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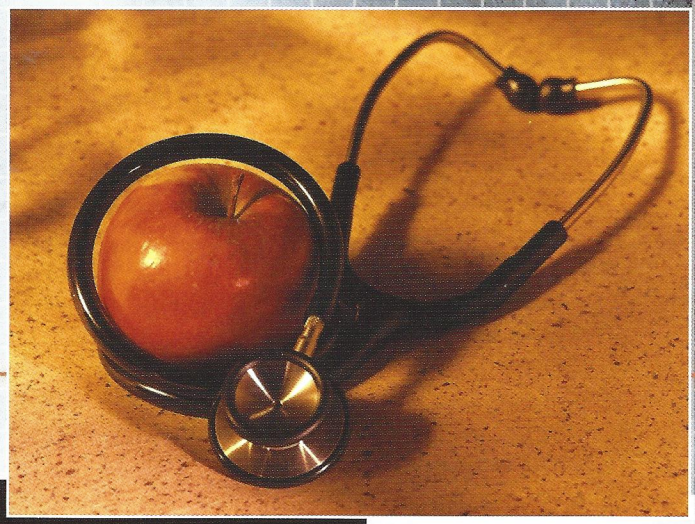
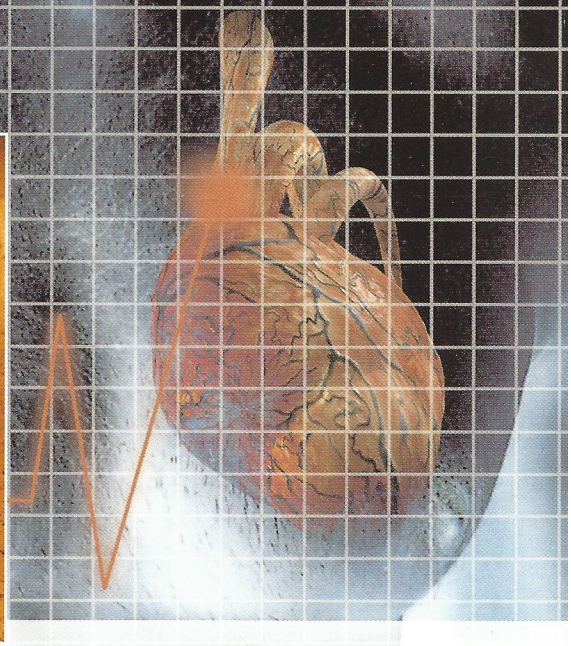
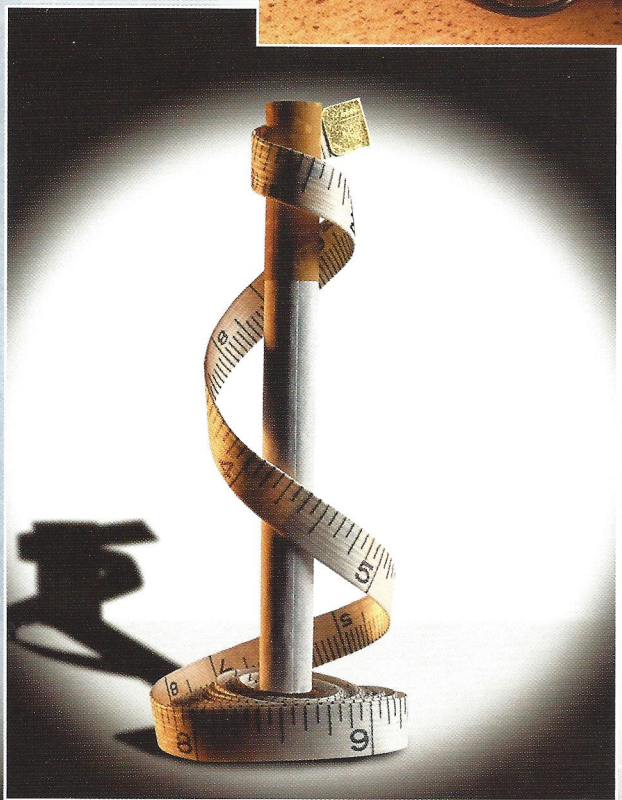
Health & Productivity MANAGEMENT

Special Edition Vol. 2, No. 1

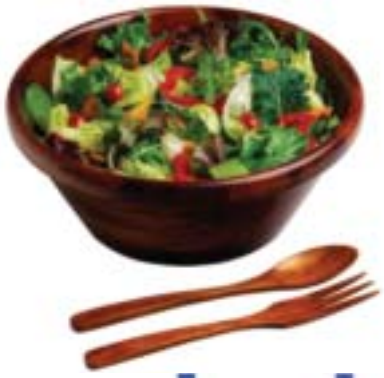






- The Economic Burden of Excess Risk
- Business Drivers of Health Risk Reduction: Today's Costs, Tomorrow's Trend
- Empowering Behavior Change
- Tools of Engagement: Behavior Change and Risk Reduction Moves Online
- Telephonic Lifestyle Coaching: A Collaborative Approach to Risk Reduction
- Managing Health at Boeing: It's All About Risk
- Lifestyle Risk Reduction: Upstream Solutions to the Looming Health Cost Crisis
- Risk Reduction: 'Five Steps to Success'

SPECIAL ISSUE — LIFESTYLE RISK REDUCTION



happy salad chimps

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At A Glance

In this second Special Issue of Health & Productivity Management done in collaboration with Mayo Clinic Health Management Resources, the focus broadens from last year's special issue on obesity. This issue takes a wider-angle view of lifestyle-related risk factors in general – which are at the very front end of the health and disease chain. Employers finally are paying serious attention to the fundamental importance of starting at the beginning and getting a risk profile of their employee populations. This is like looking through the windshield to see what health issues – and costs – lie down the road, instead of looking in the rearview mirror at claims data that already have happened. That makes this special issue especially timely, as we move the system from an "illness repair" to a health-improvement model.

To tackle this task, Mayo has assembled a top-rate team. Dr. Robin Molella kicks things off with a necessary up-front discussion of the important influence of lifestyle behaviors on health risks, assembling the evidence to set the stage for action by giving employers a target worth shooting at. The next logical step is a business perspective on the subject, provided by LuAnn Heinen, a repeat guest contributor from the National Business Group on Health. The remainder of the issue is devoted to approaches and programs shown to have an actual impact on lifestyle-related risks – the kind of evidence employers are looking for. Kristin Vickers from Mayo considers the impact of behavior change theory enhanced by a newer collaborative approach within the organization to reducing risks. This is followed by a two-part article on "Solutions."

Mayo's Scott Eising describes effective online programs and campaigns, and Dr. William Litchy discusses the increasingly popular – and effective – use of lifestyle coaching to change behaviors. Mike Brennan from Boeing contributes a live example of his company's implementation of a risk reduction strategy, and shares the evidence of its successes to date. Boeing's program with Mayo is becoming a feature on the conference circuit. Then Dr. Phil Hagen, overall editor of this special issue, points out the importance of setting realistic expectations for outcomes from risk reduction programs. Neil Sullivan from Mayo concludes this special issue with a broader discussion of best practice principles and programs – pointing the way to a successful transition to this new model of focusing first on health rather than disease. This is the only sustainable model for a modern technology-based health care system – keeping as many people as possible from having to enter it in the first place. Mayo Clinic Health Management Resources received IHPM's special President's Award last year for its leadership in helping move the system from controlling costs to avoiding them. HPM

Sean Sullivan
President & CEO
Institute for Health and Productivity Management

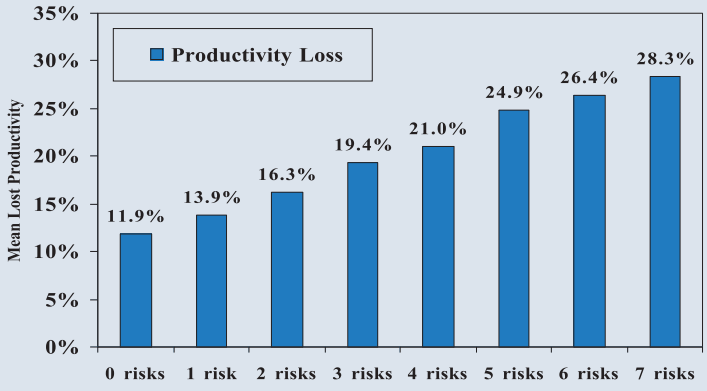
Dr. Philip Hagen
Vice Chair, Mayo Clinic Division of Preventive and Occupational Medicine; Medical Director, Mayo Clinic Health Management Resources.

ACADEMY BRIEFS

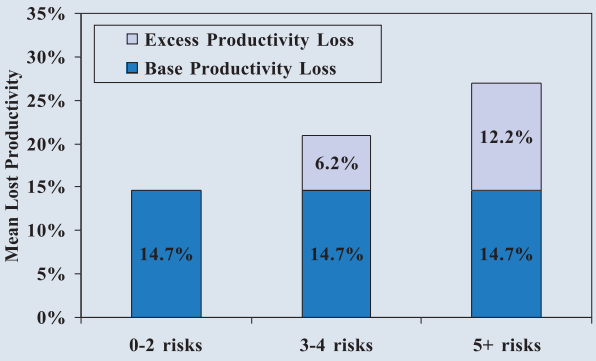
The Association of Health Risks With On-the-Job Productivity

In Brief

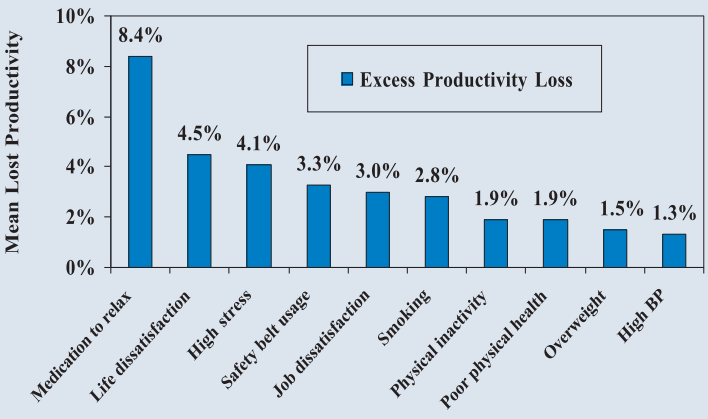
Estimated Percentage of Productivity Loss: By Number of Health Risks



Excess Productivity Loss Associated With Excess Health Risks: By Health Status



Excess Productivity Loss: By Individual Risks



Key Findings

- As the number of health risks increased, so did the percentage of employees with work limitations
- Each additional risk factor was associated with 2.4% excess productivity reduction.
- Excess productivity loss of medium and high-risk employees was estimated at 17% of total productivity loss
- Ten of 12 health risk factors were significantly associated with excess work limitations

The study was conducted among the active employees of a large Midwest financial services company. Health risk appraisal data were collected in 2002 and 2004 including a brief version of the Work Limitations Questionnaire (WLQ) to examine associations between health risks and work limitations (N=28,375; participation rate, 24.8%).

As the number of self-reported health risks increased, the percentage of self-reported work limitations also increased. Each additional risk factor was associated with an additional 2.4% excess productivity loss.

Ten of twelve individual health risk factors were significantly associated with excess self-reported work limitations. Perception-related risk factors including life dissatisfaction, job dissatisfaction, poor health perception and stress showed the strongest associations with presenteeism.

When health risks were categorized as low (0-2 risks), medium (3-4 risks) and high (5+ risks), medium and high risk participants were 6.2% and 12.2% less productive than low-risk participants. The "excess" productivity loss associated with excess risks accounted for 17% of total productivity loss.

The annual cost of lost productivity in this corporation was estimated at between $1,392 and $2,592 per employee.

Reference:
Burton WN, Chen CY, Conti DJ et al. The Association of Health Risks With On-the-Job Productivity. Journal of Occupational and Environmental Medicine. 2005;47(8):769-777.

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Health & Productivity MANAGEMENT

SPECIAL EDITION

UPFRONT

FEATURES

The Economic Burden of Excess Risk

"Every human being is the author of his own health or disease"

—Buddha

Any discussion of health risk begins with the understanding that there are only two zero-risk circumstances in health; either the individual is dead or not yet born. In all other circumstances the best we can do is minimize risk. For centuries we have recognized that habits and lifestyle contribute to risk. Our ideas about what constitutes a healthy life have not always turned out to be true, but the general principle of modifying health risks by changing behavior has long been understood.

In 2002, national health care expenditures in the United States totaled more than $1.5 trillion. The United States spends a larger share of the gross domestic product (GDP) on health care than any other major industrialized country and employers shoulder a large portion of this burden. Seventy percent of the population under 65 years of age has private health insurance, most of which is obtained through the workplace. In private industry, about 6 percent of an employee's total compensation is devoted to health insurance, a percentage that is rising annually.

Despite these expenditures, health care consumers are not reacting by reducing their health risks. The prevalence of overweight and obesity among adults increased from 47 percent in 1980 to 65 percent in 2002. In 1995, the total costs of obesity were estimated to exceed $99 billion. Wolf and Colditz estimated that direct health care costs of chronic diseases related to obesity were $51.6 billion in 1995, representing 5.7 percent of US health care expenditures.

