee, I say, 'Let's go for a walking meeting.'" MD Anderson provides bicycle racks in parking garages with showers nearby, and it places elliptical trainers in work areas throughout its campus to encourage five-minute stress breaks. At Lowe's headquarters, an arresting spiral staircase in the lobby makes climbing the stairs more appealing than riding the elevator.

The Fruits of Workplace Wellness

Although some health risk factors, such as heredity, cannot be modified, focused education and personal discipline can change others such as smoking, physical inactivity, weight gain, and alcohol use—and, by extension, hypertension, high cholesterol, and even depression. The results are worth the effort.

Lower costs. H-E-B's internal analyses show that annual health care claims are about $1,500 higher among nonparticipants in its workplace wellness program than among participants with a high-risk health status. The company estimates that moving 10% of its employees from high- and medium-risk to low-risk status yields an ROI of 6 to 1.

For every dollar SAS spent to operate its onsite health care center in 2009, it generated $1.41 in health plan savings, for a total of $6.6 million in 2009 alone. SAS's team-based delivery of health care is less expensive than external care. Not included in the $6.6 million figure is the benefit of employees missing an estimated average of two fewer hours per visit by receiving on-campus care. As one manager noted, "I used to have to take a half-day leave for an appointment. Now I'm in and out without missing a beat."

Greater productivity. Illness-related absenteeism is an obvious factor in productivity. Less obvious but probably more significant is *presenteeism*—when people come to work but underperform because of illness or stress. Research consistently shows that the costs to employers from health-related lost productivity dwarf those of health insurance.

A 2009 study by Dr. Ronald Loeppke and colleagues of absenteeism and presenteeism among 50,000 workers at 10 employers showed that lost productivity costs are 2.3 times higher than medical and pharmacy costs. In a seminal Dow Chemical study from 2002, of the average annual health costs for a Dow employee an estimated $6,721 were attributable to presenteeism, $2,278 to direct health care, and $661 to absenteeism. A variety of studies confirm the health conditions that contribute most to lost productivity: depression, anxiety, migraines, respiratory illnesses, arthritis, diabetes, and back and neck pain. Employees with multiple chronic health conditions are especially vulnerable to productivity loss.

Higher morale. Most analyses of workplace wellness programs focus on hard-dollar returns: money invested versus money saved. Often overlooked is the potential to strengthen an organization's culture and to build employee pride,

trust, and commitment. The inherent nature of workplace wellness—a partnership between employee and employer—requires trust. Because personal health is such an intimate issue, investment in wellness can, when executed appropriately, create deep bonds.

Health care is a monumental issue for employers, and too much is at stake to be reactive. It's time for companies to play offense rather than defense. A verifiable payback isn't certain, and the journey can be arduous. But what is the alternative?

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

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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 Inc.'s employee wellness programs.* ***Methods:*** *Growth curve analyses compared medical claims for participants of wellness programs versus risk-matched nonparticipants for years 2001 to 2005. The difference was used to define savings. ROI was determined by subtracting program costs from savings and alternative discount rates were applied in a sensitivity analysis.* ***Results:*** *Multivariate models estimated health care expenses per person per year as $176 lower for participants. Inpatient expenses were lower by $182. Four-year savings of $1,335,524 compared with program expenses of $808,403 yielded an ROI of $1.65 for every dollar spent on the program.* ***Conclusions:*** *Using sophisticated methodology, this study suggests that a comprehensive health promotion program can lower the rate of health care cost increases and produce a positive ROI.* (J Occup Environ Med. *2008;50: 146–156*)

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 promotion, fielded by the US Office of Disease Prevention and Health Promotion, reported that 90% of worksites offered at least one type of health promotion activity to workers.[4] However, updated survey results indicate that only about seven percent of employers provide comprehensive worksite programs.[5] To encourage the adoption of sufficiently intensive worksite programs, employers are seeking evidence that these programs not only improve workers' health but also achieve a positive return on investment (ROI).[6]

The majority of studies done to date show positive health and financial impacts of worksite health promotion programs over the past three decades; however, relatively few calculate the ROI, and the methodological rigor of these studies varies considerably.[7–10] Pelletier[9] recently examined 12 new studies published between 2000 and 2004 and concluded that outcomes from worksite programs were consis-

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DOI: 10.1097/JOM.0b013e3181617855

tently positive in terms of health risk improvements and economic benefits. Chapman[10] also published a review that examined the economic impacts of worksite health promotion programs. The 28 studies examining health care utilization of participants and nonparticipants in programs showed a 26% difference in their medical costs. The average ROI for 22 studies that reported costs and benefits was $5.81 saved per dollar spent on these programs. However, Chapman's review did not adjust for study design as rigorously as previous authors did, so his estimates of savings and ROI may be inflated.

Despite the growing body of evidence that worksite programs may achieve a positive ROI, heroic claims from such studies should be tempered given the problems of conducting rigorous economic evaluations in business settings. Many of the studies reporting savings compare health and productivity-related expenditures of participants with nonparticipants. Thus, many of these studies suffer from self-selection bias where healthier and more motivated employees are more likely to participate in programs than their less healthy and more costly counterparts. Until recently, methods to control for selection bias have not been widely applied in evaluations of worksite programs. In fact, many of the studies examining worksite programs have not been prospective, and several have relied on descriptive statistics and cross-sectional designs to estimate cost savings.

This study attempts to overcome some of the shortcomings common to applied worksite research. To control for the major measurable differences between participants and nonparticipants, we used a matching technique developed by statisticians at the Mayo Clinic to compare health care costs over time for participants and nonparticipants in the health promotion program offered by Highmark, Inc. (Highmark) to its employees. The matching technique, described in more detail below, allowed us to track the multiyear health care experience of a cohort of program participants who were similar on several key variables to a cohort of nonparticipants. We hypothesized that health care cost trends for the two groups, who started out virtually identical to one another on key measures, would differ over time, and that the differences in their cost trends would be attributed to participation in wellness programs. If savings were found for program participants at the study's conclusion, those savings would be compared with program expenses and an ROI could be calculated.

Materials and Methods

Setting

Highmark employs approximately 12,000 workers and serves as a Blue Cross Blue Shield health insurance provider in western Pennsylvania and as a Blue Shield plan provider in Central Pennsylvania. The company is headquartered in Pittsburgh, with a major operating facility in Camp Hill, PA and other locations in Johnstown, Erie, and Williamsport, PA.

In the summer of 2002, Highmark began offering a comprehensive health promotion program to its employees. The Highmark Wellness Program offers health risk assessments (HRAs), on-line programs in nutrition, weight management and stress management, tobacco cessation programs, on-site nutrition and stress classes, individual nutrition and tobacco cessation coaching, biometric screenings and various 6- to 12-week campaigns to increase fitness participation, and awareness of disease prevention strategies. Highmark employees are also able to use state-of-the-art fitness centers, located at corporate headquarters in Pittsburgh and at Camp Hill.

Intervention

The Highmark Wellness Program was launched with the administration of an HRA and a biometric screening for cholesterol, glucose, and blood pressure measurements. The program was developed and operated by a team of Highmark staff including registered dietitians, exercise physiologists, a psychologist, a program evaluator, and health educators. An implementation plan, developed before program launch, was based on feedback from employee surveys and employee wellness committees established in the central and western regions of Pennsylvania. At its launch in 2002, the program included the following components, offered free of charge to employees: on-line sessions for nutrition, weight management, stress management, and smoking cessation; telephonic smoking cessation counseling; individual nutrition coaching with a registered dietician; and on-site classes in stress and weight management. The program was promoted through the company intranet and via monthly e-mail newsletters to all employees, with strong ongoing and visible support from senior management. In subsequent years, additional components were added including company-wide health promotion campaigns such as a 10,000-Step Walking Program and a program to earn points toward a half-day vacation. Fitness centers were opened in Pittsburgh in September 2003 and in central Pennsylvania in October 2004. These fully staffed centers offered a variety of exercise classes and incentive-based competitions in addition to a full complement of fitness equipment.

Sample

All Highmark employees were eligible to participate in the wellness program. The number of employees ranged between 8936 and 10,105 over the study period, and almost all (n = 9666) participated in a wellness program sometime between the years 2002 and 2005. In addition, 82% of those participating in a wellness program also had biometric screenings done.

Employees with Highmark coverage (including participants and nonparticipants in the wellness program) were also eligible and encouraged to

participate in available disease and condition management intervention programs. Condition management services were offered to those with the following health conditions: asthma, diabetes, coronary artery disease, congestive heart failure, and chronic obstructive pulmonary disease.

Healthcare Expenditures

Medical claims paid during the period of January 2001 through June 2006 were extracted from the Highmark data warehouse and included in the analysis. As an HRA could have been completed by employees at any time during 2002, we set 2001 as the preintervention or baseline period for the study. Dollar values presented in this study reflect the amounts that Highmark paid to providers (Highmark's net payments), incurred through the end of each calendar year and paid by June 30 of the next calendar year. Aggregated claims per person per year include inpatient, outpatient, professional, and pharmacy services.

Those who met study criteria could have zero dollars in claims, but we restricted the analyses to those with less than $100,000 in any 1 year. Of the wellness program participants, four people were excluded because of this high claim level. These four individuals had predictive risk scores that were nonindicative of higher risk for future expenditures, and their baseline claims were similar to those of other wellness participants. Nonparticipants were also screened for this level of claims before being matched to participants. Copayments and deductibles were not included in the calculation of medical claims paid, because they were not relevant to the calculation of ROI for Highmark. In a separate analysis, we examined total charges that incorporated deductibles and copayments and found no meaningful difference from the results reported here. All dollar amounts were adjusted to 2005 values using the Consumer Price Indices as follows[11]: the Medical Care Index was used to adjust total payments, and the inpatient, outpatient, pharmacy, and professional services indices were used to adjust claims of those types.

Study Participants

The following inclusion and exclusion criteria defining program participants were set a priori: employees had to be younger than age 65 (to exclude Medicare beneficiaries), had medical claims coverage through a Highmark plan for at least 9 months before taking the HRA, had Highmark coverage through 2005 and had total health care claims for any given study year that did not exceed $100,000. Further, participants were defined as employees who participated in the company's wellness program in 2002, who completed an HRA in 2002, had coverage in 2001, and for whom 3 years of follow-up data were available (ie, had Highmark coverage from 2001 through 2005). This approach allowed us to compare the same people over time creating stability in basic characteristics of the population. Of the 4084 who participated in the HRA screening in 2002, 1892 (19% of all employees) met the above inclusion/exclusion criteria and were therefore considered the participant cohort (see Fig. 1).

Of the 1892 program participants, 1092 were located at the Pittsburgh office, 679 were from Camp Hill, and the remaining 121 employees were from Allentown, Erie, Johnstown, or Williamsport.

In addition to reviewing data comparing participants with nonparticipants, participants were also subdivided into categories based on the types of wellness programs used between 2002 and 2005: 1) employees who only participated by completing an HRA and did not participate in other wellness programs at any time (HRA only group, $n = 338$); 2) employees who completed an HRA and also participated in any of the on-line, group or individual health improvement sessions (HRA and other group, $n = 522$); and 3) employees who completed an HRA and used the fitness center and who may have also participated in another program (HRA and fitness center group, $n = 1031$).

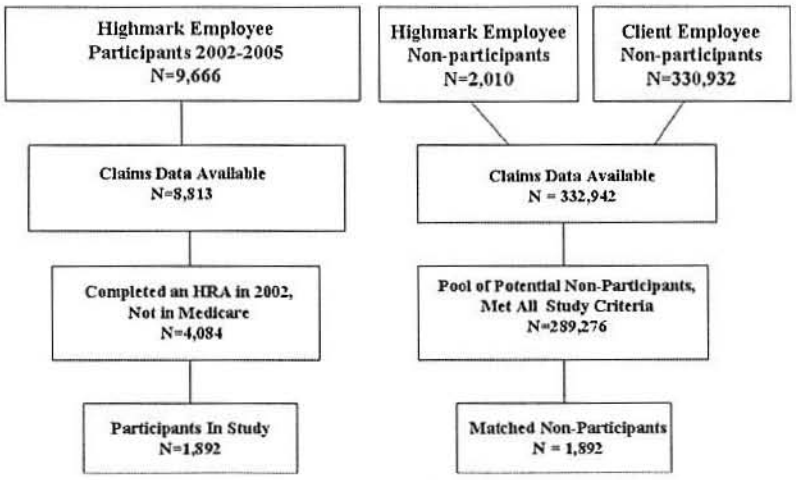

Fig. 1. Selection of participants for study.

Comparison Group

Potential comparison group subjects were chosen from two pools of nonparticipants (Fig. 1). The first included Highmark employees who did not participate in the wellness program at any time between 2002 and 2005 ($n = 2010$). Because of the growth of wellness program participation over time, there were not enough nonparticipants in the Highmark employee pool who could be matched to participants on character-

istics thought to influence program engagement and health care utilization. Therefore, a supplemental pool of nonparticipants was identified. This second pool of nonparticipants had Highmark coverage through selected client accounts in similar industries as Highmark (financial, real estate, and insurance—standard industry codes 6000 to 6800). These employee-members (n = 330,932) showed no evidence of having used the wellness programs offered to employer clients (ie, they were not included in wellness program data files) but medical claims data for them were available for the years 2001 through 2005. Claims data were extracted for the comparison pool in a similar fashion as used for study participants, applying the same exclusion and inclusion criteria, resulting in a pool of 289,276 people available for the matching program.

Matching Strategy

Participants and nonparticipants were matched using a method developed by researchers at the Mayo Clinic Division of Biostatistics.[12] Match-strategy variables were chosen because they were associated with higher health care expenditures over time and included individuals' gender, age (within 2 years), 2001 total medical expenditures (within $500), claims-based evidence of heart disease or diabetes, and subjects' Charlson Comorbidity Index scores.[13–15] The Charlson Comorbidity Index has been shown to predict mortality,[16] stroke,[17] and hospital length of stay[18,19] and reflects the presence of 19 serious health conditions. In bivariate analyses performed before modeling, χ^2 and t tests were used to assure that there were no statistically significant differences in the characteristics of participants and matched nonparticipants.

Wellness Program Expenses

Program expenses were calculated by combining fixed and variable costs for the wellness program only. The fitness center and on-line programs were available to all employees and annual costs were provided; therefore, fixed costs were estimated on a per participant basis by dividing total costs by total number of employees and applying those costs to participants who used the programs. For example, variable costs were estimated based on their per participant expense (eg, for HRAs, individual counseling sessions, and group education programs). Costs were derived and applied to each participant as follows: Costs for HRAs were applied as either $55 or $70 per person for those with and without biometric data, respectively. The fitness center total cost for the newer facility (Camp Hill) was $577,000 in 2006 and included wages and benefits for the center manager (only). This cost was divided by 10,000 employees (estimate based on 10,510 employees in 2003, 9896 in 2004, and 8936 in 2005), yielding a per employee cost of $57. On-line costs were the result of a $50,000 contract for up to 10,000 users, therefore, a $5 per employee cost was applied. Group programs were valued at $35 per person per program, and individual coaching sessions cost $40 per person per session. Other program costs applied per person were $2 for Maintain Don't Gain newsletters, $9 for the 10,000 Step Program, and $3 for the administrative costs related to the Highmark Challenge. Therefore, per participant costs averaged $130.28 in 2002, $135.34 in 2003, $138.38 in 2004, and $150.98 in 2005.

After completing the Highmark Challenge, employees were awarded a one-half day paid time off. Individual salary data are confidential; however, applying a median hourly wage of $19.32[20] to the 112 employees who were eligible for the vacation time off in 2004 and the 910 in 2005 would have resulted in an estimated expense of $77 per person per year and a total expense of $8655 for 2004 and $70,324 for 2005, and a concomitant lowering of ROI to $1.48. As was the case for health care expenditure data, program expenses were inflation-adjusted to 2005 dollars, using the Consumer Price Index (Medical Care Index, Professional Services).[11]

Preventive Screenings and Annual Physicals

Using methodology developed for use in client reporting, payments for preventive screenings included annual physical examinations, preventive medicine counseling (CPT codes for individual or group counseling 99,401 through 99,412, 99,420, and 99,429 and ICD-9 codes 89.06 and 89.07), and cancer screenings for breast, cervical, colorectal, and prostate cancers for those without prior diagnosis of disease in the subject area. These amounts represented Highmark's inflation-adjusted net payment for services incurred January through December of each year, 2001 through 2005, and paid through March 31 of the following year.

Analysis

Differences between participants and nonparticipants were assessed at baseline using either χ^2 for categorical variables or t tests for continuous variables. Participants were matched to nonparticipants before subsetting the data into program participation-specific groups (HRA only, HRA and other, HRA and fitness center). Therefore, pairwise comparisons of each group with nonparticipants were performed using a generalized linear model with Scheffe adjustment for multiple comparisons. The Scheffe adjustment was not used in models estimating program impact (the growth curve models).

To prepare an estimate of the growth in costs over time, growth curve techniques were used to assess changes across participation groups, in a process developed by the Rand Corporation in the 1980s,[21] further developed for use in wellness studies by Goetzel et al.[22] and Ozminkowski et al.[23] Direct medical costs alone are used in these calculations. These techniques use a two-step approach: the first step assesses medical expenditure growth per subject and results

in a coefficient, which directly measures the trend in medical costs over time. The trend value is then used as the dependent variable in a second model. This second model adjusts for demographic and health differences between participants and nonparticipants and is then used to estimate the impact of overall and specific program participation (ie, HRA only, HRA and other, HRA and fitness center, as described earlier) on medical expenditures.

A 4-year savings estimate was calculated as the sum of each participation group's beta score estimate, multiplied by the number of people in the group times -1 (to show savings as a positive number), ie, $-1(\sum(\beta n))$ where n = the number in group. This savings estimate is most likely an underestimate of benefit as it does not include savings realized from improved productivity or reduced absenteeism or presenteeism. A separate study of these elements, prepared by Mercer Human Resource Consulting in 2007, found that employees who participated in one wellness program in 2005 were absent a third of a day less the following year (one-half day less for those participating in more than one program) compared with nonparticipants (Highmark Wellness Participation Impact Analysis, Mercer Human Resource Consulting, February 2007). Further, a survey of Highmark employees administered in 2005 found that morale, productivity, job satisfaction, and overall health and fitness levels were rated higher among wellness participants than among nonparticipants (The Highmark Wellness Story, Accenture, January 2007).

ROI was calculated by dividing the 4-year savings estimate by program expenses. To account for the changes in prices other than inflation, we discounted program expenses by 3%, 5%, 7%, 9%, and 11% and calculated a net present value[24] to show the range of possible savings given differing conditions. Statistical analyses were completed using the SAS system.[25]

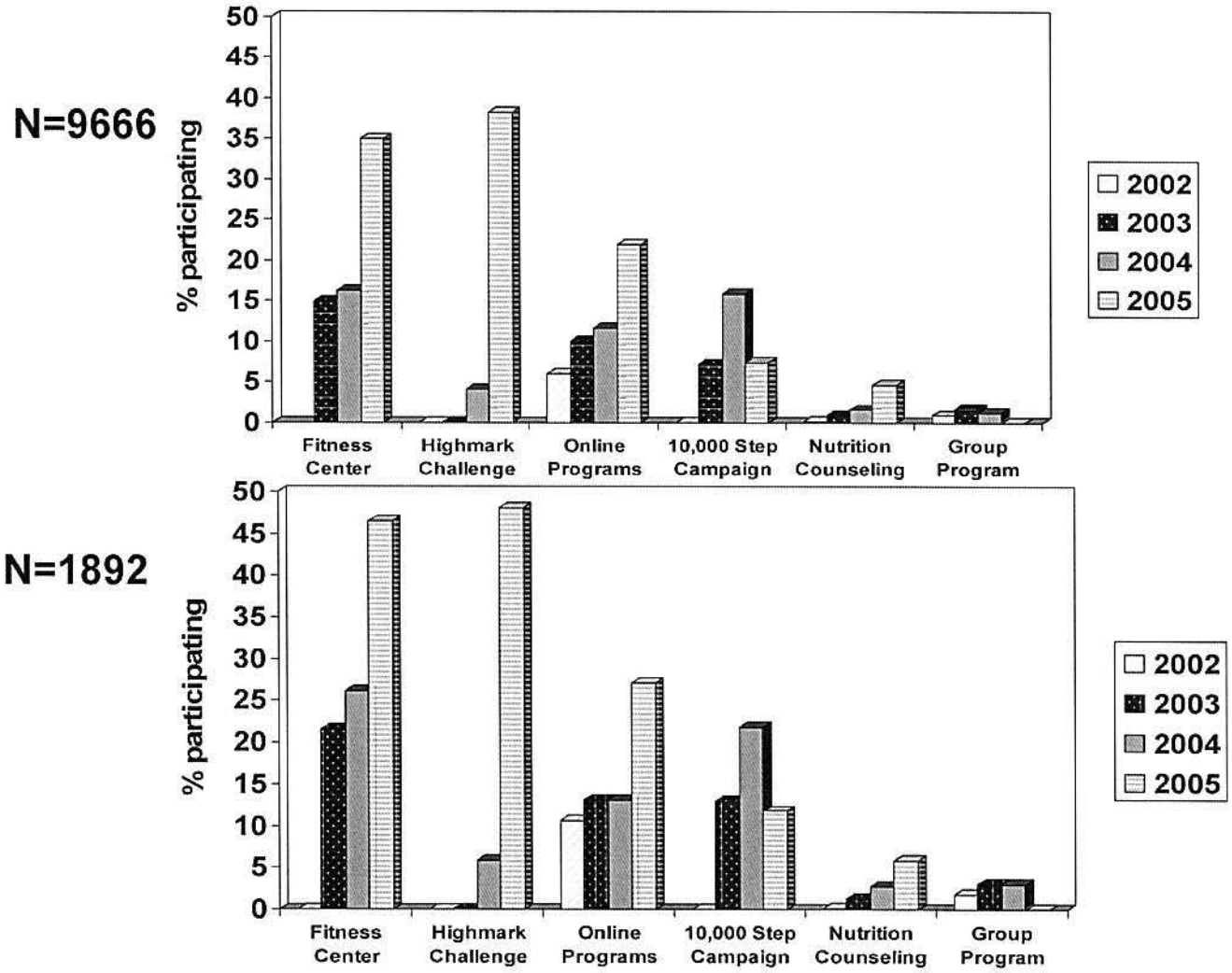

Fig. 2. Participation rates in programs for all Highmark employees from 2002 to 2005 and for those included in this analysis.

Results

The Highmark Wellness Program attracted 9666 participants between 2002 and 2005. Of these, 1892 qualified for inclusion as participants in this study because they completed an HRA in 2002 and could be tracked using medical claims data through 2005. Program participation rates for all employees and for the study population are displayed in Fig. 2.

The matching strategy yielded exact matches for gender and comorbidity variables, baseline medical expenditures within a range of $200, and age (within 6 months). Therefore, at baseline, participants and nonparticipants were considered similar enough on these variables known to affect future health care costs (Table 1). In comparing the program-specific participation groups with nonparticipants, we found the only difference to be that employees in the HRA only group were slightly older than nonparticipants (43.2 vs 41.6 years, $P = 0.039$).

The number of health promotion programs available to employees, and participation in them, grew over time. In 2002, for four programs tracked by this study, 51% of men and 53% of women participated in any program at least once. By 2005, eight programs were tracked and 72% of men and 75% of women participated in any program at least once. The largest growth in participation was in the use of fitness centers, from 21% in 2003 (Pittsburgh only) to 46% in 2005 (when both Pittsburgh and Camp Hill centers were open). On-line programs were also popular, and participation in them grew from 11% in 2002 to 27% in 2005. Individual nutrition coaching also showed a steady increase in participation from less than 1% in 2002 to almost 6% by 2005. In 2005, women participated in more programs than men did (on average 2.34 vs 1.75 programs per person, respectively).

Multivariate growth curve models showed that total health care expenditures grew more slowly from 2001 through 2005 for participants than for nonparticipants (Table 2 and Fig. 3).

This slower rate of growth in total health care expenditures was also found for each of the three program participation groups (data not shown).

Models used to estimate the growth in net payments from 2001 to 2005 for participants compared with nonparticipants showed that wellness program participants had lower annual health care expenditure increases when compared with nonparticipants (with savings of $176.47 per person per year, $P = 0.037$; Table 3, Model 1). The greatest differences between participants and nonparticipants were found in inpatient expenditures, which averaged $181.78 per person per year ($P < 0.0001$) in savings.

Health care expenditures for those in groups categorized by program-specific participation also experienced slower health care cost increases than for nonparticipants (Table 3, Model 2); however, differences were only statistically significant for those who used an HRA and the Fitness Center ($151.36 in savings, $P = 0.016$). Although a higher magnitude of difference was found in the HRA only group ($172.49 savings), statistical significance was not found, possibly because of sample size ($n = 338$, while 1031 used the HRA and fitness center). Comparisons of the HRA and fitness center group with nonparticipants in each subcategory of medical expenditures indicated a slower growth in net payments, and this achieved sta-

TABLE 1
Characteristics Used in Match Strategy for the 4-yr Study of Healthcare Costs After Participation in Wellness Programs, Highmark, Inc.

	Overall Comparison			Participation-Specific Groups		
	All Participants	Nonparticipants		HRA Only	HRA and Other	HRA and FC
Calendar Year 2001	$n = 1890$	$n = 1890$	P	$n = 338$	$n = 523$	$n = 1031$
Male, *n* (%)	484 (25.6)	484 (25.6)	0.98	105 (31.1)	125 (23.9)	255 (24.7)
Age, 2001 mean yr	41.7	41.6	0.94	43.2*	42.0	41.0
Net payments for healthcare expenditures in 2001, mean	$1414	$1318	0.94	$1390	$1430	$1413
Comorbidity prevalence (%)						
Heart disease, *n* (%)	183 (9.7)	184 (9.7)		37 (10.9)	51 (9.8)	96 (9.3)
Diabetes, *n* (%)	13 (0.7)	13 (0.7)	0.99	5 (1.5)	4 (0.8)	5 (0.5)
CCI Group 1 comorbidity, *n* (%)	849 (44.9)	849 (44.9)	0.98	153 (45.3)	223 (42.7)	473 (45.9)
CCI Group 2 comorbidity, *n* (%)	528 (27.9)	528 (27.9)	0.98	96 (28.4)	157 (30.0)	275 (26.7)
CCI, median (range)	1.75 (0–17)	1.75 (0–18)	0.97	1.76 (0–17)	1.79 (0–12)	1.73 (0–11)

*Compared with nonparticipants: $P = 0.039$.

Group 1 comorbidity includes presence of any of these: chronic obstructive pulmonary disease, rheumatologic disease, stomach ulcer or dementia, all as coded by using the Charlson index.

Group 2 comorbidity includes presence of any of these: cancer, renal failure, liver disease, cirrhosis, or autoimmune disease.

HRA indicates health risk assessment; FC, fitness center participation 2003–2005; CCI, Charlson comorbidity index.

