

## C. EVALUATION METHODOLOGY

Alcon measures its success by evaluating activity, risk factor change, participant satisfaction and claims trend impact. Participant satisfaction is crucial to create continued engagement in the Vitality program. This continued engagement results in risk factor changes. The risk factor changes impact medical and pharmacy claims, thereby creating a savings for Alcon.

Both self-reported HRA results and verifiable information obtained from biometric screenings are automatically integrated into the program and incorporated into standard quarterly reports. For the purposes of reporting, as well as determining each member's personalized program, the system is aware of where data is submitted from, so that a metric that is self reported is treated differently than the same metric that is submitted from a verified source.

Using the information gleaned from reports, Alcon works with its Vitality team to continuously evaluate, and where appropriate, adapt its engagement and program strategy. The types and frequency of reports include:

- Monthly Activity Report: Utilization and participation numbers for all Vitality activities (including HRA completions)
- Monthly Status Report: Member analysis by Vitality status
- Quarterly Report: Participation levels, identified risks, evaluation of program progress
- Annual Risk Report: Risk transitions over time
- Annual Claims Report: Financial impact on claims costs

In addition, the information is used to determine consistency across locations, population demographics, etc., and to address any potential gaps in efficacy. For example, the medical premium discount for the 2011 plan year was developed using the annual actuarial reporting. Alcon's historic HRA completion rates were over 90 percent for both years in the Vitality program. In order to keep driving low trends, Alcon needed to take the next step. The new incentive structure requires all employees and spouses to take an HRA, select a goal and complete five activities to receive a premium discount of \$100/ \$200 (employee only/employee plus spouse).

The following sections explain the specific evaluation methodology behind each analysis presented in this report.

## PROGRAM PARTICIPATION

Data was available on all employees, spouses and children that participated in the program between May 1, 2008 and December 31, 2010. Children’s activity data was excluded from this report. A limited amount of onsite activity data was also excluded due to lack of availability, such as Weight Watchers participation.

Three separate participation analyses were completed. The evaluation methodology for each is explained in Table I.

**Table I: Participation Evaluation Methodology**

Evaluation Name	Study Design/ Analysis	Outcome Variables	Validity Strength	Sample Size
<b>Annual Participation</b>	Year over year comparisons	% participation, average number of activities per engaged member	High, most activities are verified	Average enrolled employees by year: 2008: 7,370 2009: 7,400 2010: 7,409 Average enrolled employees and spouses by year: 2008: 11,769 2009: 11,872 2010: 11,935
<b>Advanced Participation Metrics</b>	Relative Distributions	Distribution of level of engagement tied to age group and BMI	Moderately high, most activities are verified. HRA data is self-reported which may reduce the validity slightly	Age Group: 5,684 BMI: 5,613
<b>“Maintain, Don’t Gain” Case Study (please refer to Documentation, Section 2 for results)</b>	Participation and Weight Loss	Number of participants, average weight lost	High, participants weight was monitored by designated company representatives	2006: 427 2007: 527 2008: 851 2009: 717 2010: 647

## PARTICIPANT SATISFACTION

During March 2011, an interviewing tool was used to facilitate an open discussion with employees regarding the Vitality wellness program. A total of 236 Alcon employees were interviewed from the following divisions: manufacturing, corporate and research & development.

The Vitality interviewing tool was designed to better understand employee awareness of the value of the benefits and rewards associated with participation in the Vitality wellness program. Seven interview questions and associated talking points were developed in conjunction with Vitality personnel. In addition, employees were given the opportunity to ask questions. Interviews were conducted in a conversational manner (1:1) or in small groups. All employees were approached in a respectful manner and asked for their permission prior to conducting the interview.

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## BIOMETRIC AND LIFESTYLE RISK FACTORS

Attribute data comes from either the HRA or a verified source, such as an onsite blood draw or a physician's lab. During 2008 and 2009, members completed the University of Michigan HRA. During 2010, members completed a new interactive HRA. Due to the change in the HRA questionnaire, questions and response choices differed between 2008/2009 and 2010. For example, instead of providing multiple choice selections for level of activity, participants could now provide the exact duration by intensity of workout. Another example is that nutrition changed from a generic multiple choice question reflecting combined fruits, vegetables and whole grains to a series of questions focusing on these items separately. In order to preserve the credibility of this analysis, we chose not to include lifestyle changes from 2008/2009 to 2010.

