

# **Company ABC Management Report**



**Prepared March 1, 2008**

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# Introduction

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## The Company ABC Management Report

This Management Report is a compilation of your population's data from the Health Quotient™ questionnaire. This report summarizes the health risks, health behaviors, medical and self-care patterns, and preferences of your population. The data focuses on modifiable health risks that will enable you to plan more cost-effective programming in order to better manage the health of your population. This report will also provide you important benchmark data from which to measure population health management results, and allow you to measure changes in your population's health over time.

Modifiable health risks cause 25% or more of your members' health care costs.<sup>1</sup> Interventions that target these health risks can reduce health care costs. This Management Report provides information on the severity and prevalence of these modifiable risks, as well as specific recommendations on how to mitigate those costs.

This report also describes your population's demographics, summarizes health risks of the population, quantifies your population's readiness for change, and provides economic data that can help in the final decision making process for your population health risk management (PHRM) program. By understanding the risks present in your employee population, you can plan interventions that target problem areas, and mitigate costs associated with medical claims, productivity, and absenteeism.

## Methodology

This Management Report is a summary of your population's health risk assessment data, biometric data, and any clinical data that may have been provided. The questionnaire collects information on health status and asks participants about their health behaviors. The health risk assessment focuses on behavior-related risks that individuals can change to improve their health, such as proper diet, exercise, stress reduction, tobacco cessation, alcohol moderation, preventive screenings, and more.

Each participant's health risk assessment data was processed to produce an individualized Personal Health Report, which is designed to increase personal awareness and encourage individuals to make health behavior changes. Health information is privileged, and during this process all participant information remains confidential. Results from the personal profile questionnaire are processed and stored on a secure system. Paper-based Health Reports are sealed and returned to the participant in a confidential envelope. Internet-based personal profile participants are given a secure login code and required to create a personal password for security.

# Executive Summary

## Summary of Findings

- **Number of Respondents:** The following table summarizes the number of respondents to complete the health risk assessment.

Respondents: (T1)	Respondents: (T2)	Respondents in Both Time Periods
1,000	1,100	800

- **Overall Health Risk Assessment Score (HRAS):** The following table summarizes your population's HRAS over time and versus benchmark figures. The HRAS ranges from 0 to 100, with higher scores correlated to a relatively healthy population.

Average Score: (T1)	Average Score: (T2)	Average Score: (Benchmark)
76.3	76.7	77.7

- **Most Prevalent Risk Factors:** The three most prevalent health risk factors for your population are:

Risk Factors: (T1)	Risk Factors: (T2)	Risk Factors: (Benchmark)
Inactivity (50.0%)	Inactivity (50.0%)	Inactivity (50.0%)
Poor Nutrition (40.0%)	Poor Nutrition (40.0%)	Poor Nutrition (40.0%)
Weight (35.0%)	Weight (35.0%)	Weight (35.0%)

- **Number of Risk Factors:** Health care utilization, absenteeism, and presenteeism increase as the number of risk factors increases. On average, individuals with 3 or more risk factors will consume 4 times the health care spending as their colleagues without risks, 2 more missed days of work, and 3 additional visits to a physician in the next 12 months. The following table summarizes your populations risk count profile:

Count of Risks	Percent of Participants (T1)	Percent of Participants (T2)	Percent of Participants (Benchmark)
0 – 2	50.0%	50.0%	50.0%

3 – 4	40.0%	40.0%	40.0%
5+	10.0%	10.0%	10.0%

- Cost Implications:** Based on the health risks present in your population, the following table summarizes the total excess modifiable healthcare costs, overall expected medical costs, expected time away from work costs, and expected presenteeism costs for your population:

Cost Category	Estimated Costs per Participant (T1)	Estimated Costs per Participant (T2)
Excess Modifiable Healthcare Costs	\$x.xx	\$x.xx
Overall Expected Medical Costs	\$x.xx	\$x.xx
Time Away From Work Costs	\$x.xx	\$x.xx
Presenteeism Costs	\$x.xx	\$x.xx

- Intervention Opportunity Index:** The Intervention Opportunity Index (IOI) is an index of potential financial impact for investment in intervention targets. According to the IOI, the top three intervention targets for your population are:

IOI
Weight
Stress
Inactivity

# Population Overview

## Demographics

A group's demographic composition is strongly associated with specific patterns of health risks and behaviors. Age, ethnicity, and gender are key indicators of potential health risks and are important guides for appropriate preventive health behavior interventions. Education level is also a major determinant in predicting health behaviors and suitable interventions. Addressing these differences in demographics and risk behaviors will maximize your wellness program results.