In 2002, 30 percent of men and 35 percent of women were inactive during leisure time. The cost impact is significant. A recent study of a health plan population cited in the *American Journal for Preventive Medicine* put annual costs attributable to physical inactivity at $83.6 million, or $56 per member. The study adds to a growing body of research connecting inactivity with costs associated with conditions such as depression and anxiety, colon cancer, heart disease, stroke and osteoporosis.

Because of these costs and other impacts, there is a new imperative in behavior change and health risk reduction. In the twentieth century, western medicine was able to produce huge gains in health with a combination of public health strategies, such as immunizations and water purification, and technological advances in the care of the sick. We likely have reached the point of diminishing returns for technological advances in care of the sick. For each new drug, or surgical procedure, or imaging study, we greatly increase the cost of care with ever smaller increases in longevity and well-being. As a society, we may not be willing to continue to pay such large sums for restoration of health. We must invest in preserving health and preventing illness.

Every individual or population is somewhere on a risk continuum with a number of health risks that often interact in complex ways. Most of us have some mild risks such as being a little overweight, and others substantial risks like drinking and driving. The key to effective risk reduction is to help every person in our population maintain healthy behaviors and modify higher-risk behaviors.

The impact of various lifestyle choices on the risk of death or developing a given disease has been the subject of a great deal of research. Occasionally it seems as though medical science is reinventing the wheel when it delivers yet another article on the importance of exercise, the threat from obesity, or the dangers of tobacco. The body of knowledge being amassed clarifies and emphasizes the importance of action to lower risk. The latest research confirms that poor health risk status negatively impacts several financial variables not confined to direct medical expendi-

Mayo Clinic Health Risk Assessment Database: 42% have 5+ risk factors

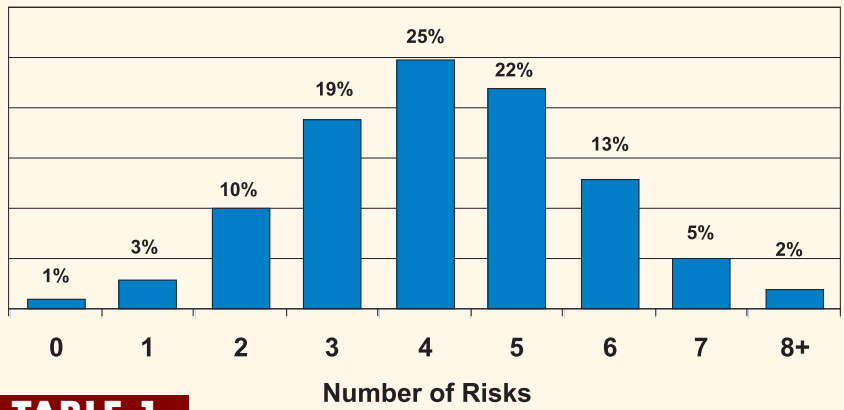
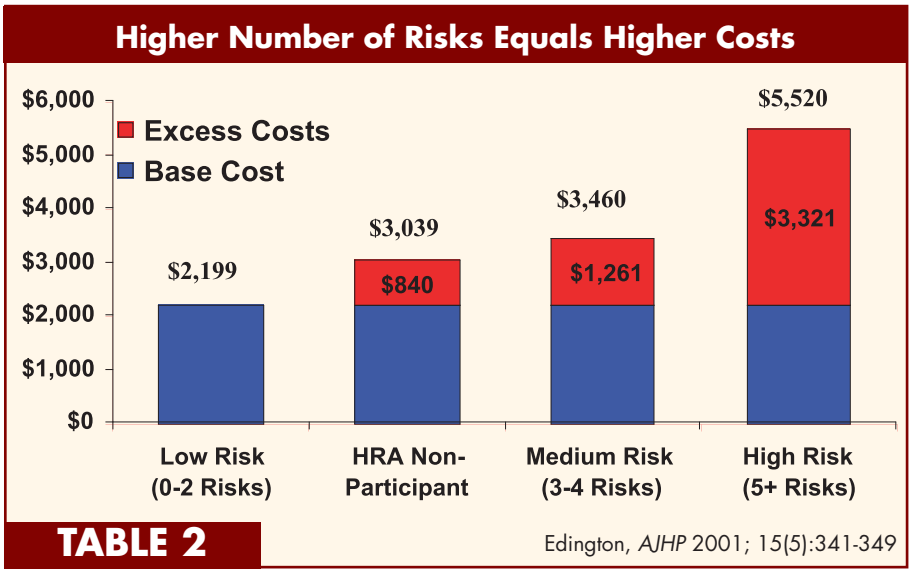


TABLE 1

By Robin Molella, MD, MPH



tures – such as pharmaceutical expenditures, time away from work, workers compensation costs and productivity at work.

A significant part of the direct costs from illness and risk relate to pharmaceutical costs. Burton et al measured the relationship between employee health risks and pharmaceutical costs and demonstrated that after controlling for age, gender, and the number of self-reported diseases, each additional risk factor was associated with an average annual increase in pharmacy claims costs of $76 per employee. They found that excess pharmacy costs connected to excess health risks represented 18.4 percent of the total pharmaceutical expenditure.

In a study by Wright et al, two years of medical claims from six corporations were used to evaluate the health costs of employees who participated in a health risk assessment (HRA). They evaluated the savings from moving individuals to a low-risk (though not zero-risk) category, and reported that excess risk (modifiable health risks within a population), account for at least 25-30 percent of medical costs annually across a wide variety of companies, regardless of industry or employee demographics.

Costs of risky behaviors and subsequent disease, while staggering already, are far greater when the impact on productivity in the workplace, and functioning at home and in the community, are factored in. "Indirect" costs associated with obesity were estimated at $47.6 billion, nearly equaling direct costs. Wright et al looked at the link between health risks and time away from work, demonstrating that high-risk individuals had more costs of time away from work (TAW) than medium- and low-risk individuals. Of the total TAW, 36 percent was attributed to the excess risks of the medium- or high-risk individuals, or to individuals who failed to participate in the risk assessment. They hypothesized that cost savings could amount to 32 percent of total costs incurred if a decrease in TAW costs followed reduction in health risks – this in addition to savings related to the direct cost of illness.

No aspect of occupational health expenditure is unaffected by lifestyle risks. Workers compensation (WC) costs also have been shown to correlate with the presence of risk factors. In one study population, 85 percent of WC costs could be attributed to excess risk.

It may be true that we cannot eliminate health risks and that the best we can do is minimize them. But the benefits from risk minimization are profound. The evidence is compelling that modifying health risks has the potential to dramatically reduce the economic burden of disease. Edington and his colleagues have shown that, on average, a person with 3-4 risks incurs an extra $1,261 annually above baseline health costs. And preventing movement into a higher risk category is critical. Research shows that movement into the high-risk group (5+ risks), equates to an extra $3,321 in annual costs (see Table 2).

The lesson is that we must work with as much of the population as is willing to maintain healthy behaviors and reduce unhealthy ones. It is an ongoing challenge, a process and not a one-time or occasional event. Health requires involvement at many levels – as a society, as health care professionals, as employers, and as individuals – so that everyone can be the author of a healthy life. HPM

Dr. Robin Molella is a primary care physician in the Department of Internal Medicine and the Division of Preventive and Occupational Medicine at Mayo Clinic, Rochester, MN. After graduating from Union College, Schenectady, NY, she received her M.D. degree in 1990 from Mayo Medical School.

Dr. Molella served in the United States Army as an Internal Medicine intern at Eisenhower Army Medical Center during the Gulf War. After her Internship she worked in the Army as an Emergency Room physician in Germany. Upon fulfilling her military obligation, Dr. Molella returned to the Mayo Clinic and completed her residency and fellowship in internal and preventive medicine in 1997 and 1999 respectively, and was appointed to the Mayo Clinic staff in 1999.

In her current position, Dr. Molella serves as a medical editor for Mayo Clinic Health Information. She also is an assistant medical consultant for the Olmsted County Health Department. Dr. Molella has a special interest in changing health behaviors through patient education because these changes impact individual health and well-being as well as impacting population health.

Business Drivers of Health Risk Reduction: Today's Costs, Tomorrow's Trend

Most companies manage today's operating budget while investing in tomorrow's growth and performance. It's a balancing act.

An increasingly large component of the corporate operating budget must be allocated to health care for today's workers, on the order of $140M for a company with 25,000 employees, according to National Business Group on Health members. With evidence that more than half of all health care costs are attributable to lifestyle, organizations are looking at ways to reduce lifestyle risks in order to curb future expense.

This investment in lifestyle risk reduction by employers and their health plans stems from an emerging consensus that keeping employees healthy will save more money than waiting for the natural progression of the group to higher-risk (and cost) profiles. In other words, keeping those who are in lower-risk categories from slipping into the highest-risk categories can pay off handsomely.

Research conducted at the University of Michigan's Health Management Research Center confirms that preventing risk onset is both cheaper and easier than trying to reduce risks that have already appeared. The Center's work shows that the longer the onset of risk(s) can be delayed, the lower the ultimate cost.

The goal is to keep as much of the employee (and dependent) population as possible in the minimal (2 or fewer risks) risk category for as long as possible. Spending money on healthy people to maintain health may seem counter-intuitive, but it is an approach more and more companies are adopting.

Multiple Risks Drive Health Costs

It's now well established that greater risks are associated with higher employee health costs. Physical inactivity, obesity and smoking are three health risks that translate into "significantly higher health care charges" within a short time period, even as little as 18 months.[1]

More recently, a study of more than 38,000 auto company employees under age 65 showed that the number and type of health risks greatly affected costs. Health risks such as stress, high blood pressure, high cholesterol, and physical inactivity, among others, were compared by BMI category. For every BMI category, medical costs increased with additional health risks. Overall, medical charges went from $3,094 for people with zero risks to $7,289 for those with four or more risks. When BMI was factored in, a person with no health risks in the healthiest (normal) BMI category had $2,655 in annual health costs, while someone in the same BMI category with 4+ health risks incurred average annual costs of $6,555 per year.[2]

But Does Risk Reduction Lower Costs?

The evidence that risk reduction lowers costs is mounting. One study showed claim cost reductions of around $2,200 per year in men over age 50 who went from being physically inactive (exercising 0-1 time per week) to physically active (exercising 3 or more times weekly). Eliminating this one significant risk factor was shown to save money after only one year.[3]

This type of information is part of the evidence used by IBM when it decided to provide an annual cash incentive of $150 to employees who exercise regularly.

Other companies have conducted evaluations of their own employee risk reduction programs and found a financial return on investment of 4 or 5:1. In general, the greatest impact on risk reduction was found in more intensive and personalized programs.[4]

By LuAnn Heinen, MPP

Health Cost Trend Defines Best Performing Companies

The National Business Group on Health and Watson Wyatt conduct an annual survey on health care trends, focusing on employer practices to manage their health benefits costs. Most recently, 555 large companies who collectively provide health benefits to about 10 million employees and dependents responded to a survey conducted from November 2004-January 2005.

The participating companies can be sorted into Best, Moderate, and Poor performers based on their health care cost trend experience. This sorting is based on the assumption that employer actions to control health benefit cost determine how well each company "performs" in a given year relative to its peers. The cost trend experienced by the "Poor Performers" is 15 percent, or three times higher than the cost trend of the "Best Performers" which was only 5 percent, averaged over 2004 and 2005 (Figure 1).

Once Best Performers have been identified, the survey data can be analyzed to determine what programs and practices the best performing companies report they have adopted.

Best Performers are Focused on Lifestyle Behavior Change

It turns out that the Best Performers are significantly more likely than Poor Performers to have adopted lifestyle behavior change programs (Figure 2). These programs include lifestyle behavior change through a health plan or other vendor, initiatives to reduce obesity among employees, disease management and integration of health-related benefits.

In addition, Best Performers were found to develop and execute their strategies with considerable speed. They are more likely than other companies to provide employees with tools and information, such as resources on specific health issues.

The survey also identified a strong surge in the use of disease management, lifestyle behavior change and obesity reduction programs among Best Performers (Figure 3).

Best Employers for Healthy Lifestyles Awards

With the goal of recognizing and applauding the increasing role of corporate America in promoting healthy lifestyles – and health risk and cost avoidance – the National Business Group on Health recently presented the first annual Best Employers for Healthy Lifestyles Awards. The awards recognize employers that meet criteria in the following areas:

IDENTIFYING THE BEST PERFORMERS

Best Performers are those companies whose average two-year health care cost trend (2004 and 2005, expected) is in the lowest quartile of all companies responding to the survey

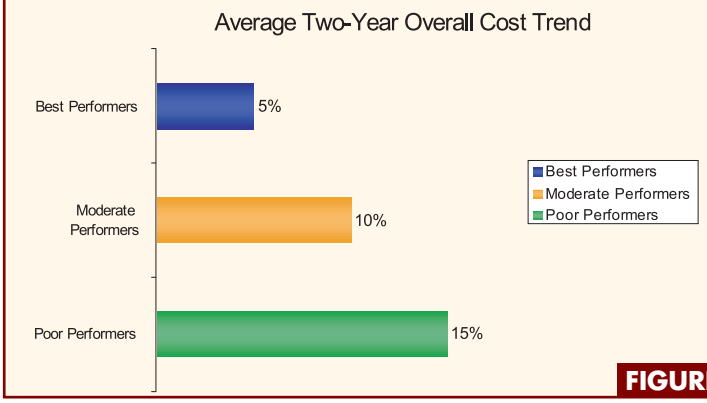


FIGURE 1

FOCUS ON LIFESTYLE BEHAVIOR CHANGE

Lifestyle Behavior Change is a particular focus for Best Performers

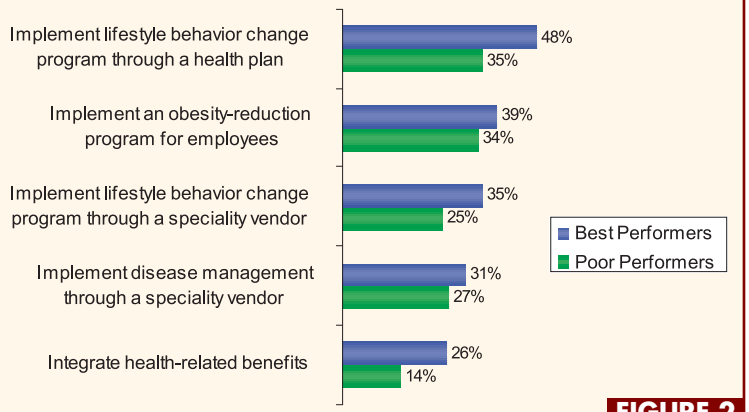


FIGURE 2

DEPLOY STRATEGY MORE QUICKLY

The Best Performing companies execute their strategies with **speed**.