TABLE 2
Growth in Net Payments for Healthcare Expenditures for Participants and Nonparticipants of the Highmark, Inc. Wellness Programs, Expressed in 2005 Dollars; Adjusted for Gender, Age, Baseline Healthcare Expenditures and Comorbidity

	Healthcare Expenditure Net Payments, Highmark, Inc.				
	2001	2002	2003	2004	2005
Total net payments					
Participants	$1414	$2191	$2842	$2694	$2685
Nonparticipants	1318	2429	2651	3059	3167
Inpatient					
Participants	113	347	392	351	285
Nonparticipants	174	445	454	712	619
Outpatient					
Participants	392	569	719	769	729
Nonparticipants	457	755	736	829	838
Pharmacy					
Participants	452	518	604	551	664
Nonparticipants	494	612	731	775	779
Professional					
Participants	610	885	1255	1153	1130
Nonparticipants	618	920	1088	1150	1276

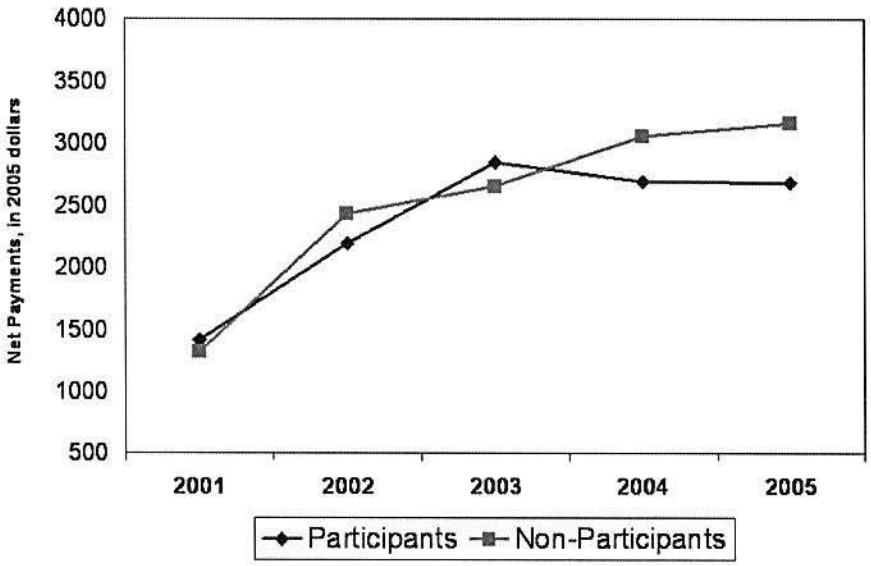

Fig. 3. Annual growth in total net payments for healthcare, Highmark, Inc.

tistical significance for inpatient expenditures ($76.84 in savings, $P = 0.042$).

ROI was assessed by calculating Highmark's expense for each wellness program component and contrasting that expense to estimated savings obtained from the growth models. Program expenses (averaging $138.74 per employee per year) totaling $808,403 over 4 years used as the divisor for annual program savings of $1,335,524 over 4 years (Table 4) yielded an ROI of $1.65 for every dollar spent and net present values ranging from $377,236 to $527,121 depending on the discount rate used (Table 5).

To assess whether participation in the wellness programs encouraged preventive care and, further, whether preventive care represented a higher proportion of total expenditures for participants, we reviewed utilization of recommended preventive screenings and annual physicals for the program-specific participant groups compared with nonparticipants. In the comparison of year-end data for 2001 and 2002, preventive visit screening rates increased from 56% to 60% for those only completing an HRA (HRA only); from 57% to 60% for those completing an HRA and also participating in on-line, group, or individual programs (HRA and other); and from 62% to 64% for those in the HRA and fitness center group. Rates remained stable at 55% for nonparticipants. In the period following wellness program initiation (2002 through 2005), rates remained stable for the HRA only group, the HRA, and fitness center group, and for the nonparticipants but increased from 60% to 63% for those participating in on-line, individual or group programs (HRA and other). By 2005, prevention-visit net payments were 16.5% of total health care expenditures for each of the participant groups and 13.5% of total health care expenditures for nonparticipants.

Discussion

The Highmark Wellness Program was designed to improve the health and well-being of employees and produce health care savings that could potentially justify the expense of providing the program. In this article, we present results from an economic evaluation of the Highmark wellness program in an effort to determine whether it saved the company money in health care expenditures and whether a positive ROI was achieved. To improve upon previous research that examined the financial impact of worksite health promotion programs, we took pains to establish a quasiexperimental design where participants and nonparticipants were carefully matched at baseline on factors known to contribute to higher health care costs using a sophisticated matching technique. Such matching is never perfect, though, and there are always variables that cannot be controlled in the matching process, such as the motivation to improve one's health. Nevertheless,

TABLE 3
Estimates of Annual Savings After 4-yr Follow-Up for Wellness Participants vs Nonparticipants, the Highmark Employee Wellness Study

	Net Payments β Estimate	Inpatient Payments β Estimate	Outpatient Payments β Estimate	Professional Payments β Estimate	Pharmacy Payments β Estimate
Model 1: Participation in any program vs nonparticipants					
Intercept	−964.51***	77.27****	−98.52	139.45	−323.87****
All participants, n = 1892	−176.47*	−181.78****	−84.30*	0.82	−136.05****
Male gender	497.09****	−3.19	61.15	66.11	98.62****
Age, per year	46.05****	8.10**	12.75****	12.38***	16.02****
Heart disease at baseline	576.59****	85.47	135.13*	95.55	189.09****
Diabetes at baseline	1704.01****	634.40*	113.61	303.24	798.05****
Group 1 comorbidity	1133.20****	121.85**	243.31****	404.24***	254.46****
Group 2 comorbidity	397.80****	−5.78	164.52****	103.93***	81.21***
4-yr savings estimate from participation (β n)	$333,881	$343,928	$159,496	−$1550	$257,407
Per person estimate	176.47	181.78	84.30	0.82	136.05
Model 2: Program-specific groups vs nonparticipants					
Intercept	−223.09	−79.57	−31.51	−33.92	−80.90
Participation group					
HRA only, n = 338	172.49	−55.06	−32.04	−38.87	−27.13
HRA and other, n = 523	−51.69	−81.74*	48.51	31.30	−25.64
HRA and fitness center, n= 1031	−151.36*	−76.84*	−7.26	−33.56	−14.97
Male gender	134.22*	4.05	56.37*	17.61	55.92*
Age, per year	10.87***	3.88**	1.12	4.04**	1.46
Heart disease, 2001	−48.07	25.41	−19.34	−38.17	−15.72
Diabetes, 2001	834.57**	465.00**	53.27	279.97	105.89
Group 1 CCI comorbidity	−38.96	26.27	−39.90	−54.60	0.69
Group 2 CCI comorbidity	−144.47*	−7.09	−59.97*	−38.17*	−20.35

CCI indicates Charlson Comorbidity Index.

Group 1 comorbidity includes presence of any of the following: chronic obstructive pulmonary disease, rheumatologic disease, stomach ulcer or dementia.

Group 2 comorbidity includes presence of any of the following: cancer, renal failure, liver disease, cirrhosis, or autoimmune disease.

Independent predictors of growth, designated as: *$P < 0.05$, **$P < 0.01$, ***$P < 0.001$, ****$P < 0.0001$.

we established a nonparticipant cohort that was drawn from a pool of Highmark employees supplemented by approximately 300,000 Highmark members from companies in similar industries as Highmark.

The study sought to determine whether there were differences in the growth of health care expenditures over 4 years for program participants compared with nonparticipants. Our analysis found that health care costs grew more slowly for wellness program participants compared with matched nonparticipants, and we interpreted the differences in growth rates as savings. For the cohort groups analyzed in our study, average annual program expenses per participant varied between $130 and $150, and the medical expenditure savings were estimated as $176 per year per participant. After subtracting wellness program expenses from our estimated savings, we established a net savings of $1,335,524 over 4 years, program costs of $808,403 yielding an estimated ROI of $1.65 for every dollar invested. Overall, we calculated a net present value of between $377,236 and $527,121 for the 4-year study period, depending on the discount rate used (0% to 11%).

Examining the three subsets of program participants, we found a slower rate of growth in health care costs for participants versus nonparticipants, regardless of whether employees only completed an HRA, participated in coaching, on-line, group or individual programs, or visited a fitness center along with engaging in other wellness programs.

As noted in the introduction to this article, literature reviews of worksite health promotion programs have reported median ROI values of approximately $3.00 saved for every dollar invested.[6,7] Our analysis yielded an ROI estimate of $1.65 for every dollar spent. The Highmark program expenses included maintaining fitness centers, providing on-site health education classes, offering health coaching, administering biometric screenings, and providing other elements of a comprehensive worksite health promotion program. It should be noted that Highmark's annual per capita

TABLE 4
Wellness Program Costs, Highmark, Inc., Inflation-Adjusted to 2005 Dollars

	2002		2003		2004		2005		
	N	Total	*N*	Total	*N*	Total	*N*	Total	Total
HRA and incentive	1892	$243,731	1303	$143,111	1308	$140,785	1355	$142,605	
Online	201	$1142	247	$1372	248	$1300	512	$2575	
Group	34	$1544	56	$3077	56	$3010	0	$0	
Nutrition coaching	2	$66	23	$740	51	$1585	111	$3420	
10,000 Steps			244	$2441	413	$3851	223	$2061	
Fitness center			407	$25,603	495	$29,939	879	$50,958	
Highmark challenge					112	$348	910	$2766	
Maintain don't gain newsletter					85	$182	93	$192	
Wellness program costs		$246,483		$176,343		$181,000		$204,577	
Cost per participant		$130.28		$135.34		$138.38		$150.98	$808,403 Per capita: $139
Estimated annual savings from Model $176.47/person		$333,881		$333,881		$333,881		$333,881	$1,335,524
Net savings (estimated savings – Wellness Program Costs)		$87,398		$157,538		$152,881		$129,304	$527,121

Total savings estimated 4 yr after baseline: $1,335,524.
Total 4-yr costs (2002–2005): $808,403.
Return on investment: $1.65.

TABLE 5
Net Present Value Calculations, Discounting ROI for Highmark, Inc. Wellness Programs

	2002	2003	2004	2005	Net Present Value
Savings	$333,881	$333,881	$333,881	$333,881	
Program costs	$246,483	$176,343	$181,000	$204,577	
Discount rates					
0	$87,398	$157,538	$152,881	$129,304	$527,121
3%	$84,852	$148,495	$139,907	$114,885	$488,139
5%	$83,236	$142,892	$132,064	$106,379	$464,571
7%	$81,680	$137,600	$124,796	$98,645	$442,722
9%	$80,182	$132,597	$118,052	$91,602	$422,432
11%	$78,737	$120,522	$102,299	$75,678	$377,236

investment in the health promotion program (approximately $139) was far lower than its investment in the provision of medical care services for the treatment of illnesses whereby 65% of employees incur health care costs of $350 or less annually, 24% incur costs between $350 and $2300 and the remaining incur costs greater than $2300 annually.

Limitations

The main limitation of this study is the remaining concern related to possible selection bias; that participants in the wellness programs may have been more motivated to manage their health than nonparticipants. This bias would result in lower expenditures for health care over time for participants, resulting in overstated savings estimates. Our study attempted to control for selection bias by matching nonparticipants to participants based on prior health care costs and comorbidities present at baseline in addition to demographic factors. Participants and nonparticipants were matched on key variables thought to influence health care spending and, while the matching process is imprecise and important differences between groups could remain, we believe that this study provides a useful and real world alternative to experimental designs that are difficult to implement in worksites.

Another limitation is a possible measurement bias in the categorization of participants into the various program categories. There may have been individuals placed in the HRA only group or in the nonparticipant group who were actually physically active or actively pursuing wellness activities outside Highmark's programs.

Next, program expenses and benefits are imprecise and, therefore, probably over- or underestimate ROI. In particular, we had limited data regarding salary and benefits for fitness center staff and for education program group leaders. On the other hand, we may have overestimated the cost for some programs delivered via e-mail. Other costs such as those related to on-line programs are likely accurate, because they were provided as a contracted service to Highmark. Our estimate of program cost also did not include the incentive of a half-day vacation given to employees completing the Highmark Challenge. If these expenses were included in our analysis, the ROI would be reduced from $1.65 to $1.48 per dollar invested. On the other hand, because our program benefit estimates did not include productivity increases or reduced absen-

teeism or presenteeism, the ROI may be underestimated.

Finally, when analyzing medical expenditures in the study, we asked whether expenditures may have increased among program participants because of an increase in medical screenings for health risks and the identification of underlying disease, which was then treated. We found that expenditures for screenings and annual physicals were higher for participants than nonparticipants, though for many, screening rates may have increased before beginning participation in the program. Our analysis also showed that the slowest growth in medical spending for participants was for inpatient care, followed by pharmaceutical and outpatient services. This suggests that participants were using appropriate medical services that may lead to prevention and early detection of disease. Then again, nonparticipants in the Highmark program may have participated in wellness programs outside the company. Both of these issues would bias the study results toward the null (not finding significant differences between participants and nonparticipants). For these reasons, we believe that the true ROI lies within a range of $1.19 to $2.52 saved per dollar spent, based on several analyses undertaken to simulate alternative modeling scenarios (not shown).

Conclusions

The analysis of the Highmark Wellness Program is significant in several respects. First, as a health plan, Highmark was the developer of a comprehensive health promotion program based on its review of evidence-based health promotion interventions at the workplace. It offered these programs to its plan members and employees and then chose to evaluate program outcomes. It is rare that a health plan rigorously evaluates health promotion programs that it offers its own employees and members.

Second, Highmark applied an innovative design in evaluating its interventions by creating matched cohorts of program participants and nonparticipants using a sophisticated matching technique. Although not perfect, and certainly not a substitute for a randomized design, this approach to program evaluation is practical and realistic when assessing large-scale population-based intervention programs in real-world settings.

Other unique aspects of this evaluation are that it used as a large enough sample (approximately 2000 participants and an equal number of nonparticipants) that allowed investigators to detect statistically significant and meaningful changes in health care expenditures. The study also examined different categories of participation in the programs to determine whether any one combination of programs was more effective than another. Finally, the study was of sufficient duration (4 years) to establish whether health care cost trends were ephemeral or stable over time, and whether savings can be sustained for a period of several years. Our results suggest that lower future health care costs and a positive ROI are achievable through the application of well-designed worksite health promotion programs that encourage employees to take a proactive stance in lowering their health risks.

Acknowledgments

Funding for this project was provided by Highmark, Inc.

We greatly appreciate the support of the Preventive Health Services Division, particularly the support of Anna Silberman and Joli Studley, wellness consultants, fitness coordinators, nutritionists, and other wellness "specialists" who developed and support wellness efforts for Highmark employees.

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The Association of Health Risks With Workers' Compensation Costs

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The purpose of this study was to investigate the association between health risks and workers' compensation (WC) costs. The 4-year study used Health Risk Appraisal data and focused on 1996-to-1999 WC costs among Xerox Corporation's long-term employees. High WC costs were related to individual health risks, especially Health Age Index (a measure of controllable risks), smoking, poor physical health, physical inactivity, and life dissatisfaction. WC costs increased with increasing health risk status (low-risk to medium-risk to high-risk). Low-risk employees had the lowest costs. In this population, 85% of WC costs could be attributed to excess risks (medium- or high-risk) or non-participation. Among those with claims, a savings of $1238 per person per year was associated with Health Risk Appraisal participation. Addressing WC costs by focusing on employee health status provides an important additional strategy for health promotion programs. (J Occup Environ Med. *2001;43:534–541*)

In 1999, the National Safety Council estimated the total annual cost of occupational injuries at $125 billion: $62.0 billion for wage and productivity losses, $19.9 billion in medical costs, $25.6 billion in administrative expenses, and $16.7 billion in additional employer costs.[1] An estimated $42.4 billion was paid out under workers' compensation (WC) insurance; the average cost for all claims combined was $10,488 per injured worker.[1] With widespread industry safety programs, the incidence rates for occupational injuries (excluding fatal work-related injuries) have steadily declined from 8.3 cases per 100 workers in 1990 to 6.2 cases per 100 workers in 1998.[1,2]

In keeping with these national trends, and in an attempt to make significant improvements in quality of life for all US working people, Healthy People 2010 established a goal of further reducing work-related injuries to 4.6 injuries per 100 full-time workers (a 30% improvement over 1997 baseline levels of 6.6 injuries per 100 workers).[3]

Comprehensive initiatives to manage the incidence and costs of occupational injuries often include medical case management (secondary prevention), safety/ergonomic programs, and early return-to-work programs.[4,5] Cost-containment strategies also used by corporations to control increases in WC costs include utilization review/management programs,[6,7] risk management programs,[8] and rehabilitation programs for injured workers.[9] These programs focus on injury prevention through worksite review and assess-

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ment of worker risk for injury before injuries occur, and management of medical costs, rehabilitation, and return-to-work programs after an injury incident. Most programs show highly favorable cost savings and reductions in the incidence rates for injuries.[6–9]

The benefits of primary prevention by improving worker strength and/or health have also been investigated.[10–13] In one of the earliest studies (1979), Cady et al[14] used five measures of fitness and conditioning to classify firefighters into least-fit, middle-fit, and most-fit categories. Their results showed a graded and statistically significant protective effect for added levels of fitness and conditioning for back injuries (least-fit, 7%; middle-fit 3%; and most-fit 1%). It was concluded that physical fitness and conditioning were preventive for back injuries in this population.

Since that study was published, other investigators have considered individual health risks that would predict the incidence of injury, including isometric strength,[15] aerobic fitness,[16] cardiovascular risks,[16] obesity,[17] smoking,[16,17] and psychosocial variables.[18–22] Results have varied by health risk. Isometric strength and cardiovascular risks do not effectively predict injury.[15,16] Only a few studies have reported an association with obesity, and then only among the most obese.[16,17] Although enhanced physical fitness has often been suggested to have a prophylactic effect on injury rate, the type of training required and the critical aspects of fitness are unclear.[10,16,23] There is a consistent association between those who smoke and increased injury rates, although the mechanism of this relationship needs further investigation.[16,17] Among psychosocial variables, job dissatisfaction, work-related stress, and lack of social support have been associated with higher injury rates. The complex relationship, however, between psychosocial variables and the physical demands of work have made it difficult to reach definitive conclusions about their relative importance to the risk of injury.[18–22]

Primary prevention programs focused on injury prevention by improvement of worker health/strength are less prevalent, and programs often include multifaceted approaches. In an example of a back injury intervention among county employees, the program consisted of education, training, physical fitness activities, and ergonomic improvements. Savings in medical costs and reduced sick days resulted in a 2.79:1 return-on-investment.[24] A health risk appraisal (HRA) assessed the likelihood for back injury with additional questions. After the intervention, there was a significant decrease in the percentage of those employees at high risk for back injury. Overall health status was not reported.

Another company initiated an intensive wellness program with incentives to join fitness centers and participate in education programs and health assessments (HRA). The number of injures and lost workdays steadily decreased over the 6 years of the program. The HRA was used to track improvements in fitness, nutrition, and cholesterol levels. Calculations of cost savings related to the program yielded a return-on-investment of 2.51:1.[25]

Health status has been related to medical costs. High-risk individuals have been shown to have higher medical costs than low-risk individuals.[26–35] Furthermore, people who change their risk status by improving their lifestyle behaviors have been shown to reduce their costs.[36,37] It was of interest to know if these same relationships could also be applied to WC costs.

The purpose of this study was to investigate whether the associations between health risks, as defined from the HRA, and WC costs would be similar to those established for medical care costs. Specifically, the following were examined: (1) effect of individual health risks and overall health status on WC costs, (2) percentage of excess WC costs associated with excess risks/non-participation, and (3) cost savings associated with program participation.

Methods

This project was a 4-year case study (1996 to 1999) of the associations between health risks as measured on the HRA and WC costs and lost injury days among long-term employees at Xerox Corporation. The corporation initiated the Xerox Health Management program in 1978 with the first round of HRAs in 1981. In 1995, a more intensive program was instituted at the Rochester, New York, location, with health risks assessed every 3 years (1995 and 1998). The mission of the Xerox Health Management program is to provide integrated health programs that optimize health and personal productivity. HRA participants received health risk-targeted awareness materials and the opportunity to participate in special, subsidized, on-site lifestyle management programs (eg, weight management, fitness, back care, stress).

Study Population

The study population consisted of 3338 employees who met the following criteria for this 1996 to 1999 study: (1) continuously employed by Xerox Corporation from 1981 to 1999, and (2) selected Blue Choice Health Maintenance Organization as their medical plan. This pilot employee subgroup had been previously selected by the corporation to track short- and long-term health and economic (medical cost) effects of their health promotion program. Demographics from personnel records, including age, gender, and job status (exempt, hourly, non-exempt), characterized those with WC claims during the 4-year period (n = 265) and those without claims (n = 3073).

WC Claims and Lost Injury Days

Data for WC paid claims and days lost from injury from 1996 to 1999

were available from the corporation benefits department. Data for claims and lost injury days were received on a per-claim basis and then aggregated to determine the total WC cost and lost injury days per employee per year. Costs for each year were adjusted to 1999 dollars using published medical inflation rates.[38]

Lost injury days were converted to a cost measure using an average daily wage per day of $150 (assigned by the corporation benefits department) multiplied by the number of lost days for each employee. A combined outcome measure used in this study summed the total costs from claims and lost days costs for the 4-year period. This approach thus incorporates both direct costs (ie, insurance payments) and indirect costs (ie, lost work time) into the analyses.

HRA

The HRA was originally developed by the Centers for Disease Control/Carter Center and was modified by the University of Michigan Health Management Research Center for the employer. In addition to self-reported age and sex, 15 health risk factors were selected to establish health status[36]:

- Five lifestyle variables: smoking, physical activity level, alcohol use, drug/medication use, and safety belt use.
- Four psychological variables: perception of physical health, life satisfaction, job satisfaction, and stress.
- Six health/biological variables: blood pressure, cholesterol, relative body weight, serious medical problems, illness absence days, and Health Age Index (a measure of controllable health risks).

High-risk criteria for each of the defined health risks are given in Table 1. Individual health risks for HRA participants were summed, and overall health status was assessed as low-risk (0 to 2 health risks, 50th percentile); medium-risk (3 to 4 health risks, between the 50th and 90th percentiles); and high-risk (5 or more health risks, 90th percentile and above).

TABLE 1
High health risk criteria

Selected Measures	High-Risk Criteria
Lifestyle risks	
Smoking	Current cigarette smoker
Physical activity	Less than once per week
Alcohol use	Heavy drinker (>14 drinks/week)
Drug/medication use	Use a few times per month or more often
Safety belt use	Use safety belt less than 100% of the time
Health/biological risks	
Blood pressure	Systolic blood pressure greater than 139 mm Hg, *or* diastolic blood pressure greater than 89 mm Hg, *or* taking blood pressure medication
Cholesterol	Greater than 239 mg/dL
Body weight	20% or more over desirable weight
Medical problems	Had problems with heart condition, cancer, diabetes, or bronchitis/emphysema
Absent due to illness	≥6 days during past year
Health Age Index	Appraised age minus achievable age (from HRA) >4 years
Psychological risks	
Perception of physical health	Fair or poor
Personal life satisfaction	Partly satisfied or not satisfied
Job satisfaction	Partly satisfied or not satisfied
Stress	Stress-scale score >18
Overall risk levels	
Low	0–2 high risks
Medium	3–4 high risks
High	≥5 high risks

WC Costs by Individual Risk Status and by Overall Health Status

WC claims, costs associated with lost injury days, and total WC costs were assessed by individual risk status (high-risk vs low-risk) for each of the 15 individual health risks as reported on the 1998 HRA (n = 943). Each individual health risk was assessed individually without adjustment for other health risks. (HRA participants without WC claims or lost workday costs were assigned $0.)

Frequency of claims, WC claims, costs associated with lost injury days, and total WC costs were also assessed by overall health status (1998 HRA: low-risk, medium-risk and high-risk) and for non-participants among those with claims over the time period (n = 265).

Excess WC Costs Related to Excess Health Risks

Total WC costs were calculated for low-risk, medium-risk, and high-risk employees and for non-participants (1998 HRA participants n = 943; non-participants n = 2395). Excess WC costs related to excess health risks and for non-participation were defined as excess WC costs greater than the base cost of the employees having 0 to 2 health risks (low-risk status). The percentage of total costs attributable to excess risks/non-participation was then calculated.

WC Cost Savings Associated With HRA Participation

Participation status during the time period was also investigated for an impact on WC costs. HRA participation status, including the 1995 and 1998 HRAs, was used in defining the following participation groups: two-time HRA participants (n = 515); one-time HRA participants (either

1995 or 1998, n = 823); or HRA non-participants (n = 2000). The participation groups were also considered among those with claims: two-time HRA participants (n = 28), one-time HRA participants (n = 46), and HRA non-participants (n = 191).

Cost trends among those with claims over the 4-year period were compared for the three participant groups. Total cost savings were then calculated from the differences in the slope lines.

Statistical Testing

Categorical variables were statistically tested using the chi-squared test. Comparisons of continuous variables were tested using the analysis of variance procedure with post-hoc Tukey's Studentized range test for multilevel comparisons. Because WC costs were highly skewed, a log transformation was performed before statistical testing of cost variables. Slope trends over time were tested using regression analyses testing for significance of independent variable interactions (HRA participation vs time).

Results

During the 1996-to-1999 study period, 265 (7.9%) employees incurred WC claims. Among those with claims, 26% also had lost injury days. Compared with employees without WC claims, employees with claims were more likely to be female, hourly, and younger (53.2 years vs 54.8 years) (Table 2).

WC Costs

The distribution of WC claims and lost injury days (and the summed cost measure) were highly skewed. The median cost for the summed cost measure for the 4 years, shown in Fig. 1, was $527; the mean cost was $8887. The top 10th percentile of employees with costs accounted for 54.4% of the total of WC costs. Reflecting national trends and implementation of a corporate injury policy, the annual percentage of employees with claims steadily declined from 2.7 injuries per 100 workers in 1996 to 2.0 injuries per 100 workers in 1999.

TABLE 2
Demographics (%)*

Demographics	With WC Claims, 1996–1999 (n = 265)	Without WC Claims, 1996–1999 (n = 3,073)
Gender (%)†		
Male	73	80
Female	27	20
Job status (%)†		
Exempt	20	56
Hourly	71	33
Non-exempt	9	10
Age group†		
<44 (%)	7	5
45 to 54 years (%)	51	42
>55 (%)	42	53
Average age (yr)†	53.2	54.8
HRA participant (%)		
1998 HRA†	20	29
Both 1995 and 1998†	11	16

* WC, workers' compensation; HRA, health risk appraisal.
† $P < 0.001$.