Table II explains the evaluation methodology used for each risk factor analysis.

**Table II: Risk Factor Evaluation Methodology**

Evaluation Name	Study Design/Analysis	Outcome Variables	Measures	Validity Strength	Sample Size
<b>Healthy People 2010 and 2020</b>	Direct comparison to population objectives	2010 percentage of Alcon employees with risk compared to objective provided by Healthy People 2010 and 2020	BMI, smoking status, total cholesterol, hypertension, physical activity	High, Alcon's responses are generated from HRA questions consistent to Healthy People 2010 and 2020.	All employees responding to the related question in the 2010 HRA are included in the base. BMI, physical activity and smoking status: 5,206 Hypertension: 3,519 Cholesterol: 2,701
<b>Verified Net Risk and High Risk Biometric Transitions</b>	Results are limited to verified data with measurements taken at least 100 days apart. Initial biometric measurement is used to determine member's initial grouping. Latest biometric measurement is used to determine member's final grouping.	<u>Net Risk Transitions:</u>  Net change in percentage of high risk members  <u>High Risk Transitions:</u>  Movement of members with initial high risk measurements. Engagement attached to these risk transitions.	BMI, systolic and diastolic blood pressure, total cholesterol, Cotinine test result, fasting blood glucose	High, all biometric data included was either verified by a lab or physician. Most activities used to measure engagement are also verified.	<u>Net Risk Transitions:</u> Total Cholesterol: 2,973 Systolic Blood Pressure: 3,255 Diastolic Blood Pressure: 3,253 BMI: 2,487 Fasting Glucose: 2,921 Cotinine test result: 2,571 <u>High Risk Transitions:</u> Total Cholesterol: 265 Systolic Blood Pressure: 493 Diastolic Blood Pressure: 531 BMI: 719 Fasting Glucose: 111 Cotinine test result: 287 Unique members with at least one high risk measurement: 1,513
<b>Overall Risk Transitions</b>	Results are limited to all individuals that completed an HRA during 2008 and 2009. To maintain the credibility of the analysis, participants were only included if they had no more than one unknown value and a consistent number of unknowns in 2008 and 2009.  Risk factor groupings are based on count of risk factors: 0 to 1 is low risk; 2 to 3 is medium risk and 4 and above is high risk.	Count of members moving between risk groups. Count of members maintaining same risk grouping.  Excess cost by risk category is calculated using 2009 age/gender adjusted claims data.	The following risk factors are included: Alcohol intake, systolic blood pressure, BMI, total cholesterol, existing conditions, absent days, life satisfaction, seatbelt usage, physical activity, smoking status, stress	Moderate, much of the population had a large amount of unknowns in 2008, therefore had to be removed. Also, calculation is based solely on HRA data.	1,347 members

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## FINANCIAL IMPACT

The financial impact of wellness was broken into the following separate analyses:

- Direct Medical and Pharmacy Claims Savings
- Indirect Workplace Financial Savings
- ROI Calculation

The methodology used for each analysis is explained further in the following sections.

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### DIRECT MEDICAL AND PHARMACY CLAIMS SAVINGS

Detailed medical and pharmacy claims data for 2008 through 2010 was provided by Alcon's health insurance carrier. In order for claims data to be tied to engagement in Vitality, the data was limited to the calendar year quarters in which Vitality was in place: June 2008 to December 2010.

For medical claims, allowed charges were used for the statistical analysis. After the savings were calculated, they were reduced to account for average cost sharing by member during the calendar year evaluated. Allowed charges were not provided for pharmacy claims, so paid claims data was used.

