Wellness Audio Conference
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Measuring the effectiveness of wellness programs and demonstrating Return On Investment

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Observed Increase in Preventive and Wellness Care:

Immunizations	+ 12%
Well baby care	+ 40%
Preventive visits	+ 5% to 12%
Cervical cancer screenings	+ 14%

Observed Increase in Certain Rx Utilization:

Use of insulin	+ 22%
Use of cardio medication	+ 2%
Use of asthma medication	+ 6% to 21%

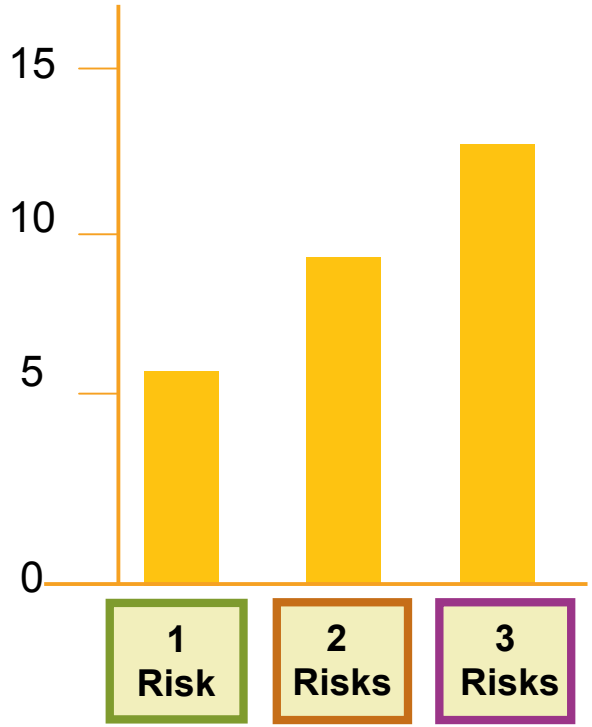
Source: Aetna, CIGNA, UHC, Aon

Chronic Illness

- Affects more than 1/3 of working-age Americans
- Accounts for 75% of the nation's annual health care costs
- Accounts for 26% of STD episodes
- Drives unscheduled absences

Source: NBGH 2006 Conference and Presentation (Kaiser Family Permanente, September 2005, Gartner, October 2005; CDC 2004 and 2005; Health, United States, 2005)

Days Lost per Year



Source: Wayne, Burton, MD.
IHPM North American Summit Meeting 2000

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McKinsey surveyed 2,500 adult consumers and concluded consumers (under CDHP programs) are more likely to:

- Participate in Wellness Programs……. 20%
- Get an annual checkup……30%
- Inquire about drug costs……200%
- Inquire about lower cost treatments……..50%
- Choose less extensive, expense treatment…300%
- Engage in health improvement activities……..25%

Focus on the *science* behind the results

- Ensure that financial results are backed with corresponding utilization and clinical changes
- Provide a strong basis of research reviewing individual's behavior changes
- Conduct causal relationship research to ensure that the positive changes made are related to the actions we have taken
- Demonstrate strong, consistent outcomes across member satisfaction, clinical results, ROI and performance guarantees
- Provide performance guarantees

	Measure Year 1	Measure Year 2
Cost of Program	$ 716,200	$ 836,172
Targeted ROI	1.25	1.50
Targeted Savings	$ 895,250	$ 1,254,258
Gross Savings	$1,409,196	$ 2,071,438
	1.97	**2.48**

General Background

- Utilize a set of 12-15 research-tested “high health risk factors” to monitor the risk status of a client population
- The University of Michigan’s Health Management Research Center (HMRC) estimated the average value for risk reduction at $153 per risk decreased per person per year
- In 2005 dollars, each risk decreased is equivalent to an average savings of $1,208 per person per year

Our Approach

- Compare time 1 and time 2 HRA responses by member for a population and apply risk factor valuation to average population risk level changes

Methodology Summary

- Change in risk factors for individuals taking multiple HRAs is multiplied by value of avoided risk, which in turn creates savings
- Savings/Program Costs = ROI

Methodology

- Utilize “Research-Tested Health Risk Factors” to monitor the health risk status of the population
- Use the leading research available that quantifies the savings related to change in health risk in populations
  - Edington, AJHP 15(5): 341-349, 2001
  - Burton, JOEM 48: 252-263, 2006
  - Yen, Edington, Witting; AJHP 6:46-54, 1991
- Compare Time 1 and Time 2 HRA responses by member aggregated over a population and apply average risk factor savings values to quantify population risk level impact

The following set of 12-15 research-tested risk factors is used to monitor the risk status of a client population, with the exact number of factors depending on the specific questions in the HRA used by the client.