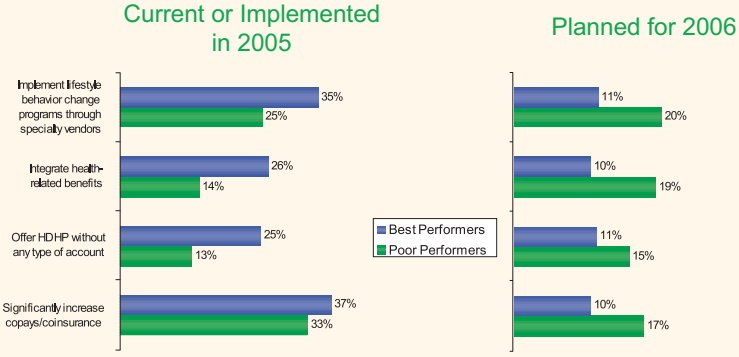


FIGURE 3

Figures 1-3: Tenth Annual National Business Group on Health/Watson Wyatt Survey Report

Strategy: Informed by claims data analysis or other population data to guide program planning;
Communications: Multiple channels and creative communications to reach all segments of the target population with messages that answer the "what's in it for me" question;
Healthy Food Choices: Vendors are required to supply healthy food in cafeterias, vending machines and for catered lunches and events;
Physical Activity: Walking paths, pedometer programs, fitness classes, gym discounts, and other related activities;
Benefits: Health Risk Assessments, lifestyle coaching, nutritional counseling, and other benefits are coordinated with overall health management strategy and programs;
Results & Impact: Program outcomes including participation rates, health/risk factor changes, and cost impact are documented.

A total of 22 companies were named Best Employers for Healthy Lifestyles in 2005. Without exception, these companies are involved in promoting healthy lifestyles by preventing the onset of health risks. They also are providing employees with the tools, information and support needed to manage and even reduce their health risks. Some examples of innovative approaches to risk reduction from award-winning companies are:

- *Pitney Bowes* offers "Maintain Don't Gain," an 8-week program designed to prevent holiday weight gain by following 8 basic cumulative health and nutrition tips. In addition, the company manages its on-site food service to ensure healthy, labeled food choices are offered in the company cafeteria all year long. Just preventing the typical 1-3 pound-per-year adult weight gain is a victory from the standpoint of risk reduction.
- *Mayo Clinic* uses the latest in information, practices and technologies to support its patients and employees. Mayo recognizes that its diverse employee base has different needs and preferences, so its health promotion program offers a variety of integrated onsite, telephonic, Web-based and print programs targeting key lifestyle risks such as weight, nutrition, smoking and exercise – and supported by a strong communications effort.
- *Occidental Oil & Gas,* through its OxyHealth program, offers a range of programs and activities designed to support a culture of health. For example, the company confers Healthy Achiever Awards on individuals who are dedicated to a healthy lifestyle and Well Worksite Awards on company locations nominated for their commitment to risk reduction.
- *Baptist Health South Florida* shows its commitment to employee health by scheduling new employees to meet with a wellness coordinator on their first day of work, sending a strong message that health matters at this workplace.
- *General Electric Company's* Health by Numbers program asks employees to achieve four personal numbers: 0 – smoking, 5 – fruit and/or vegetable servings a day, 10 – thousand steps per day, and a 25 – Body Mass Index. Employees can reduce their health risks by using these metrics to manage their personal health. A Website supports the program by providing click-through information and resources for achieving each behavioral goal.

Impact on Trend

Very small changes over a large employee population have a significant impact. That's the good news – even if only 5 percent of 45,000 employees lose 10 pounds or reduce their total cholesterol by 10 points, the change can be meaningful in terms of health risk and, with maintenance of this positive change, health cost over time. So, although participation in workplace programs is critical to obtaining a result, the program doesn't need everyone to participate, complete the program or show positive results – the impact will be felt even if only 5 or 10 percent of the group succeed in achieving the health target.

All employers are concerned about meeting this year's health plan cost target. The sharpest companies are also managing future trends by acting now to stabilize or even lower their covered population's risk profile. HPM

LuAnn Heinen is Director of the Institute on the Costs and Health Effects of Obesity, part of the National Business Group on Health (formerly Washington Business Group on Health). Comprised of large employer members, the Institute aims to reverse the alarming trend of increasing overweight and obesity that is damaging the health and productivity of our workforce and burdening corporate America with excessive – and avoidable – medical and disability costs.

Ms. Heinen earned a Master of Public Policy from the Kennedy School of Government at Harvard University and an AB in Human Biology with distinction from Stanford University.

She has authored many articles on cost and quality evaluation in managed care. Ms. Heinen currently serves on the Board of Directors of Community Health Charities of Minnesota (a federation of 29 health agencies).

Please contact mayoclinicHMR@mayo.edu to acquire references for Business Drivers of Health Risk Reduction: Today's Costs, Tomorrow's Trend (pp. 6-8).

Empowering Behavior Change

By Kristin S. Vickers, PhD

It is well documented that a substantial number of adults in the United States would benefit from health behavior change related to physical inactivity, tobacco use, and excess body weight. Health risk behaviors often coexist, and unhealthy diet, lack of exercise and cigarette smoking are each associated with increased risk of chronic disease and related morbidity and mortality. Despite the significant positive impact of health behavior change on health status and quality of life, many health care consumers report low motivation to attempt health behavior change. Why is it that people who need to change don't do it, even after they are informed of potential health consequences? The answer lies in behavior change interventions that go beyond simply telling someone to change, and that actually build skills and confidence for long-term success.

Researchers and clinicians are increasingly recognizing that information alone is not sufficient for change. Most health care professionals have felt some level of frustration or concern when they see a patient's eyes glaze over when the important topics of diet, exercise, or quitting smoking are brought up. Nobody likes to be scolded or made to feel ashamed about health behavior, and I have found that many of my patients have had, or fear having, negative encounters with health professionals. There is far greater satisfaction and success in clinical encounters with patients and research participants when there is a sense of the individual's 'readiness for change' – starting from that readiness-to-change point, focusing on patients' personal goals and the areas in which they feel most confident about their ability to make meaningful change.

Health behavior change is complex (despite what we may believe after watching the many dramatic media messages delivered in commercials and amazing make-over programs), and many people have struggled and given up so many times that they have no confidence in their ability to change and maintain that change. Behavioral scientists have developed and studied several theories of health behavior change, and these theories are used to inform behavior change interventions that go beyond simple information delivery and advice-giving.

Proven behavior change models

Stages of motivational readiness for change model. This model suggests that people vary in their motivation to change behavior, and that their readiness for change fluctuates over time and across different contexts and behaviors.[1] People move through stages of change, not on a linear path, but usually back and forth among stages. Programs based on this model attempt to match intervention strategies with level of readiness for change, and to utilize approaches that assist the individual in taking the next steps in the process of change.

Social cognitive theory. This theory proposes that behavior change is affected by the environment, personal factors, and the attributes of the behavior itself, and that all of these factors interact with one another.[2] A core concept in this theory is "self-efficacy," which is confidence in one's abilities and skills to successfully perform a behavior. Self-efficacy for behavior change has been associated with increased health behavior change. Self-efficacy ratings have been associated with progression in readiness for change and health behavior change for exercising, smoking cessation and reducing dietary fat intake.[3] Self-efficacy has been shown to be related to physical activity, for example,[4] and it is recommended that physical activity interventions include evaluation of, and if necessary, targeting of the client's self-efficacy for the type of physical activity targeted.[5]

Theory of planned behavior. According to this theory,

intention to perform a behavior is critically important to actually following through on performing that behavior.[6] Intentions to make change come from personal beliefs and attitudes about the outcome – e.g., whether or not it will be desirable. Individuals' perceptions of how much control they have in making a change also is considered important to whether or not they intend to change.

How do we apply these behavior change models to health risk reduction?

These models do not "repeatedly insist the person change" or "deliver information until the person understands the need to change." Information is important to health behavior change, but information delivery alone is unlikely to help most people make a lasting change (e.g., "according to public health guidelines you should accumulate 30 to 60 minutes of moderate-intensity physical activity most days of the week, so please begin that immediately").

Behavioral scientists and evidence-based clinicians increasingly support interventions based on collaboration and building of self-confidence and problem-solving skills for change, rather than one-way information delivery from the "expert" to the health consumer. Two examples of approaches used for enhancing people's abilities to make and maintain health behavior change include self-management education and motivational interviewing.

Self-Management Education. Individuals with chronic conditions are challenged with medical management such as taking medication properly, changing their diet, self-monitoring blood sugar, management of their multiple life roles (e.g., work, family), and management of their emotional responses to having a chronic condition like frustration, anger, or fear. Self-management education is meant to assist health care consumers by improving their confidence in their ability to manage the many challenges associated with living a healthy life while having a chronic disease. Individuals are empowered to collaborate with their health care providers (Table 1). Self-management education complements and extends beyond traditional education by emphasizing problem-solving, enhancing self-confidence for change, and collaborative goal-setting for behavior change (Table 2).

Motivational Interviewing. This counseling style emphasizes the importance of expressing empathy, avoiding direct confrontation with an individual's resistance to change

Table 1. Traditional Care vs. Collaborative Care

Issue	Traditional Care	Collaborative Care
Relationship	Health care provider is the expert in charge of change. Patient is passive.	Patients empowered to be active. Expertise about change comes from both patient and provider.
Goal of care	Patient compliance with provider's instructions.	Collaboration in goal-setting and informed decision-making.
Difficulties in making change	Viewed as patient noncompliance, a personal deficit.	Viewed as an expected part of change process, multiple strategies used to problem-solve around barriers and move forward.
Problem-solving	Provider does the problem-solving for patient.	Provider teaches and assists patient in actively problem-solving throughout change process.

Adapted from Bodenheimer *et al. JAMA*. 2002, 28 (2469 – 2475)

Table 2. Traditional Patient Education vs. Self-Management Education

Issue	Traditional Patient Education	Self-Management Education
Educational content	Information and technical skills about disease.	Goal-setting and problem-solving skills.
Theory underlying education	Information delivery increases knowledge, which leads to health behavior change.	Patient self-efficacy (self-confidence in ability to make change) leads to health behavior change.
Goal of education	Patient compliance with behavior change.	Increased patient self-efficacy for making and maintaining change.

Adapted from Bodenheimer *et al. JAMA*. 2002, 28 (2469 – 2475)

Table 3. Application of Motivational Interviewing: A Brief Tobacco Use Intervention

Introduce Topic and Assess Readiness for Change

Goal	Strategy	Example
Introduce topic	Use an open-ended, nonjudgmental question or comment to invite the individual to discuss smoking.	I'd like to understand what it is like for you to be a smoker—please tell me about it.
Assess motivation	Ask the individual to rate motivation to quit smoking.	Please rate for me, on a scale from 0 to 10, your current motivation to quit smoking. If 0 is not at all motivated to quit smoking and 10 is completely ready to quit smoking, what number are you right now?
Assess confidence	Ask individual to rate confidence to quit smoking.	Again on a scale from 0 to 10, how confident are you that you could be successful at quitting smoking if you decided you wanted to quit right now?

Address Motivation and Confidence

Goal	Strategy	Example
Discuss motivation	Elicit individual's self-statements about change by having them explain their motivation rating.	Why are you a ____ and not a zero? What would it take for you to move from a ____ to a (higher number)? [Note that anchoring the question in the other direction (why are you a ____ and not a 10) is unhelpful because it encourages the individual to argue against change.]
Weigh pros and cons	Explore both the benefits of change and barriers to change with the individual.	What do you like about smoking? What concerns you about smoking? What are the roadblocks to quitting? What would you like about being a nonsmoker? Summarize both the pros and the cons, then ask: Where does that leave you now?
Provide personal risk information	Share nonjudgmental information about risk and discuss the information (avoid advice-giving or attempting to shock/frighten the individual into change).	What do you make of these results? Would information about the risks of smoking be helpful to you now?
Discuss confidence	Elicit self-statements about confidence to quit smoking	Why are you a ____ and not a zero? What would help you move from a _____ to a (higher number)? What can I do to support you in moving up to a (higher number)?