Many risk factors that lead to chronic disease are more prevalent in certain demographic groups. For example:

- About 32 percent of cardiovascular disease deaths occur in people before age 75, which is close to the average life expectancy.<sup>1</sup>
- African-Americans tend to have more severe hypertension than Caucasians.<sup>2</sup>
- More women than men die of stroke.<sup>3</sup>
- Physical inactivity is more prevalent among Hispanics as compared to African-Americans and American Caucasians.<sup>4</sup>

The following table shows the breakdown of the population who completed the personal profile questionnaire.

Participation	Total Population (t1)	Total Population (t2)	Cohort	Benchmark Averages
Eligible participants	X	x	X	NA
Actual participants	X	X	X	66,789
Participation rate	x	X	X	NA
<b>Gender</b>				
Male participants	X	x	X	47.3%
Female participants	X	X	x	52.7%
<b>Age</b>				
Average age of participants	X	x	X	43
<b>Ethnicity</b>				
African American participants	X	x	x	2.8%
Asian participants	X	X	X	2.4%

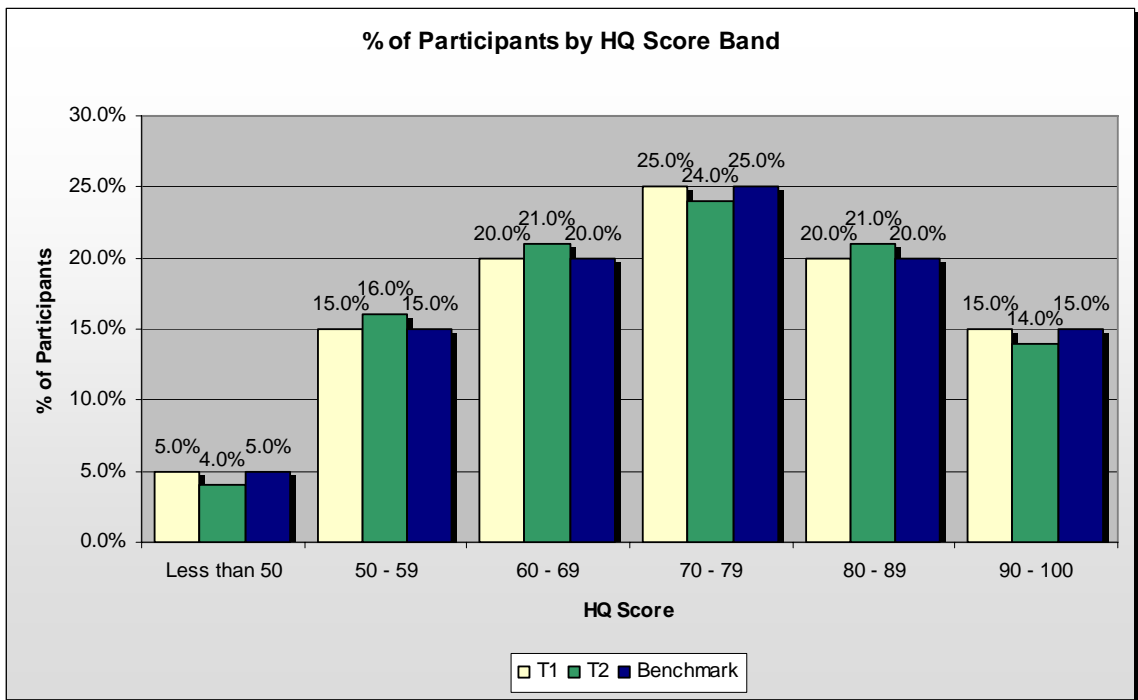
Caucasian/White participants	X	X	X	87.3%
Hispanic participants	X	X	X	3.5%
American Indian participants	X	X	X	0.6%
Multi-Ethnic participants	X	X	X	1.1%
Other participants	X	X	X	0.9%
Ethnicity unknown	X	X	X	0.2%
<b>Education</b>				
Participants that are high school graduates or less	X	X	X	23.5%
Participants with some college or vocational	X	X	X	30.1%
Participants who are college graduates	X	X	X	31.2%
Participants with post graduate/professional degree	X	X	X	13.9%

# Population Overview

## Overall Health Status

The Health Risk Assessment Score (HRAS) is calculated for each individual completing the personal profile questionnaire. The HRAS, which ranges from 0 to 100, is a measure of overall health based on both behavioral risk factors and existing conditions.

This report is organized to help you improve the health and HRAS of your population. Throughout the report, each risk factor will be addressed in greater detail with ideas for recommended interventions. The following graph shows the distribution of scores for the population.



