

On the Critical List?

A MetLife Report on the Health Status of the 40+ Population

"An ounce of prevention is worth a pound of cure."

— Benjamin Franklin

*"He who has health, has hope;
and he who has hope, has everything."*

— Thomas Carlyle

A White Paper by the Center for Health Aging
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The current health status of the adult 40+ population and the associated healthcare costs are on a rocky road.

We have embraced chronic diseases as a part of 'getting older' and have focused on disease management and acute care versus taking steps as we age to prevent us from acquiring disease in the first place.

In this white paper we will look at the following:

1. Current health status of the 40+ population and the major health issues that are significantly affecting our health and healthcare costs now and in the future.
2. Current trends of technology and in-home care for chronic illnesses and how their adoption could positively impact future healthcare costs.
3. A health promotion and wellness trend that is having a positive impact on individual health and healthcare cost reduction, especially as it relates to employers and the workplace.

It is a good thought that if people can be encouraged to be healthy and productive in their earlier years, they will be healthier and more productive throughout their working life and into old age. Whether it is due to the sluggish state of the economy, changing healthcare regulations, increased healthcare costs, or all three — there is heightened interest by employers to contain costs while still providing worthy benefits to employees. Employers are looking for creative solutions to keep employees healthy and productive and to lessen their costs related to poor health, absenteeism, and presenteeism. Health promotion and disease prevention can lead to a better quality of life, more productive employees, and lower costs. Health consciousness can enable individuals to avoid or delay lifestyle related illnesses and premature institutionalization. Prevention is key to a healthier society both physically and financially — 'Adding Life To Years'!

Health Status of the 40+ Population: A Mixed Report

There are several factors that affect the current health status of the 40+ population, and will significantly impact future Medicare and other healthcare costs. These include obesity, health-related behaviors and the incidence of chronic diseases and disability.

Increase in Obesity

Obesity carries with it an increased risk for many chronic conditions, such as hypertension, high cholesterol, cardiovascular disease, cancer, and even loss of sight, among others. Obesity impacts nearly every major system in the body, and has a strong incidence of causing chronic disease. Improved treatment for many of the conditions means that obese people today are healthier than in

1980. This may be good for morbidity and even health status, but such improvements have come with increased healthcare costs. The therapies are expensive — for example, Statins that reduce cholesterol or other drugs that lower blood pressure come with high prices and may not improve health outcomes.

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Unhealthy behaviors and lifestyles that impact our health such as poor eating habits, lack of exercise, lack of sleep, excess alcohol, and stress affect our quality of life, longevity, and ultimately increase our healthcare costs. These numbers tell the story:

- More than a quarter (27.1%) of adults aged 50-64 are sedentary, defined as not doing any physical activity outside of work for 30 days.¹
- 27.8% of U.S. adults 18 years and older — 66 million people — are obese, defined as being roughly 30 or more pounds over a healthy weight.²
- 9.5% of U.S. adults have diabetes.³
- 30.8% of U.S. adults have high blood pressure, or hypertension, which is a primary risk for cardiovascular disease.⁴

¹Centers for Disease Control and Prevention, 2008.

^{2,3,4}The United Foundation: "America's Health Ranking", 2012.

It is estimated that obesity increases the cost of Medicare expenditures, *per person*, by \$1,723 per year. (Trogon et al., 2012). Those dollars, for the most part, go to treating all of the chronic diseases that obesity is associated with and not just direct treatment for obesity. This estimate means that the annual medical burden of obesity is nearly 8.5% of total annual Medicare expenditures.

Over the recent past, several attempts have been made to project obesity prevalence. For example, in California, obesity rates are projected to increase from 24% to 35% of the adult population between 2010 and 2020 (van Meijgaard et al., 2009). Nationally the prediction of the prevalence of obesity in 2020 is estimated at around 42% (Ruhm, 2007) and 44% or 45% (Wang et al., 2008). That amounts to about a 10 to 15 percentage point increase in obesity prevalence, which is an additional 50% increase over the current level. Healthcare spending for obesity in the United States is projected to increase in 2018 to \$344 billion (Thorpe, 2009).