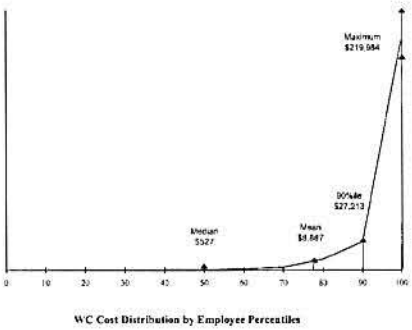

Fig. 1. Distribution of WC costs (1996 to 1999 total, including claims and days lost; n = 265) among those with claims during the 4-year period. Two years of claims: 12.1% (n = 32); 3 years of claims: 0.8% (n = 2).

WC Costs by Health Status and by Individual Health Risks

There were 943 HRA participants in 1998 (28.3% participation rate). The individual health risks that were most highly related to high WC costs (summed measure) were Health Age Index greater than 4 years, smoking, poor perception of physical health, low physical activity level, and life dissatisfaction ($P < 0.05$) (Table 3). Although individual risk status and overall risk status as assessed by the 1995 HRA were also tested, the risk-cost relationships were not as strong. Concurrent risk status (1998 HRA) was more highly associated with WC costs (1996 to 1999) than past risk status (1995 HRA) with future costs.

The percentage of employees with WC claims increased with increased risk status (1998 HRA): 4.9% among low-risk, 5.4% among medium-risk, and 8.2% among high-risk employees (P = 0.26) (Table 4). Overall, HRA participants had a significantly lower percentage (5.6%) with claims compared with non-participants (8.9%, P = 0.002). WC claims, costs associated with lost workdays, and total WC costs increased with increasing risk status. Total WC costs increased from $2178 per person among low-risk employees to $15,162 per person among high-risk employees. Overall, participants had lower total WC costs ($6506) compared with non-participants ($9482, $P < 0.001$). Multilevel post-hoc testing indicated that non-participants' costs were significantly greater than low-risk ($P < 0.10$) and medium-risk ($P < 0.15$) participants' costs.

Excess WC Costs Related to Excess Health Risks

Among 1998 HRA participants and non-participants, the total WC costs (claims + lost injury day costs)

TABLE 3
Workers' Compensation Costs by Risk Status, 1998 Health Risks*

	WC Claims ($)		Lost Injury Days ($)†		Total WC Costs ($)	
Individual Risks, 1998 HRA (n = 943)	Low-Risk	High-Risk	Low-Risk	High-Risk	Low-Risk	High-Risk
Health Age Index	154	2,689‡	65	1,686‡	220	4,376‡
Smoking	120	1,424‡	55	765‡	176	2,189‡
Physical health	154	865‡	53	604‡	208	1,470‡
Alcohol use	223	531	88	602‡	311	1,134
Physical activity	118	559‡	41	326‡	159	885‡
Blood pressure	183	396	41	328‡	225	724
Life satisfaction	191	454‡	88	259	279	713‡
Drug/medication use	236	288	86	338	322	627
Job satisfaction	216	445	118	153	334	598
Safety belt use	230	291	77	282	307	573
Stress	202	322	85	194	288	517
Weight	199	281	82	156	282	437
Medical problems	250	208	116	153	366	362
Cholesterol	254	23	126	42	381	66
Illness days	260	6	130	5	390	11

* WC, workers' compensation; HRA, health risk appraisal.
† Lost injury days cost equals the number of lost days* $150 wages per day.
‡ Analysis of variance (log costs), $P < 0.05$.

TABLE 4
Workers' Compensation Costs Associated With Risk Status Among Those With Claims Over the 4-Year Period*

	With WC Claims				
Risk Level, 1998 HRA	n	%	WC Claims ($)	Lost Injury Days ($)†	Total WC Costs ($)
Low (n = 494)	24	4.9	2,166	13	2,178
Medium (n = 278)	15	5.4	3,540	1,810	5,350
High (n = 171)	14	8.2	8,905	6,257	15,162
HRA participants (n = 943)	53	5.6‡	4,335§	2,171‖	6,506§
HRA non-participants (n = 2395)	212	8.9	6,110	3,371	9,482

* WC, workers' compensation; HRA, health risk assessment.
† Lost injury days cost equals the number of lost days* $150 wages per day.
‡ Chi-squared test, $P < 0.002$.
§ Analysis of variance, $P < 0.001$.
‖ Analysis of variance, $P < 0.01$.

were $2,354,044. Low-risk employees had the lowest average cost ($106: $105 claims + $0.60 lost injury day costs) compared with medium-risk ($288: $191 claims + $97 lost injury day costs), high-risk ($1,241: $729 claims + $512 lost day costs), and non-participants ($839: $541 claims + $298 lost day costs) (Fig. 2). If those costs above the low-risk baseline cost are defined to be "excess" costs, the total excess WC costs for medium- and high-risk participants and for non-participants would be $2,000,494 (see calculations under Fig. 2). The percentage of total costs associated with excess risks/non-participation is 85%.

To preclude an influential effect from extreme values on our conclusions, the effects of outliers were investigated. There were two extreme observations (one greater than $100,000 and one greater than $200,000). The calculations were repeated removing the most extreme observation (greater than $200,000), and then both observations. Both of these observations were categorized as non-participants, and neither observation was unduly influential in the excess cost conclusions. Thus, no observations were excluded from our calculations.

WC Cost Savings Associated With HRA Participation

Among those employees with claims, the slopes of the two HRA participant groups were statistically tested for differences. Because they were not statistically different ($P >$ 0.20), these two groups were combined into one group of HRA participants. The cost trend for this group was then compared with the cost trend for the non-participants. The slope of the cost trend among HRA

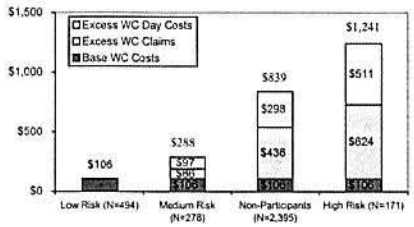

Fig. 2. Excess WC costs related to excess risks among 1988 HRA participants (n = 943) and non-participants (n = 2395). Total WC costs: (494 * $106) + (278 * $288) + (171 * $1241) + (2395 * $839) = $2,354,044. Total annual excess WC costs: (278 * $183) + (171 * $1135) + (2395 * $733) = $2,000,494. Percentage of total costs attributable to excess risks: $2,000,494 ÷ $2,354,044 = 85%.

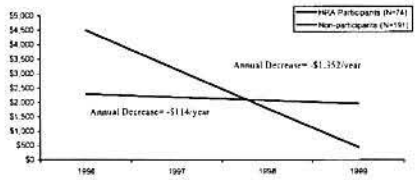

Fig. 3. WC cost savings associated with HRA participation among those with claims. Estimation of costs savings from difference in slopes associated with HRA involvement among those with claims: 74*($1352 − $114)*4 = $366,448 savings over 4 years for 74 people. Cost savings per person per year: $1238. Percentage with claims among HRA participants: 5.5%. Percentage with claims among HRA non-participants: 9.6%.

participants (combined) decreased at an annual rate of $1352 per year from the 1996 baseline, whereas the slope among non-participants decreased at a rate of $114 per year ($P$ < 0.02) (Fig. 3). The incidence rate of injury claims among HRA participants was also significantly lower compared with the rate among non-participants (5.5% vs 9.6%, P < 0.001). The total savings associated with the difference in the slope lines for participation among those with claims was $366,448 for 74 participants, or $1238 per person per year (see Fig. 3 for calculations).

Discussion

Consistent with previous studies,[39–41] the distribution of WC costs was highly skewed, with the top 10th percentile of costs accounting for 54.4% of total costs. Over the 4-year period, 7.9% of employees in the study group filed WC claims. Most (87.1%) filed single-year claims, although 12.1% had 2 years of claims and 0.8% had claims for all 3 years. Among those filing claims, 74% received WC without loss of work time. The nature of WC costs was similar to medical care costs, highly skewed with a small number of individuals accounting for a large percentage of the overall costs.

The annual trend for the number of injuries per 100 workers decreased steadily from 2.7 in 1996 to 2.0 in 1999. A Zero-Injury program initiated in 1997 at Xerox perhaps accounted for some of the reduction. The study population is a long-term subgroup of the Xerox employee population, with an average age of over 50 years. A decreasing injury trend may not be surprising in a middle-aged group of employees; the trend was consistent with national trends in WC costs.[1,2,41] Xerox Corporation has met and exceeded Healthy People 2010 goals of 4.6 injuries per 100 workers and improved their injury rate by 25.9% during the 4-year period, 1996 to 1999, in this subgroup of employees.

Similar to medical care costs, WC costs are related to individual health risks measured by the HRA, although the specific health risks most highly associated with high medical costs differ from those associated with high WC costs. Unlike the relationship with medical costs, however, concurrent health risk status was more highly associated with WC costs than previous risk status with future costs. The individual risks most highly related to high WC costs included Health Age Index (a difference in appraised age and achievable age from the HRA), smoking, poor physical health, physical inactivity, and life dissatisfaction. Other studies have reported the relationship of higher injuries with the individual health risks of smoking,[16,17] physical inactivity,[16] and psychosocial variables.[18–22] In contrast, the individual risks most highly related to high medical costs include absence due to illness, drug/medication use, medical problems, high blood pressure, and poor physical health.[29,35,36]

This study is unique in assessing the association of injury claims with risk status: low-risk (0 to 2 risks), medium-risk (3 to 4 risks), and high-risk (5 or more risks). As health risk status increased, the amount of WC costs (claims and lost injury day costs) also increased. The rate of injury occurrence also increased as risk status increased: 4.9% among low-risk employees, 5.4% among medium-risk employees, and 8.2% among high-risk employees. Non-participants, however, had an 8.9% injury rate, which was significantly higher than participants. Although the rates of injury among risk status levels were not statistically different (P = 0.26), the increasing injury trends with increasing risk status were clear. Non-participant rates of injury were significantly greater than participant rates (P < 0.002). The power of these associations for health promotion managers is that WC costs and lost injury days are influenced by specific health behaviors and participation status.

In the assessment of excess WC costs associated with excess risks, we considered low-risk as the baseline; any risks above this baseline level were considered "excess risks." The total excess WC costs for medium- and high-risk employees and for non-participants accounted for 85% of the total costs. Theoretically, if all participants changed to low-risk status and WC costs followed this change in risk status, this would be the maximum savings. In other unpublished analyses that use medical costs to calculate excess costs associated with excess risks/non-participation, excess costs typically account for about 30% of total costs. This indicates that health risks/behaviors associated with medical costs even more highly influence WC claims and that improving the health of the corporate workforce could result in

substantial savings in WC claims and lost workdays.

Our data indicated that changes in WC costs and lost injury days were also associated with changes in health risk status. This risk–cost relationship has been well documented for medical care costs.[36] The data were not shown here because the number of injury claims among two-time HRA participants (n = 515) was very low (n = 28). Nevertheless, the association was consistent with trends observed with medical costs: as risk status increased from low-risk to high-risk, costs/lost days increased, and as risk status decreased from high-risk to low-risk, costs/lost days decreased.

HRA program participation was associated with a higher annual rate of decrease of WC costs compared with non-participants. The injury incidence rate among participants was also significantly lower compared with that of non-participants. In the Xerox Health Management program, the HRA program serves as a gateway to health awareness materials and lifestyle management (risk reduction) programs; hence the measurement of HRA participation is a surrogate measure that includes the opportunity to participate in other programs. Cost savings associated with program participation amounted to $366,448 for 74 employees, or $1238 per person per year among those with claims over the time period. These results indicate the importance of encouraging employee participation and then measuring participation as an economic outcome measure.

Limitations

The study group is a subgroup of long-term employees selected by Xerox Corporation. The injury trends may not be generalizable to the entire employee population. Given an average age over 50, both the nature of job descriptions and attitudes toward safety may be more conservative than those among younger employees. Thus, the savings associated with low-risk status and program participation may be overstated. Nevertheless, the study reflects the impact on at least one group of employees within the corporation.

The changes in WC costs with changes in health status were not included because of the low injury incidence rate among two-time HRA participants. Documenting the changes in costs relative to changes in health status in a larger employee population would strengthen the benefits of risk reduction and low-risk maintenance. Nevertheless, we showed that low-risk employees have the lowest WC costs.

Implications

The association of health risks with WC costs provides an important strategy for health promotion programs. Risk status does influence WC costs. Program participation status is also associated with cost savings. The strategies that have been used to reduce medical care costs can also be used to reduce WC costs.

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Pigs Can Fly

The big pig probe has ended. The Federal Aviation Association recently found US Airways not guilty of safety and sanitation violations for allowing an unruly porcine passenger on board an October 17, 2000, Philadelphia-Seattle flight. Passenger Maria Tirotta Andrews said Charlotte, a Vietnamese potbellied porker, whom she claimed weighed 13 pounds, was a service animal—specifically, a "therapeutic companion pet." The airline approved Charlotte's boarding, even though at check-in it was obvious that she was a little overweight. Charlotte remained relatively quiet in the first-class cabin until landing. Then the 300-pound pork chop became quite agitated. US Airways filed an incident report with the FAA as a result of passenger complaints. But the FAA Eastern Region office ruled that the airline had not violated any federal regulations or Department of Transportation policy governing service animals.

—Asker JR, ed. Washington Outlook. *Aviation Week & Space Technology* 2000;153(23):27.

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STEPTOE & JOHNSON LLP

May 30, 2013

TO: Council of Insurance Agents & Brokers

FROM: Scott A. Sinder
John P. Fielding
David H. Fialkov

RE: Wellness Programs Final Rule

Yesterday, the Department of Health and Human Services ("HHS"), in conjunction with the Internal Revenue Service and the Department of Labor (collectively the "Departments"), issued a final rule implementing provisions of the Patient Protection and Affordable Care Act ("PPACA") related to nondiscriminatory wellness programs. The final rule incorporates key provisions of proposed rules issued in November 2012, although some elements have been rewritten in a manner that serves to clarify the underlying requirements in the proposed rule without necessarily changing its substance.

As a general matter, HIPAA prohibits health plans from discriminating against plan participants in eligibility, benefits, or premiums based on health factors. Wellness programs designed to "promote health or prevent disease" are an exception to the general rule, allowing premium discounts, rebates or modification to otherwise applicable cost sharing (including copayments, deductibles, or coinsurance) in return for adherence to wellness program

requirements.[1] This exception applies to group plans (and any health insurance coverage offered in connection with such plans) but does not apply to coverage in the individual market.

The clear goal of wellness programs, as stated repeatedly throughout the preamble to the rule, is to "promote health and prevent disease." The intent is to help people become, and remain, healthier. It is not to reward individuals who are already healthy, or allow programs to operate as a subterfuge for charging unhealthy individuals higher insurance costs. To that end, the rule is designed to allow everyone who wants to participate the opportunity to do so. As more fully explained below, that is the reason program sponsors are required to encourage participation by offering annual opportunities to participate in programs and reasonable alternatives for certain individuals to qualify for rewards, for example. The apparent hope is that these requirements will allow people who otherwise might not participate in a wellness program to do so and, in that way, to promote health and prevent disease.

Wellness programs are divided into two (2) general categories: participatory programs and health-contingent programs. Participatory programs are programs made available to similarly situated individuals that do not provide a reward based on a health factor. Common examples of these programs include employer reimbursement of employee fitness club memberships or rewards provided to employees that attend a no-cost monthly wellness seminar.[2] Health-contingent programs, in contrast, are programs that offer rewards based on health factors, such as lower co-pays or deductibles for non-smokers or individuals with healthy levels of cholesterol.[3]

The key test to distinguish participatory programs from health-contingent programs is determining if an individual with a health condition could be precluded from participating in the program. With respect to participatory programs, health conditions are not relevant. For example, a program that reimburses employees' gym memberships would be a participatory program because anyone, regardless of health condition, can belong to a gym, and the reward is not contingent upon exercising at the gym. In contrast, if an individual's health condition could

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[1] The final rule applies only with respect to wellness programs offered in conjunction with health plans. If an employer offers rewards or incentives not related to a health plan, the requirements of the rule do not apply.

[2] 45 C.F.R. § 146.121(f)(1)(ii).

[3] 45 C.F.R. § 146.121(f)(1)(iii).

preclude the individual from participating in a wellness program, that program is a health-contingent program.

As further detailed below, health-contingent programs are subject to more restrictions and obligations than participatory programs. They must give eligible individuals the opportunity to qualify for the reward at least once per year, for example, and cannot offer rewards that exceed 30 percent of the total cost of employee-only coverage under the underlying health plan (though this number increases to 50 percent if the program is designed to prevent or reduce tobacco use). These rules do not apply to participatory wellness programs.

The final rule's most significant departure from the proposed rule is that it divides health-contingent wellness programs into two categories: "activity-only" and "outcome-based."

- Activity-only wellness programs require individuals to perform or complete an activity related to a health factor in order to obtain a reward, but do not require the individual to attain or maintain a specific health outcome. Activity-only wellness programs need to provide a reasonable alternative standard for obtaining the award for an individual with a medical condition that makes it unreasonably difficult or unadvisable for the individual to satisfy (or attempt to satisfy) the standard.[4]

- Outcome-based wellness programs require individuals to attain or maintain a specific health outcome (such as not smoking or achieving certain results on biometric screenings) in order to obtain a reward. Outcome-based wellness programs must provide a reasonable alternative standard to all individuals who do not meet the initial standard (unlike activity-only programs, which only have to offer alternatives to individuals with certain medical conditions).[5]

In addition, the preamble in the final rule indicates that companies can design wellness programs that are solely for a specific group of people with adverse medical conditions, saying: "[N]othing in these final regulations prevents a plan or issuer from establishing more favorable rules for eligibility or premium rates (including rewards for adherence to certain

[4] 45 C.F.R. § 146.121(f)(1)(iv).
[5] 45 C.F.R. § 146.121(f)(1)(v).

wellness programs) for individuals with an adverse health factor than for individuals without the adverse health factor."[6]

A general overview of the final rule is provided below. In addition, we are updating the Council's white paper on wellness program compliance to reflect the changes implicated by the rule. The revised white paper will be distributed next week.

Analysis

Consistent with the initial wellness regulations issued in 2006 and the proposed wellness regulations released in 2012, the final rule divides wellness programs into two (2) categories: participatory wellness programs and health-contingent wellness programs. Participatory wellness programs are defined as programs that either do not provide a reward or do not include any conditions for obtaining a reward that are based on the individual satisfying a standard that is related to a health factor. (Examples of participatory wellness programs include reimbursing employees for all or part of the cost of gym membership, or a diagnostic testing program that provides a reward for participation regardless of outcome.)[7] A participatory wellness program does not violate HIPPA nondiscrimination rules provided it is made available to all similarly situated individuals (based on employment classification, such as full-time versus part-time or status as a plan participant versus plan beneficiary).[8]

Health-contingent wellness programs are defined as programs that require an individual to (a) satisfy a standard related to a health factor to obtain a reward, or (b) based on a health factor, do more than a similarly situated individual would have to do in order to obtain a reward.[9] The final rule divides health-contingent wellness programs into two categories:

- Activity-Only Wellness Programs – An activity-only wellness program requires an individual to perform or complete an activity related to a health factor in order to obtain a reward, but does not require the individual to attain or maintain a specific health

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6 Preamble, § II(D)(3).
7 45 C.F.R. § 146.121(f)(1)(ii).
8 45 C.F.R. § 146.121(d) (2012).
9 45 C.F.R. § 146.121(f)(1)(iii).

outcome. Examples of activity-only wellness programs include walking, diet, or exercise programs.[10]

- Outcome-Based Wellness Programs – An outcome-based wellness program requires an individual to attain or maintain a specific health outcome (such as not smoking or attaining certain results on biometric screenings) in order to obtain a reward.[11]

A health-contingent wellness program must meet five (5) requirements set forth in the rule:

1. The program must give eligible individuals an opportunity to qualify for the reward at least once per year.[12]

2. The reward for all applicable health-contingent wellness programs with respect to a plan must not exceed 30 percent of the total cost of employee-only coverage under the plan, or 50 percent to the extent the program is designed to prevent or reduce tobacco use.[13]

3. The program must be reasonably designed to promote health or prevent disease. This means the program must have a reasonable chance of improving the health of, or preventing disease in, participating individuals, and not be overly burdensome, not be a subterfuge for discriminating based on a health factor, and not be highly suspect in the method chosen to promote health or prevent disease.[14]

4. The plan must disclose in all plan materials describing the terms of the program the availability of other means of qualifying for the reward or the possibility of waiver of the otherwise applicable standard.[15]

5. The reward must be available to all similarly situated individuals. To satisfy this requirement, a reasonable alternative standard (or waiver of the otherwise applicable

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10 45 C.F.R. § 146.121(f)(1)(iv).
11 45 C.F.R. § 146.121(f)(1)(v).
12 45 C.F.R. §§ 146.121(f)(3)(i) & (f)(4)(i).
13 45 C.F.R. § 146.121(f)(5).
14 45 C.F.R. §§ 146.121(f)(3)(ii) & (f)(4)(ii).
15 45 C.F.R. §§ 146.121(f)(3)(v) & (f)(4)(v).

standard) must be made available to any individual for whom, during that period, it is unreasonably difficult due to a medical condition to satisfy the otherwise applicable standard (or for whom it is medically inadvisable to attempt to satisfy the otherwise applicable standard).[16]

Reasonable Alternative Standards

One of the more complicated pieces of the rule is the requirement that health contingent wellness programs offer "reasonable alternative standards" to individuals who are unable to meet the original standard. For activity-only programs, the reasonable alternative standard requirement is triggered by a *medical need for an alternative* (it must be unreasonably difficult due to a medical condition to satisfy the standard, or medically inadvisable to attempt to satisfy the standard).[17] Outcome-based programs must offer a reasonable alternative to any individual who does not meet the initial standard *regardless of medical need.*[18]

Whether an alternative standard is "reasonable" is a facts-and-circumstances test that will look at the specific context of a given situation. The final rule sets forth four (4) criteria that will be considered:

1. If the reasonable alternative standard is completion of an educational program, the plan or issuer must make the educational program available or assist the employee in finding such a program (instead of requiring an individual to find such a program unassisted), and may not require an individual to pay for the cost of the program.

2. The time commitment required must be reasonable (for example, requiring attendance nightly at a one-hour class would be unreasonable). This criterion was not contained in the proposed rule.

3. If the reasonable alternative standard is a diet program, the plan or issuer is not required to pay for the cost of food but must pay any membership or participation fee.

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16 45 C.F.R. §§ 146.121(f)(3)(iv) & (f)(4)(iv).
17 45 C.F.R. § 146.121(f)(3)(iv).
18 45 C.F.R. § 146.121(f)(4)(iv).

4. If an individual's personal physician states that a plan standard (including, if applicable, the recommendations of the plan's medical professional) is not medically appropriate for that individual, the plan must provide a different reasonable alternative standard that accommodates the personal physician's recommendations with regard to medical appropriateness. (Plans may impose standard cost-sharing under the different reasonable alternative.)[19]

The final rule provides both activity-only and outcome-based programs flexibility in terms of the types of reasonable alternatives they are permitted to offer. An outcome-based program, for example, is permitted to offer either an outcome-based alternative or an activity-only alternative to individuals who do not meet the original standard. Similarly, an activity-only program is permitted to offer either an activity-only or an outcome-based alternative to those who are medically entitled to an alternative.

If a program's reasonable alternative standard is an activity-only program, the alternative must comply with the rule's requirements for activity-only programs in the same manner as if it were an initial program standard.[20] Thus, if someone has a valid medical justification for not meeting the reasonable alternative, that individual must be provided a reasonable alternative *to the reasonable alternative*.

Moreover, if the underlying standard is outcome-based, the reasonable alternative cannot simply be a requirement to meet a different level of the same underlying standard without additional time to comply that takes into account the individual's circumstances. For example, if the initial standard is to achieve a BMI less than 30, the reasonable alternative standard cannot be to achieve a BMI less than 31 on that same date. However, if the initial standard is to achieve a BMI less than 30, a reasonable alternative standard for the individual could be to reduce the individual's BMI by a small amount or small percentage, over "a realistic period of time, such as within one year."[21]

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19 45 C.F.R. §§ 146.121(f)(3)(iv)(C) & (f)(4)(iv)(C).
20 45 C.F.R. § 146.121(f)(3)(iv)(D).
21 45 C.F.R. § 146.121(f)(4)(iv)(D).

Finally, whether the underlying plan is outcome-based or activity-only, an individual must be given the opportunity to comply with his or her physician's personal recommendations as a *second* reasonable alternative standard to meeting the alternative designed by the plan if the physician joins in the request. The individual can make a request to involve a personal physician's recommendations at any time, and the physician can adjust the physician's recommendations at any time as is medically appropriate.[22]

The preamble accompanying the final rule provides additional clarifications for implementing reasonable alternative standards. Although these discussions are not in the rule itself, their inclusion in the preamble indicates that they represent the Departments' interpretations of the rule.

- The preamble indicates that a reasonable alternative standard can be changed every year to encourage the participating individual's progress toward the goal. For example, the first year's alternative may be attending an educational seminar on smoking cessation, while the second year may be utilizing a new nicotine replacement therapy. The preamble makes clear that same logic applies to both activity-only and outcome-based standards.[23]

- The preamble indicates that individuals who qualify for a wellness reward by satisfying a reasonable alternative standard must receive the same, full reward that is provided to individuals who qualify by satisfying the program's underlying standard. This is important because an alternative reasonable standard might take some time to put in place, so the individual might not start the program at the same time that the underlying program starts. Nonetheless, the same, full reward must be provided. The preamble indicates that the Departments may consider issue additional guidance on this issue if questions or confusion persists.[24]

Other Issues

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22 45 C.F.R. §§ 146.121(f)(3)(iv)(E) & (f)(4)(iv)(E).
23 Preamble, § II(D)(4).
24 Preamble, § II(D)(4).

There are several other noteworthy components to the final rule:

- Treatment of individual plans is somewhat convoluted. The final rule extends HIPAA's nondiscrimination regulations to issuers and plans in the individual market, but the rule's wellness provisions are not applied to the individual market.[25] The rule's preamble, however, states that HHS believes participatory wellness programs do not violate nondiscrimination provisions if the participatory programs are consistent with state law and available to all similarly situated individuals enrolled in the individual health insurance coverage. The rationale for this interpretation is that participatory wellness programs do not base rewards on achieving a standard related to a health factor and thus do not discriminate based on health status.[26] As a result, it appears that, although the rule's wellness provisions do not apply to the individual market, participatory wellness programs would be permissible in the individual market.

- The same wellness program standards apply to grandfathered health plans and non-grandfathered health plans.[27] In other words, a grandfathered plan can employ a wellness program in accordance with the final rule without jeopardizing its grandfathered status.

- Although wellness programs that comply with the rule fall under a HIPAA exemption, the HIPAA privacy regime continues to apply with respect to the confidentiality of individually identifiable health information for individuals enrolled in such programs (*i.e.*, employers can't use claims data to make employment decisions).

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25 45 C.F.R. § 147.110.
26 Preamble § II(G).
27 Preamble, § II(F).

Making the Case for Worksite Wellness

"Worksite Wellness is helping corporate America reduce health care costs and absenteeism while making employees happier and more satisfied with their work.