# Economic Summary

## Excess Health Care Costs

A study by the independent Health Enhancement Research Organization (HERO) evaluated the association between modifiable risk factors and medical expenditures. The results of this study showed that a significantly higher level of medical expenses were associated with seven out of 10 health behaviors evaluated. Self-reported depression, high stress levels, and high blood glucose levels were risk factors associated with the greatest medical costs. Other risk factors that contributed to high expenditures were body weight, tobacco use, high blood pressure, and physical inactivity.<sup>1,2</sup>

The following table lists the health risks present in the Company ABC population based on the answers from the personal profile questionnaire and provides a detailed estimate of excess health care costs that may be avoided if these risk factors are reduced:

		T1		T2	
Health Risk	Per Person Excess Health Care Spending for Risk Factor	Participants with Risk Factor	Total Excess Health Care Spending	Participants with Risk Factor	Total Excess Health Care Spending
Depression	\$1,747	100	\$118,700	75	\$89,025
Stress	\$1,077	100	\$73,200	75	\$54,900
High Blood Sugar	\$864	100	\$58,700	75	\$44,025
Overweight	\$518	100	\$35,200	75	\$26,400
Tobacco use	\$335	100	\$22,800	75	\$17,100
High Blood Pressure	\$293	100	\$19,900	75	\$14,925
Cardiovascular Exercise	\$254	100	\$17,300	75	\$12,975

*Notes:*

*Many participants have multiple risk factors. However, the numbers listed above depict the one risk factor that has the greatest health care expenditure per participant.*

*Guidelines used in the HERO study are different than current national guidelines. All references to excess healthcare costs in this report are calculated using participants that are “at risk” using HERO guidelines.*

*Excess spending has been adjusted for inflation.*

## Financial Impacts of Risks Stratification

An additional way to look at the financial impact related to health risks is to use a model proposed by the University of Michigan, which correlates the number of health risks an individual has with their expected health-related expenditures. In this methodology participants are categorized into one of three risk stratifications: Low risk is comprised of participants with 0 – 2 risks; Medium Risk is comprised of participants with 3 – 4 risks; and High Risk is comprised of participants with 5 or more risks. In the following three tables, expenditures related to medical costs, time away from work (absenteeism, short-term disability, etc) and presenteeism are summarized, using this methodology.<sup>3,4, 5</sup>

Medical Costs		T1		T2	
Risk Level (Number of Risk Factors)	Expected Per Person Medical Costs	Number of Participants	Total Expected Medical Costs	Number of Participants	Total Expected Medical Costs
Low (0 – 2)	\$3,236	1,000	\$2,199,000	1,001	\$2,201,199
Medium (3 – 4)	\$5,091	50	\$173,000	49	\$169,540
High (5+)	\$8,123	50	\$276,000	50	\$276,000
Total Dollars			\$3,892,560		\$3,890,706

Time Away from Work Costs		T1		T2	
Risk Level (Number of Risk Factors)	Expected Per Person Time Away from Work Costs	Number of Participants	Total Expected Time Away from Work Costs	Number of Participants	Total Expected Time Away from Work Costs
Low (0 – 2)	\$621	1,000	\$490,000	1,001	\$490,490
Medium (3 – 4)	\$859	50	\$33,900	49	\$33,222
High (5+)	\$1,499	50	\$59,150	50	\$59,150
Total Dollars			\$746,304		\$746,063

Presenteeism Costs		T1		T2	
Risk Level (Number of Risk Factors)	Expected Per Person Presenteeism Costs	Number of Participants	Total Expected Presenteeism Costs	Number of Participants	Total Expected Presenteeism Costs
Low (0 – 2)	\$5,439	1,000	\$1,000,000	1,001	\$1,001,000

Medium (3 – 4)	\$7,733	50	\$100,000	49	\$98,000
High (5+)	\$9,990	50	\$200,000	50	\$200,000
Total Dollars			\$1,339,00		\$1,337,970

*Notes:*

*Financial impacts based on various study outcomes (please see endnotes for specific studies). It should be expected that your actual cost impacts will vary due to differences in underlying population demographics, changes in treatment protocols/ costs since the studies were conducted and numerous other factors. As such, the above figures should be considered as projections and only generally indicative/ directional of cost changes.*

*The above categorization of risks are consistent with the University of Michigan methodology, and vary from the HERO study. As such, the two methodologies should not be directly compared.*

*Cost impacts have been adjusted for inflation using the Medical Care CPI..*

## Risk Factor Analysis

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Often, people are unaware of their health status and their risks for chronic illness. Improving individual health awareness will help improve overall health status and decrease health care costs. The following pages summarize risk factors associated with chronic disease and illness and identify areas of improvement for participants in your organization. This information is important when deciding on targeted interventions unique to your population.