These forecasts of both the prevalence and costs of obesity are based on past and current trends. Whether that is a reasonable assumption depends on policy and technological changes in the food supply and medical care systems. Both of these will influence the future of obesity over the next several years.

Changes to the medical care system could change the prevalence rates of obesity. However, such changes are not necessarily going to slow the growth in obesity prevalence — some changes might actually accelerate them. An example of this is the treatment of obesity with surgery and lap band technology. Another example is treating obesity with several prescription drugs specifically for weight control. These could have behavioral impacts on incentives or lack of incentives for people to control their weight. If it is relatively cheap for a person to be treated for hypertension and cholesterol by just taking a pill, there is less of an incentive to be concerned about weight and diet. These behavioral impacts will have implications when all of the obesity-attributable costs are accounted for.

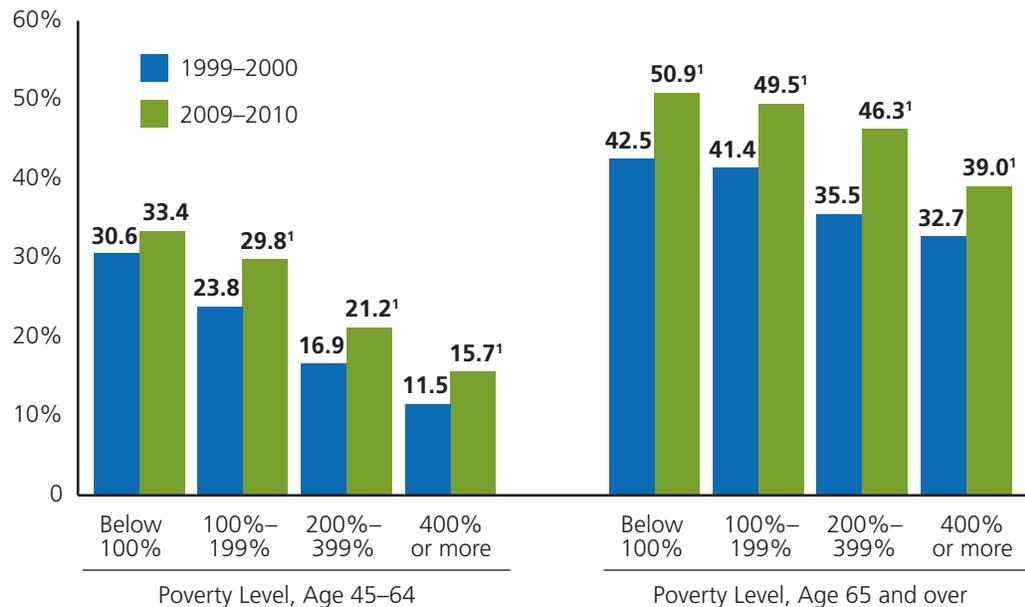
Greater Prevalence of Chronic Disease

Data from the National Health Interview Survey found that between 2000 and 2010, the percentage of adults ages 45–64 with two or more of nine selected chronic conditions increased for men and women, all racial and ethnic groups examined, and most income groups. The percentage of these chronically-ill adults who did not receive or delayed medical care due to cost increased from 17% to 23%, and the percentage who did not receive needed prescription drugs due to cost increased from 14% to 22% (Fried, et al., 2012).

In both 2000 and 2010 surveys, the prevalence of two or more chronic conditions for adults 45–64 decreased with rising family income. The prevalence was more than twice as high for those living in poverty as compared to those at 400% or more above the poverty level (Figure 1). Among those aged 65 and over, the percentage with two or more chronic conditions also decreased with increasing family income, but the percentage varied less by family income than among those aged 45–64 (Fried, et al, National Center for Health Statistics, 2012).