Support and Make Individualized Plan

- Work together to create an individualized plan that matches the person's readiness to quit.
- Encourage individual to consider what could work, rather than focus on what could not.
- Provide options (referral, nicotine replacement, patient education materials), but not direct advice.
- Ask the individual to select the next step.
- Reinforce any movement toward making a change.
- Follow up on subsequent visits.

Adapted from: Rollnick S, Butler C, Stott N. Helping smokers make decisions: The enhancement of brief intervention for general medical practice. Patient Education and Counseling 1997;31:191-203; Miller W, Rollnick S. Motivational Interviewing: Preparing People for Change. New York: Guilford Press, 2002.

Goal-setting and **problem-solving** are viewed as **critical skills** for change and **ongoing strategies** to be used throughout **change** and **maintenance of change**.

– which is thought to increase resistance – and enhancing the individual's self-efficacy (confidence in ability to successfully make a change). A goal is to develop a discrepancy between individuals' current behavior and overall goals and values. Interventions utilizing motivational interviewing techniques have been used for reduction of health risk behavior (e.g., exercise, diet, alcohol, and tobacco interventions). Table 3 shows motivational interviewing-based strategies used in a brief tobacco intervention.

Both self-management education and motivational interviewing emphasize the following concepts and strategies that should be considered when selecting health behavior interventions for your population; these approaches are integrated into clinical health behavior change services at Mayo Clinic, and into the development of health intervention programs offered to organizations telephonically.

People help people change

The quality of the relationship with a helping professional – physician, care manager, lifestyle coach – and the strategies used by the professional to assist in health behavior change are critical components of reducing health risk behavior. In both self-management education and motivational interviewing, the helping professional empowers the individual to be actively engaged in the change process. Collaboration rather than confrontation is emphasized. It is important for helping professionals to have training that extends beyond simple information delivery, to include the models of health behavior change, motivational interviewing and self-management education.

Assessment of behaviors and change process

An important aspect of assisting people in making change is use of validated measures of health behavior to track progress. Although objective measures are valuable (e.g, heart rate monitor or biochemical blood test to assess smoking status), these measures can be very expensive, cumbersome, and invasive. Consequently, self-report measures are often used to measure health behavior. Experts in behavior change research emphasize the importance of measuring processes of change in addition to the health risk behavior itself. Increased self-efficacy for weight loss or quitting smoking, for example, is an important step toward the desired outcomes of decreased body weight and smoking cessation. Measuring progression toward change is important in evaluating the effectiveness of a behavior change intervention, and is motivating to health care consumers and to professionals such as lifestyle coaches who are working to assist and support health behavior change.

Increasing self-confidence for change increases likelihood of change

Self-efficacy for change is a core component of both motivational interviewing and self-management education. Assisting health care consumers in setting realistic goals and in problem-solving around barriers can enhance self-confidence for change. When people are confident in their ability to successfully take the next step toward change, they are more likely to do so. People who report greater confidence in their ability to be physically active, for example, have higher levels of physical activity.[4] People able to say they are confident they can go for a walk each day during their lunch break are more likely to take that walk than those who feel no confidence in their ability to initiate that change.

Goal-setting and action plans

Setting unrealistic goals that create failure or focusing on very long-term goals are not approaches likely to enhance motivation for change. Short-term, realistic goals (action plans) are emphasized. If someone has a vague goal of changing their diet so they will lose 80 pounds by their wedding day in two years, they probably do not have a sense of the next steps to achieve that goal and may feel overwhelmed and pessimistic. Instead, a specific short-term goal that is realistic and achievable – joining a workplace fitness center and walking on the treadmill for 20 minutes three days this week, bringing lunch from home each day this week rather than going out for fast food – should more likely lead to success, which enhances motivation for additional change. If someone is not confident in their ability to succeed with a short-term goal, the goal should probably be modified. Goal-setting and problem-solving are critical skills for change, and ongoing strategies to be used throughout change and maintenance of change.

Barriers to change are to be expected and worked around

When faced with a barrier that makes health behavior change more difficult – e.g., bad weather when planning to walk or holiday parties when trying to maintain a healthy diet – many become frustrated and give up. Self-management education and motivational interviewing emphasize the need to contin-

ually problem-solve around barriers. Any successful use of these skills should be reinforced by the helping professional.

Research supporting behavior change interventions. Numerous clinical trials have studied the impact of motivational interviewing across different health behaviors. Motivational interviewing is equivalent to more intensive treatment and superior to placebo across several health behaviors.[7] Results of a recent meta-analysis of clinical trials using motivational interviewing indicated that these interventions were significantly better than placebo or no treatment for problems involving alcohol, drugs, diet and exercise.[8] A systematic review of the self-management education intervention research suggests that self-management education programs significantly improve clinical outcomes for patients with diabetes and asthma.[9]

Self-management education is meant to assist **healthcare consumers** in improving their **confidence** in their ability to **manage** the many challenges **associated** with living a **healthy life** with **chronic disease.**

Self-management education programs applied to mixed groups of patients with chronic diseases (i.e., samples of patients with different chronic diseases) have been shown to reduce health care utilization and improve health behavior.[10] Patients attending a Chronic Disease Self-Management Program, for example, had fewer hospitalizations over a 6-month period than those not participating in the program, resulting in a 6-month net savings of $750 per patient.[11] In addition, The Health Enhancement Project, which involved disease self-management, was associated with fewer hospital days and reduced costs for the intervention group compared with those not receiving the intervention.[12]

In addition to studies of patients with disease, research has been conducted to determine the ability of health behavior change interventions to prevent disease. The Diabetes Prevention Program (DPP) was a major clinical trial aimed at discovering whether either diet and exercise or the oral diabetes drug metformin could prevent or delay the onset of type 2 diabetes in people with impaired glucose tolerance.[13] The lifestyle intervention included content on motivation and problem-solving as well as other cognitive and behavioral strategies for health behavior change. Over the three years of the study, diet and exercise sharply reduced the chances that a person with impaired glucose tolerance would develop diabetes. Metformin also reduced risk, although less dramatically than the lifestyle change intervention. Both interventions were also found to be cost-effective.[14]

Helping your people change

Many health care consumers are pessimistic about their ability to make and maintain health behavior change; interventions that provide collaborative support, enhance self-confidence for change, utilize short-term realistic action plans, and emphasize ongoing problem-solving around barriers to change are likely to be more acceptable to those who have been discouraged by information-only interventions in the past. Further, there is a growing body of research evidence suggesting that these interventions can improve clinical outcomes. It is important that health care consumers have access to interventions based on proven strategies for health risk reduction. Providing resources that can effectively empower health behavior change and reduce health risk behavior can impact important outcomes such as health care cost and health-related quality of life. HPM

Kristin S. Vickers, PhD, is a clinical psychologist at Mayo Clinic, Rochester, Department of Psychiatry and Psychology. She completed her doctoral work at the University of North Dakota and the University of Chicago, with research and clinical emphasis in behavioral medicine. During her postdoctoral fellowship at Mayo Clinic, her research and clinical work focused primarily on health behavior change interventions (e.g., smoking cessation, physical activity promotion, weight management).

Dr. Vickers currently directs the research program for the Mayo Clinic Section of Patient Education. The overarching goal of this research program, and of Dr. Vickers' own work, is to advance the science and practice of health behavior change interventions and patient self-management of chronic conditions. She has received extramural funding through the NIH small grants program and has several research projects in progress targeting patient self-management and reduction of health risk behavior.

Dr. Vickers is also active in educating health care professionals in strategies for enhancing patient self-management of chronic conditions and patient health behavior change. In this role Dr. Vickers has also led the training of counselors for Mayo Clinic's Health Advisor telephonic behavior change programs.

Please contact mayoclinicHMR@mayo.edu to acquire references for Empowering Behavior Change (pp. 9-13).

Tools of Engagement

Behavior Change and Risk Reduction Moves Online

By Scott Eising

PART 1

Data from the latest Pew Internet & American Life Project survey indicate that 8 out of 10 Internet users – or approximately 95 million adults – have searched the Web for health information, creating a unique opportunity to help people lead healthier lives through online lifestyle risk reduction programs. This medium has tremendous reach and a flexible platform that incorporates a variety of tools that are changing the way people manage their health.

The convergence of technology, medicine and modern culture has created an online environment that is a preferred delivery vehicle for many. Savvy users with easy access navigate their way around the Internet to manage their finances, so why not their health? By building Web portals and e-health applications of substance and value, population health management professionals can strategically transform static health information on the Internet into a personalized, interactive suite of resources to facilitate behavior change and reduce health care costs.

As a health promotion practitioner with more than 15 years in the industry, I've witnessed the power that Web-based applications have to enable people to make better, more informed decisions that lead to healthier lifestyles and reduced health risks. Product development decisions for Mayo Clinic online health management programs are based on our goal to capitalize on the full potential of the online medium to promote healthier populations.

Benefits to Employers

Online behavior change and risk reduction tools offer employers and member organizations both tangible and intangible benefits that include:

- **Broad user access.** Internet-based resources cross geographical, cultural and socioeconomic boundaries, working particularly well for dispersed populations.
- **Affordability.** Production, implementation and maintenance of information and tools for Web applications are more efficient than other health program delivery options, making it a cost-effective way to reach large populations.
- **Integration opportunities.** By design, a Web site is structured to serve as a central repository for a host of tools, programs, information and data, making it an ideal vehicle for organizations to cross-promote their entire offering of health and benefit information and resources.
- **Streamlined data collection and reporting.** Online reporting provides real-time access to data that can be "sliced and diced" to track and measure both behavioral and financial outcomes and identify health trends within a population.

Benefits to Participants

Individuals who participate in e-health programs can reap some of the same benefits that organizations do, but with a twist – a potentially life-changing, personal impact. End-user-focused advantages include:

- **Convenience.** Web-based risk reduction programs offer 24/7 access from virtually anywhere in the world.

- **Personalization.** Making the user experience as personally relevant as possible through technology is one of the keys to successful online behavior change and risk reduction. Web-based health programs offer a high degree of end-user personalization that cannot be affordably duplicated in other formats.
- **Privacy.** People who are reluctant to participate in telephonic or personal health interventions are often willing to use health management tools and programs in a Web environment because it provides an acceptable level of anonymity. This allows organizations to engage an additional segment of their population.
- **Interactive tools that engage and encourage action.** Web portals are equipped to host a variety of user-friendly components such as quizzes, calculators, assessments, audio-visuals and other interactive programming – all of which can help people identify and address their specific health risks.
- **Tailoring capabilities that increase potential for change.** Research tells us that behavior change is a process with distinct stages. Online programs offer an ideal environment to implement programs tailored to a person's stage of readiness to change and move them along the change continuum. By directing users to information and tools specific to their needs, their chances to succeed improve.

By directing **users** to **information** and **tools** specific to their **needs**, their **chances** to **succeed** improve.

Speaking the Language: How to Translate Behavior Change Strategies to a Web Environment

Until recently, the Internet was used primarily as a delivery channel for health and medical information. While reliable information is useful and important, experts agree that knowledge alone does not lead to behavior change. The beauty of the Web is that it offers the flexibility and capacity to create behavior change programs based on best practice, incorporating elements required for success online. Like more traditional behavior change programs, online programs must be theory-driven, evidence-based, interactive, personalized, confidential and regularly evaluated to drive lasting lifestyle changes that facilitate risk reduction. New online capabilities are not groundbreaking risk reduction strategies; rather, the Web serves as a new and effective conduit of behavior change theory and application.

A good example is the online health risk assessment (HRA). Traditionally considered a foundational element for any risk reduction strategy, dynamic Web-based HRAs offer unique benefits to both organizations and individuals, including:

- User-friendly interface that incorporates branching logic for a more personalized participant experience;
- Immediate feedback to end-users, including links to risk- and organization-specific programs;
- Improved data quality for employers with immediate reporting following the HRA end date;
- Year-to-year comparisons of a population's health status;
- Easy addition of customized questions to address organizational health priorities;
- Reduced administrative costs over paper-based versions.

The goals of online behavior change programs are the same as those of traditional programs: to facilitate risk reduction that will demonstrate positive results for both company and individual participants by focusing on process, action and rewards. At Mayo Clinic, we focus on building creative programs that use interactive tools to educate users about their behavior, to move them along the continuum of change by encouraging healthy habits and reward them for participation through the use of incentives. A good example of this application is the online health promotion campaign. Our newly released Walk to Wellness campaign is designed to engage a broad population in a healthy behavior using incentives and tracking tools for a period of four weeks. The online format is uniquely suited to provide flexibility to support individual or group participation, track and report on participant results and facilitate incentive fulfillment.

Keys to Creating Effective Online Programs

To help ensure a positive user experience, we subscribe to a "three key" approach to creating online population health management programs. While the ultimate goal is to change unhealthy behaviors through Web-based programs, a secondary goal is to build trust and increase user comfort with the Web as a health management tool in a way that drives them back to the site on a regular basis. Keys to success are:

- **Program design.** Reliable information from a credible clinical source is vital to the foundation of any results-driven behavior change program. Participants must trust the source in order to follow direction and move along the continuum of change. Programs and tools that offer clinical integrity – along with personalized pages and interactive capabilities such as progress tracking and journaling – help capture information and remove barriers to change.