# Risk Factor Analysis

## Depression

Major depressive disorder is the leading cause of disability in the U.S. for ages 15-44.<sup>1</sup> In any given 1-year period, 9.5 percent of the population, or about 20.9 million American adults, suffer from a depressive illness.<sup>2</sup> Depression is a serious medical condition that is often undiagnosed and untreated. Left untreated, depression is as costly as heart disease, which costs nearly \$431.8 billion.<sup>3,4</sup> The U.S. economy spends over \$43.7 billion in absenteeism (over 200 million days lost from work each year), lost productivity, and direct treatment costs related to depression.<sup>4</sup>

Individuals who report at least one leading indicator of depression or multiple lesser symptoms of depression are classified as at-risk. The following table summarizes key statistics about the proportion of your population experiencing various depression symptoms:

Depression Symptom	Percent (t1)	Percent (t2)	Percent (Benchmark)
At-risk	15%	16%	14%
Feelings of hopelessness or guilt	3.2%	3.2%	8.4%
Loss of appetite, weight gain/loss	3.2%	3.2%	8.4%
Decreased energy/fatigue	4.5%	4.5%	12.8%
Persistent sadness	13.2%	13.2%	24.5%
Insomnia/oversleeping	2.7%	2.7%	8.3%
Difficulty concentrating/making decisions	8.7%	8.7%	16.3%
Persistent or troublesome anxiety	6.8%	6.8%	0%
Felt, down, depressed or hopeless	6.8%	6.8%	0%
Felt little interest or pleasure in doing things	9.1%	8.9%	10.0%

## Recommended interventions

- Discuss services provided by your Employee Assistance Program.
- Provide literature and education on the common signs of depression.
- Provide confidential resources for treatment options.
- Provide support groups.
- Encourage regular physician visits for physical exams and proper screenings.

- Support behavior change through targeted intervention to highest risk individuals.
- Encourage use of WebMD's Anxiety, Depression, and Stress condition centers.

## Resources

- National Mental Health Association
- American Psychological Association
- Depression and Bipolar Support Alliance
- National Alliance for the Mentally Ill

# Risk Factor Analysis

## Stress

Stress is found in all aspects of our lives, including work and family. High levels of stress have a major impact on employee health, morale, and productivity. Stress costs American industries more than \$300 billion annually in terms of absenteeism, productivity, and worker's compensation.<sup>1</sup> Due to fast-paced work environments, it is no surprise that 43% of all adults suffer adverse health effects from stress.<sup>2</sup>

Individuals are identified as at-risk for stress based on the number and severity of stress events experienced in the last year, general satisfaction levels, and the availability of a support system. The following table summarizes key statistics about the proportion of your population at-risk for stress or experiencing specific stressors:

Stress Risk Factor	Percent (t1)	Percent (t2)	Percent (Benchmark)
At-risk	40%	38%	35%
Problem with a friend, co-worker or supervisor	9.2%	9.2%	19.3%
Death of a loved one	9.0%	9.0%	16.3%
Divorce/separation	0.9%	0.9%	4.3%
Problems with finances	5.9%	5.9%	21.7%
Job loss/fear of job loss	3.7%	3.7%	9.1%
Job stress	0.3%	0.3%	1.5%
Moving/relocation	5.8%	5.8%	15.7%
Problem with health	9.4%	9.4%	20.7%
Not satisfied with job	20.5%	20.5%	40.4%
Not satisfied with life	4.7%	4.7%	10.1%
Stress has affected health or well-being	21.1%	21.1%	31.1%
Does not receive support from family and/or friends	64.2%	64.2%	68.0%
Does not often use stress reducing techniques	2.3%	2.3%	3.6%

## Recommended interventions

- Offer exercise programs and other classes that promote stress reduction.
- Support behavior change through targeted intervention to highest risk individuals.
- Discuss services provided by your Employee Assistance Program.
- Provide literature on reducing stress.
- Offer support groups.
- Encourage participants to take vacation days.
- Encourage use of WebMD's Stress condition center.

## Resources

- The National Institute for Occupational Safety and Health
- American Heart Association
- American Psychological Association

# Risk Factor Analysis

## Alcohol Use

According to the National Institute on Alcohol Abuse and Alcoholism, excessive drinking by employees costs employers worldwide billions of dollars each year in absenteeism, lost production, and insurance costs.<sup>1,2</sup> In 2001, alcohol abuse resulted in over \$9.7 billion in health care expenditures.<sup>3</sup>

The recommended limits of alcohol consumption are no more than 2 drinks per day for men and no more than 1 drink per day for women. The following table summarizes key statistics about the proportion of your population with risky alcohol-related behaviors.