Growth in chronic conditions during the 10-year period reported is due to the prevalence of hypertension increase from 35% to 41%, diabetes from 10% to 15%, and cancer from 9% to 11%, among those aged 45 and over. This rise in the prevalence of chronic conditions has implications for the financing and delivery of healthcare in the future. They are more likely to be hospitalized, fill more prescriptions, have higher annual prescription drug costs, and have more physician visits (Anderson, 2010). Out-of-pocket spending is higher for persons with multiple chronic conditions and has increased in recent years (Paez, et al, 2009).

Figure 1. Prevalence of Two or More of Nine Selected Chronic Conditions by Age and Poverty Level: United States, 1999–2000 and 2009–2010



¹Significantly different from 1999–2000, p < 0.05.

Source: CDC/NCHS, National Health Interview Survey.

Disability Decreases for Older Population, Increases for Younger

The 65+ Medicare population has actually decreased in disabilities, but as reported above there is good reason to believe that the trend toward decreasing disability will not continue. Several researchers have found that disability is increasing in the under-65 population (Lakdawalla, Bhattacharya, and Goldman, 2004). Their analysis of data from the National Health Interview Survey (NHIS) on disability prevalence for 1982 to 1996 replicated the findings of Manton and colleagues (2006) of declines in disability among elders. At the same time, they found that younger populations, ages 30-59, were experiencing substantial increases in disability.

A lifetime perspective is essential to understand the implications for medical care expenditures. For example, a decline in the prevalence of chronic disease would reduce the prevalence of disability and lead to declines in associated medical expenditures per year. But longer life may lead to greater expenditures. The costs are higher for prevention, which is more expensive in part because one does not know who is going to get a disease. Chronic disease management, in contrast, leads to a decline in disability prevalence among the chronically ill, but incurs higher expenditures on assistive technologies.

Increases in education and health literacy have been a major force for improvement in health over time, primarily in the area of disability. Several researchers have attributed at least 50% of the decline in recent disability to change in the education composition of the population (e.g., Schoeni, Freedman, and Martin, 2008). It is not clear, however, that this factor will continue to operate in the same way into the future, because in recent years the increase in education at older ages is starting to slow down in the younger population and as reported, disability rates are increasing.

Chronic disease affects individuals to varying degrees. Their increasing prevalence presents a complex challenge to the U.S. healthcare system, in quality of life and expenditures for an aging population. Crimmins and a colleague found that in the 10-year period, 1997-2007, the number of people unable to work and those limited in their ability to work at age 60 have declined (Reynolds and Crimmins, 2009). Rising education has been a significant force for improvement in disability, based on the National Health Survey over the last 10 years. However, the percentage of adults aged 45 and over with two or more chronic conditions increased for men and women, all racial and ethnic groups examined, and most income groups. Therefore, it appears that this decrease in disability due to education will not continue.

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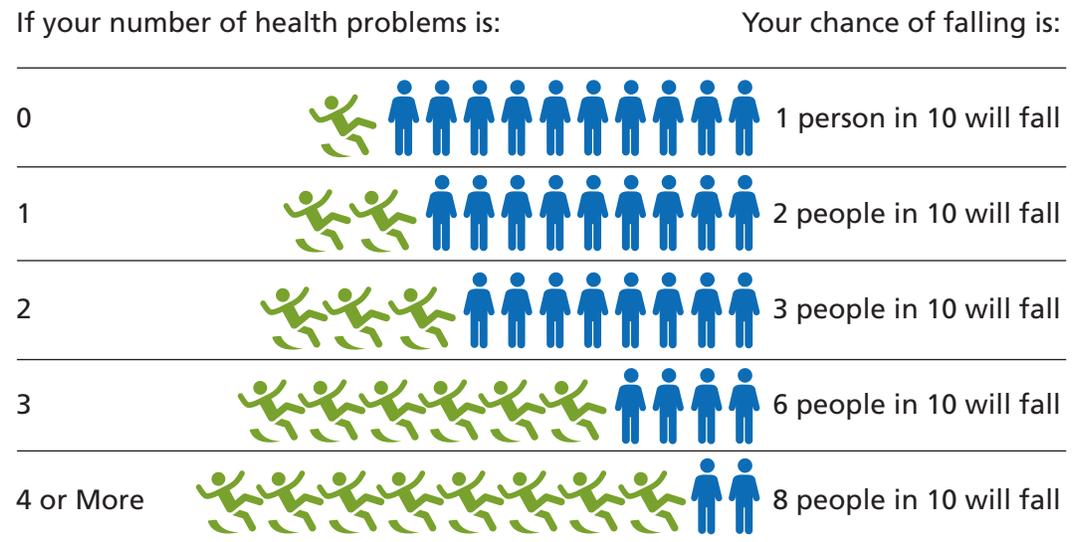
Technology and In-Home Care