A logistic regression propensity matching technique combined with Mahalanobis and inverse variance matching was utilized. Quarterly average allowed medical claims for employees and spouses in low and moderate wellness engagement levels were compared to those in a high engagement level. The average quarterly cost was truncated at \$60,000. The average sample sizes of the control groups are 1,688 in 2008, 1,863 in 2009 and 2,487 in 2010.

The average allowed medical and pharmacy claims for the treatment and control groups were compared for each quarter and the difference as well as significance levels were recorded. Please note that, due to the nature of medical and pharmacy claims data, the accuracy of the reported significance levels is likely to be diminished by the extreme skewness of the cost variable.

Please refer to the Documentation, Section 4 for more detailed information regarding this analysis.

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### INDIRECT WORKPLACE FINANCIAL SAVINGS

Indirect workplace financial savings is further broken down into productivity and short-term disability/workers' compensation.

## PRODUCTIVITY

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Productivity data was collected using a self-reported HRA. This analysis used data collected from the 3,597 HRA respondents that completed this assessment every year from 2008 to 2010. The productivity questions on the HRA were taken from the shortened version of the World Health Organization Health and Work Performance Questionnaire (HPQ)<sup>1 2</sup>. Based on the questions asked on the HRA, the three approaches analyzed the changes in the employee's usual performance over the past year or two, the employee's recent performance compared to his/her usual performance, and the employee's performance compared to his/her co-workers. Of these three approaches, a comparison of the changes in a respondent's usual productivity over the past year or two proved to have the most reliable data. As was done in other productivity studies<sup>3</sup>, the value 240 was used as the total days eligible to work per year. The HRA questions asked the employees to rate their own performance and that of their co-workers on a scale from 0 to 10, allowing for a simple conversion to absolute productivity percentages and the productivity changes over time. The percent changes were then converted to productive work days lost using the 240 day work year less the number of days lost for workers' compensation and short-term disability, so as not to over-estimate the loss. The days were then monetized using the human capital approach to the salary conversion method<sup>4</sup> in combination with the 2009 average salary for the pharmaceutical and medicine manufacturing industry, as determined by the U.S. Bureau of Labor Statistics<sup>5</sup>.

Productivity data was also analyzed by the employees' final level of wellness engagement, measured in 2010. Since data was collected from employee HRA responses, every respondent had some level of engagement. Low engagement is defined as less than 0.5 average activities per month; moderate engagement is between 0.5 and 2 average activities per month; high engagement is over 2 average activities per month.

## SHORT-TERM DISABILITY/WORKERS' COMPENSATION

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This analysis used recorded short-term disability and workers' compensation disability days as a method for measuring health-related absenteeism. The analysis includes all employees with a short-term disability (STD) or workers' compensation (WC) disability claim in 2009 and 2010, including employees with pregnancy claims as pregnancy data was unable to be separated. Since Alcon has paid time-off (PTO) which does not separate sick days from vacation days, this analysis was also unable to include any health-related absence days outside of short-term

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<sup>1</sup> Kessler, R.C., Barber, C., Beck, A.L., Berglund, P.A., Cleary, P.D., McKenas, D., Pronk, N.P., Simon, G.E., Stang, P.E., Üstün, T.B., Wang, P.S. (2003). The World Health Organization Health and Work Performance Questionnaire (HPQ). *Journal of Occupational and Environmental Medicine*, 45 (2), 156-174.

<sup>2</sup> Kessler, R.C., Ames, M., Hymel, P.A., Loeppke, R., McKenas, D.K., Richling, D., Stang, P.E., Üstün, T.B. (2004). Using the WHO Health and Work Performance Questionnaire (HPQ) to evaluate the indirect workplace costs of illness. *Journal of Occupational and Environmental Medicine*, 46(Suppl. 6), S23-S37.

<sup>3</sup> Goetzel RZ, Long SR, Ozminkowski RJ, Hawkins K, Wang S, Lynch W. Health, absence, disability, and presenteeism cost estimates of certain physical and mental health conditions affecting U.S. employers. *J Occup Environ Med*. 2004;46:398-412.