We in state government need to make a similar commitment to improving the lives and health of our employees by providing wellness programs and making policy changes."

Steve Troxler,
Commissioner
NC Department of
Agriculture and
Consumer Services

North Carolina HEALTH Smart

North Carolina State Health Plan
for Teachers and State Employees
www.shpnc.org

Why should Employers Invest in Worksite Wellness Programs?

It makes good business sense, and it is the right thing to do. Research studies and corporate wellness initiatives have shown that worksite wellness programs can significantly reduce employer costs and improve employee health. Healthier employees are more likely to stay in their jobs, less likely to be absent and have lower health care costs.

Reduce Health Care Costs

One review cited that worksites with health promotion programs saved an average of ***$3.72 on health care costs for every $1 invested*** in worksite wellness. [1]

Lower Absenteeism Rates

Studies show an average of ***$5.06 saved on absenteeism for every $1 invested*** in worksite wellness. [1]

Decrease Worker's Compensation and Disability Claims

Studies of worksite health promotion programs have found an ***average 30 percent reduction in worker's compensation and disability claims costs.*** [2]

Increase Employee Productivity and Rentention

One business found that its cost of chronic conditions was 10.7% of total labor costs; ***6.8% was attributed to work impairment alone***. Also, employees in self-rated healthier work environments reported ***improved morale and lower intention to quit.*** [3,4]

Leading the Way to an Effective Worksite Wellness Program

What can you do?

The Centers for Disease Control and Prevention developed The Guide to Community Preventive Services for health promotion programs in communities.[5] Additionally, the North Carolina State Health Plan commissioned the North Carolina Institute of Medicine to write a report outlining "best practices" for worksite wellness.[6] These sets of expert recommendations guide the NC Health*Smart* Worksite Wellness Program. These recommendations include:

- Top-level management's long-term commitment to worksite wellness (strategic planning, policy change, incentives, communications)
- Individual behavior change programs promoting healthy behaviors (personal health assessments)
- Social support for adopting healthy behaviors (competitions, group activities)
- Environmental modifications supporting healthy behaviors (stairwell projects, healthy food options)
- Employee involvement in program planning and design
- Multi-component programs that address nutrition, tobacco cessation, stress and physical activity

As a leader in your organization, you can be the catalyst of a work-based wellness initiative by following the recommendations above. The NC Health*Smart* Worksite Wellness Program has the tools and resources you need to create your program and initiate changes in employee health that will positively benefit your employees and your bottom line.

Visit the Worksite Wellness Web site:
www.shpnc.org/worksite-wellness.html

Worksite Wellness Resources

The North Carolina State Health Plan, in partnership with the NC Division of Public Health, created the NC Health*Smart* Worksite Wellness Program to help our members and their employers create and sustain healthy worksites. Resources listed below are available online, www.shpnc.org/worksite-wellness.html.

NC Health*Smart* Worksite Wellness Web site. This site provides presentations for committees, employees and leadership; research supporting the benefits of workplace wellness; handouts; success stories; cost-benefit calculators and much more.

NC Health*Smart* Worksite Wellness Toolkit. This free resource has five easy-to-use sections. The Committee workbook gives step-by-step instructions for setting up and maintaining a wellness committee. Four resource books help committees write wellness policies; change work environments; offer group activity, stress management and tobacco cessation.

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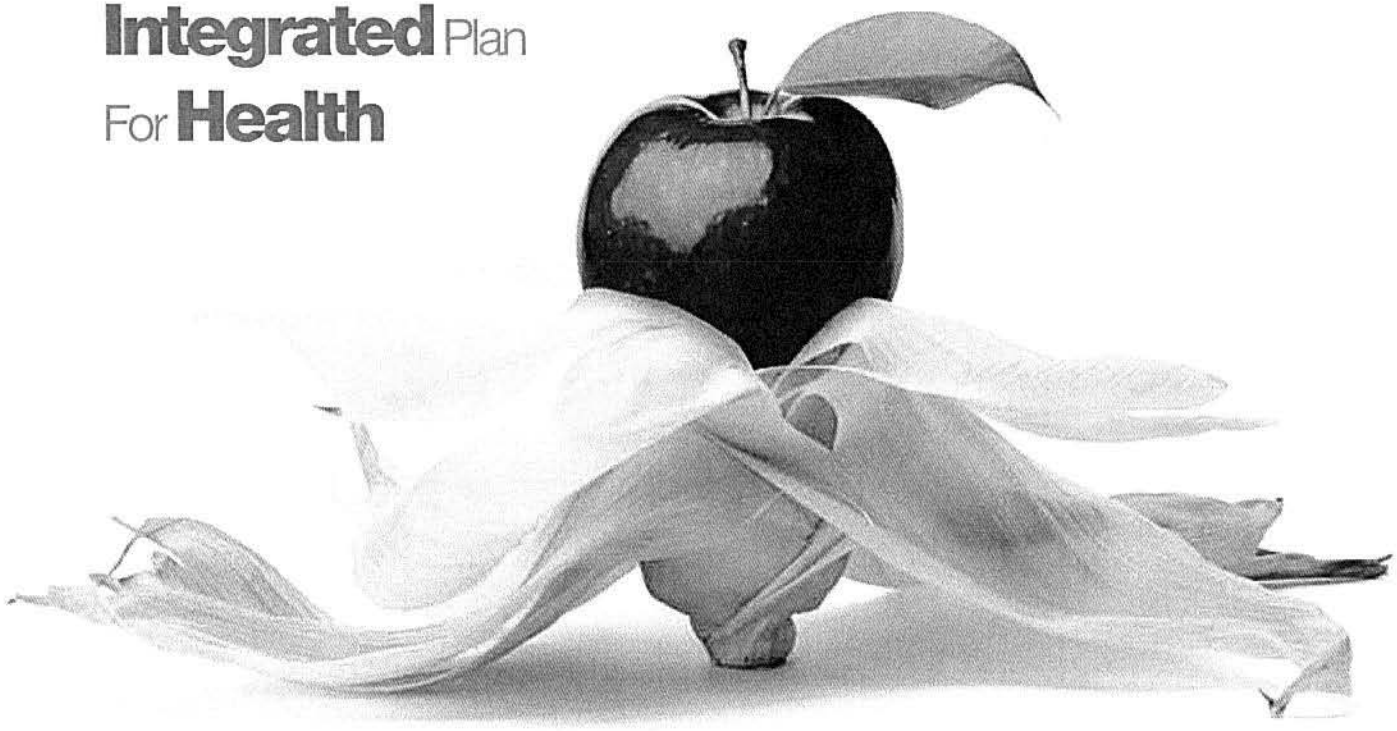
THE WELLNESS COUNCIL OF AMERICA PRESENTS

A WELCOA Case Study

First Of Its Kind:

The State Of Nebraska's Integrated Plan For Health



State of Nebraska
wellnessoptions
Division of **Administrative** Services

ABOUT **DAVID HUNNICUTT** PhD

Dr. David Hunicutt is the President of the Wellness Council of America. As a leader in the field of health promotion, his vision has led to the creation of numerous publications designed to link health promotion objectives to business outcomes. Known for his ability to make complex issues easier to understand, David has a proven track record of publishing health and wellness material that helps employees lead healthier lifestyles. David travels extensively advocating better health practices and radically different thinking in organizations of all kinds.

ABOUT **MIKE WANETKA** Wellness Coordinator - Health Fitness Corporation

Mike Wanetka holds a Master's degree in nutritional science with emphasis in exercise physiology. Mike has over 17 years of corporate wellness experience, including international and Fortune 500 companies. Achievements include the 2002 Platinum Well Workplace Award by the Wellness Council of America in addition to earning the 2003 and 2006 Corporate Health and Productivity Award.

Mike is currently employed by Health Fitness Corporation, which is contracted with the State of Nebraska to provide the wellness program. Mike works within the State of Nebraska Wellness & Benefits team to integrate wellness into the benefits and medical plan. In addition, Mike oversees the launch, implementation, communication and reporting of the wellness initiatives for the State of Nebraska, who recently became only the second state to earn WELCOA's Gold Well Workplace Award in 2011.

ABOUT **CARLOS CASTILLO, Jr.** Director Administrative Services - State of Nebraska

Carlos Castillo is responsible for leading the 11 divisions of Administrative Services that provide accounting, procurement, personnel, risk management, building management, wellness and benefit services, as well as many other services to all of Nebraska state government. In addition the agency provides financial operations, human resources, payroll, and legal services for the 250 employees in its 11 divisions, as well as 250 employees in three other divisions. Prior to joining the State in 2007, he served as a campaign manager for several successful congressional and statewide political campaigns and served as the Election Commissioner for the state's largest county. Castillo has a bachelor's degree in political science from the University of Nebraska-Omaha.

ABOUT **ROGER WILSON** Administrator of Central Services - State of Nebraska

Roger Wilson is responsible for managing a staff of over 25 people that provide financial, human resources, and payroll services for the 11 divisions of the Administrative Services agency, as well as three other divisions totaling 500 employees. In addition, he manages the wellness and benefits program for all of state government. Prior to joining the State in 2006, he was a consulting partner for 15 years, specializing in national and international retail strategies for technology companies including Microsoft, IBM, HP and Adobe. Wilson has a bachelor's degree in mathematics and actuarial science with a concentration in business, finance, and computer science from the University of Nebraska – Lincoln.

ABOUT **MADELINE JAHN** MOL

Madeline Jahn is the Director of Communications for the Wellness Council of America. Her role is to coordinate the development of new publications and pool existing resources for WELCOA members, serving the mission of health promotion through editing and planning support. She has a Master's Degree in Organizational Leadership from the College of Saint Mary. For questions about this publication, or to obtain permission for reprinting, please contact Maddy at mjahn@welcoa.org.

ABOUT **BRITTANY STOHL**

Brittany Stohl is the Graphic Designer for the Wellness Council of America. She has a Bachelor's of Fine Arts Degree from the University of Nebraska - Lincoln, and is in the process of obtaining a Holistic Health Coach Certification through the Institute for Integrative Nutrition. She brings a fresh perspective to WELCOA's line of publications and lends creative energy to advancing WELCOA's mission on a national playing field.

ABOUT **WELCOA**

Wellness Council of America (WELCOA) was established as a national not-for-profit organization in the mid 1980s through the efforts of a number of forward-thinking business and health leaders. Drawing on the vision originally set forth by William Kizer, Sr., Chairman Emeritus of Central States Indemnity, and WELCOA founding Directors that included Dr. Louis Sullivan, former Secretary of Health and Human Services, and Warren Buffet, Chairman of Berkshire Hathaway, WELCOA has helped influence the face of workplace wellness in the U.S.

Today, WELCOA has become one of the most respected resources for workplace wellness in America. With a membership in excess of 5,000 organizations, WELCOA is dedicated to improving the health and well-being of all working Americans. Located in America's heartland, WELCOA makes its national headquarters in one of America's healthiest business communities—Omaha, NE.

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A WELCOA Case Study

Table of Contents

First Of Its Kind

The State of Nebraska was one of the first state governments in the US to launch an integrated plan for health coverage tied to wellness program participation. Now, as one of America's healthiest employers, the State of Nebraska is enjoying a $4.2 million reduction in claims, best-in-class participation rates and a majority of employees touting how the program has improved their lives.

The amazing part is that all this was accomplished in just three years. So how did they do it?

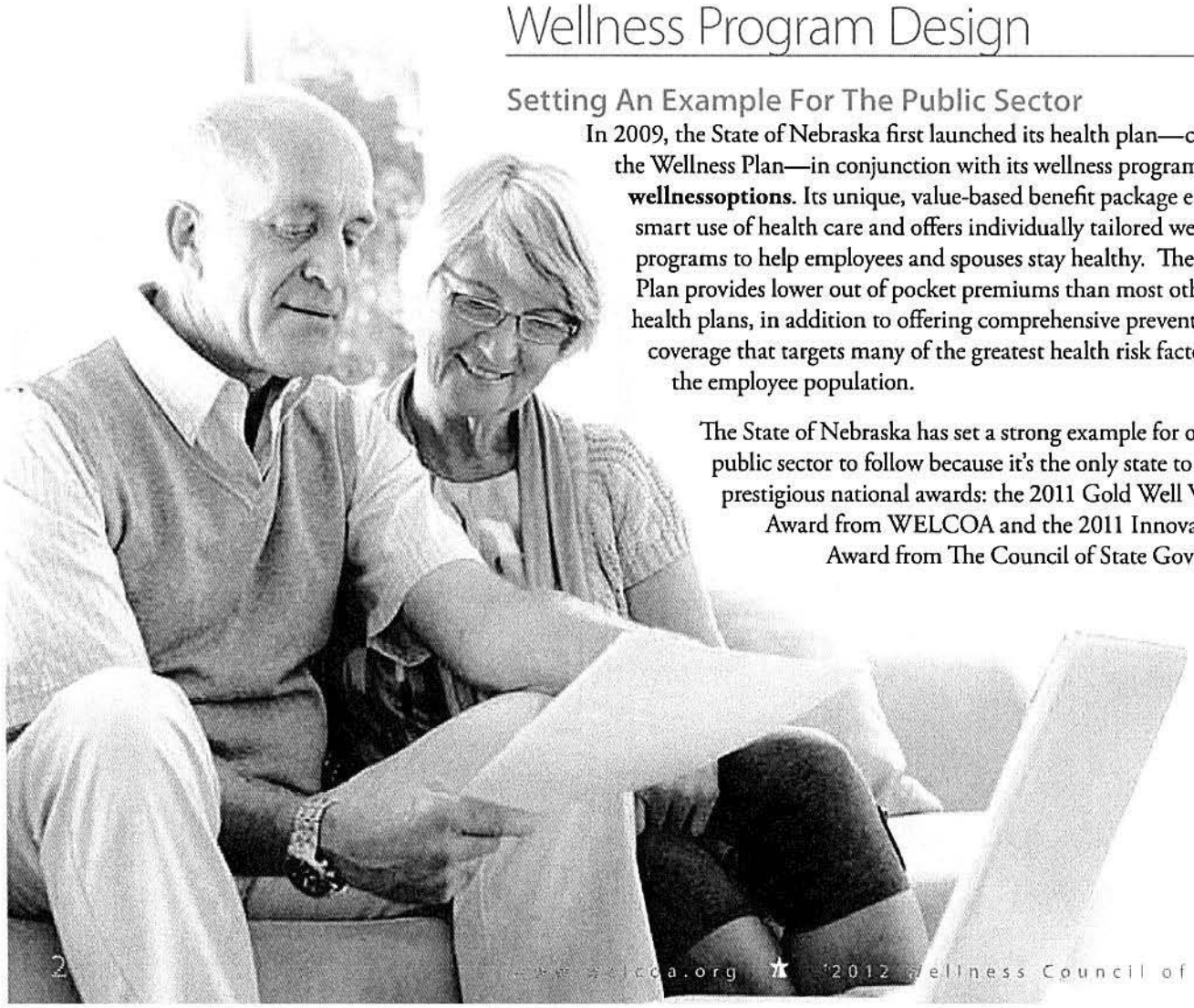
In the following pages of this WELCOA case study, we'll reveal the inner workings of this public sector powerhouse, highlighting one of the nation's top examples of workplace wellness at work.

Section I: The State Of Nebraska's Wellness Program Design

Setting An Example For The Public Sector

In 2009, the State of Nebraska first launched its health plan—called the Wellness Plan—in conjunction with its wellness program called **wellnessoptions**. Its unique, value-based benefit package emphasizes smart use of health care and offers individually tailored wellness programs to help employees and spouses stay healthy. The Wellness Plan provides lower out of pocket premiums than most other State health plans, in addition to offering comprehensive preventive coverage that targets many of the greatest health risk factors among the employee population.

The State of Nebraska has set a strong example for others in the public sector to follow because it's the only state to earn two prestigious national awards: the 2011 Gold Well Workplace Award from WELCOA and the 2011 Innovations Award from The Council of State Governments.



In 2009, the State of Nebraska began its pursuit of wellness for a typical reason—its costs had been getting out of control. Now, just a few years later, its wellness program is demonstrating the positive outcomes it set out to achieve—and Nebraska is getting calls from other states who want to model this successful approach.

Demographics

Industry:	State Government
Average Age of Employee:	45.7
Average Length of Services:	13 years
Gender:	51% female
Bargaining Units:	75% union
Health Plan Enrollment:	13,500 employees, retirees, cobra participants, and 7,000 spouses

Wellness Program Overview

Two full-time Health Fitness Corporation staff members are located on-site to support over 80 Agencies, Boards and Commissions (e.g. Health & Human Services, Corrections, Roads, Games & Parks, Labor, Insurance and Revenue are just a few examples).

Wellness motto: Wellness is a journey we take together.

Eligible wellness program participants live in all 93 counties across the State of Nebraska.

About Health Fitness Corporation

The wellnessoptions program is professionally managed by Health Fitness Corporation, an outside third-party company. Results are confidentially managed by Health Fitness Corporation, in which personal health information is not released to the State of Nebraska in compliance with federal privacy regulations.

Implementation History

Under current state statute, the State of Nebraska contributes 79% of the premium associated with each plan that's offered to state employees. This factor, along with rapidly rising medical costs, was creating financial challenges to the State's health insurance program just a few years ago. For example, in 2006, health insurance premiums increased 22%. The State also saw an increase of 10% in 2007 and 14% in 2008.

During this time, the State offered a portfolio of health plan options with minimal preventive care benefits. These plans included a low-deductible PPO, a high-deductible PPO, a no-deductible POS and no-deductible HMO. The State of Nebraska health claim costs were far exceeding budget, while reserves were reaching an all-time low. This pressing situation drove the State of Nebraska's Wellness and Benefits team to take immediate action.

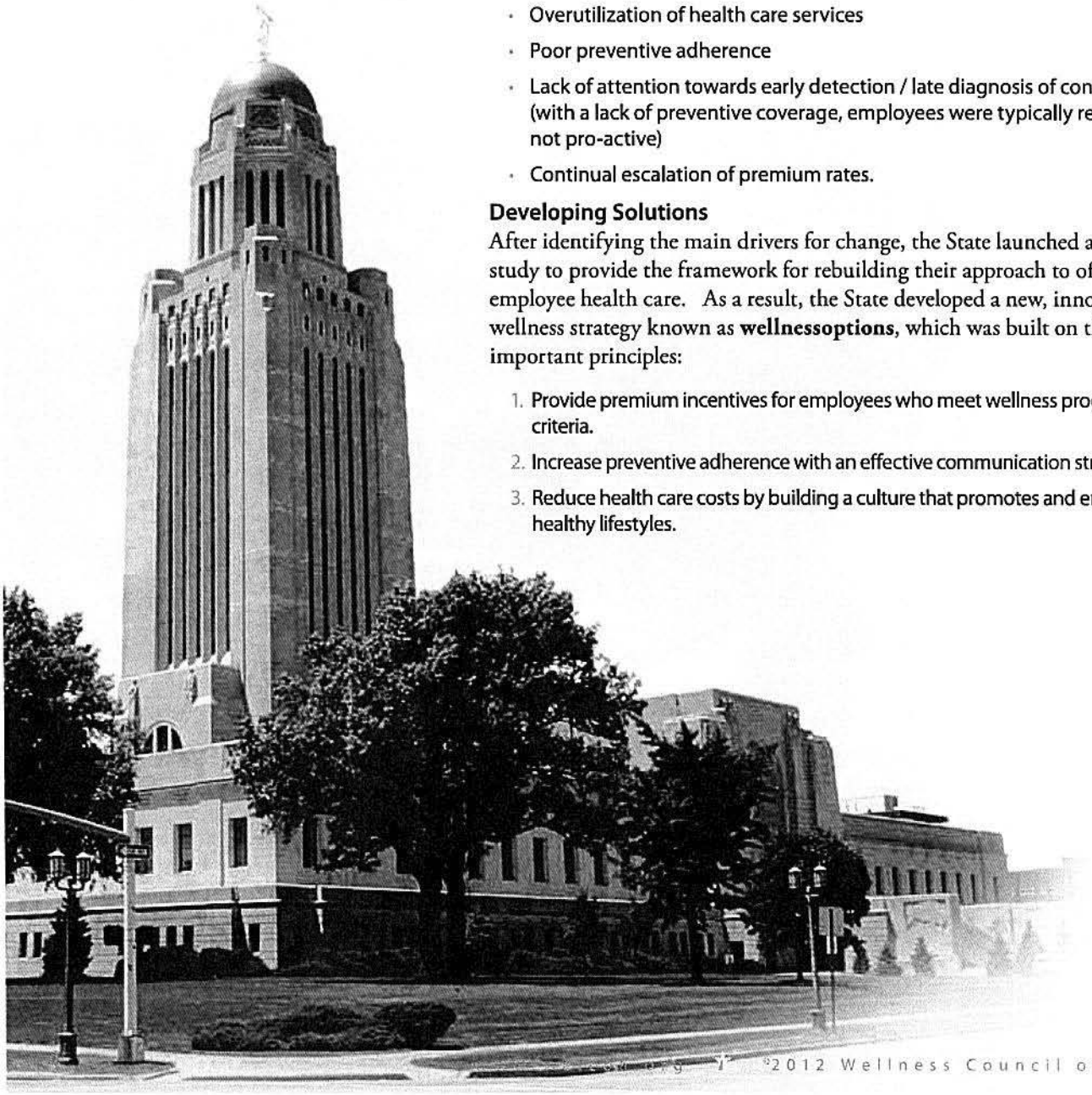
Main Drivers For Change:

- Overutilization of health care services
- Poor preventive adherence
- Lack of attention towards early detection / late diagnosis of conditions (with a lack of preventive coverage, employees were typically reactive, not pro-active)
- Continual escalation of premium rates.

Developing Solutions

After identifying the main drivers for change, the State launched a feasibility study to provide the framework for rebuilding their approach to offering employee health care. As a result, the State developed a new, innovative wellness strategy known as **wellnessoptions**, which was built on three important principles:

1. Provide premium incentives for employees who meet wellness program criteria.
2. Increase preventive adherence with an effective communication strategy.
3. Reduce health care costs by building a culture that promotes and encourages healthy lifestyles.



Unique Public Sector Challenges

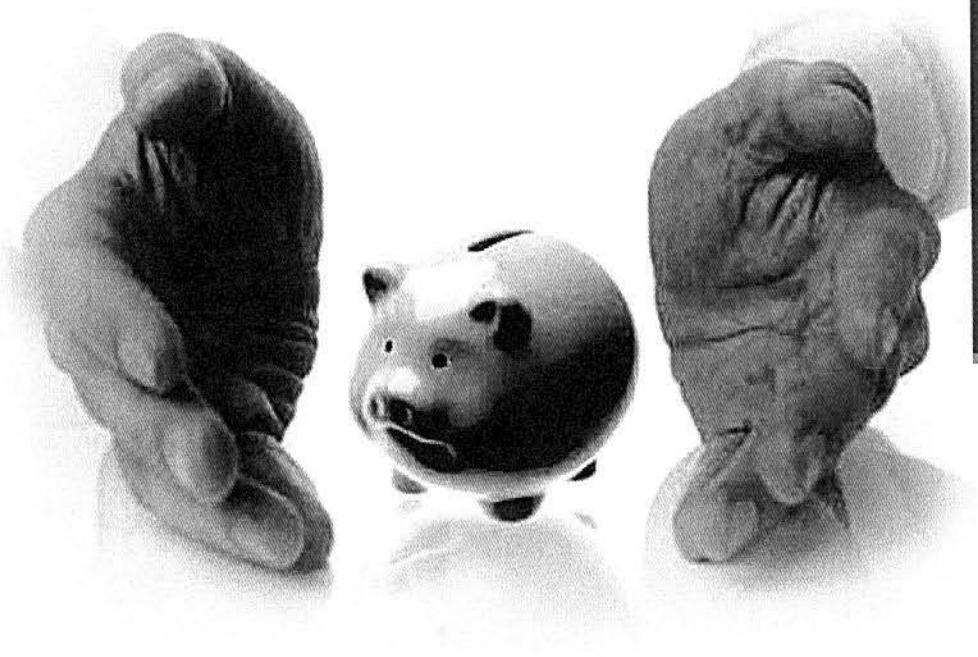
The main challenge to implementation was a two year approval process that involved obtaining buy-off from the Legislature and Union regarding the funding of the wellness program. In addition, time was needed to address the associated state statute implications. Ultimately, it was determined that the wellness program would be funded through health plan premiums among all those enrolled in a State of Nebraska health plan. Because state statute included incentive limitations for those meeting wellness program criteria, employees could be offered lower premiums for their participation, but not cash or gift incentives. (See Figure A on page 6 for premium reduction rates.)

In January of 2009, the State issued an RFP to accept proposals for a wellness vendor and wellness programs. Health Fitness Corporation was selected over 20 bidders to implement a wellness program for the State. A key element in the State's selection process was to ensure that all personal data and results would be confidentially managed in compliance with all federal privacy regulations.

Prior to the launch of the wellness program, the State of Nebraska held a massive visibility campaign to educate employees about what was to come. The State held over 25 employee town hall meetings throughout Nebraska, introducing the wellness program to its diverse work force. Decision makers also used a number of other communication measures to educate employees at all levels—from agency heads to front line employees.

Q: "What's In It For Me?"

A: A Quality Of Life & Premium Savings!



"wellnessoptions" Earns Two National Wellness Awards

In 2011, The State of Nebraska won WELCOA's Gold-level Well Workplace Award for its exemplary implementation of a results-oriented workplace wellness program. In meeting rigorous criteria around seven critical benchmarks of successful programs, the State of Nebraska is one of only two states that have earned WELCOA's Gold Well Workplace Award.

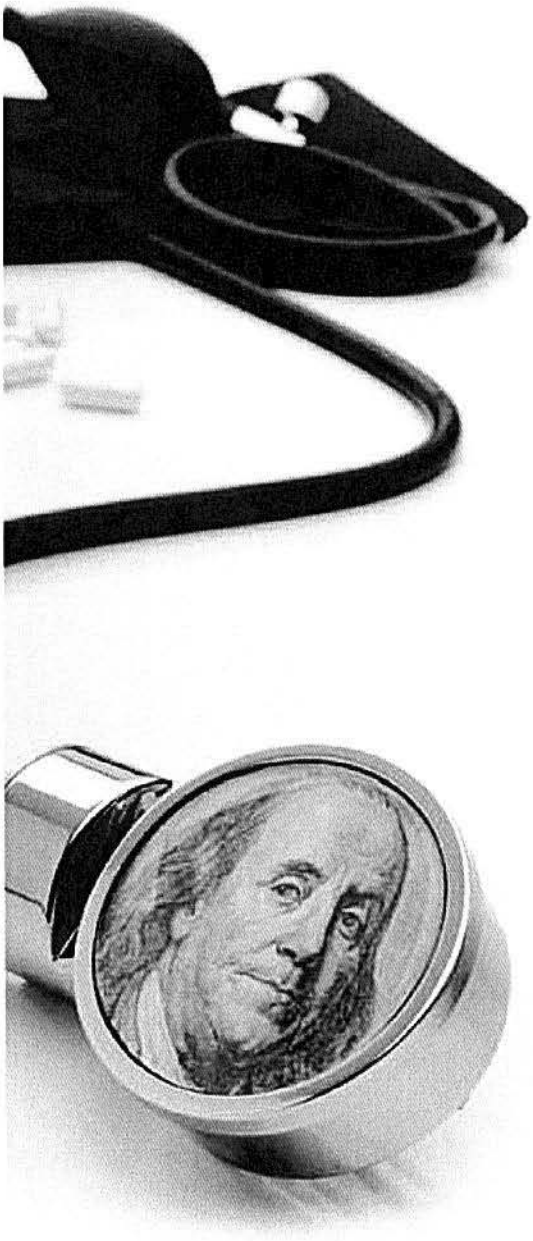
The State of Nebraska was also awarded the 2011 Innovations Award from The Council of State Governments for its breakthrough program within the first three years of operation. The Innovation Award is given for the development and implementation of exemplary programs, so the successful ideas and experiences can be applied to other states. The award recognizes newness, creativity, effectiveness, transferability and significance.