Both technology and in-home care have the potential to make very positive impacts on overall health status and associated costs, especially as people age and are faced with more incidents of chronic disease and potential accidents.

Risk of Falls Increase with Age

As chronic diseases increase, so do the risk of falls. 80% of older people today live in their own home and 90% would like to stay there (Bayer and Harper, 2000). However, falls and fall injuries are more common than strokes and can be just as serious in their consequences. As Figure 2 below displays, a person with more health issues has a greater chance of falling.

Figure 2. More Health Problems* = Greater Chance of Falling This Year



***The common health problems for falling are:**

- Problems walking or moving around
- 4 or more medications
- Foot problems, unsafe footwear
- Blood pressure drops too much on standing up/dizzy

- Problems with seeing
- Tripping hazards in your home

Source: <http://www.fallprevention.org/pages/fallfacts.htm>

A top health issue relating to falls is a person taking four or more medications (Tinetti, 2005). Medication compliance, taking the correct amount of the prescribed medicine at the proper time, is currently a health issue and at the current rate of medication prescription will become a larger issue in the future. World Health Organization reports that only around 50% of people typically follow their doctors' orders when it comes to taking prescription drugs — and the rates are lower for certain medical conditions. Studies have shown that non-compliance causes 125,000 deaths annually in the U.S. and, leads to 10% of hospital admissions and 40% of nursing home admissions (Col, et al., 1990). The Forster et al. (2003) hospital discharge study found that 66% of adverse events were related to adverse drug events, while procedure-related complications were a far second at 17%. Clearly our healthcare services need to align and become better integrated in order to provide a continuum of quality services.

Many older adults have a hard time or cannot get up from a fall without help. Lying on the floor for an extended period of time after a fall can lead to complications which can have a negative impact on the person's quality of life and also add greatly to the cost of their healthcare.

There is technology available today that promote independence and safety for persons living alone. Personal Emergency Response Systems (PERS) that can automatically detect a fall, and can give a person comfort in knowing that if they fall and are not able to even push a button, a signal will be sent for help. Also, personal medication dispensing devices exist that can verbally and visually remind people to take their medications and only dispense the medications at the scheduled time. This provides independence, quality of life and lessens the burden on the healthcare system. These tools are advanced in their technology and are simple to acquire and use.

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Care Coordination and Tele-Health

Darkins and associates reported on a large study of home tele-health, carried out by the Veterans Health Administration, which documented a national home tele-health program called Care Coordination/Home Telehealth (Darkins, et al., 2008). The purpose of this initiative is to coordinate the care of veteran patients with chronic conditions in order to avoid or reduce unnecessary admission to long-term institutional care. Routine analysis of data from a cohort of 17,025 patients in 2008 shows the benefits of a 25% reduction in number of bed days of care, a 19% reduction in number of hospital admissions, and overall high satisfaction rates for patients enrolled in the program (Darkins, et al., 2008). The cost of the program was estimated to be \$1,600 per patient per year in 2008, which the authors argue is substantially less than other non-institutional care programs or nursing home care (Darkins et al., 2008).

The Rise of Virtual Communities

In addition to web-based applications that follow an institutional approach and link home care patients to health care providers, the internet also supports a consumer approach that enables the creation of networks between home care patients diagnosed with the same condition, families or other informal caregivers, communities, and the general public. Such networks are often referred to as virtual communities. Virtual communities, unlike those of a traditional community, are based on the use of advanced technologies that support interactions and exchange of information between members who may never physically meet (Demiris, 2005).