<sup>4</sup> Mattke S, Balakrishnan A, Bergamo G, Newberry SJ. Review of Methods to Measure Health-related Productivity Loss. *Am J Managed Care*. 2007;13: 211-217

<sup>5</sup> U.S. Bureau of Labor Statistics, May 2009 National Industry-Specific Occupational Employment and Wage Estimates: NAICS 325400 – Pharmaceutical and Medicine Manufacturing. 2010 May 14. [http://www.bls.gov/oes/current/naics4\\_339100.htm](http://www.bls.gov/oes/current/naics4_339100.htm). Accessed 2011 May 5.

disability and WC. In an effort to keep the data as reliable as possible, this analysis is limited to 2009 and 2010 claims data due to a lack of complete year data prior to 2009.

Disability days were converted to monetary costs using a 365 day work year and the U.S. Bureau of Labor Statistics 2009 average salary for the pharmaceutical and medicine manufacturing industry. The reason for using a 365 day work year is because STD and WC benefits are paid based on a seven day work week instead of the number of days the employee actually works.

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## RETURN ON INVESTMENT (ROI) CALCULATION

Return on investment was calculated using a benefit-cost ratio. Savings of the program included are medical and pharmacy, productivity and short-term disability/workers' compensation savings. Costs of the program include:

- Merchandise redeemed in Vitality Mall
- Discounts on hotel stays
- Partner health club subsidies
- Non-partner health club rebates
- Rebates for weight loss programs
- Rebates for smoking cessation programs
- Wellness administrative services provided by Vitality
- Marketing materials
- Member communication materials
- Onsite Vitality program manager
- Support for the Vitality Champ program
- Onsite Events such as 5k Run/Walks
- Pedometer purchases made by Alcon for its employees

There are several other types of costs and savings that have been excluded due to difficulty estimating or data not being available. Please refer to Documentation, Section 5 for a detailed list of costs and savings not included.

## D. RESULTS

### PROGRAM PARTICIPATION

#### BASIC ENGAGEMENT METRICS

Three years ago, Alcon increased its commitment to wellness by making a strategic decision to integrate its wellness program with its overall medical health benefits. During 2008 and 2009, the health plan linkage focused primarily on HRA completion. Completing an HRA provided members access to a premier medical plan with lower cost-sharing and premiums. As a result, Alcon achieved over 90 percent participation in both years.

An analysis of 2008 and 2009 engagement and medical costs demonstrated two major outcomes:

1. Almost 20 percent of the population only completed their HRA
2. These members had significantly higher trend levels than more engaged members (almost 2.5 times higher on average)

As Alcon witnessed, completing an HRA alone was not enough to counter the trend of increasing medical costs. On top of the increasing medical costs, Alcon provided additional incentives that generated even more costs.

Going into the third program year, Alcon decided to move to the next level of wellness engagement. They removed the HRA requirement to access the premier medical plan, and they instead opted to change the health plan linkage to an employee contribution discount of \$100/ \$200 (employee only/employee plus spouse) if both employee and spouse completed all of the following:

- Complete an HRA
- Select a goal that was recommended to them based on their unique health risks
- Participate in five wellness-related activities

The following sections demonstrate the outcomes of this strategic decision on employee participation and combined employee and spouse participation.

#### EMPLOYEE PARTICIPATION

Given the change in approach, the number of employees that completed the HRA during 2010 did decrease as expected. Despite the decrease in HRA completions, verified fitness activities and online courses/tools experienced large increases in participation at 17 percent and 74 percent, respectively.



Overall, the change in approach met its main objective, which was to increase the number of activities for engaged employees. During 2009, engaged employees participated in an average of 25 separate wellness activities. During 2010, this number jumped 44 percent to an average of 36 activities per engaged employee.

Please refer to the Documentation, Section 1 for further employee engagement metrics.

## EMPLOYEE AND SPOUSE PARTICIPATION

We also evaluated combined employee and spouse participation, which is presented in Table III. From 2009 to 2010, utilization of online courses and tools increased 80 percent and participation in verified fitness activities increased 24 percent. Disease/maternity management participation also increased by 12 percent across employees and spouses. HRA participation decreased by 31 percent, while biometric and prevention screenings remained consistent.