The Mayo Clinic Healthy Weight Program takes proven behavior change theory online, incorporating interactive elements that engage users in behavior change – such as self-assessments, goal setting and tracking tools. The online format also allows users to receive supportive e-mail messages tailored to their personal barriers to change, with the underlying goal of reducing health risks.

- **Web design.** Even the best programs will not be effective unless they are offered in an effective design environment. Good Web design follows usability principles that ensure users and organizations meet their health management goals. Programs should be intuitive (from navigation to choice of text), leading people down a path that is personally relevant. Sophisticated branching logic and tracking capabilities make it possible to provide an engaging user experience that seems personal – and not merely operational.
- **Technology platform.** The technology platform must accommodate the program design philosophically, structurally and functionally. Look for a program that offers a scalable infrastructure that will handle high traffic volumes effectively, offer superior levels of site availability and produce meaningful reports. Organizations should request reporting capabilities that include not only participation results, but detailed data on program impact – such as user satisfaction, changes in health behavior and self-confidence in maintaining that new behavior.

Measuring Success Online

The Web-based environment has opened the door for virtually limitless data collection to serve both individual and organizational interests. On an individual level, Web applications that permit users to compare results from year to year help them track personal progress (an encouragement to change), while offering another interactive touch point. Online reporting gives organizations the ability to track results from multiple risk reduction efforts, from HRA responses to online programs and health promotion campaigns, and connect them with other health management metrics such as absenteeism and claims costs. Advanced reporting programs offer companies the ability to slice data into segments important for directing future risk reduction initiatives – such as sorting by worksite location, prevalence of key risk factors, and comparison of risk prevalence among your population with a larger database benchmark.

But are online risk reduction efforts accomplishing anything? Yes, on several levels. From a big picture perspective, countless organizations across all industries are using online HRAs to lay the groundwork for risk reduction efforts. They are identifying population risks and funneling people to risk-appropriate programs, both online and off-line. These online programs are reaching more people with cost-effective behavior change applications tailored to the individual. Companies that put incentives behind risk reduction programs and incorporate them into larger health initiatives are seeing good results in terms of both participation and goal attainment. At one organization, 500 employees completed the Mayo Clinic Healthy Weight online program, with more than 88 percent losing weight. This group changed behaviors to lose a total of 2,990 lbs, and drop in average Body Mass Index (BMI) from 27.9 to 27.

The Evolution Continues

The Internet appeals to a wide demographic, including those previously not reached through conventional models of behavior change. By reaching more people, we increase our chances of affecting more lives at a lower cost-per-reach. Success will surely follow, but at a pace that's yet to be determined by the maturing of the industry. More likely than not, success will come in small steps and not monumental leaps, which is good news. Most behavior change experts would concede that modest changes over the course of time become changes that will last a lifetime – for the good of individuals, organizations and society as a whole.

The Internet is not a magic bullet, but is certainly a very valuable tool that the population health management industry should recognize and utilize to its full potential. The Web as a health information resource is quickly evolving into a medium for proactively managing one's health. To achieve our objectives of behavior change and risk reduction, we must capture users' time and attention by serving up an online experience that's entertaining, engaging and positive. HPM

Scott Eising is Senior Manager of Online Health Promotion Services for Mayo Clinic Health Management Resources. He and his interactive product development team of project managers, content producers and health promotion specialists oversee the design and development of the Mayo Clinic HRA and health management programs and tools.

Scott has more than 15 years of experience in the health promotion industry, working for both large corporations and vendors. Applying his expertise in e-health applications, Scott has been involved in all aspects of interactive development from product research and design to usability testing and reporting.

Tools of Engagement

Telephonic Lifestyle Coaching: A Collaborative Approach to Risk Reduction

By William Litchy, MD

PART 2

Studies show that lifestyle choices such as physical inactivity, poor eating habits and smoking are responsible for the onset of chronic illness for millions of Americans, and drive up health costs for organizations. Although lifestyle-related chronic diseases are among the most common and costly of all health problems, they also are the most preventable. Telephonic lifestyle coaching is a proactive approach for those who are ready to make the necessary changes to improve their health. Counselors work collaboratively with program participants to build skills and confidence for long-term behavior change. It's a high-touch health intervention offering one-on-one support to help people:

- Recognize the impact of lifestyle choices on their health;
- Understand the benefits of change;
- Identify barriers to change;
- Build skills and provide tools to change behavior;
- Increase motivation and self-efficacy for change.

A Personalized Approach

Bringing about successful behavior change is much more complex than just telling someone to behave differently or handing them a pamphlet. The goal is to build self-efficacy, not simply to deliver information.

Where traditional health programs have used an inflexible directive style (which is often met with resistance), the shared decision-making model behind telephonic lifestyle coaching takes into consideration the needs, values and preferences of each participant.

This collaborative process requires skilled guidance by behavior-change professionals. Successful lifestyle coaches are credentialed counselors trained in behavior change and motivational interviewing techniques. They work with program participants to:

- Assess health and readiness to change (this can involve review of participants' health risk assessment results);
- Set realistic goals and establish an action plan;
- Identify motivation techniques likely to work with the participant;
- Recognize barriers and relapse "triggers";
- Use educational tools to support behavior change.

Counselors lead program participants through the behavior change process with regular phone calls over the course of the program, building skills that will be used long past the end of the coaching program.

A Process for Change

To realize the full potential for reaching risk reduction goals within an organization, companies often integrate telephonic lifestyle coaching into their health risk assessment (HRA) campaign. An HRA acts as a screening tool that identifies those at risk and who are ready to begin a behavior change program. The HRA also will collect a consent form allowing counselors to follow up with participants.

Our lifestyle coaching programs begin with an intake call to enroll the at-risk participant. As indicated in the Process Flow Chart (Fig 1.) enrollees are guided through an assessment that identifies risks, medical conditions, medications and other personal information such as stressors that could impact chances of successful change. This is the stage at which the counselor helps the participant choose which risk they are ready to

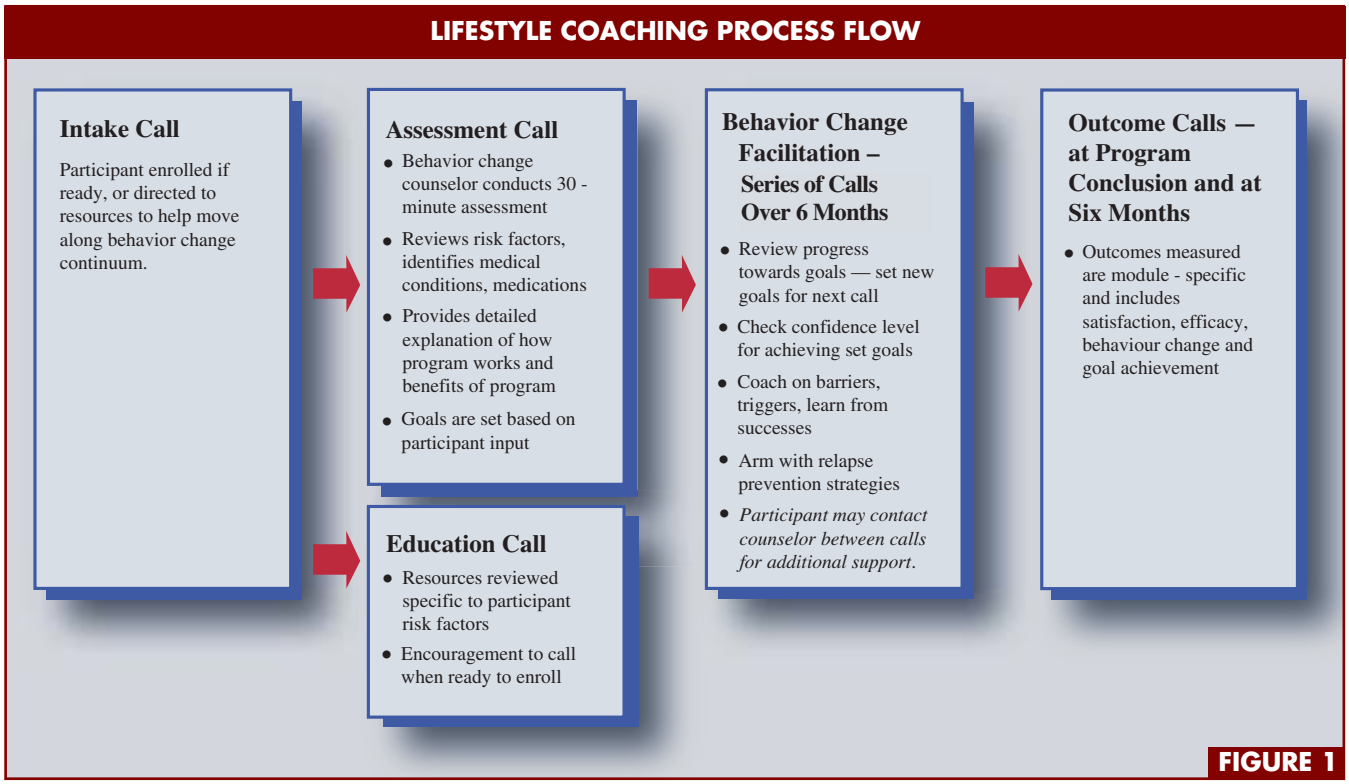


FIGURE 1

change, and to set appropriate (attainable) goals.

Over the course of six months the counselor contacts the participant to review progress toward goals, provide support to move past barriers and plan relapse prevention strategies.

Lifestyle coaching programs typically are focused on the key high-cost, high-prevalence lifestyle issues that most impact health. These include exercise, nutrition, weight control, stress and tobacco cessation.

Measuring Results

Lifestyle coaching programs, like ours at Mayo, typically utilize a proprietary database that tracks participants from enrollment. A typical reporting schedule may include weekly enrollment updates, quarterly outcome reports and annual satisfaction reports.

Counselors record key information on health and behavior-change status from each follow-up call. Organizations receive reports detailing the participants' program results, which give a comprehensive picture of outcomes – including enrollee satisfaction with the program, and before-and-after measurements of self-efficacy, specific behavior changes and improvements in health care decision-making skills. Results from these reports have proven the value of telephonic lifestyle coaching.

Mayo's experience shows that a significant portion of program participants are making healthy changes (losing weight, eating better, exercising more, quitting smoking) – ranging from 49 to 75 percent of enrollees. Another key indicator that the behavior will be maintained is measured in self-confidence levels.

In our quest to prevent the onset of chronic, high-cost illness, lifestyle coaching is a tool that can empower people to make changes that will improve their health. HPM

William Litchy, MD is the Medical Director for MMSI, a Mayo Health Company that provides telephonic health programs such as lifestyle coaching, a nurse symptom-triage line, and tobacco cessation and pregnancy care programs to organizations.

In this position, Dr. Litchy is responsible for medical leadership and oversight, including developing strategies related to telephonic health programs.

In addition to these duties, Dr. Litchy is a practicing Neurologist and Clinical Neurophysiologist with special interest in neuromuscular disorders in the Department of Neurology at Mayo Clinic, Rochester.

In addition to his MD degree from the University of Minnesota, Dr. Litchy has a Master's of Science (Research) in Anatomy and Physiology and in Biophysics from St. Louis University.

Managing Health at Boeing: It's all about Risk

Have you ever been amazed at your ability to walk on the beach on a Florida morning, then eat dinner that night in Seattle? Have you ever watched the awesome power and grace of the Blue Angels? Isn't it incredible that communications satellites can be built, launched into orbit, and then provide messaging and images to televisions, radios, and movie screens all over the world?

This ability to connect and protect people through remarkable products and services is made possible by the 160,000 employees of the Boeing Company. The job of the BoeingWellness Program is to provide opportunities for employees and their family members to make good choices in managing their health throughout their careers.

In all big companies, delivering preventive health programs is a daunting challenge. Adding to Boeing's size and dispersed population (products and services are designed, built, sold, and supported in 48 states and 67 countries) are hundreds of health plan options, an aging workforce, a history of generous medical plan coverage, and relative employee insulation from the effect of health care costs on profits.

Historically, the Boeing Company has kept pace with the evolution of corporate health initiatives, starting with the employee industrial recreation programs of the 1950s and 1960s, growing to an emphasis on site-based employee fitness and cardiovascular risk management in the 1970s and 1980s, and moving toward population health management and health and productivity management (HPM) today.

In early attempts to broaden our preventive reach globally, we learned a lot about company culture, leadership support, communications techniques, how to work with the different "segments" within our population, integrating with allied health services, and how to manage vendors. Over the last four years, we have been working on a company-wide wellness strategy that takes into consideration what we have learned over time, findings from the literature and information about our Boeing population.

The following are the basic principles that guide our current strategy:

Maximize Reach Because half of our annual health care costs are attributable to dependents, it makes sense for family members to be included in our preventive health strategies. Given the challenge of size and geography (and in many

By Michael Brennan, MS, MBA

cases, secure work environments) reaching all employees and their family members is a significant challenge. We have successful site-based programs such as fitness centers, health education programs, screenings and health fairs. Our statistics, however, show us that while these programs are effective, they impact only 20 percent of our workforce and even fewer dependents.