Making The Case: "What if we do nothing?"

To illustrate the benefits of wellness and justify the importance of the program to both employees and senior leadership, the State of Nebraska presented a "do-nothing" perspective. They asked: "What if we do nothing?" and leveraged that if no wellness program were offered, the following negative results would apply:

- The health of the workforce would continue to decline;
- Obesity rates would continue to rise;
- Diabetes rates would continue to rise;
- Coronary and other chronic health conditions would continue to rise;
- Unnecessary doctor and emergency room visits would continue to rise;
- Health care costs would continue to increase at double-digit rates annually;
- Employees would pay more out of pocket for health care coverage;
- Employees would pay more out of pocket for prescription coverage;
- The quality of life for their workforce would suffer; and
- The 1.8 million taxpayers across the state of Nebraska would brunt the cost of these modifiable opportunities.

These challenges became opportunities when the State realized it could positively impact health care costs—and the health of employees—among its large workforce.



Employee Participation Incentives

The State of Nebraska offers four self-insured health plans. Employees contribute 21% of the total premiums while the State contributes 79% of the total premiums. The total premiums account for all the health-related costs as provided with the health plans including medical, pharmacy and wellness program administrative costs.

Health care premium costs among each of the four health plans are independently determined based on each plan's utilization experience. When comparing the health care and prescription utilization among each of the four State of Nebraska health plans, the Wellness Plan utilization is significantly lower. Here's an example of the significant out of pocket premium savings when comparing the Wellness Plan against two other State plans:

Figure A

Annual Employee Wellness Plan Premium Savings (per EE)

2012-2013 Wellness Plan Savings Comparison

Plan Name	Single	Four Party	Two Party	Family
Choice Plan	$526.56	$1,081.44	$1,397.52	$1,869.12
Regular Plan	$218.40	$448.56	$579.84	$775.44

Comprehensive Preventive Coverage: An Additional Wellness Plan Attraction!

In addition to the Wellness Plan premium savings, additional plan benefits provide further cost savings to participants while addressing the most prevalent risk factors within the population. The purpose of the comprehensive preventive coverage is to help overcome barriers to employees managing their risk factors. In fact, preventive coverage within the Wellness Plan is greater than health care reform guidelines, in an effort to encourage the use of preventive care. The State of Nebraska's coverage includes the following:

- All blood work (including preventive) is covered up to $500
- No age restrictions for preventive screenings
- Routine and follow-up mammograms covered at 100%
- Routine and follow-up colonoscopies covered at 100%
- Cholesterol medications at a reduced co-pay or no cost for generics
- Hypertension (high blood pressure) medications at a reduced co-pay or no cost for generics
- Diabetic prescriptions at a reduced co-pay
- Tobacco cessation medications at no cost

Two important components of this list are the lifted restrictions on age and follow-up screenings. For example, if an employee has a family history and should have a screening earlier than the recommended age, they won't be blocked from having it. Also, if follow up screenings or blood work are needed, employees and their families will be covered. This ensures that employees can better manage their risk factors or conditions and prevent those risks or conditions— and their future care costs—from escalating.

What the State of Nebraska has found is that, for people who have these risk factors or family histories, these services can be even more of an incentive than the premium discount.

The State of Nebraska **wellnessoptions** program has helped change our lives! Getting and staying healthy takes hard work and commitment. The wellness program provides a variety of tools to help employees reach and/or maintain good health. Success breeds success!

- Bobbi and Steve Olson, Nebraska Department of Roads

Section II: Delivering The Program

Qualifying For The Wellness Plan

State of Nebraska employees who take the time to invest in their personal health by qualifying for the Wellness Plan are rewarded with lower premium costs and comprehensive preventive coverage.

Any enrolled employee and enrolled spouse can choose to qualify for the Wellness Plan by completing 3 STEPS on an annual basis.

STEP 1: participants choose and enroll in their choice of a wellness program*
STEP 2: participants complete a biometric screening option
STEP 3: participants complete an online health assessment

(*Employees who do not choose the Wellness Plan can still participate in any of the wellness programs.)

Year-Round Wellness Program Offerings

Each year, the State evaluates its wellness programs to ensure the offerings are aligned with the population's needs and interests. In addition, the State firmly believes that healthy lifestyles are a life-long commitment. As a result, all of the wellness programs are offered year-round instead of as short-lived, 12-week programs.

The wellness programs available to enrolled State of Nebraska employees and their spouses include:

- Walk This Way® - Participants boost their activity levels by wearing a free pedometer and tracking their steps online. With over 8,000 employees and spouses participating the past three years, this program is now being offered each year due to popularity.
- EMPOWERED Coaching™: Lifestyle and Condition Management - Participants work with their own personal health coach to support and guide lifestyle changes related to physical activity, healthy eating, smoking cessation and stress management. In addition to lifestyle management, individuals with chronic conditions can also work with a coach to help them manage their health. Over 7,700 participants have participated in this telephonic-based coaching program during the past three years.
- NutriSum - As a result of employees expressing interest in additional weight management programs, this online weight management challenge helps participants learn strategies for weight loss and maintenance of a healthy weight.
- Cardio Log - Based on feedback, wellness participants expressed interest in logging a variety of workouts. With Cardio Log, wellness participants can now track a variety of sports, fitness classes, cardiovascular, strength training and flexibility workouts.
- Biometric Screening - Onsite screenings are offered at approximately 30 State of Nebraska locations each year. In addition, home kits can be requested to obtain a finger-stick blood draw kit mailed to participant homes.

Wellness Champions: A Resource To The Employee Wellness Program

Wellness Champions serve as a resource to the wellness program by communicating **wellnessoptions** programs to fellow co-workers, while providing constructive feedback to the wellness team. Currently, there are approximately 40 Wellness Champions at locations all across the state and among the different agencies.

The feedback from the Wellness Champions is imperative to the program. For instance, it was the Wellness Champions who first voiced the need for more preventive coverage in the health plan. Because aligning health plan coverage in this manner falls right in line with the goals and objectives of the wellness program's focus on prevention and early detection, the State changed the Wellness Plan design to include specific follow-up preventive screenings.

Senior Leadership Support

With previous involvement in the military, Governor Dave Heineman's physically active lifestyle and personal interest in fitness and wellness is the cornerstone for the wellness program.

The Governor makes time to promote the wellness program. In fact, at the launch of the wellness program, the Governor recorded a video to support and promote the benefits of the wellness program. The video was made available for all employees to view.

A terrific example of senior leadership support is the Governor's own idea of recognizing walking program participants with a group photo session at the State Capitol. Those who achieve 1 million steps, all the way up to the individual with the highest amount of steps (10 million!) are recognized in a photo with the Governor. It is also not uncommon to hear the Governor actively promoting and challenging others to beat his own daily step count in the State Capitol hallways. Governor Heineman leads by example and makes an effort to visibly promote his active participation.

The Governor wants to be a part of employee success stories. As a result, individual testimonial stories are displayed on a quarterly basis in the State Office Building's "Wellness Wall of Fame" and on the wellness website. Wellness Wall of Fame participants get an individual picture taken with the Governor and receive a letter and certificate to honor their achievements.

Nebraska can be proud to be recognized as having one of the only wellness-focused health care programs for state government in the country.

- Governor Dave Heineman

Walk This Way!

Participants enrolled in the State of Nebraska's Walk This Way program literally take millions of steps during this year-round walking initiative. This year, more than 1,700 participants have logged over 1 million steps and several have logged over 6 million steps. And recently, the program celebrated its first participant to log over 10 million steps!

Governor's Wellness Awards Luncheon

At one point, the wellness program staff was getting so many participants with amazing lifestyle changes and lifesaving stories that the Governor suggested holding a banquet at his residence to further recognize these achievements. This resulted in what is now the annual 'Governor's Wellness Awards Luncheon' at the Governor's residence. Wellness Champions, Agency leaders and a keynote speaker attend this awards luncheon, at which the Governor presents two awards. The first award goes to the Wellness Champion who demonstrates going "above and beyond" to promote wellness at their location. The second award goes to the Agency with the greatest wellness program participation and health improvements.

Results from the Governor's Wellness Award luncheon have created some powerful traction for the wellness program throughout the State of Nebraska. For example, after one such luncheon, the Department of Corrections Agency Director requested to have Wellness Champion representation at every Corrections location throughout the State.

Lastly, when the State of Nebraska won WELCOA's Gold Well Workplace Award in 2011, the Governor announced this prestigious accomplishment in a media news call and press release. The Governor ultimately strives to maximize opportunities that help build wellness into the culture of the State government.

Section III: Health Improvements And Early Detection Efforts Pay Off

Improved Lifestyles, Reduced Risk Factors And Increased Preventive Care

Early accomplishments are being reported after only three years of the State of Nebraska providing its **wellnessoptions** program. Results are showing improved lifestyles, reduced risk factors and increased adherence to early detection and preventive screenings.

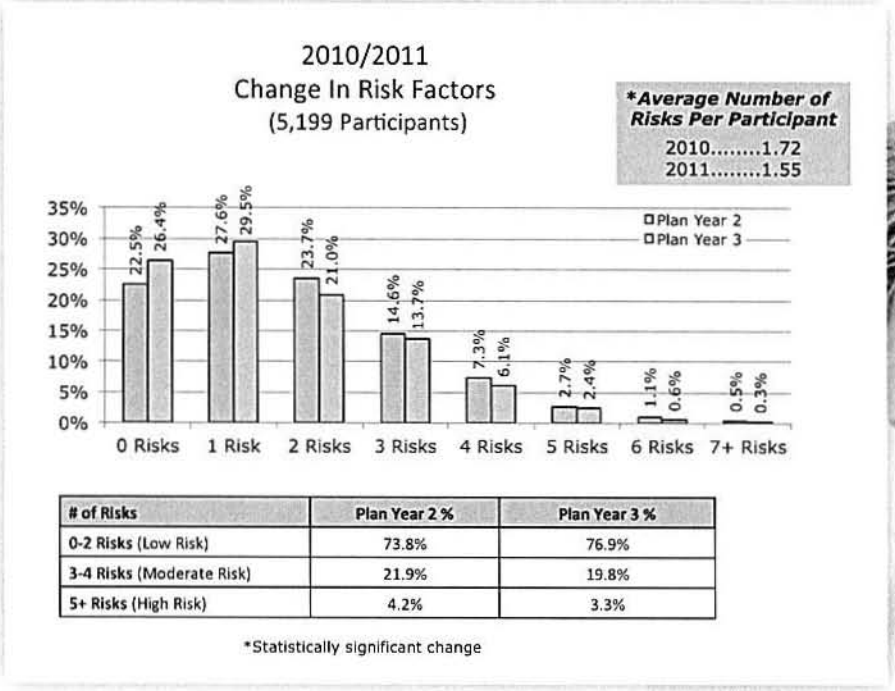
Last year, over 5,800 employees and 2,500 spouses enrolled in a wellness program, which is approximately 42% of the employee population. Comparing 2010 to 2011, participation in the wellness programs has increased 10% and biometric screening attendance has increased 16%.

Final Walk This Way Step Achievement (number of participants)

Date	Enrollment	Wellness Criteria Achievers	1 Million+	2 Million+	3 Million+	4 Million+	5 Million+	6 Million+	Total Steps Logged
2010	3,670	1,684	521	171	42	4	1	1	2,120,050,343 (803,049 miles)
2011	5,222	2,662	891	360	163	61	15	10	4,722,554,785 (1,788,847 miles)
2012	5,931	4,912	1,783	723	320	119	44	16	6,013,053,701 (2,77,672 miles)

Based on comparative analysis among those who completed a health assessment in 2010 and 2011, the State saw statistically significant improvements in the following high risk areas: physical activity, consumption of vegetables and fruits, tobacco, stress and depression.

- 11.3% who were previously high risk for low levels of physical activity are now exercising more than two days per week.
- 7.7% who were previously high risk for low fruit/vegetable consumption are now eating more than three fruits/vegetables per day.
- Participants reporting they use tobacco decreased from 9.3% to 7.8%.
- Those at high risk for depression decreased from 11.6 % to 9.6%.



# of Risks	Plan Year 2 %	Plan Year 3 %
0-2 Risks (Low Risk)	73.8%	76.9%
3-4 Risks (Moderate Risk)	21.9%	19.8%
5+ Risks (High Risk)	4.2%	3.3%

*Statistically significant change

The overall average number of individual risks significantly declined from 2010 (1.72 risks) to 2011 (1.55 risks). The percentage of employees at low-risk status (0-2 risks) increased from 73.8% in 2010 to 76.9% in 2011. Consequently, the percentage of employees at moderate-risk (3-4 risks) decreased from 21.9% to 19.8% and those at high-risk (5+ risks) decreased from 4.2% to 3.3%.

Our [employees'] success in leading healthy lifestyles is a great example of what is possible when you make a commitment to invest in your personal health.

- Governor Dave Heineman

Good Catch!

Some have argued that the State's targeted home mailings are not cost effective due to postage costs. But the reality is this: if a low cost home mailing catches ONE case of early-stage cancer, diabetes, heart disease, high blood pressure or other condition— just ONE—then this communication strategy has more than paid for itself. Not to mention, early detection can have a game-changing quality of life benefit.

Why? The cost to treat some conditions in the late stage can range in the tens of thousands to hundreds of thousands of dollars per year. If diagnosed early, the benefits in treatment savings are enormous to both the individual and the State. And if caught early, the odds of the person's health status improving with time are much greater.

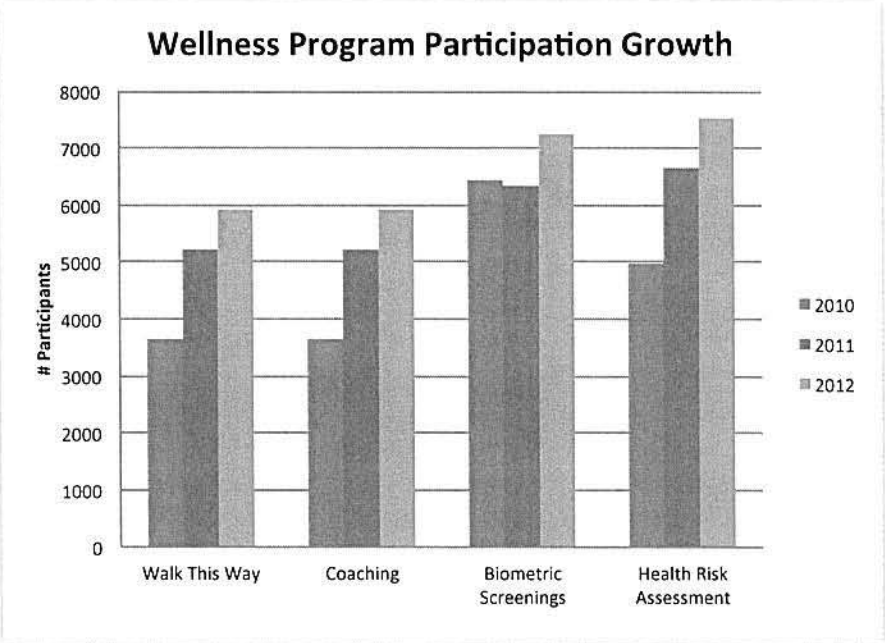
With its targeted messaging strategy, the State of Nebraska has helped to catch 514 new cases of early stage cancer before it was too late!

Just as leading national research illustrates, reducing individual health risk factors has also shown to result in a reduction of health care costs at the State of Nebraska. Based on State of Nebraska medical claims analysis among wellness program participants, the findings show a positive relationship between the number of individual risk factors and medical costs. In addition, the analysis shows cost savings as the population shifts from the high and moderate risk categories to a lower risk category.

Onsite screening satisfaction survey results show that 99.2% of participants were satisfied with their experience. Post-survey results indicate that 90.6% of participants were satisfied with the EMPOWERED Coaching™ program.

A recent interest survey among wellness program participants found:

- 67% are somewhat or very enthusiastic about the wellness program
- 83.5% indicated the **wellnessoptions** program has somewhat or considerably affected health and well-being positively
- 83.8% like the premium savings with the Wellness PPO.



Aggregate results among wellness program participants have shown a reduction in the average number of individual risk factors. Associated health improvement results include increased levels of physical activity and consumption of fruits and vegetables, along with decreased prevalence of stress and tobacco use. In fact, 130 participants have now quit smoking as a result of the EMPOWERED Coaching™ program combined with smoking cessation medications available at no cost within the Wellness Plan. Other conditions newly diagnosed from onsite biometric screenings include over 1,100 new high cholesterol cases and 1,300 new high blood pressure cases—which means these risks were successfully caught and now the program can provide employees with resources and support to better manage these conditions. Results from the State of Nebraska's interest survey indicated 85% of wellness program participants attest that the **wellnessoptions** program has positively affected their health.

Personalized Messaging Like No Other

The State of Nebraska personalized messaging strategy started with one concept and grew like a Nebraska thunderstorm. Based on claims, the State found the preventive and chronic care screening adherence rate was extremely low among all those with health coverage. The volume of medical claims and life changing events told a clear story that contributed to a poor quality of life and health costs that were out of control.

The focus of the State's personalized messaging is on increasing preventive screenings such as mammograms, colonoscopies, cholesterol checks, etc., as well as chronic condition screenings like hemoglobin A1C and liver enzyme checks, among others. Based on U.S. Preventive Screening Task Force guidelines, the State uses its most recent claims data (health assessment, biometric screening, medical and pharmacy claims) and self-reported data to target messaging to those participants who are not current with their preventive or chronic care screening.

The diverse and disperse population at the State of Nebraska posed many communication challenges, so the State turned to a two-prong communication strategy called Personalized Messaging. This messaging system provides data-driven outreach to employees to generate meaningful actions and outcomes.

Targeted Home Mailings:

- Inform of screening type that is due or overdue (i.e. mammogram or A1C)
- Provide participant's health plan coverage info for the specific screening
- List doctor's office near to participant's home if no primary doctor is on file

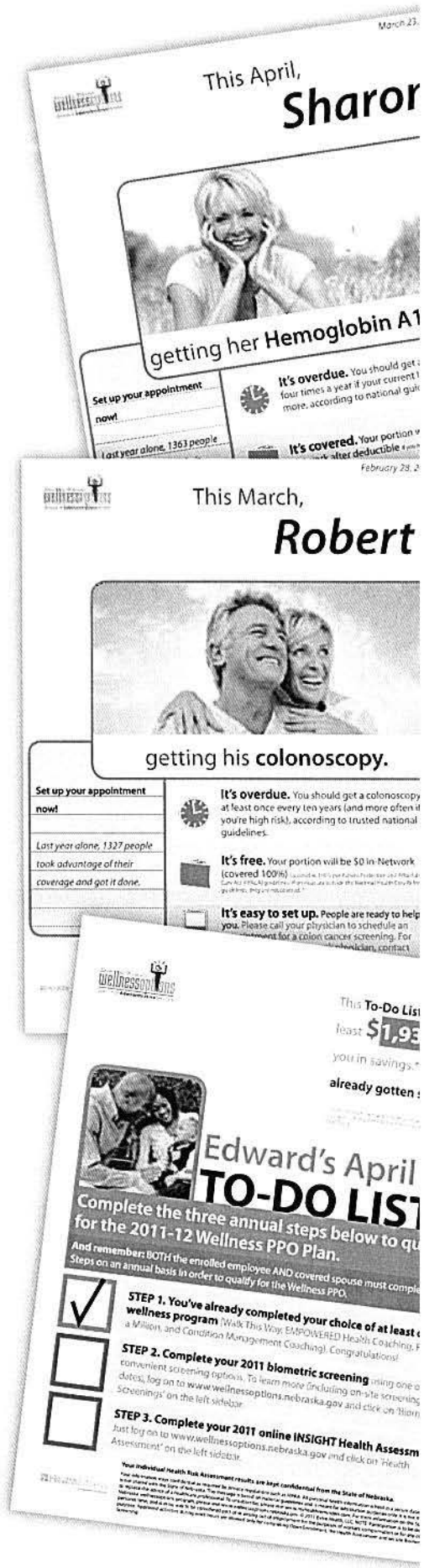
Consumer Health Advocacy Campaigns:

- Target those who are high users of emergency rooms
- Target those taking brand name medications that have a generic equivalent
- Provide immediate cost savings both the participant and the State

Other Personalized Messages:

- Customized: precisely targeted to specific employee populations
- Timely and data-driven: based on claims or self-reported data
- For example: seasonal musculoskeletal issues have patterned to peak in January and July, so messages with safe back care education are sent prior to those highest incident times. In addition, the location of the closest urgent care clinic is sent to those who have had a previous diagnosis of back pain and are on the list of frequent ER users.

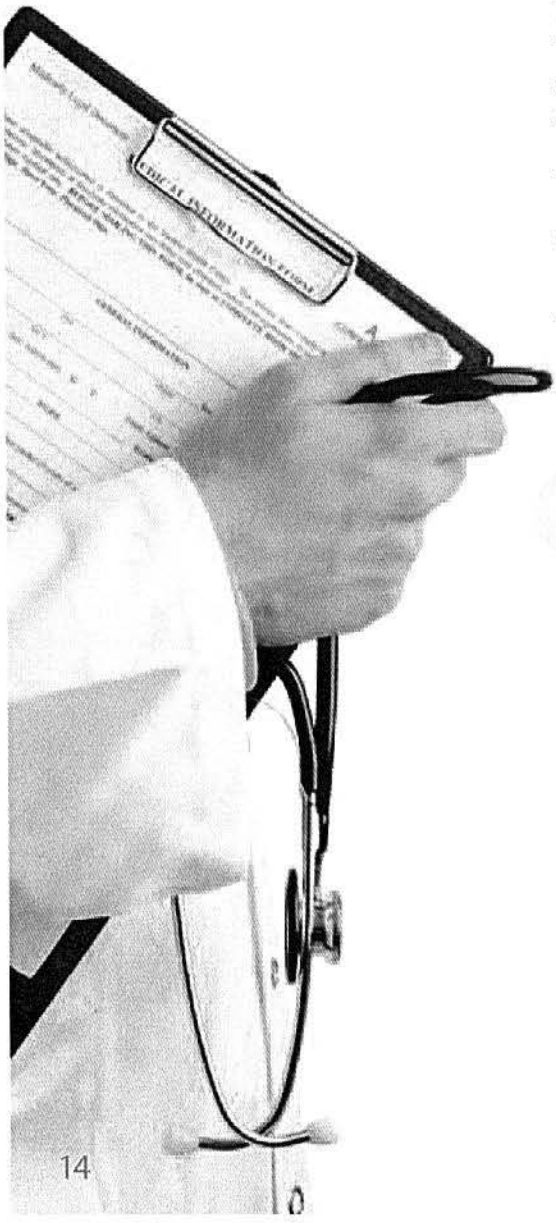
While personalized messaging and mailings have proven effective for communicating to the State's diverse workforce, the scope of communication has also expanded to drive enrollment messages to those currently not participating in the wellness program. Reminders are also sent to those who were short of qualifying for the Wellness Plan. As you would expect, recommendations for State wellness programs are specific to the participant's risks factors and/or chronic conditions.



Personalized Messaging Outcomes

The impacts of the State's personalized messaging engagement strategy are measured in data-driven outcomes reported from claims data and wellness program participation.

- **Total employee preventive screening adherence rate has increased 37%**
- **10% increase in wellness program participation the past year**
- **10% increase in Wellness Plan enrollment the past year**
- **5% increase in use of generic prescriptions the past year**



Life-Saving, Cost-Saving 'Catches'

Before the launch of the State's **wellnessoptions** initiative, only 33% of employees were current with their recommended preventive screenings (compared to national guidelines). And now, three years later, 70% are current with their recommended screenings!

As a result of this increase in preventive screenings, the State has also seen a spike in the amount of conditions detected in an early stage. Along with more favorable health outcomes, significant cost savings are also associated with identifying conditions in an early stage.

The good news is that over the past two years, 514 new early-stage cases of cancer were detected (mostly colon and breast), which allowed for early treatment. Unfortunately, 26 new cases of late stage cancer were diagnosed, and in many of these cases, the individuals were getting screened for the first time.

Wellness helps us reach new levels of quality in fulfilling our mission. In a prison environment, we are much more confident in our personal safety when we know our co-workers are physically fit and mentally alert.

- Bob Houston, Director, Nebraska Department of Correctional Services

Bucking The Health Care Cost Trend

The State of Nebraska continues to attack modifiable health care costs from many different avenues. Prior to the wellness program, the State experienced double digit health care cost increases each year. Last year, the State experienced an overall cost trend of less than a 1% increase among all State of Nebraska health plans.

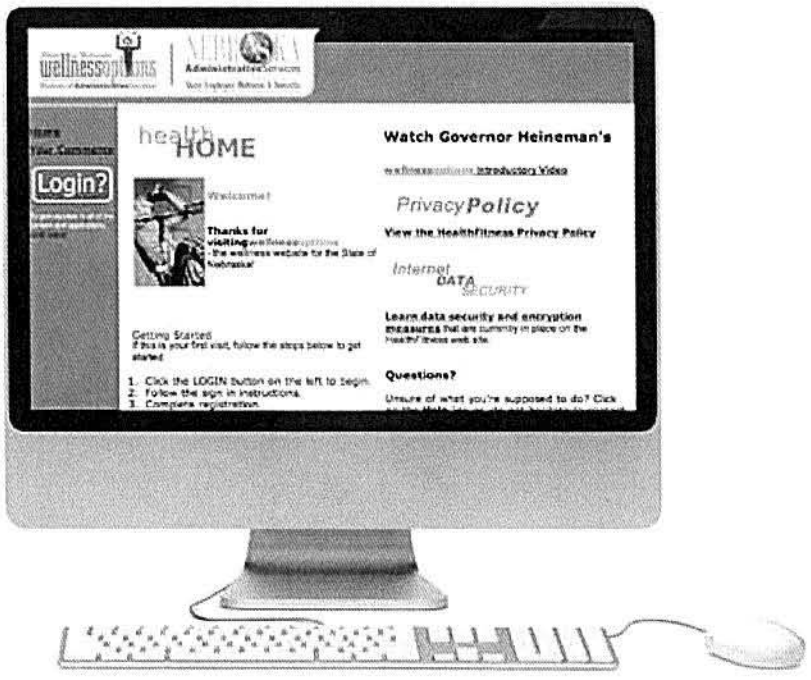
Major Contributors To Cost-Savings:

- Reduced prescription utilization— in fact, the total number of prescription scripts filled within the Wellness Plan reduced 3% last plan year as a result of improved lifestyles
- Reduced ER visits
- Reduced hospital admissions
- Reduced hospital stays

Just as national research illustrates, reducing individual health risk factors has also shown to result in a reduction of health care costs at the State of Nebraska. Specifically, the analysis of medical and pharmacy costs has demonstrated $4.2 million in reduced medical and pharmacy claims spending during the first two years when comparing wellness program participant's health cost experience to non-wellness participants. The resulting return on investment is above industry average at 2.70:1 for a program that is just three years young. This means that for every $1.00 spent on the wellness program, $2.70 is returned in health care savings based on an independent review of claims data.