These risk factors include:

- Self-perception of health status
- Job satisfaction
- Life satisfaction
- Illness days
- Stress
- Blood pressure
- Excessive alcohol use
- Existing medical problems
- Physical activity level
- Use of drugs for relaxation
- Safety belt use
- Smoking
- Total cholesterol
- HDL cholesterol
- Body Mass Index (BMI)

Client Background:

- 9,000 employee national media company with over $2B in annual revenues
- 72%+ annual participation in Health Appraisal
- 3,816 employees took the HRA in both years

Program Background:

- HRA completion incentive $260 ($10 per pay period)
- DM Program in place from 3rd party vendor
- Program start date August 2006

Essential ROI Methodology:

- Limit analysis to cohort who responded in both years
- Track changes in individual risk profiles using core set of 11 research-identified key factors tied to direct and indirect medical costs
- Assign financial value to decreases (or increases) in risk levels based upon research findings

Key Risk Factors Identified and Flagging Levels:

1. Inconsistent seatbelt usage
2. Active Smoker
3. Alcohol use greater than 14 drinks per week
4. Weight (BMI >= 27.5)
5. Job satisfaction (not completely satisfied)
6. Cholesterol (Total > 239)
7. Uses Medications to relax
8. High stress
9. Exercise less than once per week
10. Self assessed health status of ‘Fair’ or ‘Poor’
11. High blood pressure (> 139/89)

Results:

- 1.5% reduction in risk level among HRA cohort of 3,816 employees (3.00 → 2.95 average risks per employee)
- **5x greater reduction in risk levels found among active program participants**
  - 5.3% reduction among active program participants, versus 1.0% reduction among others in cohort
  - Participants enter program with 29% higher risk levels than non-participants
- $212,000 estimated savings in productivity gains (Burton, et al 2006)
- $101,000 estimated savings in avoided medical costs (Edington, et al 2001)
- **First Year Program ROI 1.3:1** – including direct fees plus 50% of NBH program integrator fee in program cost estimate

Risk Factor	2006 NP	P	2007 NP	P	Non-Participant (NP) 3498	Participant (P) Delta 322	NP Delta %	P Delta %
Exercise less than once per week	1565	206	1289	154	-276	-52	-7.9%	-16.1%
Inconsistent seatbelt usage	557	62	474	48	-83	-14	-2.4%	-4.3%
Weight (BMI >= 27.5)	1425	226	1462	215	37	-11	1.1%	-3.4%
Active smoker	670	79	635	73	-35	-6	-1.0%	-1.9%
High cholesterol (Total > 239)	367	72	383	66	16	-6	0.5%	-1.9%
Alcohol use greater than 14 drinks per week	77	7	81	2	4	-5	0.1%	-1.6%
High blood pressure (> 139/89)	81	21	95	23	14	2	0.4%	0.6%
Uses medications to relax	631	85	647	88	16	3	0.5%	0.9%
Job satisfaction (not completely satisfied)	2698	267	2749	270	51	3	1.5%	0.9%
Self assessed health status of 'Fair' or 'Poor'	158	48	182	52	24	4	0.7%	1.2%
High stress	2010	140	2139	157	129	17	3.7%	5.3%
Totals	**10239**	**1213**	**10136**	**1148**	**-103**	**-65**	**-2.9%**	**-20.2%**
Overall Risk Prevalence and Change	**2.93**	**3.77**	**2.90**	**3.57**	**(0.03)**	**(0.20)**		

- Tracking and recording of absence events improved 150%
- Mean length of disability absences decreased by 21% through 2006
- Appreciative inquiry – intervening on less than 5-day absences decreased all days taken by 39% after 6 months
- Absence rates dropped 21% from 2005-2006
- Where NCM has recommended a lifestyle management course, participation results are 27% higher than other methods of outreach

- STD Claim Durations
  - average **24%** shorter than MDA guidelines
  - average **27%** shorter than JHA disability industry results
- Financial Savings Per STD Claim
  - **$1,227** per claim better than MDA guidelines
  - **$1,418** better than JHA disability industry results
- Example of Client Total Program Savings[1]
  - **$1,060,826** better than MDA guidelines
  - **$1,150,178** better than JHA disability industry results

1 – Sample savings assumes 10,000 eligible employees incurring claims at a 9% overall incidence rate with the sample MDC distribution.