Alcohol-Related Risk Factor	Percent (t1)	Percent (t2)	Percent (Benchmark)
Men > 2 drinks per day	9.0%	9.0%	16.3%
Women > 1 drink per day	9.0%	9.0%	16.3%
Binge drinking	0.9%	0.9%	4.3%
Drunk driving	9.0%	9.0%	16.3%
Riding with drunk driver	5.9%	5.9%	21.7%
Felt should cut down on drinking.	5.9%	5.9%	21.7%
Been annoyed by criticism of drinking.	5.9%	5.9%	21.7%
Felt bad or guilty about drinking.	5.9%	5.9%	21.7%
Had a drink first thing in the morning.	5.9%	5.9%	21.7%

### Alcohol is a risk factor for

- Cirrhosis of the liver;
- Gastric ulcers;
- Colorectal cancer; and
- Hepatitis.

### Recommended interventions

- Discuss services provided by your Employee Assistance Program
- Establish and enforce alcohol policies within your work place

- Help employees learn about alcohol alternatives in social situations
- Take advantage of National Alcohol Awareness Month (April)
- Support behavior change through targeted intervention to highest risk individuals

## Resources

- National Institute on Alcohol Abuse and Alcoholism
- National Center on Addiction and Substance Abuse
- Alcoholics Anonymous
- National Clearinghouse for Alcohol and Drug Information

# Risk Factor Analysis

## Blood Pressure

High blood pressure is one of several risk factors associated with cardiovascular disease (CVD), which is the cause of every 1 in 2.8 deaths.<sup>1</sup> CVD claims more lives annually than all cancers combined and costs over \$116.4 billion in lost productivity due to morbidity and mortality.<sup>2,3</sup>

The following table summarizes key statistics about the proportion of your population reporting prehypertension or hypertension:

Blood Pressure Risk Factor	Percent (t1)	Percent (t2)	Percent (Benchmark)
Prehypertension (120/80 mgHg – 139/89 mgHg)	9.0%	9.0%	16.3%
Hypertension ( $\geq$ 140/90 mgHg)	0.9%	0.9%	4.3%

### Hypertension is a risk factor for

- Diabetes
- Stroke
- Heart Disease
- Kidney disease

### Prehypertension Risk Factors Include

- Obesity
- Sedentary lifestyle
- High-sodium diet
- Alcoholism

### Recommended interventions

- Offer exercise programs at the workplace.
- Set up an exercise incentive program for your participants.
- Provide a resource list of stress relief programs offered in the community.
- Support behavior change through targeted intervention to highest risk individuals.

- Encourage regular physician visits for physical exams and proper screenings.
- Encourage usage of WebMD's exercise, diet, and hypertension resources.
- Engage your population through WebMD's Health Coaching services.

## Resources

- American Heart Association
- American Stroke Association
- Centers for Disease Control and Prevention (CDC) National Cancer Institute

# Risk Factor Analysis

## Cholesterol

Of the U.S. population over the age of 20, 105.2 million have elevated cholesterol levels.<sup>1</sup> High cholesterol levels are a major risk factor for developing heart disease. In 2006, heart disease alone accounted for nearly \$394 billion in medical expenses and lost productivity.<sup>2</sup> Each year, over one million Americans have heart attacks and one-half of these occurrences are fatal.<sup>3</sup> Making lifestyle changes can often control cholesterol levels. High-fat diets, obesity, lack of physical activity, and smoking are all major contributors to high cholesterol levels. Empowering your members to make needed lifestyle changes to lower their cholesterol will reduce health care costs.

The following table summarizes key statistics about the proportion of your population with borderline or high cholesterol levels:

Cholesterol Risk Factor	Percent (t1)	Percent (t2)	Percent (Benchmark)
Borderline total cholesterol (200-240 mg/dL)	20.0%	16.3%	16.3%
High total Cholesterol (>240 mg/dL)	0.9%	4.3%	4.3%
Borderline LDL Cholesterol (130-159 mg/dL)	20.0%	16.3%	16.3%
High LDL Cholesterol (>=160 mg/dL)	0.9%	4.3%	4.3%
Borderline HDL Cholesterol (40-60 mg/dL)	20.0%	16.3%	16.3%
Low HDL Cholesterol (<40 mg/dL)	0.9%	4.3%	4.3%

### High cholesterol is a risk factor for the following

- Heart disease
- Stroke
- Obesity

## Recommended interventions

- Offer reliable resources, such as access to dietitians, literature, and websites.
- If your company has a cafeteria, offer heart-healthy menu selections.
- Offer healthy choices in your company's vending machines.
- Support behavior change through targeted intervention to highest risk individuals.
- Offer exercise programs at the workplace.
- Encourage usage of WebMD's exercise, diet, and cholesterol resources.
- Engage your population through WebMD's Health Coaching services.