Virtual communities engage in repeated, active participation with access to shared resources. Numerous applications function as self-help groups of individuals diagnosed with the same clinical condition or undergoing similar treatment. As Finn (1999) demonstrated, virtual self-help groups can provide many of the processes used in face-to-face self-help and mutual aid groups. The emphasis in such virtual communities is on mutual problem solving, information sharing, provide mutual emotional support, and empathy. The impact of the virtual communities has promise for both quality of life and cost of care.

Technologies for virtual communities include, among others, online message boards and automatic mailing list servers for asynchronous communication, video-conferencing, Internet relay chat, group and private chat rooms for communication, and even social networking platforms, such as Facebook or Twitter. In some cases, communication is not moderated and in other cases, a moderator or group of moderators oversees and facilitates the interaction among members.

The same advanced telecommunication technologies that can facilitate virtual communities of patients and their families can also enable healthcare providers to form virtual teams, interacting and collaborating on cases even when separated by large geographic distances. Numerous healthcare settings lack the inter-disciplinary resources required for efficient chronic disease management. For example, clinicians and researchers at Rush University Medical Center in Chicago developed the Virtual Integrated Practice, a process that creates virtual care teams that target four strategies: (1) communications, (2) process standardization, (3) group activities, and (4) self-management (Rothschild, et al., 2004). The conditions covered are diabetes, chronic obstructive pulmonary disease, and urinary incontinence. Virtual healthcare provider teams can ensure continuity of care as they use a common platform for exchange of messages, opinions, and resources. Utilizing technology and human capital through such teams can be essential to successful disease management and to providing continuity of care for the patients.

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Caregivers Needed, Both Paid and Unpaid

Finally, every discussion of bringing future healthcare to the home must include unpaid family caregivers, who do most of the work. Caregiving falls to people who are not trained as clinicians yet are required to do technical clinical work along with basic daily care. Learned skills include intravenous therapy, tracheotomy and ventilator support, wound care, catheter changes, and medication oversight; work that in other care settings is restricted to licensed nurses. Most caregivers are women, their average duration exceeds four years, and they average 25 hours per week (Giovannetti, et al., 2009). In this role, they lose time from work, lose employment, and develop health problems, with adverse economic consequences for worker and employer (Coe and Van Houten, 2009). Employers' cost for full-time employees with caregiving roles is \$17.1 billion (\$2,441 per employee), and total cost to employers for full-time, employed caregivers is \$33.6 billion (MetLife, 2006). Lost wages and benefits due to caregiving average \$303,880 for a typical caregiver and add to a lack of financial security (MetLife, 2011). This is a significant part of the human capital equation.

Improving Quality and Cost of In-Home Care

The quality of home health aide and personal care also is a recognized national issue (Stone and Newcomer, 2009). There is minimal required training, and caregivers are paid near minimum wage. Commonly reported problems include rapid turnover and aides failing to appear, being rude, stealing, or doing poor work. Of the typical hourly cost of \$18-\$25, half goes to agency overhead. Conversely, in many cases aides are trusted like family members; donate their own time, money and possessions to the household of the care recipient; and are invaluable. A new survey called Consumer Assessment of Healthcare Providers and Systems (CAHPS) for home and community-based care services has been created to systematically measure quality. The CAHPS program is a family of standardized surveys that ask consumers and patients to evaluate healthcare

Total wage, Social Security, and private pension losses due to caregiving could range from \$283,716 for men to \$324,044 for women, or \$303,880 on average for a typical caregiver. When this \$303,880 amount is multiplied by the 9.7 million people age 50+ caring for their parents, the amount lost is \$2,947,636,000,000, or nearly \$3 trillion.

experiences, covering issues like provider communication skills and service accessibility. Personal care in the home is a fast growing work force and in the future demand will far exceed supply unless international workers fill the gap.