"I am very pleased with the success of our wellness program and I am even more pleased that state employees are embracing this program," Govenor Heineman said in reflecting on the early progress of the wellness program.

To read more about the State of Nebraska's wellness efforts, visit **www.wellnessoptions.nebraska.gov.**



Wellness is beginning to have a positive impact on employees' lives, both at home and at the office.

- Carlos Castillo, Director
Administrative Services

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CENTER FOR STATE & LOCAL GOVERNMENT EXCELLENCE

ISSUE BRIEF

The Business Case for Wellness Programs in Public Employee Health Plans

September 2012

The rate of health insurance cost increases has slowed—rising by just 2.8 percent in 2011, 3.9 percent in 2010, and 3.8 percent in 2009, according to the *National Journal* (McCarthy, September 14, 2012).

While there may be many reasons for the slow down in expenditures, one factor could be the growth in wellness programs.

As authors Robert L. Clarke and Melinda Sandler Morrill point out in this issue brief, many local and state governments have introduced wellness programs to improve employees' health and to reduce health insurance costs.

The bottom line? Public sector wellness programs have reduced annual claims and also have shown promise in improving employee health. Even retirees can benefit from wellness programs, though they face some special issues. A study of the California Public Employees Retirement System found that retirees who participated in a health education program reduced health risk, used fewer medical services, and had lower claims costs than did the control group. The program is estimated to have saved $3.2 to $8 million in annual claims costs.

Wellness programs that pay dividends are carefully designed and often include financial incentives to boost participation. Who can argue with better health and lower costs?

The Center for State and Local Government Excellence gratefully acknowledges financial support from ICMA-RC to undertake this research project.

Elizabeth K. Kellar

Elizabeth K. Kellar
President and CEO
Center for State and Local Government Excellence

The Business Case for Wellness Programs in Public Employee Health Plans

ROBERT L. CLARK AND
MELINDA SANDLER MORRILL*

Introduction

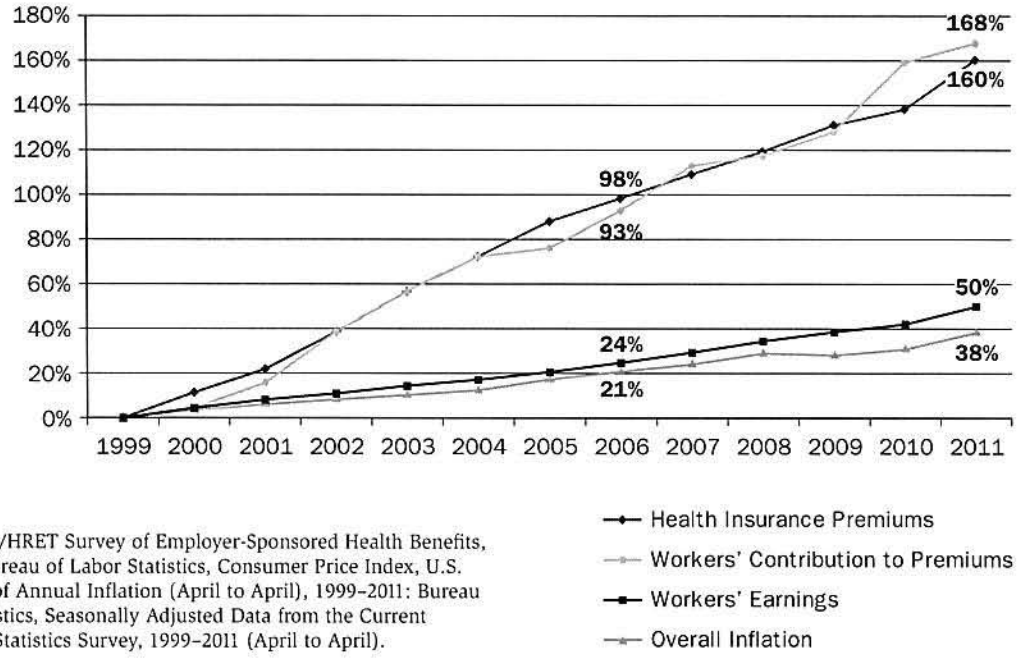
Employers offering health plans to their active and retired workers face medical care cost inflation that continues to exceed the general rate of price inflation while also outpacing the rate of growth of total compensation. Figure 1 shows that between 1999 and 2011, premiums for employer provided health insurance rose by 160 percent while worker earnings increased 50 percent and general inflation increased only 38 percent. State and local governments have the same basic challenge as private sector employers—how to continue to provide adequate health insurance at reasonable cost. Although cost shifting from the employing agency to workers has been the primary means of slowing the rate of growth of expenditures on health plans, more and more employers are turning towards wellness programs and preventative care policies aimed at longer term payoffs. These types of efforts have even more relevance in the public sector, where workers tend to have longer careers and it is still common to provide some form of retiree health insurance, thus policies with long term health benefits should reduce future expenditures on health care utilization for many years.

BLS (2012) reports the increase in employee cost for health insurance offered by state and local governments from 1998 to 2011 and how it has affected participation in these plans. The proportion of full-time employees in plans where the public sector employer pays the entire premium for individual coverage fell from 49 to 34 percent, while the percentage of workers in plans where the public sector employer paid the entire premium for family coverage declined from 25 percent to 12 percent. As a result, monthly employee payments for health insurance premiums for single worker coverage rose from an average of $31.94 to $90. 90, a three-fold increase, while the cost of family plans increased from an average of $152.46 per month in 1998 to $397.32 in 2011. In addition to higher premiums, public sector workers also faced much higher deductibles in these plans. Deductibles for individual workers increased from a median of $200 in 1998 to $500 in 2011, and deductibles on family policies increased from a median of $400 to $1,000. In the face of higher employee costs, the proportion of full-time employees participating in state and local government health plans declined from 86 percent to 82 percent. Thus, over the past decade, deductibles have been raised, co-payments increased, and premiums have been introduced and increased. These changes have slowed the growth of net income to public employees, and in recent years, when there have been no increases in annual pay, take home income has actually declined.

As the cost of providing health insurance continues to rise, many state and local governments have introduced wellness programs in an effort to improve the health of their employees and to lower current and future expenditures for health insurance. A major concern for governments that are experiencing revenue declines and trying to manage budget deficits is the immediate cost of wellness programs. The introduction of these programs typically requires upfront costs with benefits accruing in future years. In this issue brief, we outline the business case of wellness programs within health insurance plans for public sector employees. Examples of wellness programs are presented and studies of the cost and benefits of these programs are

* Robert L. Clark is professor of economics and of management innovation, and entrepreneurship in the College of Management, North Carolina State University and Melinda Sandler Morrill is assistant professor, Department of Economics, North Carolina State University.

Figure 1. *Cumulative Increases in Health Insurance Premiums, Workers' Contributions to Premiums, Inflation, and Workers' Earnings, 1999–2011*



Source: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999–2011. Bureau of Labor Statistics, Consumer Price Index, U.S. City Average of Annual Inflation (April to April), 1999–2011: Bureau of Labor Statistics, Seasonally Adjusted Data from the Current Employment Statistics Survey, 1999–2011 (April to April).

examined. While we discuss individual components of wellness programs, many public employers have adopted comprehensive plans that encompass a number of these types of policies.[1]

Wellness Programs: Characteristics and Value

Wellness programs come in many forms including weight management, physical fitness, tobacco cessation, and regular health assessments. The objective of these programs is to improve the health of workers by promoting better nutrition, healthier lifestyles, and preventative care. The idea is to focus employee attention on certain actions that will improve their well-being over their career and life, such as losing weight or quitting smoking.

The underlying business premise from the employer's perspective is that workers who adopt healthier lifestyles will become more productive workers who will use fewer medical services, thus reducing the employer's cost of providing health insurance to its workers and raising overall employee productivity. Likewise, healthier retirees will use fewer medical services, reducing retiree health insurance costs. Programs can be conducted with in-house personnel or outsourced to gyms, clinics, and private companies that specialize in wellness, counseling services, weight management, and other health-promoting services. Employee participation can be encouraged through advertisement and marketing efforts, by directly subsidizing memberships and services, or by offering financial incentives for meeting wellness goals. Linnan, et al. (2008) describe the range of wellness programs provided at public and private worksites around the country based on the 2004 National Worksite Health Promotion Survey.[2]

Methods for encouraging participation vary widely across the states and include restricting enrollment in less expensive health plans to those that participate in certain wellness activities, offering subsidies for enrollment and participation, and imposing penalties for nonparticipation. Naturally, the cost per employee will

[1] The Affordable Care Act (ACA) includes a number of provisions that are aimed at promoting preventative care and improving overall health (Koh and Sebelius, 2010). As the provisions of this legislation are implemented, we anticipate that the incidence of wellness programs will increase (Baicker, et al., 2010; Osilla, 2012).

[2] ACA changed the rules governing the extent to which employers can "discriminate" based on health behaviors, which has important implications for the incentives to participate in workplace wellness programs (Koh and Sebelius, 2010).

depend on the type of program offered and the degree of employer subsidy.

Types of Wellness Programs

Many state and local government employers have adopted comprehensive wellness programs that address a wide range of lifestyle, dietary, and health management issues. Others have chosen more targeted programs and focus on specific issues such as tobacco cessation or weight loss. First, we will highlight some examples of broad-based programs. We then describe more targeted efforts.

One example of a broad-based program is that instituted by the state of Delaware.[3] Delaware adopted a comprehensive wellness program, "*DelaWELL*," whose mission statement aims to "bring about awareness, knowledge, and ultimately changes in personal health risk behaviors and overall well-being of employees, in order that the lives of state employees and the welfare of the state as a whole will be significantly improved." The mission statement highlights both the value of wellness to the individual employees, but also acknowledges that all citizens will benefit, presumably through lower costs of health care for workers.

Montana has also developed a comprehensive wellness program for state employees, the State of Montana Healthy Employee Lifestyle Program (SOMHELP).[4] The program includes a website for employees that provides information on fitness, weight management, and tobacco cessation. Employees also have access to life coaches and receive health screening discounts. Similarly, Ohio has a program called "Take Charge Live Well," whose mission statement includes the charge for state of Ohio employees and their families to "maintain optimal health, wellness, and productivity by taking responsibility for their own health and use of the health care system."[5] In order to achieve this, the program focuses on providing health assessments, biometric screenings, and health coaches. The program includes monetary incentives for participation.

Clark and Morrill (2011) describe the wellness program in California. Executive Order W-119-95 was signed on April 4, 1995 recognizing the need for improved physical and mental well-being of the state workforce. According to this document, the desired increase in well-being could be achieved through areas such as preventative medicine, diet, exercise, stress management, smoking cessation, drug and alcohol avoidance, and accident prevention. Further, the document argued that by creating a healthier workforce the state will see higher quality work and productivity from employees, improved morale, reduced absenteeism due to illness, and lower health care costs. California's Department of Personnel Administration (DPA) coordinates health and fitness promotion and illness prevention information. Executive Order W-119-95 directed each state department to allocate resources to coordinate participation in the California WorksWell Health Promotion Program (DPA Health Promotion Program) to achieve the aforementioned goals of improving employee health and well-being. California WorksWell now offers reduced membership rates at health clubs and discounts for weight loss programs. The website for the program lists resources for disease prevention and tips for a healthy lifestyle, including nutrition, weight management, and fitness resources.

Health Assessments and Preventative Care

The DenverWellness program is an example of action by a local government to enhance wellness of its employees.[6] This program encourages employees to complete a series of wellness-related tasks aimed at improving their lifestyles. As an incentive, employees who completed the program in 2010 received $12 per month off of their premiums in 2011. According to the 2011 Benefits Guide, the city believes that one of the main reasons for increased medical costs are the treatment of illnesses that can be directly attributable to unhealthy lifestyles (e.g., diabetes, high blood pressure, back pain).[7] One goal of this program is to help decrease medical claims, and therefore reduce premiums, by improving the lifestyles of employees.[8]

At the state level, Oklahoma has a similar preventive care plan called OK Health, introduced in 2005 to encourage health assessment and monitoring of employees.[9] Several full-time health educators conduct

3 See the *DelaWELL* website at: http://delawell.delaware.gov/.

4 See Montana, Health Care and Benefits Division, http://benefits.mt.gov/default.mcpx.

5 See Ohio Take Charge Live Well, accessed July 2012.

6 For more information see the DenverWellness website: http://www.denvergov.org/EmployeeResources/Wellness/ProgramsandServices/tabid/432532/Default.aspx

7 The 2011 Benefits Guide is available at: http://www.denvergov.org/Portals/671/documents/Benefits_Enrollment/BenefitsGuide2011.pdf

8 See Clark, Morrill, and Riche (2011) for a description of three local health plans and their wellness efforts.

9 For more information, see: https://basweb.ebc.state.ok.us/.

telephone interviews with employees during working hours. Employees complete a web-based health assessment that includes a medical history, dietary habits, and other factors that influence health status. Participating employees are eligible for a visit to their primary care physician for various tests without being subject to a co-pay. Results of these tests provide a baseline on employees' health risks. Employees are assigned to mentor who is available for future telephone conversations about weight management, stress, and exercise. Additional financial incentives and discounts for various wellness programs are available to participants in OK Health. A three-year review of the program by the Oklahoma State Department of Health found that there had been a 21 percent decrease in medical claims, 9 percent reduction in hospitalizations, and a 34 percent reduction in doctor's office visits (Center for State and Local Government Excellence, August 2010).

Weight Management and Obesity Programs

One of the biggest health problems in America is obesity and its related health effects. Employers can promote weight loss through a variety of programs including providing information about healthy diets, removing unhealthy items from cafeterias and break rooms, and short-run campaigns and competitions. In addition, government agencies can partner with companies promoting healthy diets and weight loss programs such as Weight Watchers. Alabama, Delaware, and Virginia have all developed programs with Weight Watchers and report successful weight loss by their employees.[10]

Kaufman et al. (2012) report how the fifty states and the District of Columbia cover weight loss interventions in state health plans (also see National Council of State Legislatures, 2012). The report illustrates the wide range of plans and subsidies that states offer to encourage their employees to adopt and maintain a healthier lifestyle. Some states have penalties if employees do not enroll in wellness plans. In one example, Alabama imposed fees on overweight state workers who did not participate in weight reduction programs. The State Employees' Insurance Board approved charging employees if they did not get free health screenings. If serious problems with blood pressure, cholesterol, glucose or obesity were detected, workers had one year to see a doctor at no cost, enroll in a wellness program, or take steps on their own to improve their health. If they exhibited weight loss and improvements in health in future exams, they would not be charged. But if they did not, they had to pay starting in January 2011.

Physical Fitness and Exercise Programs

Exercise and training programs can promote weight loss, as well as improving overall physical fitness. Many government agencies have attempted to promote fitness through subsidized gym and spa memberships, and on-site exercise facilities and walking trails. Employees can be encouraged to meet with trainers and life coaches and/or take exercise breaks during the day. Gainesville, Florida established its "LifeQuest" program in 1992 to promote health, diet, and fitness at no cost to Gainesville employees, retirees, and their families.[11] "LifeQuest" operates several fitness centers where employees can meet with a trainer that will provide injury assessments and information of rehabs problems. In addition, participants can arrange consultations with exercise physiologists who develop individualized exercise programs. About 90 percent of city employees participate in "LifeQuest" and consultant reports indicate that the city's costs and premiums are below average compared to comparable sized employers (Center for State and Local Government Excellence, 2009).

Tobacco Cessation Programs

There is a well-known link between tobacco use and certain diseases, many of which result in lifelong problems and require expensive treatments. Employers can encourage employees to stop using tobacco products by having differential health plans or premiums based on whether the person is currently using tobacco products or has entered a cessation program. The National Council of State Legislatures (2012) reported that at least 9 states now charge, or are authorized to charge, lower premiums to nonsmokers and higher premiums to smokers. As of March 2010, 39 states had adopted tobacco cessation programs and policies aimed at reducing tobacco use by employees. One example is Virginia's "Quit for Life" program.[12] In this program, individuals are given a coach who helps develop a plan for the participant to stop smoking. Individuals receive

[10] For a description of these programs and outcomes, see: http://www.weightwatchers.com/images/1033/dynamic/GCMSImages/WW_Newsletter_Fall08-nobox-v2.pdf, [accessed July 2012].

[11] For more information, see: http://www.cityofgainesville.org/GOVERNMENT/CityDepartmentsNZ/RiskManagmentDepartment/tabid/318/Default.aspx.

[12] For more information, see: http://commonhealth.virginia.gov/quitforlife.htm.

free nicotine replacement patches, gum, or smoking cessation gum as long as they stay active in the program for up to one year (Center for State and Local Government Excellence, December 2009). Like many other public sector wellness programs, "Quit for Life" is but one component of a much more extensive wellness initiative.

Return on Investment in Wellness Programs

While the costs associated with identifying, implementing, and maintaining a wellness program are generally straightforward to estimate, the benefits from wellness programs are harder to measure, particularly in the short run. There have been relatively few systematic studies of the return on investment (ROI) of wellness programs in the public sector. Recognizing the need for more rigorous research on ROI, the 2010 Affordable Care Act stipulates that the CDC should provide technical assistance to evaluate employer-based wellness programs and should also conduct a survey of existing programs (Koh and Sebelius, 2010).

The expectation is that the behavioral changes encouraged by state and local government wellness programs can be directly linked to improved health, lower absenteeism, and greater productivity, as well as lower utilization of medical services and lower expenditures on health insurance for public employees and retirees. Those focusing solely on annual budgets and net expenditures may overlook the longer-term benefits of wellness programs such as lower growth in the cost of health insurance. In addition, gains such as increased worker productivity and worksite morale may be difficult to capture on a balance sheet. Healthier workers and retirees will be less likely to use medical services and therefore, wellness programs should result in lower insurance premiums for any given health plan offered to workers. Healthier workers should miss fewer days due to illness thus reducing productivity loss from absenteeism. Healthier workers should feel better while on the job and therefore, have higher productivity during their work day. Of course, improved health of workers should also improve their well-being and attitude, and they may feel better about their employer who promoted wellness and gave them the opportunity to improve theirs.

The benefits of wellness programs to public employers likely will exceed the value to private sector companies for several reasons. First, public employees tend to have longer careers with the same employer compared to private sector employees. Thus the gains from a healthier worker can be expected to continue over more years. Second, state and local governments tend to provide health insurance to retirees so that the benefits of healthier individuals may continue into the retirement years.[13]

To date, most studies evaluating workplace wellness programs have focused on the private sector. Several review studies have been done that attempt to synthesize findings from individual programs and randomized clinical trials of worksite wellness programs (see, e.g., Baicker, et al., 2010; Berry, et al., 2010; Goetzel and Ozminkowski, 2008; Osilla, et al., 2012). A special issue of the *American Journal of Health Promotion* on the financial impact of health promotion programs includes both analyses of the issues surrounding health promotion efforts and includes reviews of previously published studies (Goetzel, 2001). Goetzel (2001) concludes that while value has been demonstrated, more rigorous research is required. From an extensive review of the literature, Baicker, et al. (2010) provide an estimate that for every one dollar spent on wellness plans, there is a return of three dollars in cost saving. The U.S. Department of Health and Human Services issued a report in 2003 examining the wellness programs adopted by some of the leading employers in America and presented statistics from these companies on the value of the programs.[14] For example, the wellness program adopted by Motorola was estimated to have saved the company $3.93 for every $1 invested. In the first 24 months after the adoption of Northeast Utilities WellAware program, lifestyle and behavioral claims were reduced by $1,400,000. Caterpillar's Healthy Balance program was estimated to produce savings of $700 million by 2015. Johnson & Johnson's Health and Wellness program lowered average annual health care cost by $224.66 per employee.[15]

In the public sector, there are several examples of successful workplace wellness programs that were shown to have a positive ROI. King County, Washington (2010) produced a detail study of its wellness program that was instituted in 2005. The study reported high

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13 Clark and Morrill (2010) provide a detailed review of state and local retiree health plans and how the cost of these plans varies across the nation.

14 The report is available at: http://www.aspe.hhs.gov/health/prevention/.

15 Aldana (2001) also provides a meta-analysis of published articles describing private sector workplace wellness programs.

participation rates in the wellness program and found that by 2009, county employees had made improvements on 12 out of 14 health risk factors since the program began in 2005. Actual health care costs were $26 billion less than expected expenditures based on cost trends prior to 2005.

The Austin, Texas, Capital Metropolitan Transportation Authority[16] adopted a wellness program in 2003 for its 1,075 employees. The program consisted of access to 24-hour fitness centers; personal trainers, wellness coaches; full body assessments; on-site dietician; Weight Watchers classes, healthy eating workshops; walking club, bike loan program; and cash incentives for losing weight and quitting smoking. The program also offers weekly discount coupons to be used toward purchasing healthy cafeteria food and ensures that at least 60 percent of vending machine offerings are healthy choices. Smoking cessation classes, free flu shots, and stress reduction workshops are also offered. Evaluation of the program indicated a savings of $2.43 for every dollar spent on the program since 2003 and found that health care costs, which had been rising precipitously before 2003, slowed and then fell by 4 percent in both 2007 and 2008, and 5 percent in 2009. Between 2003 and 2009, they saw a 24 percent net increase in health care costs instead of the projected 49 percent increase. Absenteeism, rising prior to 2003, fell in each of past five years. Absenteeism rates are 37 percent lower in 2009 than in 2003.

Montgomery, Ohio, found that its employee health care costs made up 3 percent of the city's annual budget in 1999 and were rapidly increasing. A Health Care Benefits Committee was established to represent the employees' health care concerns and to negotiate with insurance providers, maintain comprehensive coverage, and communicate with each work group about key health care issues. Four of the committee's members represent the primary work groups within city government and the fifth represents management.

One of the committee's recommendations was to establish a wellness program that gave employees financial incentives of $200 to $500 if they take initial and annual health risk assessments and take part in key program activities, including physical fitness, education, and preventive care. The results have been dramatic with 75 percent of the workforce participating in the wellness program: between 2007 and 2008, average annual medical claims dropped from $2,437.44 per person to $2,262.57, and the use of sick days decreased by 6 percent.

Other health improvements that are expected to pay dividends have been decreases in blood pressure, cholesterol, smoking, and obesity. Tobacco use among participants fell from 32 percent to 16 percent. Those with blood pressure greater than 140/90 dropped from 62 percent to 32 percent; those with total cholesterol above 200 dropped from 44 percent to 14 percent; and those with a body mass index of greater than 25 percent declined from 97 percent to 76 percent. Alcohol use also declined with participants who had more than two drinks per day dropping from 27 percent to 11 percent.

Retirees

In most state and local government health plans, retirees and active workers have access to identical health insurance plans, so will therefore qualify for the same wellness initiatives. However, even in states where retirees are pooled with active workers, additional wellness programs targeted to retirees have been implemented. For example, in New Jersey, retirees must participate in a Retiree Wellness program or pay 1.5 percent of 50 percent of their highest monthly salary to be eligible for the state health plan. Retirees can instead sign a "Pledge for Health Living" and complete the requirements associated with this pledge to have the premium waived.[17]

Similarly, the Ohio Public Employees Retirement System (OPERS) also has a separate wellness program for retirees.[18] Retirees that participate in the OPERS personal health management program earn up to $100

16 Capital Metropolitan Transportation Authority: Kim Peterson, employee relations manager, and Michael Nyren, risk manager, Capital Metropolitan Transportation Authority; Capital Metropolitan Transportation Authority, "Capital Metro Wellness Program Recognized for Improving Employee Health and Reducing Costs," Austin, Texas, June 4, 2009; and U.S. Centers for Disease Control and Prevention, "A Comprehensive Worksite Wellness Program in Austin, Texas: Partnership Between Steps to a Healthier Austin and Capital Metropolitan Transportation Authority," by Lynn Davis, Karina Loyo, Aerie Glowka, Rick Schwertfeger, Lisa Danielson, Cecily Brea, Alyssa Easton, and Shannon Griffin-Blake, Preventing Chronic Disease: Public Health Research, Practice, and Policy (April 2009), pp. 1–5.

17 A copy of the letter sent to new retirees and health pledge can be seen at: http://www.state.nj.us/treasury/pensions/shbp-wellness-program.shtml; the brochure describing the program and its requirements can be found at: http://www.state.nj.us/treasury/pensions/pdf/hb/njdirect-wellness-brochure-revised-hat-2011.pdf.

18 For more information, see: https://www.opers.org/healthcare/wellness/.

to deposit in their retiree medical account (RMA). Individuals earn $50 for completing each of the following activities (up to the $100 maximum): complete a health assessment, undergo an annual physical exam, complete a wellness program, and successfully participate in a disease management program. Funds from the RMA can be used for qualified health expenses including medical, dental, and vision as allowed by the IRS and thus are not subject to personal income tax (see Clark and Morrill, 2011).

Public sector employers may find that special issues face retiree populations and that specialized programs may be important. Since older individuals typically have higher costs, factors facing retirees may be particularly important for plans that pool costs for retirees and active workers. Retirees face more serious health concerns and are often taking multiple, expensive prescription drugs. Wellness programs in the workplace might not have a relevant counterpart for retirees, who are not located on-site. While the cost savings associated with lower medical spending for healthier members are still important for retirees, improvements in health of retirees do not provide the same productivity gains to employers. Still, studies suggest investing in retiree wellness programs is cost effective. For example, Fries et al. (1994) reported results from a randomized controlled trial of a health education program in the California Public Employees Retirement System (CalPERS). The study found that participants had a reduction in health risk, lower medical utilization relative to baseline, and a decrease in claims cost growth relative to the control group. They estimated that annual claims costs were approximately $3.2 to $8.0 million lower due to the program.

