

# THE GENERATIVE VALUE OF IT-DRIVEN WELLNESS PROGRAMS

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The goal of any community—whether it’s a municipal or corporate community, a small town, or an individual family—is to ensure that members of that community live long, quality-filled lives. By extension, the goal of healthcare stakeholders is to optimize the allocation of healthcare dollars in order to maximize beneficial outcomes while containing costs and ensuring the long-term integrity and solvency of their healthcare funds.

According to information from Pricewaterhouse Coopers, 75% of all medical spending in the United States (US) is allocated to patients with chronic diseases, including diabetes, cardiovascular disease (CVD), chronic obstructive pulmonary disease (COPD), hypertension, cancer, arthritis, and depression. Moreover, chronic disease is the underlying cause for 40% of lost workplace time and is the leading cause of productivity loss. In fact, productivity lost to chronic disease is four times as expensive as the cost of medi-

cal treatment.<sup>1</sup> The Centers for Disease Control and Prevention (CDC) report that 7 of the 10 leading causes of death in the US are attributable to lifestyle factors—tobacco use, improper diet, physical inactivity, and alcohol use.<sup>2</sup>

## WHAT IS WELLNESS?

Wellness is a multidimensional and in many ways abstract concept. However, from a healthcare provider’s perspective, wellness has concrete meaning. On a community-based clinical level, wellness translates into fewer cases of chronic disease, lower utilization of prescription drugs, and more patients complying with guidelines for government-recommended nutrition, exercise, and screening programs.

From the patient perspective, wellness is very subjective. A survey conducted by the National Center for Health Statistics (NCHS) between 1997 and 2003, revealed that 67% of people between the ages of 18 and 64 consider their health “excellent” or

“very good”. That figure dropped to 38.6% for people aged 65 and older.<sup>3</sup>

At their best, wellness programs are designed to capture important health-related information from participants, use appropriate tools to analyze that information against the backdrop of a well-aggregated database, and feed back a series of specific short- and long-term recommendations. These recommendations combined with built-in support mechanisms are designed to improve participants’ overall health and contain costs by modifying individuals’ long-term behavior and ultimately averting more serious manifestations of chronic diseases, such as the need for aggressive medical interventions and premature death.

Evidence-based clinical trials have shown indisputably that large-scale prevention programs can reduce the risk of developing chronic diseases and improve outcomes in at-risk populations. For example, results of the Diabetes Prevention Program, a 3-year clini-

cal study that enrolled 3,234 subjects, showed that individual counseling and motivational support in the areas of effective diet, exercise, and behavior modification reduced participants' risk of developing diabetes by 58%. The impact of this program was even greater in participants aged 60 and older: Counseling and motivational support reduced their risk of developing diabetes by 71%. (All results were statistically significant.)<sup>4</sup>

Fatalistic approaches to health as in “you have to die sometime” lead to premature death and unnecessary healthcare costs. It's true that genetics play a role in an individual's health status, but that role is minimal compared with behavior. While genetics is responsible for 20% of health outcomes, behavior is the most important factor influencing health care status and accounts for 50% of outcomes. Meanwhile, environment and access to care influence 20% and 10% of outcomes, respectively.<sup>5</sup>

Despite the impact of chronic diseases on well-being in the US, life expectancy continues to increase. Since 1970, life expectancy has increased from 70 to 77.8 years. The implications of that 11% increase over the last four decades are numerous and far-reaching. First, there is a growing population of individuals who live longer with chronic diseases, which places a significant financial burden on the healthcare system. Plus, increasingly sophisticated healthcare treatment options and more expensive pharmacologic interventions translate into billions of additional dollars in healthcare expenditures per year, compared with the 1970's. Finally, given all of the treatment advances that have occurred, if individuals consistently engaged in healthier lifestyles and practiced preventive medicine, wouldn't it be possible to push the average life expectancy into the 80's and 90's, with the understanding that many of those years would be high-quality-of-life years?

### WELLNESS PROGRAMS IN ACTION

Wellness programs have been successfully implemented in work-based settings. Caterpillar, an industrial equipment manufacturer, is considered a good example of a large company using a health information technology (IT)-based wellness program to drive disease prevention and modification initiatives, such as smoking cessation, adhering to screening guidelines, and increasing physical activity. Since 1997, the 120,000 individuals covered by Caterpillar, Inc., have reaped the benefits of such a program. The purpose of this program is to reduce projected direct health care costs by identifying health risks early and intervening to reduce risks and attendant costs. More specifically, the program endeavors to achieve 80% employee engagement in and compliance with proposed healthcare activities by 2010.