## Resources

- National Heart, Lung, and Blood Institute
- U.S. Department of Health and Human Services
- American Heart Association
- U.S. Food and Drug Administration

# Risk Factor Analysis

## Exercise

Given the numerous health benefits of regular physical activity, the hazards of being physically inactive are clear and costly. Physical inactivity is a major cause of unnecessary illness and premature death. A physically active person exercises on most or all days of the week at moderate to high intensities. It is estimated that physical inactivity costs the United States \$24 billion annually, which is 2.4% of U.S. health care expenditures.<sup>1</sup>

The American College of Sports Medicine recommends 30 minutes per exercise session most days of the week, with at least 3-5 sessions of aerobic activity and at least 2 sessions of strength building. The following table summarizes key statistics about the proportion of your population who report inadequate levels of physical activity:

Exercise-Related Risk Factor	Percent (t1)	Percent (t2)	Percent (Benchmark)
Cardiovascular Exercise (<3 sessions/week or <90 minutes/week)	20.0%	16.3%	16.3%
Strength Training (<2 sessions/week or <60 minutes/week)	0.9%	4.3%	4.3%
No Exercise (0 sessions/week)	3.7%	9.1%	9.1%

### Regular physical activity

- Reduces the risk of heart disease, diabetes and cancer
- Reduces blood pressure
- Helps control weight
- Reduces depression

### Regular strength training

- Increases metabolism
- Reduces the risk of injury and back pain
- Helps to prevent osteoporosis by increasing bone density

## Recommended interventions

- Set up corporate discounts with local fitness facilities.
- Start a walking club.
- Offer exercise programs at the workplace.
- Provide incentives for participating in regular physical activity.
- Encourage usage of WebMD's exercise resources.
- Engage your population through WebMD's Health Coaching services.

## Resources

- American College of Sports Medicine
- American Council on Exercise
- American Heart Association

# Risk Factor Analysis

## High Blood Sugar

According to the American Diabetes Association, diabetes alone represents 11% of the US health care expenditure.<sup>1</sup> Diabetes also accounts for 88 million disability days and 176,000 cases of permanent disability were caused by diabetes, at a cost of \$7.5 billion.<sup>1</sup> Lost productivity attributed to diabetes resulting from lost workdays, permanent disability, and premature mortality is estimated at \$40 billion.<sup>2</sup>

Type 2 diabetes affects individuals of all ages, but it is most common in people over age 40 are more likely to be overweight and to have high blood pressure and high cholesterol.<sup>3,4</sup> Prediabetes is a classification of people who have glucose levels that are higher than normal, but not high enough to be diagnosed with diabetes.

The following table summarizes key statistics about the proportion of your population experiencing various glucose-related risks:

High Blood Sugar-Related Risk Factor	Percent (t1)	Percent (t2)	Percent (Benchmark)
Diabetes Type I	4.0%	4.3%	16.3%
Currently Receiving Treatment	4.9%	4.3%	4.3%
Diabetes Type II	4.0%	4.3%	16.3%
Currently Receiving Treatment	4.9%	4.3%	4.3%
High Glucose Levels (>126 mg/liter)	50.9%	61.7%	61.7%
Prediabetic Glucose Levels (101-126 mg/liter)	3.7%	4.1%	9.1%

### Diabetes complications include

- Kidney disease
- Vision impairment
- Cardiovascular disease
- Stroke
- High blood pressure

## **Prediabetes risk factors include**

- Obesity
- Sedentary lifestyle
- Family history of diabetes
- Ethnicity
- Age
- Birth of a baby weighing nine or more pounds

## **Recommended interventions**

- Support behavior change through targeted intervention to highest risk individuals.
- Provide awareness material via self-help books, videos, and audio cassettes.
- Offer exercise programs at the workplace.
- Recommend annual exams and screenings.
- Provide incentives for participating in regular physical activity and diet programs.
- Offer diabetes classes at the workplace.
- Encourage usage of WebMD's exercise and diet resources.
- Engage your population through WebMD's Health Coaching services.

## **Resources**

- American Diabetes Association
- Joslin Diabetes Center
- American Dietetic Association
- National Institute of Diabetes & Digestive & Kidney Diseases

# Risk Factor Analysis

## Nutrition

Convenience plays a major role in the nutrition habits of the average adult. The typical American diet is high in fat, calories, and sugar. According to the Centers for Disease Control and Prevention (CDC), an estimated 66% of adults are overweight or obese.<sup>1</sup> Poor nutrition raises an individual's risk for many chronic diseases. For example, one-third of all cancers are attributable to poor diet, physical inactivity, and being overweight.<sup>2</sup>

The following table summarizes key statistics about the proportion of your population who do not meet the national guidelines and recommendations for five major food groups.