	Employees and Spouses			% Increase	
	2008	2009	2010	2008 to 2009	2009 to 2010
Average Enrollees	11,769	11,872	11,935		
Health Risk Assessments	10,891 (93%)	10,983 (93%)	7,676 (64%)	0.0%	-30.5%
Biometric and Prevention Screenings	6,701 (57%)	7,554 (64%)	7,580 (64%)	11.8%	-0.2%
Flu Vaccinations	3,183 (27%)	4,680 (39%)	4,953 (41%)	45.8%	5.3%
Verified Fitness Activities	2,751 (23%)	3,465 (29%)	4,303 (36%)	24.9%	23.5%
Online Courses/Tools	1,947 (17%)	2,474 (21%)	4,491 (38%)	26.0%	80.6%
Disease/Maternity Management Programs	137 (1%)	191 (2%)	215 (2%)	38.2%	12.0%

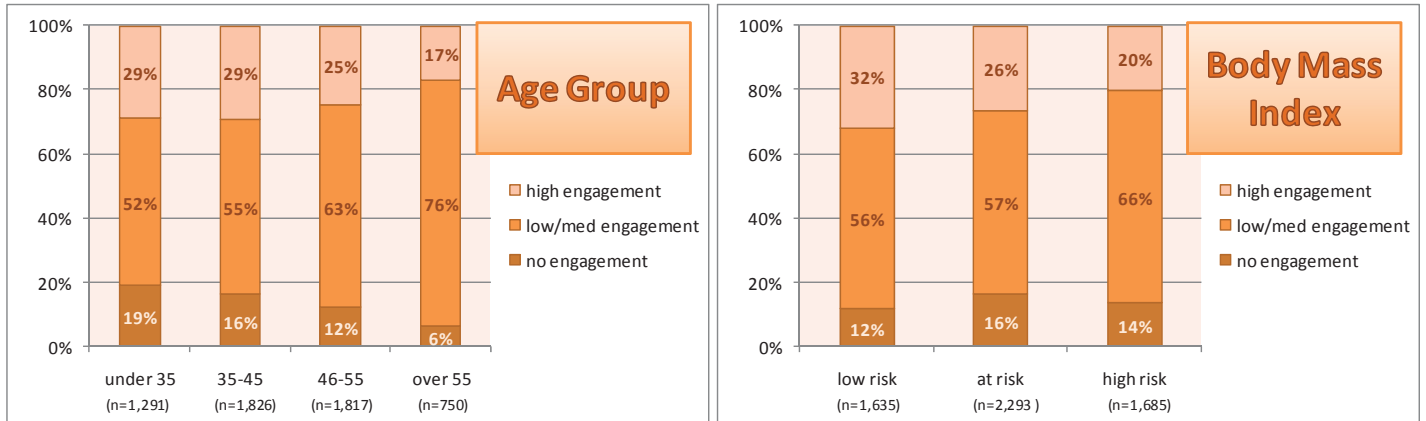
Similar to employee only results, the level of participation per engaged employee and spouses increased significantly. From 2009 to 2010, average activities per engaged member increase from 21 to 31, a 48 percent increase.

## ADVANCED ENGAGEMENT METRICS

2009 HRA responses were compared to respondents' 2009 engagement levels. This analysis highlights some of the achievements of Alcon's Vitality program:

- As is seen in the age group chart below, the percentage of Alcon's population that is unengaged actually decreases with age. While older employees may not be reaching the levels of high engagement at the same rate as younger employees, they are staying engaged in the program at a higher percentage.

- The BMI chart below describes how Alcon’s Vitality program not only engages low risk employees but also has a high engagement level for at risk and high risk employees, with 83.7 percent and 86.3 percent of the population in these risk categories respectively engaged in the wellness program.