Our strategy to improve reach is to combine site-based "high touch" types of programs with high-tech solutions that rely on the Web, telephone, and printed material sent to the home. To that end, we have established a program infrastructure that includes a Web-based health portal and a home-mailed BoeingWellness newsletter; these provide opportunities to integrate communication about all of our health program offerings; focus on a Boeing-specific area of health need and provide tools for health improvement.

Stratify programs to match risk levels We have learned that there is no program that meets everyone's needs. The health spectrum includes healthy people with no risk at one end, and people with catastrophic medical conditions at the other. We are working toward a model that will have strong programs in place along the health spectrum for all levels of need among our employees and family members (Fig. 1). Depending on the level of need, programs may be delivered internally or through the health plan.

We work carefully with our Benefits Strategy group to plan program development and delivery. For example, our company-wide health risk appraisal (HRA) with follow-up coaching is offered internally. The idea is to identify risk early and offer intervention to prevent downstream issues (conditions, claims, etc.) that could be linked to behavior. If conditions are present, internal education on their management is offered through our health portal. We rely on health-plan-based case managers, however, to intervene at this stage. (Fig. 1. Health spectrum chart)

Provide a breadth of programs for diverse needs Some people like to participate with a peer group to work on reducing a health risk or to get support for a recently diagnosed condition. Others would rather talk with someone on the phone. Some are moving toward action but first want to read some printed material, and others would rather use the Web to drill down into the topic. One of our mantras is to offer "a menu of services" to appeal to differing stages of readiness to change and learning styles. With our heterogeneous workforce of mechanics, engineers, tool makers, technology workers, truck drivers, *et al.*, we want to ensure opportunity for all learning preferences.

Identify needs and deliver targeted interventions Our internal wellness team of regional wellness representatives conducts regular meetings to review annual performance, determine program strategy and set goals and objectives for the coming year. In developing strategy, we start by studying aggregate data from both health claims and our annual

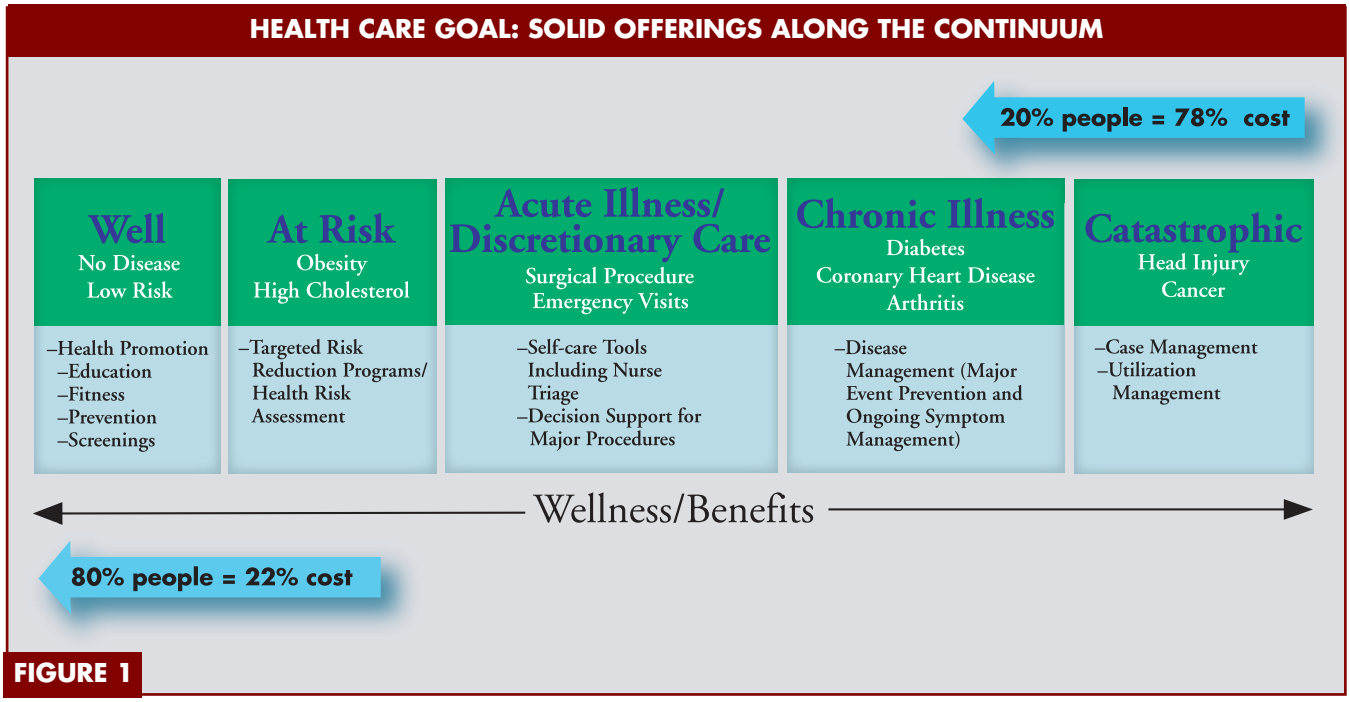


FIGURE 1

health risk appraisal (HRA). That information helps to identify Boeing-specific cost issues, high-prevalence medical conditions and underlying health risks. From there, we compare our current inventory of programs and services with needs uncovered from the data.

This modeling allows us to identify the strengths and weaknesses in our strategy and programming. We use the model to make sure that our preventive efforts (virtual programs and site-based activities) are focused on the risks and conditions that specifically affect Boeing's costs and productivity. Additionally, we brand all programs under the umbrella of BoeingWellness and rely on site wellness leaders to "own" all the programs and "sell" them to their employees and site leadership (Fig. 2).

Integrate initiatives corporate-wide Participation is an important measure of an effective program. Providing value to internal stakeholders can generate their support and promotion of a program, enhancing participation. Throughout business cycles, our HPM program's ability to survive and thrive has depended on its position within the company fabric. Institutionalizing programs by driving participation through multiple channels and having allied disciplines come to rely on these programs improves sustainability. Our integration strategy is to partner with allied organizations such as Safety, Medical, Fitness, EAP, Benefits, and Disability Management. We report at each other's team meetings and look for ways of adding to each other's toolkit.

Offer incentives While this strategy is relatively new, we feel strongly about the role of incentives in shaping behavior. Currently, we provide a $25 gift card incentive to employees and spouses for completion of our annual HRA. With this incentive, we have been able to achieve a 40 percent completion rate with employees, and 15 percent with spouses. These levels are four times higher than previously – when no incentive was offered. With the strong proven relationship between "benefits-linked" rewards and program participation, future incentives are planned for healthy behaviors such as meeting physical activity goals, obtaining ideal weight or completing a weight management program.

Communicate strategically Communication is crucial to program success and must be tailored to diverse audiences, varied over time, and clear as to what the recipient is to think and do.

We use a combination of broad-based and local communications to deliver targeted messages. Strategies include personal e-mail, regular company electronic newsletters, flyers to company mailboxes, our home-mailed BoeingWellness newsletter, Web spots, open enrollment materials, posters, print takeaways in chosen areas, staff meeting presentations, gate banners, health fair exhibits and messages from company leaders.

Messaging focuses on programs and services, as well as education about self-responsibility for company health care costs and sound consumer decision-making. Our wellness team includes a professional communications person.

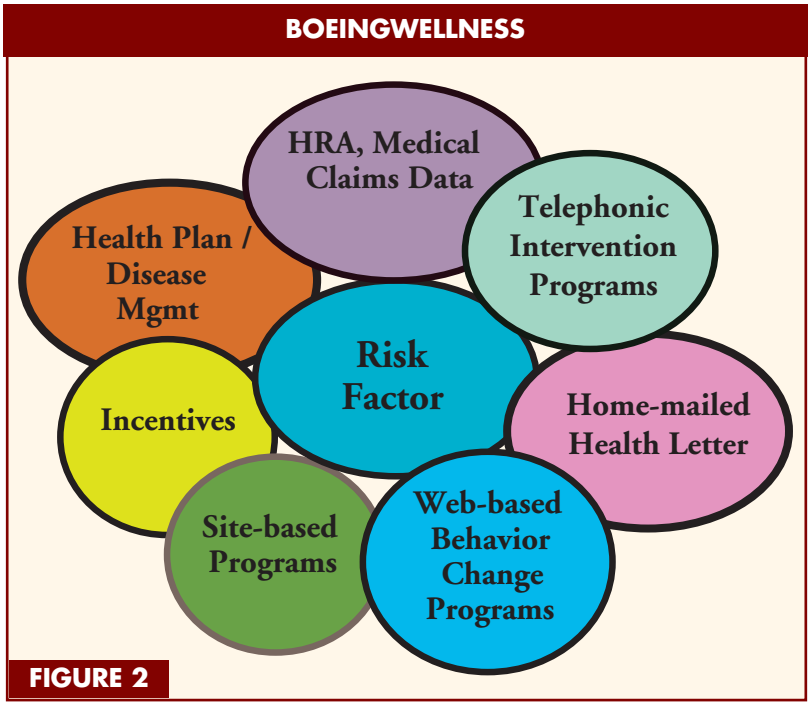


FIGURE 2

Measure Results Despite the growing body of literature with evidence of the effectiveness of HPM programs, there still has to be internal measurement. We track participation in all programs (site-based and virtual), survey everything, and apply our own risk/cost data to program-induced improvement in lifestyle risk.

We measure satisfaction, collect suggestions for improvement, and try to detect self-reported benefits from each program. Our annual health portal survey asks users whether having the site has increased their confidence in their ability to make lifestyle risk changes.

We can get more objective outcome measurements from data on changes in risk factors. In moving a person from high to low risk in physical activity through our lifestyle coaching program, for example, we can calculate the return by comparing our known cost savings with the cost of the service. Applying these methods of mea-

surement to our telephonic coaching program, we know:

- how many are taking advantage of the program;
- how many are in each risk reduction track;
- how many are referred to other internal programs as part of their lifestyle change;
- the aggregate level of satisfaction with the program;
- the aggregate outcomes (improvement in self-efficacy, direct risk change, and indirect changes).

Outcomes – 2004 Lifestyle Coaching

- 49% lost weight, 72% lost 5 lbs. or more (n=1,589)
- 56% increased exercise minutes, 70% increased >25% (n=493)
- 50% improved eating habits
- 75% experienced fewer stress-related symptoms (n=416)

The next logical step in outcomes measurement is to develop an integrated data warehouse of related data sets (e.g. HRA and wellness program participation, health plan claims, disability, worker's compensation), with a unique identifier to allow cross-comparison. This will allow us to study the impact of risk-change and other health-related behaviors on recognized company cost and productivity metrics.

Controlling Risk. . . The Big 4

Based on our HRA data, improvement in four major lifestyle risk factors – 1) physical activity, 2) weight management, 3) stress, and 4) smoking – can significantly impact our top cost-drivers, and most prevalent and potentially damaging medical conditions.

Focusing on these top risk factors, conducting age and gender-appropriate screenings, addressing safety issues 24x7, and promoting sound health consumerism constitute a sound strategy for managing risk.

Our goals in these areas are driven by the national goals found in the CDC's Healthy People 2010.

Table I shows each risk category and how Boeing compares with national averages in 2000 and Healthy People targets in 2010.

Currently, we are working in all of these areas to provide knowledge to our target audience about available services, allowing them to pick from a menu of options.

Table II illustrates our successes. Following are a few highlights:

Physical activity – 20,000 individuals are enrolled in on-site fitness programs – over one million visits per year in our fitness centers. We are expanding services to include an improved commercial club discount program, discounts on home exercise equipment, an interactive online fitness program, telephonic lifestyle coaching, and incentives for adherence to a physical activity program. To date, we have more than 4,000 individuals enrolled in our online fitness program and telephonic lifestyle coaching program, with a goal of 6,000.

CDC's Healthy People 2010 Goals (percentage of people at risk)

Risk Factor	Boeing 2004	U.S. 2000	U.S. 2010
Physical Activity	67%	62%	40%
Weight Control	66%	58%	40%
Obesity Control	26%	23%	15%
Smoking	20%	24%	12%
Stress	33%	unknown	15%*

Table I

2004	2005 (projected)
86,000 registrants on Boeing wellness site with 4 million page views annually	130,000 registrants on Boeing wellness site with 10 million page views annually
48,000 HRAs completed (19 percent)	75,000 HRAs completed (30%)
2,855 in follow-up coaching	10,000 in follow-up coaching
950,000 on-site fitness center visits	Over 1,000,000 on-site fitness center visits
3,750 in Physical Activity Telephonic Coaching & Online Programs	6,000 in Physical Activity Telephonic Coaching & Online Programs
9,000 in Weight Management Telephonic Coaching & Online Programs	14,000 in Weight Management Telephonic Coaching & Online Programs
2,900 in Tobacco Cessation Telephonic Coaching & Online Programs	3,200 in Tobacco Cessation Telephonic Coaching & Online Programs
2,100 in Stress Management Telephonic Coaching & Online Programs	2,500 in Stress Management Telephonic Coaching & Online Programs

Table II

Our biggest challenges today include communicating the existence of programs and services, shaping a culture of "individual health responsibility and accountability," growing the reach to include all employees and family members globally, and showing a return on investment.

Weight management – Includes online tools, telephonic coaching and, in some locations, group-based weight management classes. We are working toward offering a suite of weight management services (group, Web, and phone/print) that cater to the user's schedule and preferences. Similar to Physical Activity, to date we have 9,000 individuals enrolled in weight management programs online and in telephonic lifestyle coaching, with a goal of 14,000.