Nutrition-Related Risk Factor	Percent (t1)	Percent (t2)	Percent (Benchmark)
< 6 fruits and vegetables per day	55.0%	55.3%	16.3%
< 4 servings of whole grain foods per day	55.0%	55.3%	4.3%
< 2 servings of proteins per day	4.9%	4.3%	4.3%
< 3 servings of low-fat dairy per day	50.9%	61.7%	61.7%
> 1 serving of fat per day	25.0%	22.1%	9.1%

### Poor nutrition is a risk factor for the following

- Cancer
- Cardiovascular disease
- Diabetes
- High blood pressure
- High cholesterol
- Osteoporosis
- Obesity

### Recommended interventions

- Offer reliable resources, such as access to dietitians, literature, and websites.
- If your company has a cafeteria, offer heart-healthy menu selections.
- Offer healthy choices in your company's vending machines.
- Take advantage of national observances to promote heart-healthy activities.

- Support behavior change through targeted intervention to highest risk individuals.
- Have members analyze their diets with the help of a dietitian or inexpensive computer software.
- Encourage usage of WebMD's diet resources.
- Engage your population through WebMD's Health Coaching services.

## Resources

- American Dietetic Association
- U.S. Food and Drug Administration
- U.S. Department of Agriculture
- Local dietitians

# Risk Factor Analysis

## Tobacco Use

The adverse health effects from cigarette smoking account for an estimated 438,000 deaths, or nearly 1 of every 5 deaths, each year in the United States.<sup>1,2,3</sup> The Centers for Disease Control and Prevention (CDC) reports that smoking causes about 90% of lung cancer deaths in women and almost 80% of lung cancer deaths in men.<sup>4</sup> Smokers miss more days of work due to illness and cost \$92 billion in productivity losses annually.<sup>1,5</sup>

The following table summarizes key statistics about the proportion of your population reporting current and former tobacco use:

Nutrition-Related Risk Factor	Percent (t1)	Percent (t2)	Percent (Benchmark)
Participants who use Cigarettes	5.0%	5.3%	16.3%
Participants who use Pipes	1.0%	1.3%	4.3%
Participants who use Cigars	1.0%	1.3%	4.3%
Participants who use Smokeless Tobacco	4.9%	4.3%	4.3%
Participants who are exposed regularly to secondhand smoke	5.9%	6.7%	61.7%

### Smoking is a risk factor for the following

- High blood pressure
- Cancer
- Heart disease
- Depression
- Psychological stress
- Stroke
- Emphysema
- Chronic bronchitis

### Recommended interventions

- Offer smoking cessation classes.
- Offer stress reduction classes.

- Offer reimbursement for smoking cessation products.
- Provide resource list of community-based services.
- Support behavior change through targeted intervention to highest risk individuals.
- Encourage usage of WebMD's smoking cessation programs.
- Engage your population through WebMD's Health Coaching services.

## Resources

- American Cancer Society
- American Lung Association
- National Cancer Institute

# Risk Factor Analysis

## Weight

BMI uses a mathematical formula based on a person's height and weight. BMI equals weight in kilograms divided by height in meters squared ( $BMI = \text{kg}/\text{m}^2$ ). A BMI of 25 to 30 is classified as overweight. 30 or greater is considered obese. Obesity and excess weight contribute greatly to various chronic diseases and conditions that result in over \$117 billion in direct and indirect medical costs.<sup>1</sup> According to the Centers for Disease Control and Prevention (CDC), an estimated 65% of adults are overweight or obese.<sup>2</sup>

The following table summarizes key statistics about the distribution of BMI values in your population:

Weight-Related Risk Factor	Percent (t1)	Percent (t2)	Percent (Benchmark)
Underweight (BMI < 18.5)	1.0%	1.0%	1.3%
Ideal Weight (BMI >= 18.5 and < 25)	34.0%	35.0%	4.3%
Overweight (BMI >= 25 and < 30)	40.0%	39.0%	4.3%
Obese (BMI >= 30)	26.0%	26.0%	4.3%

### People who are overweight or obese are at greater risk for the following

- Increased strain on the heart
- High blood pressure
- High cholesterol
- Diabetes
- Stroke
- Certain kinds of cancer

### Recommended interventions

- Offer reliable resources, such as access to dietitians, literature, and websites.
- If your company has a cafeteria, offer heart-healthy menu selections.
- Offer healthy choices in your company's vending machines.
- Support behavior change through targeted intervention to highest risk individuals.
- Provide health information materials to members.