The American Diabetes Association reports that each year, we spend approximately \$116 billion dollars on the combined direct costs, general medical costs, and chronic complications associated with diabetes. Individuals with uncontrolled diabetes also face a 2-fold to 4-fold risk of developing CVD. Controlling Hb1AC directly reduces the rate of complications associated with diabetes over the long term. For the individual, better glycemic control means a significantly reduced risk of the long-term tragic ravages of the disease, including blindness, renal failure, and amputations.

Caterpillar's efforts in this therapeutic area have yielded substantial results. Among participants who enrolled in the company's Diabetes Management Program, 50% experienced significant reductions in their glycosolated hemoglobin (Hb1AC) levels—an important indicator of blood sugar levels over time. In addition, 96% now comply with

monitoring their Hb1AC and 72% meet the Surgeon General's physical activity recommendations—a factor that has positive health-related and financial implications.

Experts contend that if an overweight person loses 10% of his or her bodyweight and keeps the weight off, lifetime medical costs are decreased. They estimate that per-person cost-saving range from \$2,200 to \$5,300. That cost-savings is directly related to lower costs associated with hypertension, type 2 diabetes, heart disease, stroke, and high cholesterol. Moreover, they suggest that if all inactive Americans aged 15 and above engaged in regular moderate physical activity, direct medical costs could be decreased by approximately \$77 billion each year. It's as easy as walking 30 minutes per day—but the challenge is communicating that information in a way that makes people change their behavior over the long term.<sup>6</sup>

Caterpillar's employees have other noteworthy health-related accomplishments that will ultimately increase their expected lifespan. For example, 35% of smokers have successfully stopped smoking for 3 years and counting, and there has been a 50% reduction in the annual number of disability days among workers. Although Caterpillar's cost-savings figures are not publicly available, it is clear that better glycemic control, reduced time off due to disability, and smoking cessation are significant cost-savers. ➔



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## KEY COMPONENTS OF A SUCCESSFUL WELLNESS PROGRAM

- Program decreases employee turnover and improves overall satisfaction
- Program improves the overall health and well-being of individuals
- The rate of participation steadily increases over time
- Reduced absenteeism
- Increased productivity
- Program is portable, user friendly, communicates continuously with users, and incorporates electronic reminders to help users comply with program recommendations. Adults who receive reminders are 27% more likely to get and use preventive health care.
- Program includes community features aimed at engaging participants, including interactive tools, user-generated content such as blogs, educational articles, and an incentive-based reward system.

Other communities have successfully implemented wellness programs. In the case of one health insurer, implementing a disease management wellness program aimed at high-risk participants resulted in significant per-person annual savings in the areas of costs for coronary artery disease (\$964), diabetes (\$210), asthma (\$576), and rare disease management for diseases such as cystic fibrosis and muscular dystrophy (\$1,836). In addition, hospital admissions among the targeted high-risk group were down 35% and overall annual care costs were down an average of \$3,660 per person.<sup>7</sup>

Separately, when a health insurer decided to implement a fitness incentive program,

claims were down among participants, compared with non-participants. Specifically, fitness-program participants had 64.3% fewer claims than non-participants. They also had 13% fewer physician claims and required 9.2% fewer prescriptions for medication.

### WHAT MAKES AN IT-DRIVEN WELLNESS PROGRAM EFFECTIVE?

In order for an IT-driven wellness program to be truly effective, the program must have a user-friendly interface backed by software with complex predictive analytic capabilities. System functionality would need to be supported by a database comprised of aggregated data from different sources, including

claims data, laboratory reporting, treatment plans and outcomes, diagnostic trends, prescription utilization patterns, demographic data, and evidence-based outcomes from key clinical trials.

For users, wellness programs represent a portal to better health—the opportunity to gain access to health assessment, planning, monitoring, and modification systems that can support them as they modify their behavior and make healthy lifestyle changes. Having access to a wellness program is like having a partner who helps you stay motivated to lose weight or get screened, who acknowledges and rewards your efforts, and is thrilled when you become healthier. IT driven wellness programs support users contiguously through personalized messaging, electronic reminders, and a content rich community environment leveraged with Blog and RSS feed technology.

Health IT-based wellness programs not only save money, but they are inherently progressive. When properly implemented, wellness programs result in positive outcomes all around. (Figure 1) Wellness programs reflect an attitude that values the lives of individuals. At the same time, these programs represent the most logical, efficient, and effective allocation of precious healthcare dollars.

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