Stress management – Our strategy is to improve the "back office" (communication and transfer capability between existing services) and develop a user-friendly Web or phone-based "storefront" for users. We have documented a significant reduction of stress in our workforce through telephonic lifestyle coaching; 75 percent of participants report having fewer stress-related physical symptoms as a result of the program, and 57 percent increased the number of stress reduction techniques they use.

Smoking Cessation – Since introducing our telephonic tobacco cessation program more than two years ago, more than 5,000 employees, spouses, and dependents have used the service and we are maintaining a 25 percent quit rate (must have been tobacco-free for 30 days after one year). With promotional efforts, enrollment has remained remarkably steady. We are currently planning an active recruitment strategy to continue to attract those preparing to make a quit attempt.

Screenings – There is an effort underway to evaluate current early detection strategies and propose additional components needed to encourage compliance with recommended guidelines.

The annual online HRA is a key recruitment tool for our lifestyle risk management programs. Since rolling out the online service in 2003, nearly 60 percent of employees and 20 percent of spouses and dependents have registered and used the site for health education, lifestyle and condition management, self-care and decision support. In year 1 of our HRA program, a $25 gift card incentive was provided to employee participants: 30 percent of employees (and 5 percent of spouses) completed the survey, for a total of 50,000 participants; 10,000 consented to third-party follow-up lifestyle coaching; and 50 percent of consenters participated in programs for weight management, exercise, nutrition, and stress management.

In year 2 both employees and spouses were eligible to receive a $25 gift card and, as a result, we exceeded our HRA participation goal of 76,000. Our goal is to enroll 10,000 individuals in risk-specific telephonic lifestyle coaching programs this year.

Progress: Where are we?

We have made significant progress over the last five years in transforming a traditional approach into a population health management strategy with our sights set on integrated health and productivity management.

Our biggest challenges are communicating the existence of programs and services, shaping a culture of "individual health responsibility and accountability," reaching all employees and family members globally, and showing a return on investment.

By involving representatives from key disciplines – Safety, Benefits, Medical, Fitness, EAP, Disability Management, Family Care Resources, and Management – who have a stake in identifying and reducing risk, we improve our chances of gaining approval, getting high participation and producing positive outcomes. HPM

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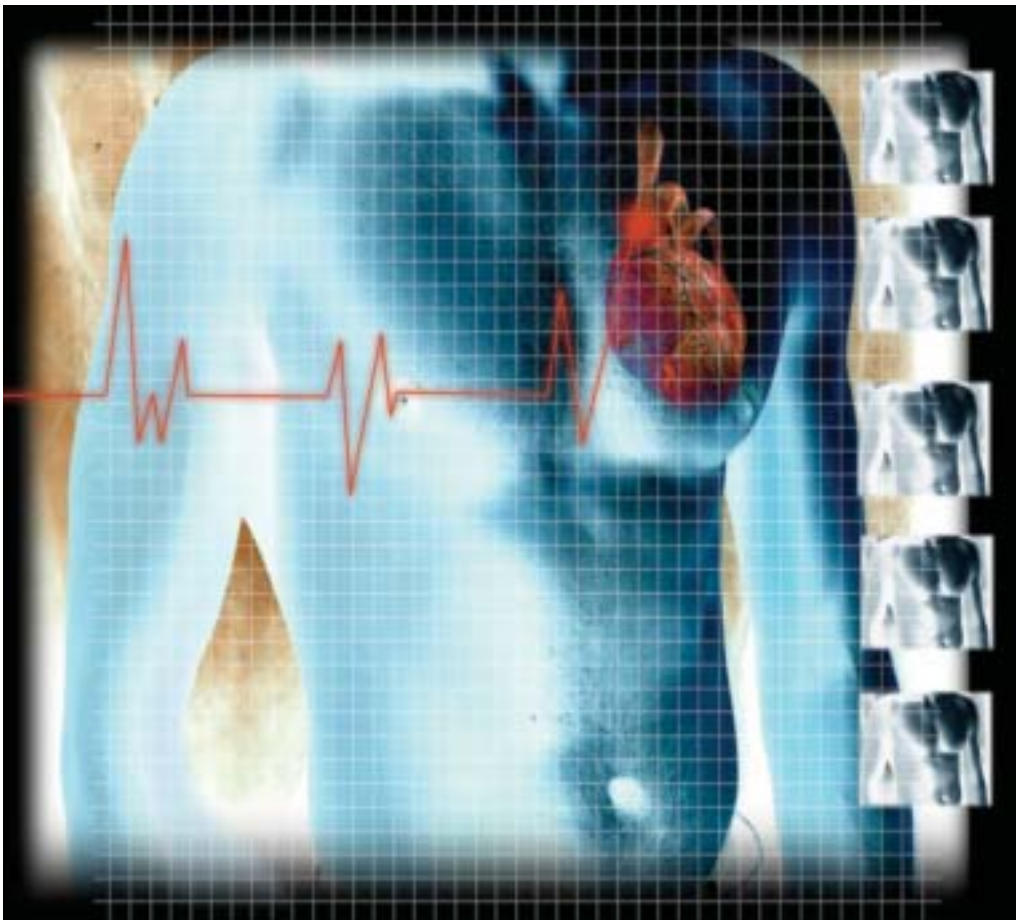
Over the past four years this group has worked to combine the long-standing site programs with newer technologies designed to reach more members of the Boeing community with tools that address issues along the wellness continuum.

Michael works closely with Benefits to provide company-wide programs that complement employee medical plans. His company wellness team strives to integrate allied internal services to create a "health culture" and maximize outcomes.

Lifestyle Risk Reduction: Upstream Solutions to the Looming Health Cost Crisis

By Philip Hagen, MD



The preceding articles show the science, ingenuity and promise of lifestyle risk reduction. Carefully studied behavioral theories have been refined and applied in a surprising variety of ways to a wide range of risks, risky behaviors and health conditions. These methods appear effective and flexible. The important factors that now come to bear on their use include:

- What impact will they have and how will we measure it?
- Do they contribute to a rapid evolution of the way we deliver health care in the U.S.?
- How do we implement them on a broad scale?

Measuring Impact

With regard to impact, we're looking for solutions that have a high impact to cost ratio – or bang for the buck. To measure impact, however, we'll need different metrics than have been traditionally used in health care. We've usually looked at a measure called cost-per-year-of-life-saved (YOLS). This measure is typically used for preventive measures that we apply to large segments of the population, like colon or breast cancer screening or treating high cholesterol with medication. We have generally considered a cost of less than $50,000 per YOLS as reasonable. (However, we practice a number of medical maneuvers, like treating cholesterol, which may cost as much as $250,000 per YOLS or more.)

The YOLS measure has been applied to a few behavioral change programs like smoking cessation, which has a very low cost of less than $10,000 per YOLS. A recent study looking at intensive behavioral treatment of people at risk for diabetes showed that 16 intensive one-on-one counseling sessions training them in healthy diet, exercise, and weight management could achieve a seven percent weight reduction in 38 percent of study participants, and 150 minutes of exercise in 58 percent of the study group – even after nearly three years of follow up. This gratifying result reduced the incidence of diabetes by a stunning 58 percent. When measured in costs per year of life saved it was $27,000 – not cheap, but acceptable.[1]

But studies like this take years, require large populations, and are often very expensive to conduct. Thanks to a body of information from the health promotion world we can esti-

mate that there is likely to be about a 2:1 to 3:1 ROI on these kinds of efforts – across a broad range of programs. Careful study by Ozminkowski, *et. al.*, has shown that the ROI may be even higher – in the range of 4.5 to 1.[2]

Thus, there is good evidence that these services will have a positive impact. Direct measurement – especially short term – may be difficult. Even a 4 to 1 ROI may be difficult to track against the background of other rising health care costs – new technology, new pharmaceuticals and an aging population. Fortunately, there are additional benefits and short term measures that can be used to monitor progress, as outlined below.

Do They Contribute to a Rapid Evolution?

As a country we're nearing the limit of our willingness or ability to pay for more medical care, just at the time when demand for services will be increasing. We're at a point where we need quickly to explore innovative models of care. Fortunately, new approaches to reducing risk do this in a couple of ways:

- They shift the focus from disease care to prevention and risk reduction, moving care "upstream";
- They leverage non-face-to-face tools (outside the doctor's office) including phone and computer;
- They are relatively cost-efficient;

And there appears to be a payback that should spur their rapid adoption.

All these factors bode well for lifestyle risk reduction and health coaching. They are not the single or even the most important answer, however, to curbing the rapid rise in health care costs. This is because about 80 percent of the health care dollar is spent on 20 percent of the people – often in the hospital setting and on catastrophic disease. While risk reduction will be a key method to reduce costs, at least in these early stages, its impact will be small relative to total health cost; it will have to be integrated with overall health care delivery.

Broad Scale Implementation and Measurement

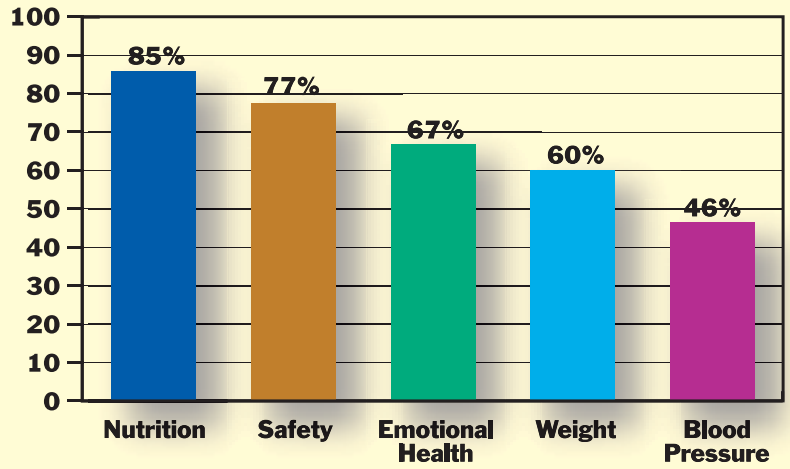
To maximize the savings achieved through risk reduction efforts, an organization must engage as many people with risks as possible. Furthermore, because of the difficulty in measuring dollar impact against the background of health cost fluctuations, we need other measures to help track changes and determine success. In health behavior change, we can measure intermediate steps that show progress – such as attitudinal changes, or confidence levels. These measures show movement toward full risk reduction, and are prerequisites to the ultimate goal of reducing health care costs.

Use of a health risk assessment (HRA) helps in both recruiting broad participation and providing baseline data from which to measure change. An HRA identifies risk areas and key diseases that may lend themselves to risk reduction approaches. The Mayo Clinic HRA has identified nutrition, safety, emotional health, weight, blood pressure and exercise as the highest priority areas for risk reduction, based on their prevalence. We have used the HRA to raise individual awareness (through immediate feedback to the user), lead people directly into online health change programs, and – with their consent – provide needed information for follow-up risk-reduction interventions like telephonic lifestyle coaching programs. (See Figure 1.)

The HRA also identifies stages of readiness for change. Having this information facilitates more effective interventions by allowing, for example, a lifestyle coaching counselor to individualize the starting point for behavior change, help choose which risk reduction step to try, and measure "stage movement." The counselor can record, for instance, whether — since enrolling — a person has moved from thinking about exercising to a stage of preparing to exercise – joining an exercise group, getting walking shoes, etc.

In large populations we have been able to engage thousands of participants in the lifestyle risk-reduction process, and measure both intermediate changes and ultimate success. In our telephonic weight loss program, for example, 49 percent of participants lost weight over six months, with 72 percent of those losing five or more pounds. We were able

Mayo Clinic HRA – Top Five Risk Factors



The top five most prevalent health risk factors for organizations implementing the Mayo Clinic Health Risk Assessment.

FIGURE 1

to capture data showing that 58 percent of these same lifestyle coaching participants reported improved confidence in their ability to lose weight, a predictor of future success in controlling their weight.

Risk Reduction Essentials

Every potential purchaser of lifestyle risk-reduction services should ask:

- Do these services work?
- In what settings do they work and using what tools? (Will it work in my setting?)
- How does it fit into all of the other health-related services we offer?
- Is this just an added cost, or is there some net dollar benefit – ROI, if you will?
- If I can't demonstrate benefit are there other reasons to use it?

Quantifying Success

Lifestyle risk reduction does work – very well. But in the area of health behavior change we need to understand what "success" is. If we take smoking cessation as an example, a 25 to 35 percent quit rate is considered good because, even though the vast majority of the population knows smoking is bad, the self-motivated quit rate is only 5 percent. Smoking is a hard-to-change habit. Applying our experience to quitting techniques, we've achieved an exceptional 40 percent quit rate with our phone-based lifestyle risk reduction programs.

By coordinating online HRA and behavior change programs with telephonic and print-based programs, there are now methods of implementing lifestyle risk reduction in nearly every setting. Using multiple approaches allows flexibility to work with hard-to-reach populations, to engage people at home or at work, and to tailor programs to an individual's needs and preferences.

Most risk reduction programs are a new service. These programs are often offered to moderately high and high-risk groups (who spend more of the health care dollar), but whose members haven't yet developed serious illness. That means they may not be going to the doctor. Use of the HRA and online resources allows us to intervene "upstream" in the disease process – to identify people who can be helped, and prevent absences or "downstream" higher-cost medical services.