- Offer exercise programs at the workplace
- Encourage usage of WebMD's weight, exercise, and nutrition programs.
- Engage your population through WebMD's Health Coaching services.

## Resources

- Mayo Clinic
- American Dietetic Association
- American Heart Association
- Centers for Disease Control and Prevention (CDC)

# Recommendations

## Health Behavior Change

Individuals feel differently about changing their personal behavior for health reasons. The questionnaire assesses an individual's stage of readiness for change for various lifestyle factors, to determine where an individual stands on modifying his or her behavior.

The Stages of Change Model, also known as the Transtheoretical Model (TTM), provides a framework for explaining how behavior change occurs. The TTM postulates that behavior change occurs in stages over time and acknowledges that not everyone is ready to immediately adopt the desired behavior.<sup>1</sup> This model is useful in tailoring your wellness interventions by utilizing specific approaches for each stage. The goal is to move an individual along the stages-of-change continuum toward permanent change.

The TTM continuum categorizes people into five different stages: pre-contemplation, contemplation, preparation, action or maintenance. The TTM also accounts for the fact that behavior change is a process in which individuals are at various stages of readiness to change and can enter and exit at any point. Some people may repeat a stage several times. These stages are defined in the following chart:

**Stages of Readiness to Change**

Stage	Definition
Pre-contemplation	Individual does not think he/she has a need for change
Contemplation	Individual has plans to take action towards change within the next 6 months
Preparation	Individual intends to change within the next month
Action	Individual has realized the importance of change and has practiced the new behavior for less than 6 months.
Maintenance	Individual has practiced the new behavior for 6 months or more

# Recommendations

## Health Behavior Change Continued

Knowing where your population stands along the continuum of change for each risk factor can improve the effectiveness of interventions designed to reduce behavior and lifestyle-related risks. High-risk individuals must receive the appropriate message in the right frequency to respond positively to interventions. Education can be arranged to reach those who have yet to realize the importance of change or have no desire to change. Targeted interventions can be planned to help move individuals through the stages of change until the desired behavior is achieved and risks are reduced.

The following chart summarizes the Stages of Readiness to Change for your population. The stages have been grouped into two categories: precontemplation/contemplation and preparation/action/maintenance.

Risk Factor	State of Change	Percent (t1)	Percent (t2)	Percent (Benchmark)
Alcohol	P/C	40%	42%	44%
	P/A/M	60%	58%	56%
Cardiovascular Exercise	P/C	40%	42%	44%
	P/A/M	60%	58%	56%
Strength Training	P/C	40%	42%	44%
	P/A/M	60%	58%	56%
Stress Management	P/C	40%	42%	44%
	P/A/M	60%	58%	56%
Lose Weight	P/C	40%	42%	44%
	P/A/M	60%	58%	56%
Fruit and Vegetable Intake	P/C	40%	42%	44%
	P/A/M	60%	58%	56%
Fat Intake	P/C	40%	42%	44%
	P/A/M	60%	58%	56%
Quit Tobacco	P/C	40%	42%	44%
	P/A/M	60%	58%	56%

*Note: This data is presented for the participants who report the risk factor only. Those who do not exhibit the risk or chose not to answer the Lifestyle Choices questions on the health risk assessment questionnaire are not included.*

# Recommendations

## Intervention Opportunity Index

The Intervention Opportunity Index (IOI) is a calculation developed to rank an organization's risk factors based on the probability that risk reduction intervention will have an impact on excess health care costs.

The IOI is an index of potential financial impact for investment in intervention targets. The IOI is derived from the following factors present in your population:

- Excess health care spending attributable to the risk factor<sup>1</sup>
- Prevalence of the risk factor in the target population
- Stage of readiness for change of each individual with the risk factor

The IOI is the excess health care cost for each listed risk factor in your organization's population multiplied by a weighting factor for stage of readiness to change for each individual found to have the risk factor. The product of this calculation is then summed for all such individuals with the risk factor. Therefore, the IOI ranks the risk factors in terms of the organization's likely impact in modifying these excess cost factors using risk reduction interventions. The following table lists the Intervention Targets in rank order of importance.

Intervention Target	Intervention Opportunity Index
Weight	0.2486
Stress	0.1494
Inactivity	0.1356
Depression	0.0822
Tobacco	0.0268
High Blood Sugar	0.0254
Cholesterol	.02101
High Blood Pressure	0.0137

*Note: When the intervention target is not staged per Transtheoretical Model, the stage of readiness to change is considered neutral.*

According to the IOI, the top three intervention targets are:

1. Weight
2. Stress
3. Inactivity

# Endnotes

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