Discussion and Conclusions

The analysis in this issue brief has shown that many states and local governments have adopted various policies to encourage healthy lifestyles for their employees. These policies include encouraging weight loss through group programs sponsored by the employer and better eating habits and healthier food in employee cafeterias. Regular health exams and physical fitness programs are often components of these programs along with policies to encourage employees to stop all tobacco use.

All of these programs can be encouraged by financial incentives to change behavior or cash penalties if the employee does not take advantage of the opportunity to change lifestyles. Incentives typically take the form of subsidized programs offered at the workplace or small cash incentives to enroll in various programs. Penalties can be in the form of limiting access to lower cost health care plans or direct fees for nonparticipation. We have reviewed a series of programs adopted by state and local governments.

Most of the evidence provided by various government agencies indicates that these programs are successful in improving the health status of employees and slowing the growth of health care expenditures by the employer. However, relatively few agencies have conducted detailed and systematic assessments of these plans. More studies of the costs and benefits of wellness programs are needed to convince skeptical lawmakers of the need to fund innovative wellness programs. Wellness programs are not costless but they can have long-run benefits that make them effective public policies.

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MAKING THE CASE

Using a Workplace Wellness Program to Reduce Medical and Workers Compensation Costs

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Wellness Strategy

Outcome Based

Results Driven

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Insurance Services, Inc.

Why Outcome Based Wellness?

- Chronic diseases related to lifestyle account for 75% of national medical costs. Eleven separate studies by the Centers for Disease Control suggest that worksite wellness programs can produce significant improvements in employee health.

  —Centers for Disease Control, 2006

- 53% of U.S. Adults think its fair to ask those with unhealthy lifestyles to pay more for their health insurance. (Up from 37% only three years ago.)

  —Wall Street Journal/Harris Interactive Poll

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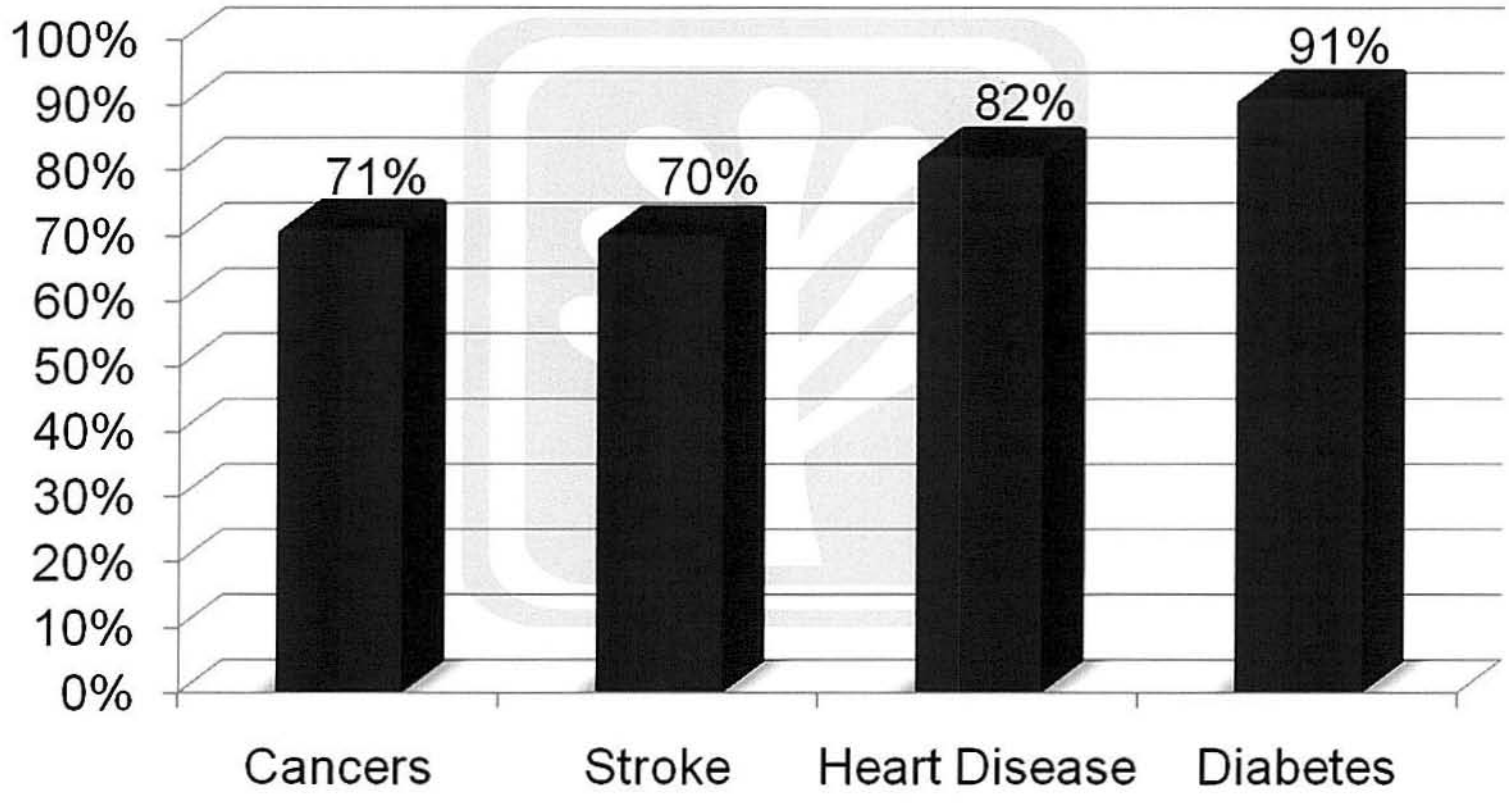
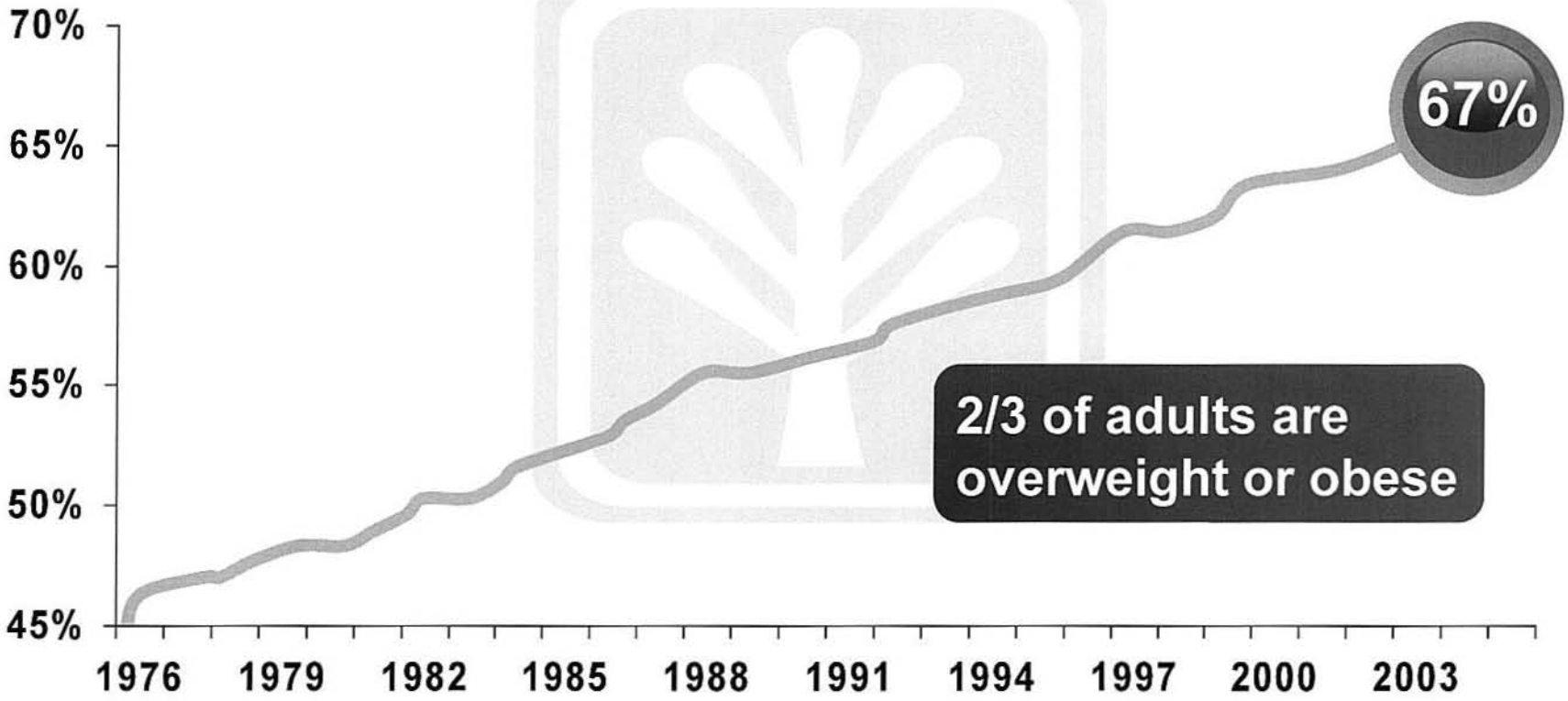
Percent of Chronic Diseases That are Caused by Poor Lifestyle



Sources: Stampfer, 2000; Platz, 2000; Hu, 2001

Percent of Adults Who Are Overweight or Obese*



*Source: The Culprit and the Cure - Aldona

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A Tale of Chronic Disease

Obesity has been linked to:

1. **Hypertension**
2. **Coronary Heart Disease**
3. **Type 2 Diabetes**
4. **Stroke**
5. Gall Bladder Disease
6. Osteoarthritis
7. Sleep Apnea
8. Respiratory Problems
9. **Endometrial Cancer**
10. **Breast Cancer**
11. **Prostate Cancer**
12. **Colon Cancer**
13. Dyslipidemia
14. Steatohepatitis
15. Insulin resistance
16. Asthma
17. Hyperuricaemia
18. Reproductive hormone abnormalities
19. Impaired fertility
20. Lower back pain

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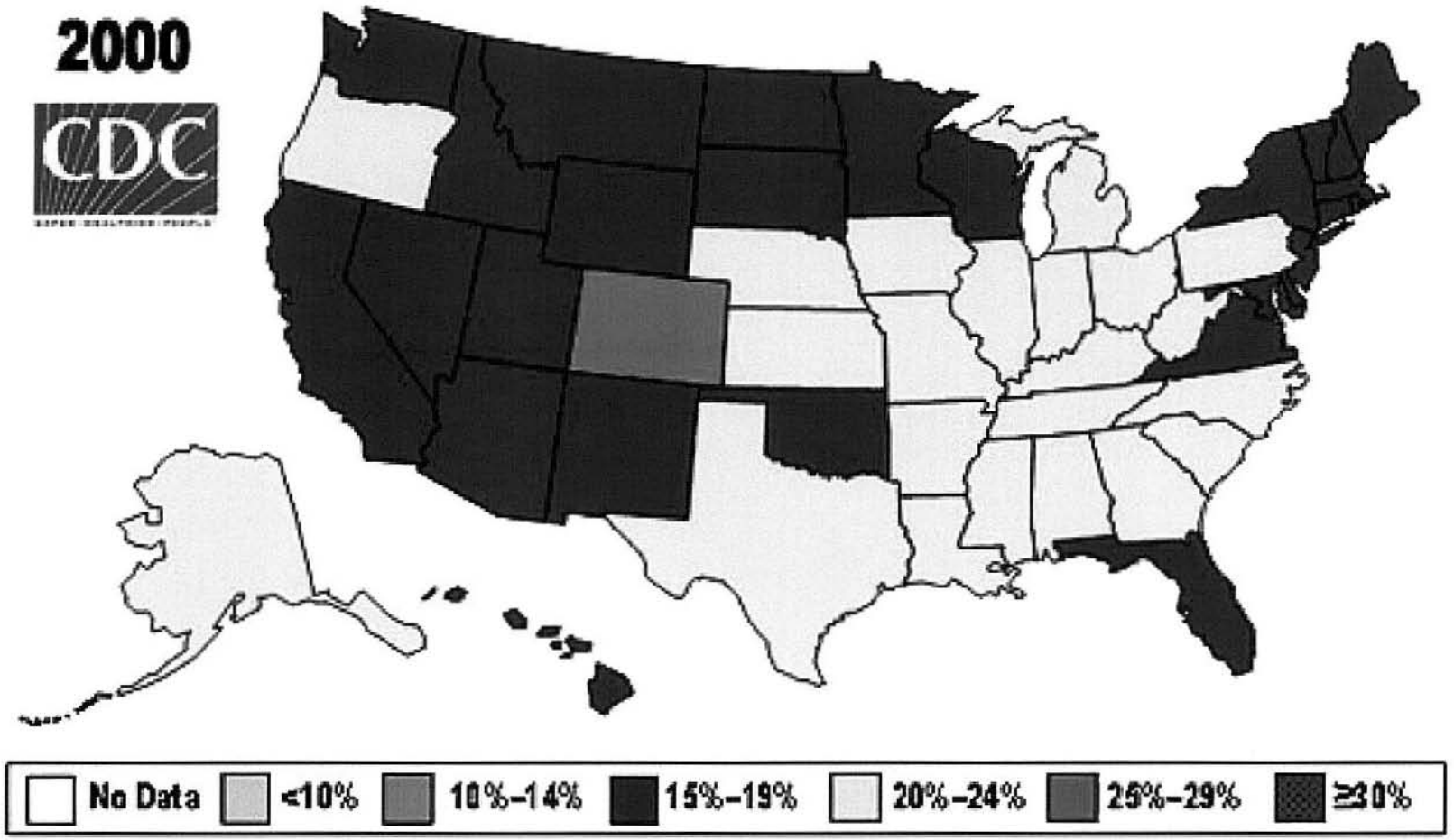
Obesity Trends* Among U.S. Adults

2000

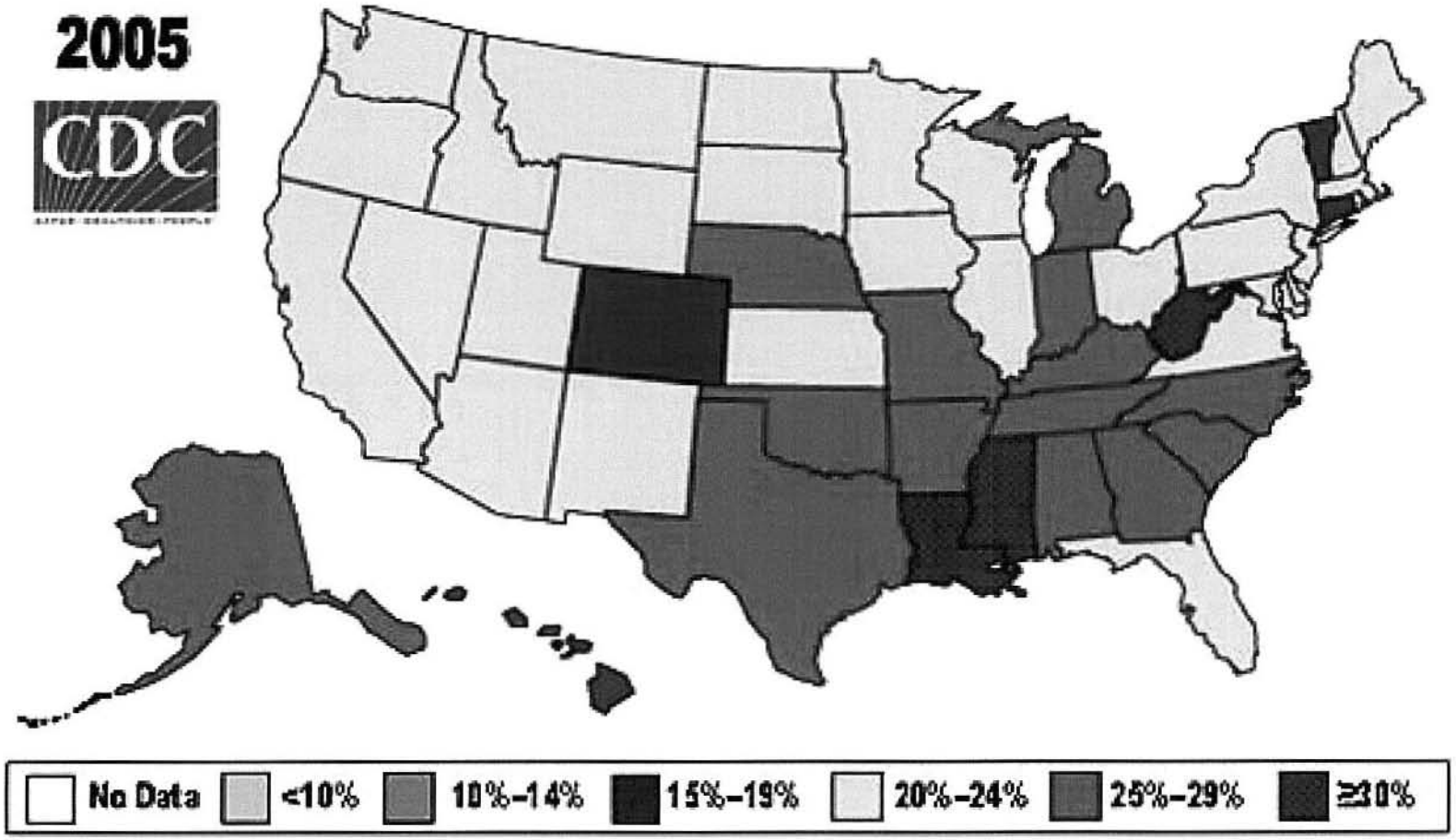
***% of U.S. Adults Obese (BMI >/= 30)**



Obesity Trends* Among U.S. Adults

2005

***% of U.S. Adults Obese (BMI >/= 30)**



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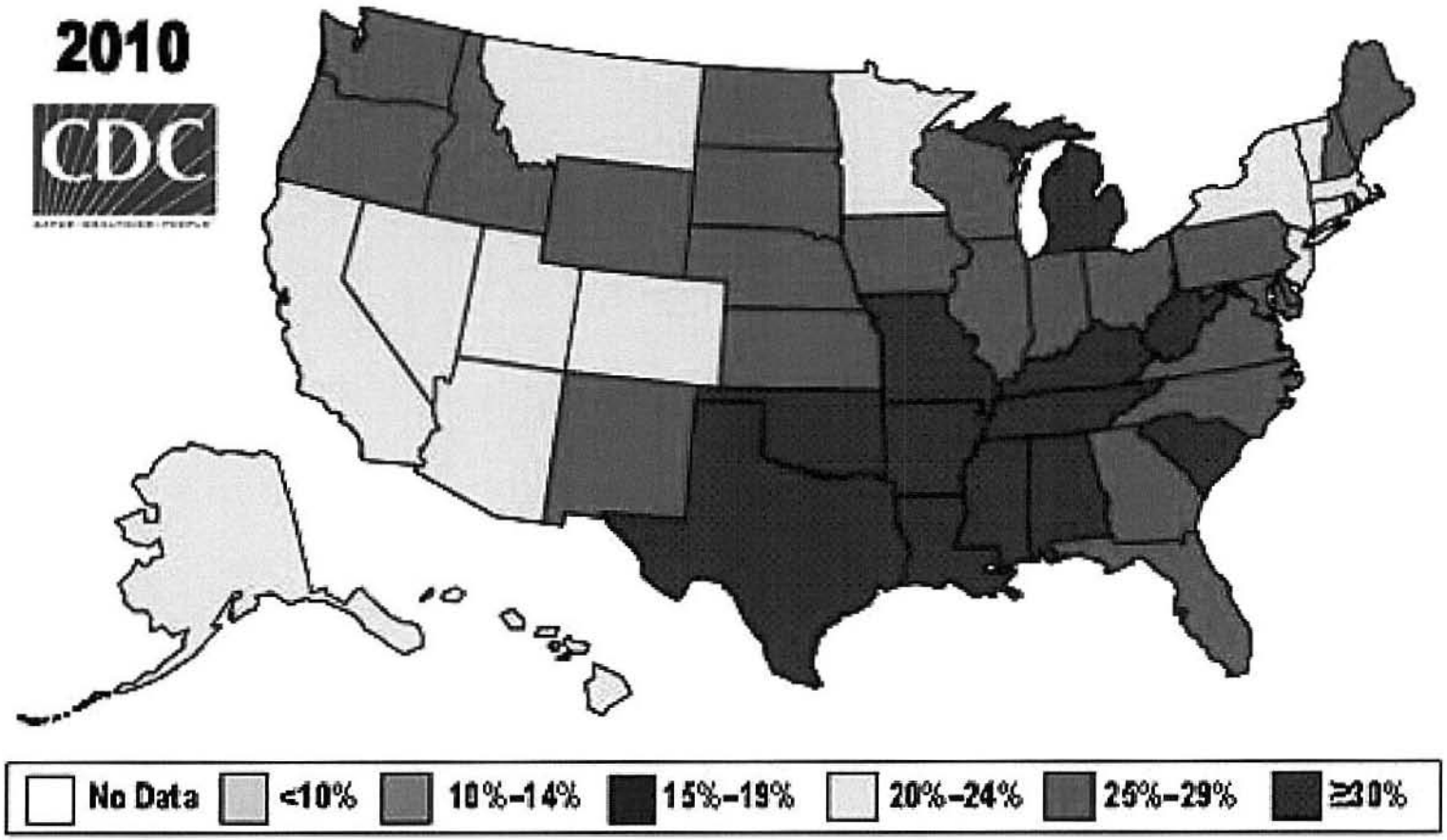
Obesity Trends* Among U.S. Adults

2010

***% of U.S. Adults Obese (BMI >/= 30)**



Wellness Rules

- New legislation allows employer sponsored health plans to give rewards or assess penalties based on the results of a health assessment
  - *Premium Contribution Differentials*
  - *Benefit Plan Differentials (deductibles, co-pays, co-insurance levels)*
- Regulations are complex but achievable. Savings to health plans can be significant (short and long term)
- The 2010 National Healthcare Law preserves *and expands* the model.

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History

1996
- HIPAA requires uniform coverage and non-discrimination

2001
- Interim "bona-fide wellness rules" introduce exceptions for wellness plans – very restrictive

2007
- Final Wellness Rules issued
  - Distinction between incentives for participation and incentives "contingent upon the satisfaction of a health standard"
  - Rules clarified in February, 2008 Checklist for Wellness Program

2010
- National Health Reform solidifies regulation as law and provides for expanded incentives/penalties tied to health lifestyle results

2011
- Federal Judge rules that Wellness Programs do not violate ADA, when designed to mitigate costs and design future benefit programs

HIPAA Final Wellness Rules:

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If an incentive is "contingent upon the satisfaction of a health standard":

- It must be re-assessed at least once per year
- It must be designed to promote health and wellness
- It may not exceed 20% of the total cost of coverage offered
- It must be available to all "similarly situated individuals", appeals and "reasonable alternatives" must be offered
- The availability of the appeal must be disclosed in all plan materials

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Each Employer May Design Goals for
Their Culture and Budget

Sample Design:

Participation and Result Requirements				
Category	**NIH Goals**	**"Gentle" Goals**	**Alternative Goal**	**Points**
Tobacco/Nicotine	Negative	Negative	*Contact Administrator*	*1*
Blood Pressure	≤120/80	≤140/90	*Marked Improvement (see alternative goal sheet)*	*1*
Cholesterol	≤100 (LDL)	≤160(LDL)	*Marked Improvement (see alternative goal sheet)*	*1*
Body Mass Index *(Body Fat % and Waist Measurements are also considered – automatically)*	<25	<30	*Marked Improvement (see alternative goal sheet)*	*1*

NOTE: Independent 3rd party manages appeal process and works with participant's physician who provides alternatives if these goals are medically inadvisable or unreasonably difficult due to a medical condition.