While there is a significant payback from lifestyle risk reduction programs, there are good reasons to use them beyond reducing direct health care costs. Studies show that the hidden or "indirect" costs to people and companies may be even higher (for example, lost productivity through absenteeism and presenteeism).[3] Because risk reduction interventions are provided "upstream" from traditional medical care, they are likely to reduce these hidden costs as well as avoid the downstream medical costs.

As organizations and individuals look for solutions to health-cost escalation, they will need to consider a number of successful strategies. Lifestyle risk reduction is a fruitful model that is mature enough to be used now in many settings. Fortunately, it is also new enough that it will be an ongoing source of innovation, as well. Many of these innovations lie in the tailoring of programs to unique settings. We believe that the successful approach will:

- Use a tool to understand the needs of the population – e.g., an online HRA seems particularly useful for this;
- Link this needs assessment to broad-based and flexible programs – paper-based, online, telephonic, and face to face;
- Make these programs ongoing because behavior change is often a process, not a one-time event;
- Track intermediate measures other than just dollars – especially to gauge near-term success;
- Continuously modify programs to better meet individual and corporate needs;
- Foster ongoing integration with existing health care resources – doctors, nurses, clinics, hospitals, occupational health programs, EAPs, etc. HPM

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Please contact mayoclinicHMR@mayo.edu to acquire references for Lifestyle Risk Reduction: Upstream Solutions to the Looming Health Cost Crisis (pp. 24-26).

Lifestyle Risk Reduction: "Five Steps to Success"

By Neil Sullivan, MPH

Lifestyle risk reduction is an idea whose time has come, as the previous articles testify. To assist in putting this idea into action with your own populations, the following five proven steps are offered to get you started and keep you on track. These steps have been developed from years of strategic partnership with a diverse cross-section of organizations which, individually and collectively, have been moving this industry forward.

STEP ONE: Build a Consumer Focused Healthcare Strategy

Align intervention resources, internal and external, with the anticipated consumer need or demand. Consider the full spectrum of health status and needs within your population, from "well" to "quaternary care", when designing a risk reduction strategy (Figure 1). This necessitates offering the right resource at the right time, in a way that makes intuitive sense for your people. A consumer-focused model should contain related interventions that educate and reinforce healthy behaviors, and connect people with appropriate health care information – such as that offered by telephonic health advocacy programs.

At its roots, this model is about appropriateness of care. A health promotion offering such as an e-health Web portal, for example, provides a less intensive but broader-based set of tools and support, aimed at keeping a low-to-moderate risk population in those strata. Without diluting resources from one end of this model to the other, individuals who have immediate questions on self-care for minor accidents and illnesses can call into a nurse triage phone service or, better yet, a one-number health advocacy call service and receive personally directed assistance on all aspects of care.

STEP TWO: Identify Risk With a Health Risk Assessment (HRA)

Managing and mitigating lifestyle risks begins with the ability to identify risk factors present in individuals and subpopulations within the total employee population. This requires a comprehensive and medically credible HRA. HRA data have a unique predictive value unlike any other in our healthcare arsenal. Risk factors provide the crystal ball view

An HRA Provides Identification for Appropriate Intervention

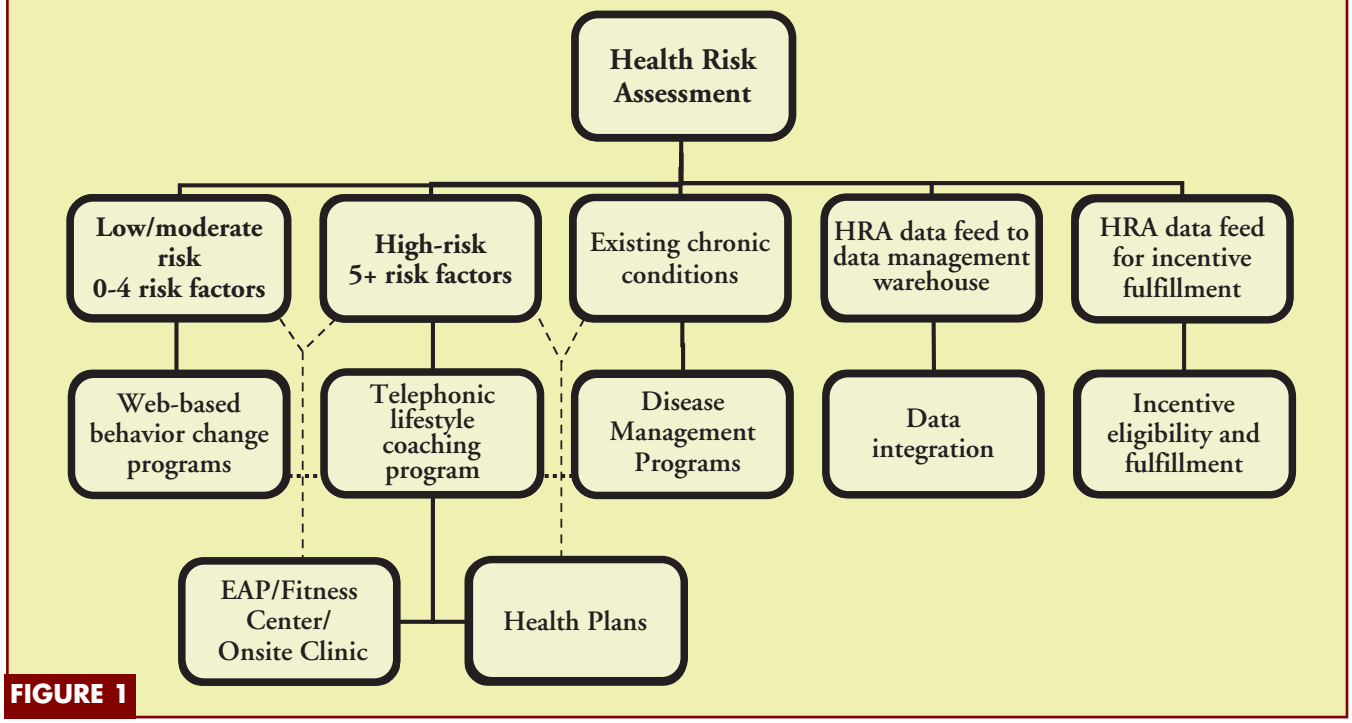

FIGURE 1

of a population's chronic conditions. These factors should include standard biometric variables like blood pressure, cholesterol, blood glucose, etc. as well as lifestyle risks like physical inactivity, body mass index, tobacco and alcohol use, and emotional health to name a few (Figure 2).

For those organizations interested in actually preventing the onset of diseases, compared with looking for alternative ways of paying for them, the HRA clearly highlights risk targets – drawing a road map for prevention strategies.

To make the HRA the linchpin of a risk management strategy, you must recruit a wide range of participants. It is well known that the generally healthy members of a population will be the initial respondents, while high-risk individuals would benefit the most.

Engaging this hard-to-reach group requires the use of a well-designed incentive program. Without the use of incentives, HRA participation numbers hover around a meager 10 percent. These numbers can be driven significantly higher, into the 25 - 50 percent range, with incentives such as online gift certificates or raffles for large-ticket items like weekend spa vacations.

Medical & Lifestyle Indicators

Medical Indicators of Risk	Lifestyle Indicators of Risk
Blood Pressure	Alcohol Use
Blood Sugar	Tobacco Use
Cholesterol	Exercise
Triglycerides	Nutrition (dietary fat, fruit and vegetable intake)
Weight	Emotional Health (such as depression, anxiety and stress)
	Safety (such as driving habits and use of sunscreen)

In selecting the medical and lifestyle risk indicators incorporated into the Mayo Clinic HRA, we have applied the Pareto principle, identifying the "20 percent of indicators that are likely to affect 80 percent" of the causes of premature death. Over the years, medical research has accumulated considerable evidence that links a core set of medical and lifestyle indicators to increased risk of a variety of health problems. The Mayo Clinic HRA focuses on six critical lifestyle areas in which individuals have great potential to reduce risk of future health problems, as well as five key medical indicators most linked to increased health risk.

FIGURE 2

The most effective participation-driving incentives, however, are tied to health benefits. If you are able to partner with your benefits department on a consumer-driven HRA incentive (i.e., reduced cost-sharing), you can increase participation to as high as 75 percent. (Some have noted achieving an amazing 100 percent participation rate.)

STEP THREE: Offer Lifestyle Risk Reduction Programs

Just as present-day disease management programs help to manage the person through the course of an existing disease, lifestyle risk management helps the person reduce existing sets of risk factors. Disease management seeks to mitigate the health and cost burden of an existing disease state; lifestyle risk management seeks not only to mitigate burden but actually prevent onset of chronic conditions that lead to excess costs and even early morbidity.

Research shows that lifestyle risk factors often represent a previously unrecognized "indirect" cost burden in lost productivity and absenteeism which may be as much as five times greater than the direct medical costs. Individuals classified as high-risk (having multiple risk factors), were more than $3000 costlier than low-risk individuals.[1] The opportunity to reduce the existing burden of risk factors, as well as prevent the onset of certain preventable chronic conditions, is, thus, almost too obvious to ignore.

It is necessary then look at the full spectrum of health and address the needs of the entire population. Depending on how high risk is defined, people with multiple risk factors can represent as much as 45 percent of the population.[2]

The good news is that highly effective solutions are available in the form of telephonic lifestyle risk reduction programs. These targeted interventions are directed at building confidence and skills that lead to short-term health improvements and long-term mastery for successful change. These programs can build a base of confidence and self-efficacy that will support the longer-term commitment required to manage a change such as controlling body weight, improving nutrition, exercising regularly, abstaining from tobacco, controlling alcohol use, etc.

Lifestyle Coaching models initially were applied only to those individuals at high risk (five or more health risks), but because of their potential impact on prevention of disease, these effective programs now are being administered to anyone who is looking for assistance in making a lifestyle change. Advanced lifestyle coaching programs are becoming multi-modal, integrating telephonic counseling with appropriate print and Web-based tools that add

accessibility and an element of independence that complements the human counseling component. Results are showing that it is possible to manage risks, and that people with risks welcome assistance in making healthy changes.

STEP FOUR: Use Incentives

Incentives can work, exceptionally well, and should be viewed as insurance on the healthcare strategies in which you are investing. Even the best HRA will not help achieve success in reducing risk if only 10 percent of employees respond. When used correctly, incentives can help ensure that risk reduction initiatives are utilized and produce results.

The effectiveness of incentives has been well documented for encouraging participation, reducing risk factors, decreasing costs and increasing productivity, as cited in a benchmarking study by O'Donnell et al.[3] More recently, newer, consumer-driven incentive models that include tax-deferred employer contributions to a Personal Care Account, or reduced annual insurance premiums, are yielding participation rates in HRA and health management programs approaching 100 percent.

In a 2002 published study on the Johnson & Johnson Health & Wellness Program that provided an incentive of $500 in benefit credits for participation in various program components, Ozminkowski and fellow researchers documented an average savings of $245 per employee per year for the company.[4] With the convergence of traditional benefits programs with prevention-minded wellness programs, these consumer-driven benefit incentives are becoming more and more popular for their ability to achieve unprecedented participation rates.

STEP FIVE: Plan for Data Integration

With technology as robust as it is today, it has never been easier to design, construct, implement and evaluate an integrated healthcare strategy within an organization. Not until we had integrated data were we able to see the flaws in a healthcare system built out of silos. Access to integrated panel data provides a looking glass into how the behaviors of individuals and risk pools ripple through the healthcare system. This realization has led to strategies built as much on connectivity (between internal and external vendors) as on program content.

There are three simple steps to ensuring integration for success:

- Inventory and design
- Execution
- Evaluation

Inventory and design consists of identifying all stakeholders and the health and well-being of the individuals and families within the organization. This includes everything from prevention activities and prescriptions, to health and benefit communications, and even concierge services. Natural linkages can be identified among groups which will benefit each one – in much the same way that a rising tide lifts all ships.

Execution is an ongoing process of implementing, learning and improving. It doesn't end after the initial deployment of the strategy. A solid evaluation process will provide ongoing and necessary feedback. Execution also is about vendor management and accountability. The success of a strategy will depend on ensuring that multiple vendors cooperate and collaborate, and is measured on the results they produce.

Evaluation of these measures will populate the integrated data set that will demonstrate success. Integrated data management is an unwieldy task if one tries to go it alone, but fortunately, there are industry players who make it their business to analyze and report on the various data sets. These data sets tend to include medical claims, disability, workers compensation, pharmacy, health risk assessment, productivity and absenteeism, to name a few.

A panel of data can be created for individuals (as well as cohorts) which is valid for comparison and reporting by using a unique ID system backed up by multiple layers of encryption to ensure confidentiality. Investing in this system is the best way to show results from risk reduction efforts and demonstrate good financial returns.

For the moment, the industry spotlight is on lifestyle risk reduction. The significant role that lifestyles play in the longitudinal healthcare picture will only increase as we witness the positive health and cost consequences of preventing the onset of chronic conditions. With this continued success we also will confirm how the individual pieces have come together to form a better model than we had before. HPM

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Please contact mayoclinicHMR@mayo.edu to acquire references for Lifestyle Risk Reduction: Five Steps to Success (pp. 27-29).