## PARTICIPANT SATISFACTION

During March 2011, a special high touch interviewing tool was created to better understand members’ awareness and hear some direct feedback on the program. A subset of the questions and responses are listed below:

- Do you know the process of spending Vitality bucks on the Vitality Mall? Yes = 89.4%, No = 10.6%
- Did you know that you can use your own dollars to purchase discounted hotel rooms? Yes = 72.0%, No = 28.0%
- Did you know that you can get subsidies on partner gyms? Yes = 81.4%, No = 18.6%
- Did you know that you can get rebates on off-site health improvement programs/non-partner gyms? Yes = 81.4%, No = 18.6%
- Did you know that with a higher Vitality status, you can earn greater discounts on the Vitality Mall? Yes = 78.0%, No = 22.0%

Individual employee feedback also proved useful in understanding member perceptions of the wellness program. As a result of this feedback, several improvements to the program have already been made. For example, while many members were aware of the available off-site gym rebates, many said they found the process of redeeming rebates confusing. As a result, the systems team is working to streamline the process for all Vitality program members. In addition, the team is working to improve communications around the gym rebate program.

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## BIOMETRIC AND LIFESTYLE RISK FACTORS

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### 2010 RESULTS COMPARED TO HEALTHY PEOPLE 2010/2020

In a comparison of 2010 Alcon HRA responses to the Healthy People 2010 and 2020 objectives, Alcon showed tremendous results. Alcon's 2010 risk factors were better than the Healthy People 2010 and 2020 targeted results, with the exception of obesity from Healthy People 2010.

Please refer to Documentation, Section 3 for detailed results.

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### VERIFIED NET RISK BIOMETRIC TRANSITIONS

Risk transitions are measured using verified data including the employee's initial measurement and their most recent measurement, provided they are taken at least 100 days apart.

Overall, employees decreased their total cholesterol, systolic and diastolic blood pressure and tobacco use. BMI saw a very slight increase, and fasting glucose saw a modest increase as well. Below are the exact results:

- Total Cholesterol: Net reduction of 5% in the number with high total cholesterol (8.9% to 8.5%).
- Systolic Blood Pressure: Net reduction of 40% in the number with high systolic blood pressure (15.1% to 9.0%).
- Diastolic Blood Pressure: Net reduction of 40% in the number with high diastolic blood pressure (16.3% to 9.9%).
- Body Mass Index: Net increase of 2% in the number with high risk BMI measurements (28.9% to 29.4%).
- Fasting Blood Glucose: Net increase of 14% in the number with high fasting glucose (3.8% to 4.3%).
- Tobacco Use: Net reduction of 3% in the number of tobacco users (11.6% to 11.2%).

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### VERIFIED HIGH RISK BIOMETRIC TRANSITIONS

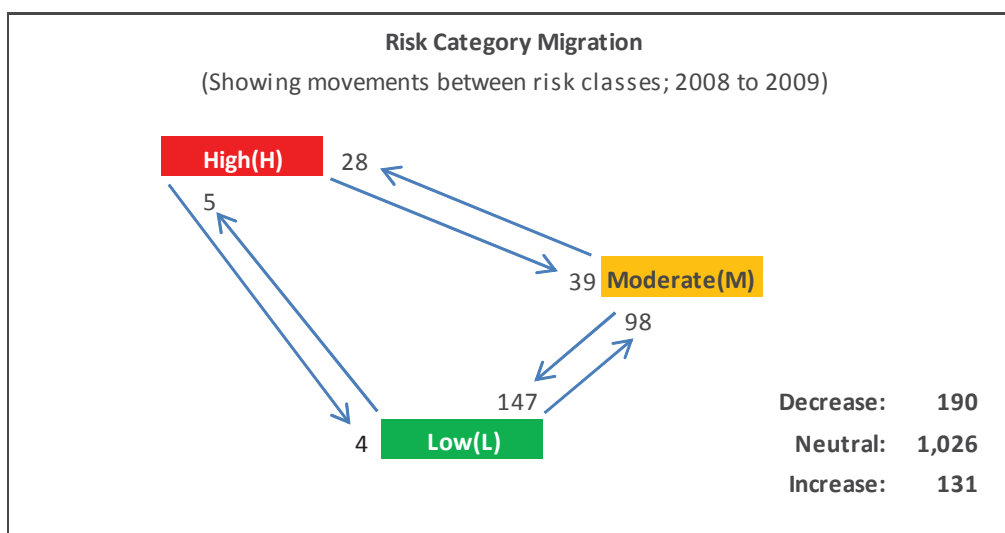
Although a broad range of risk factors are tracked, the following results focus only on validated data. Risk factors analyzed include total cholesterol, systolic blood pressure, diastolic blood pressure, fasting glucose, BMI and tobacco use. For each of these risk factors the transition from high risk (categorized using the member's initial results) is considered. As demonstrated in the following chart, the results for Alcon have been outstanding:

Table IV				
Risk Factor	Initially High Risk	Remained High Risk	Reduced Risk Level	% Reducing Risk Level
Total Cholesterol	265	127	138	52.1%
Systolic Blood Pressure	493	137	356	72.2%
Diastolic Blood Pressure	531	141	390	73.4%
Body Mass Index (BMI)	719	599	120	16.7%
Fasting Glucose	111	71	40	36.0%
Cotinine Test Result	287	221	66	23.0%

The degree of Vitality engagement is also analyzed by transition category. Across these risk factors, the validated results show a major improvement in outcomes for those initially categorized as “high risk”, but more importantly, for all risk factors employees who decrease risk are significantly more engaged in Vitality than those who remained high risk. On average, members reducing their risk levels participated in 12 more activities per year than members who remained high risk.

### OVERALL RISK TRANSITIONS

An analysis of the migrations between risk categories shows that Alcon has been successful in preventing a deterioration of risk factors and achieving a net reduction in overall risks. A 2008 to 2009 overall risk transition analysis demonstrates a net decrease in risk groups by 59 members or 4.4 percent of the population:



An excess cost analysis of Alcon’s 2009 medical and pharmacy claims demonstrates that reduced risk factors are linked to lower medical and pharmacy cost. Low risk employees had 54 percent lower costs than high risk employees (\$4,614 compared to \$10,091) and 27 percent lower costs than medium risk employees (\$4,614 compared to \$6,293).

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## FINANCIAL IMPACT

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### DIRECT MEDICAL AND PHARMACY CLAIMS SAVINGS

Individuals in the higher engagement group had an annual estimated claims savings of \$913 thousand, \$1.44 million and \$1.67 million for the last six months of 2008, calendar year 2009 and calendar year 2010, respectively. After adjusting for medical cost sharing, the annual direct savings to Alcon are \$807 thousand, \$1.27 million and \$1.45 million for the last six months of 2008, calendar year 2009 and calendar year 2010, respectively. Please refer to Documentation, Section 4 for more information.

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### INDIRECT WORKPLACE FINANCIAL SAVINGS

Indirect workplace financial savings is further broken down into productivity and short-term disability and workers' compensation.

#### PRODUCTIVITY

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From 2008 to 2010, on-the-job productivity increased by 0.34 percent from 86.23 percent to 86.52 percent. Those employees falling into the moderate and highly engaged categories in 2010 showed an overall increase in productivity of 0.42 percent from their 2008 productivity measures, while those employees with low engagement in the program showed an increase in productivity of only 0.10 percent. Using 2008 as a baseline, Alcon's productivity improved by a total of 9,293 days for 2009 and 2010 combined, with a total cost savings of \$2.5 million or \$331.79 per employee.

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#### SHORT-TERM DISABILITY/WORKERS' COMPENSATION

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From 2009 to 2010, the number of employees with short-term disability and workers' compensation claims decreased from 9.1 percent to 8.1 percent of employees. Short-term disability and workers' compensation disability days decreased by 7.4 percent from 37,012 to 34,306 days, or 5.00 to 4.63 days per employee. The total cost savings realized in 2010 was \$478 thousand, or \$64.46 per employee.

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### RETURN ON INVESTMENT (ROI) CALCULATION

The total estimated ROI is 1.163 for 2009 and 1.483 for 2010. Total savings for 2008 were not calculated as too many components were missing. Please refer to Documentation, Section 5 for the detailed development of ROI.