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Sample Design: Employee Earns Contribution Reduction or Penalty

Choose Plan(s) from Any Carrier or TPA								
	Total Monthly Premium	Current Employ Cont. 30%	"Gentle" Contribution Adjustments Based on Wellness Results					
			Non-Part.	Pass 0	Pass 1	Pass 2	Pass 3	Pass 4
Single	$360	$108	+$72	+$55	+$35	+$15	+$0	-$5
Family	$1,100	$330	+$220	+$165	+$110	+$55	+$0	-$25

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Population Analysis

Screening Results

Aggregate Comparative Analysis

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Blood Pressure

(% of employees by category)

	Jan 2011	Oct 2011
Total Number Screened	**321**	**486**
Normal (below 120/80 mmHg)	**22.4%**	**41.8%**
Pre-Hypertension I (120-130 and 81-85 mmHg)	**48.9%**	**42.4%**
Pre-Hypertension II (131-139 and 86-89 mmHg)	**6.5%**	**6.0%**
Stage 1 Hypertension (140-159 and 90-99 mmHg)	**15.0%**	**7.8%**
Stage 2 Hypertension (above 160/100 mmHg)	**3.7%**	**1.9%**
Not reported	3.4%	0.2%

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Tobacco / Nicotine

(% of employees by category)

	Jan 2011	Oct 2011
Number Screened	**321**	**486**
Positive	**12.8%**	**29.4%**
Negative	**45.2%**	**70.0%**
No Answer	**42.1%**	**0.6%**

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Total Cholesterol

(% of employees by category)

Employees Only	Jan 2011	Oct 2011
Number Screened	321	486
Desirable (below 200 mg/dL)	57.0%	67.9%
Borderline High (201-239 mg/dL)	23.1%	22.4%
High (above 240 mg/dL)	10.0%	9.1%
Not Reported	10.0%	0.6%

Glucose

(% of employees by category)

	Jan 2011	Oct 2011
Number Screened	**321**	**486**
Normal (70-99 mg/dL)	**60.4%**	**61.9%**
Pre-Diabetes (100-125 mg/dL)	**20.9%**	**28.8%**
Diabetes (>126 mg/dL)	**7.5%**	**7.2%**
Not Reported	11.2%	2.1%

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Proactive Outreach
Targeted Coaching

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Sample Target Group

Based on High Co-Morbidity Risk

Age	Gender	Height	Weight	Nic	BMI <25	BP-S <120	BP-D <80	Tot Chol <200	Glucose 79-99
37	M	68”	338	Neg	51.4	160	90	182	132
64	M	69”	226	Pos	33.9	160	80	180	94
25	M	73”	233	Neg	31	158	78	158	87
41	M	76”	292	Neg	37	154	98	235	102
58	M	73”	241	Neg	33	145	82	211	102
35	M	74”	340	Pos	43	142	78	223	113

Results
Lower PMPM Trend

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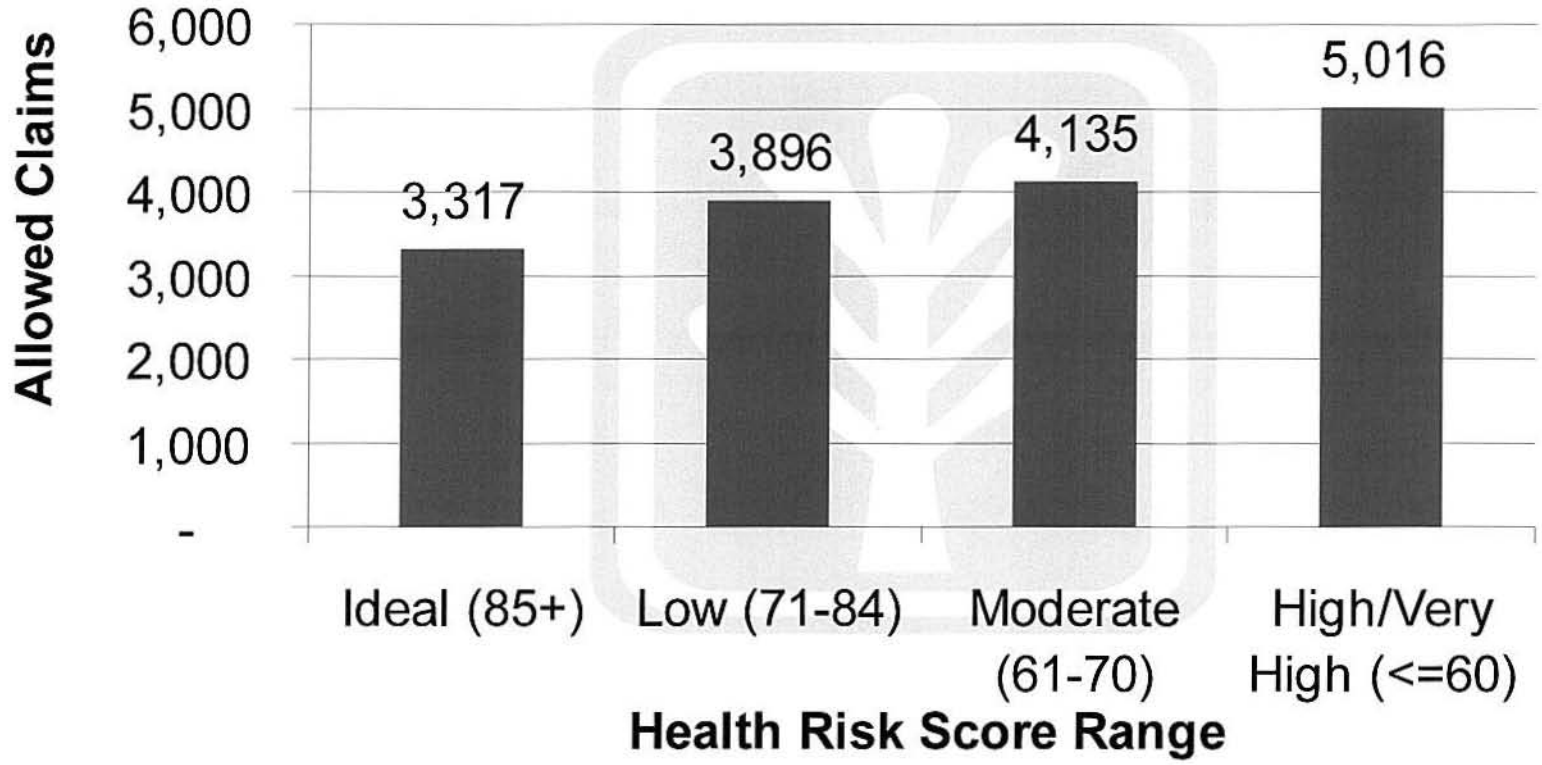
The Impact of Health Risks on Medical Claims

Allowed Claims versus Health Risk Score



Based on claims incurred 3/1/2011-2/28/2012; n=6,911

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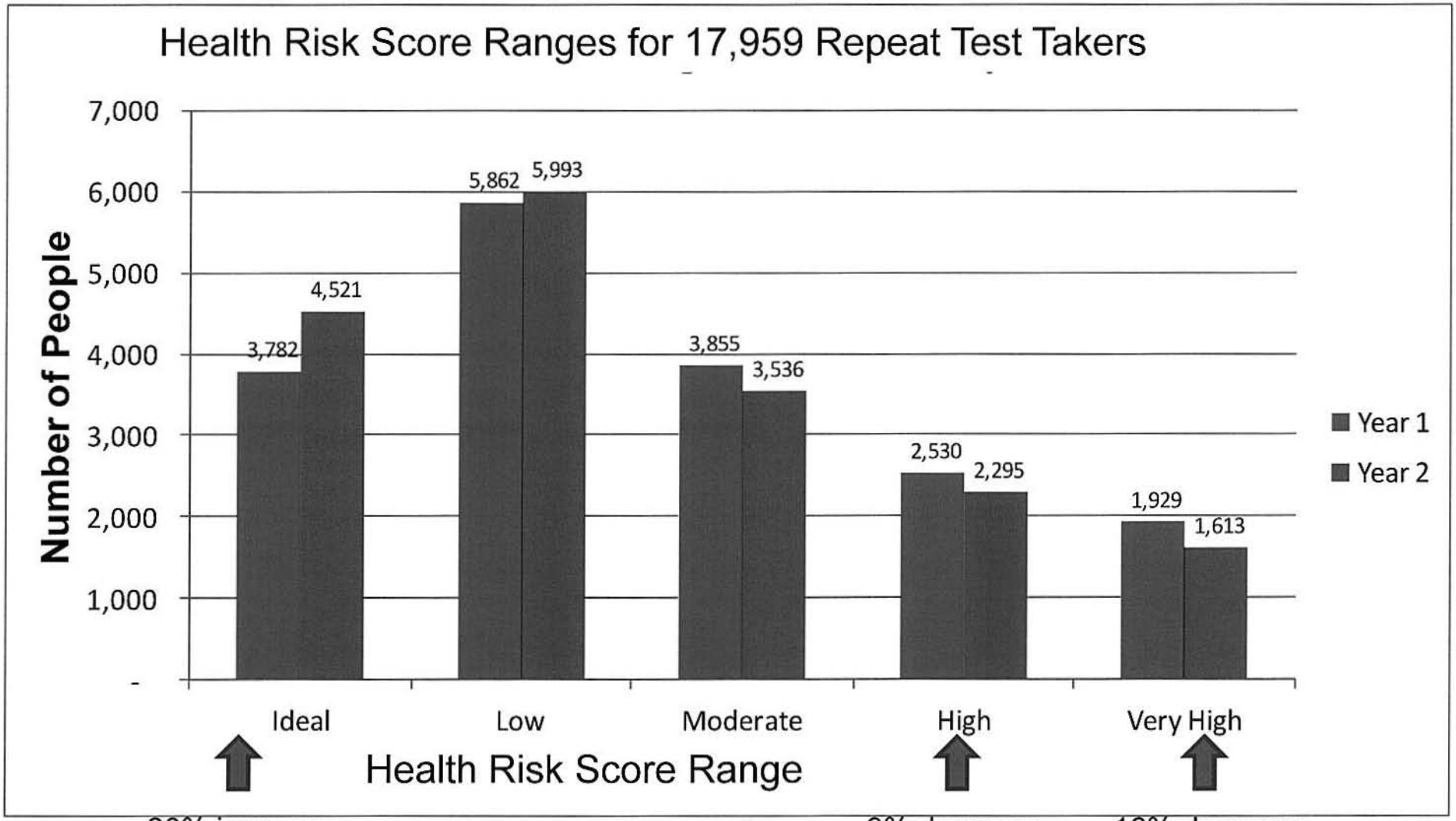
1-Year Population Migration Results



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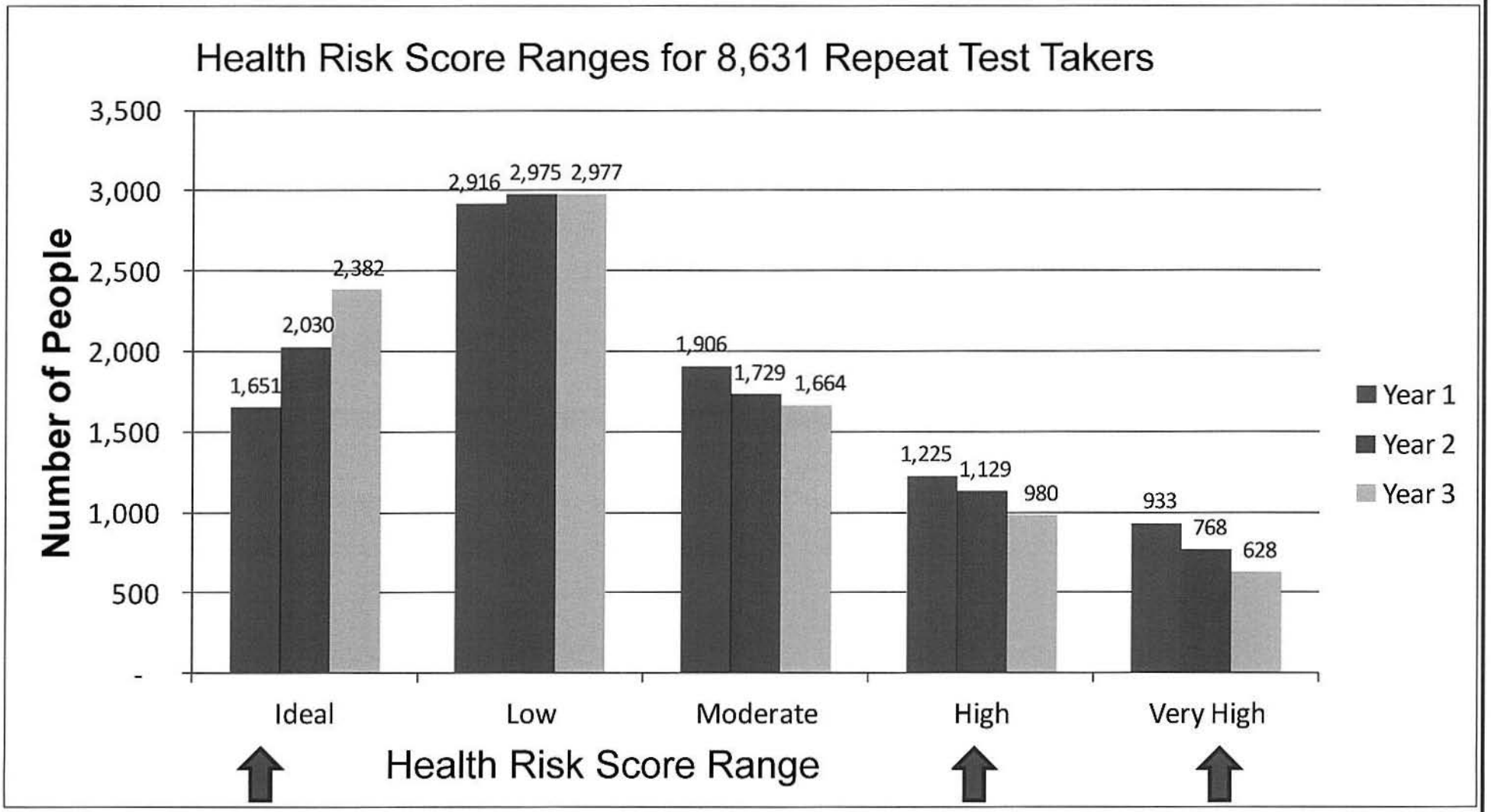
2-Year Population Migration Results



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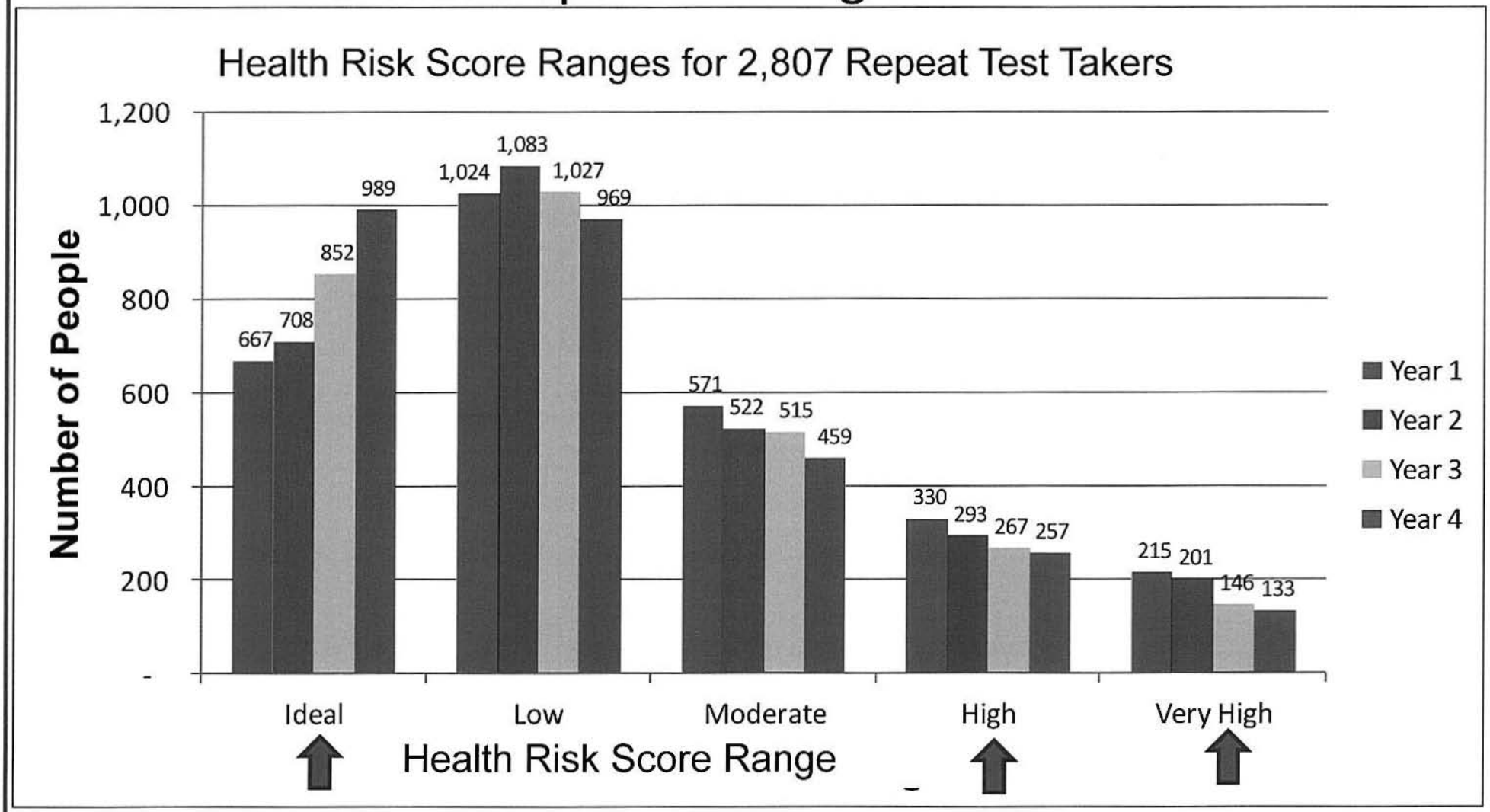
3-Year Population Migration Results



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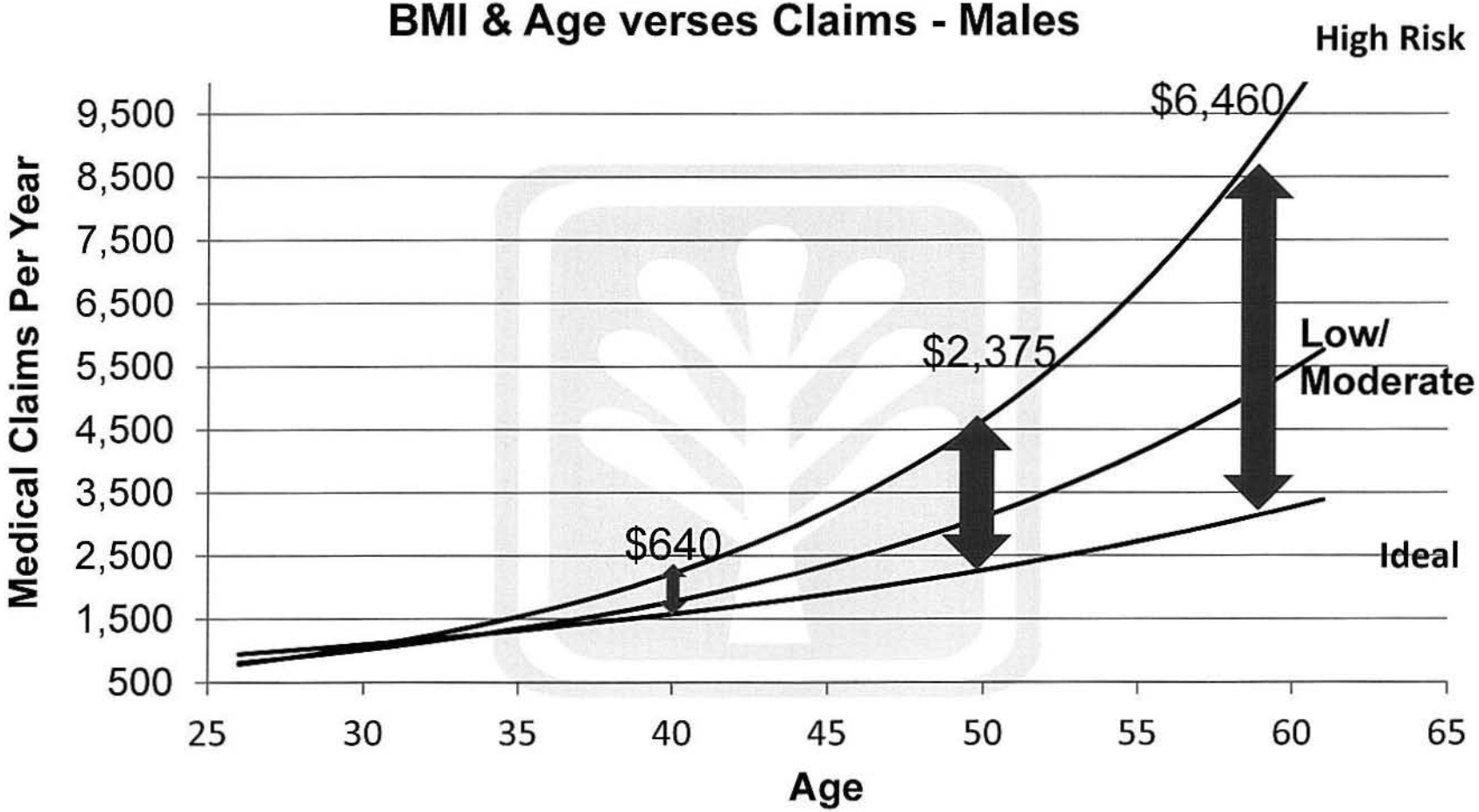
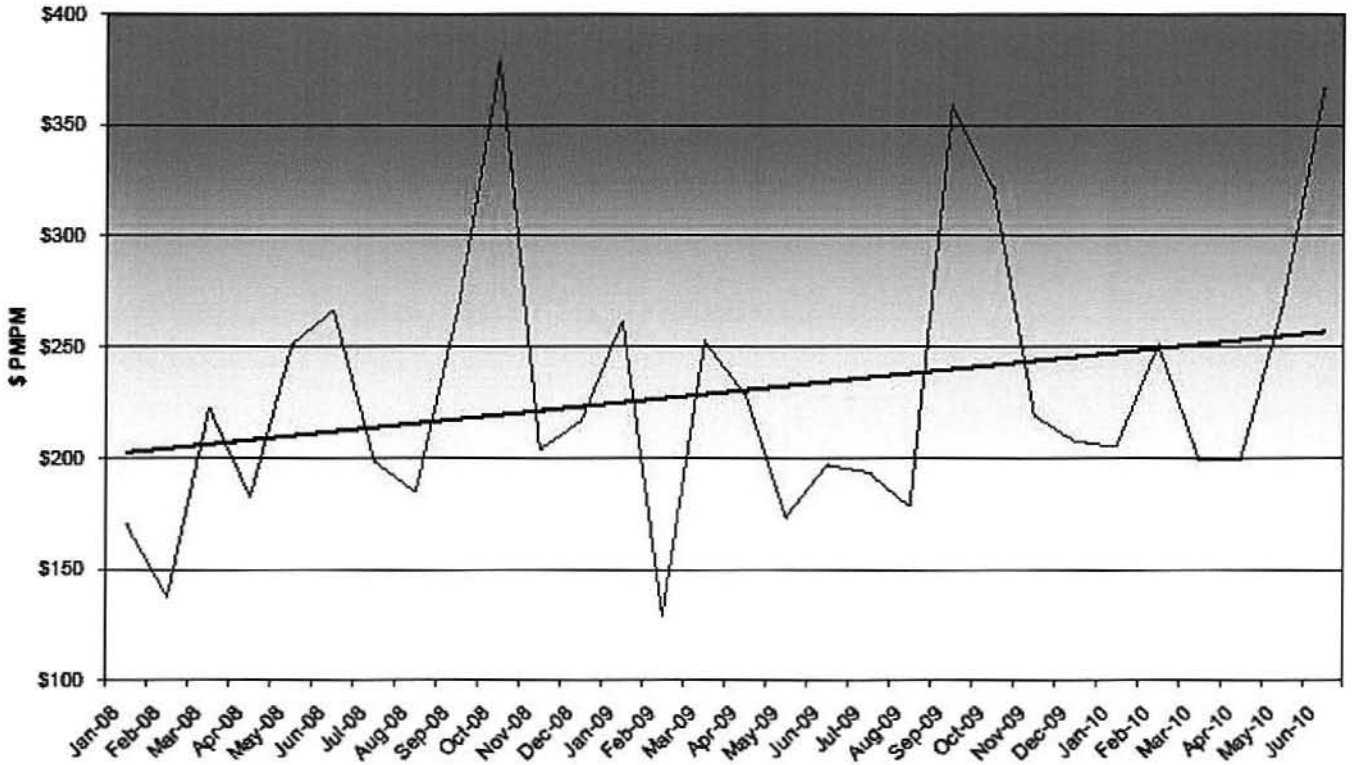
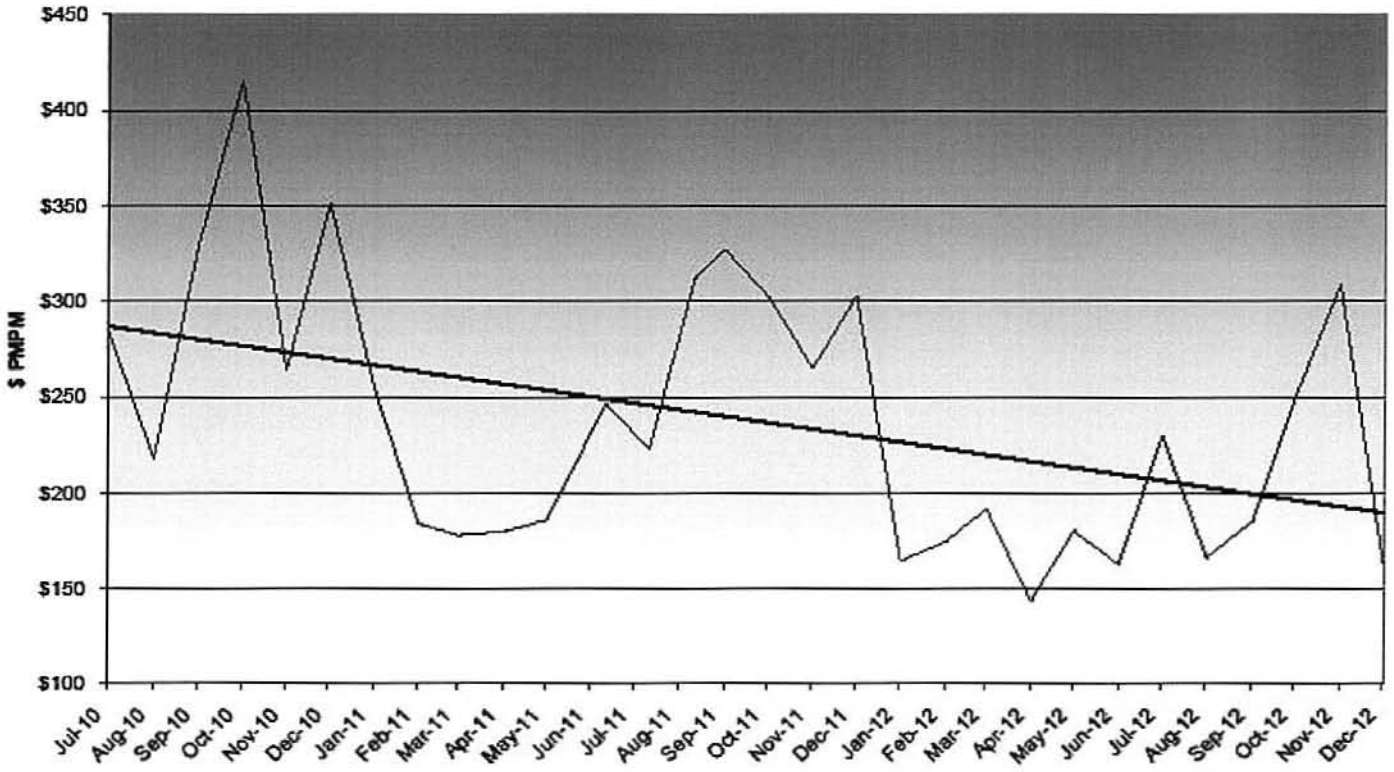
The Impact of Obesity on Claims Costs - Males



Medical & Rx Claims
$ PMPM
(Pre-Wellness Implementation)



Medical & Rx Claims
$ PMPM
(Post Wellness Implementation)



DOES A CORRELATION EXIST BETWEEN WELLNESS AND WORKERS COMP CLAIMS?

Yes. Numerous studies have shown where an employees overall health can contribute to the workplace accidents, the frequency of those accidents as well as the costs.

ONE STUDY FOUND THAT…

- Overweight employees had 11.65 claims per 100 full-time employees to 5.80 claims whose weight was normal;*
- Overweight employees were off work an average of 183 days compared to 14 days for normal employees;*
- Medical costs averaged $51,000 verses $7,500 per 100 full-time employees.*

** Obesity and Workers Compensation. Results from the Duke Health and Safety System. 2007*

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ANOTHER STUDY FOUND…

- Those who scored poorly on their Health Risk Assessment contributed on average to 85% of all Workers Compensation Claims;*
- Savings in medical costs and reduced sick days resulted in a 2.79 to 1 ROI;*
- Using a Health Risk Assessment yielded an overall ROI of 2.51 to 1.*

** The Association of Health Risks and Workers Compensation Costs. The Health Management Research Center at the University of Michigan*

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THE BOTTOM LINE IS MAKING AN INVESTMENT IN A WELLNESS PROGRAM CAN…

- Reduce Workers Compensation Costs by as much as 30%;*
- Lower absenteeism by as much as 28%;*
- Can reduce medical costs by as much as 26%.*

** Partnership for Prevention.*