Individual home care agreements are made by private individuals with other private individuals. With no agency overhead, these workers are paid more. Such arrangements are treasured by those who find reliable help and are difficult to count. Initiatives such as the Cash and Counseling Demonstration and Evaluation, in which care recipients or families manage home care using public funds, have succeeded in improving quality and

cost (Foster, Dale, and Brown, 2007). Between CAHPS and creative new models like Cash and Counseling, plus the increasing affluence of Baby Boomers, the personal care component of home healthcare is growing, but it will have to contend with the increasing ratio of older chronically-ill persons needing care from younger persons available to deliver it and as mentioned above will increasingly depend on an international workforce.

Health Promotion and Wellness

According to the Centers for Medicare & Medicaid Services, healthcare expenditures in the United States exceed \$2 trillion a year. Employers are feeling the burden of the high costs of healthcare through higher insurance premiums for their employees. Employee health benefits are one of the single largest line items on profit and loss statements and that line item is growing. From 1999 to 2005, the average employer cost for health insurance rose from \$1.60 to \$2.59 per employee per hour (Kaiser Family Foundation, 2009). Employers are seeking approaches to realize cost savings as a result of reduced healthcare benefit costs. Workplace-based wellness programs could affect prevention and have an impact on achieving better health outcomes at lower cost.

Research by the Centers for Disease Control (2009) and University of Michigan Health Management Research Center (2008) has shown that it is more cost effective to provide preventive health services, such as exams, screenings, immunizations, health risk appraisals, behavioral coaching, and health education rather than just the traditional acute medical services. Unfortunately, only about 7% of employers provide a comprehensive health promotion program as reflected in the 2004 National Worksite Health Promotion Survey. However, since this report, health promotion and wellness programs have grown. Employers are beginning to see employee health as a productivity strategy rather than as an exercise in healthcare cost management (Partnership for Prevention, 2009). Poor health and productivity are linked. Healthy employees tend to be more productive and use less health services, both of which increase the bottom line. Poor employee health can impair day-to-day work performance (e.g., presenteeism) and have a negative effect on job output, productivity, and quality.

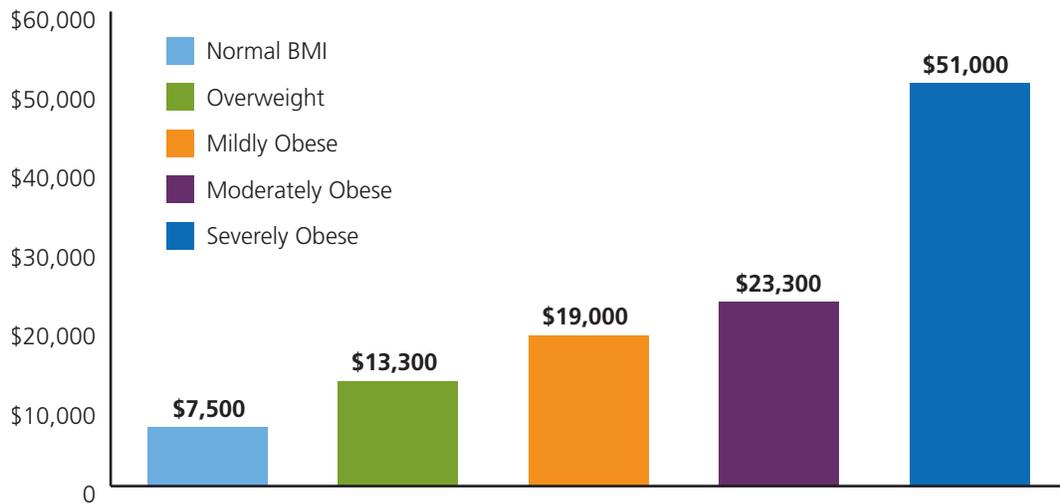
A study conducted by US Corporate Wellness, Inc. (ROI-Based Analysis of Employee Wellness Programs Feb. 8, 2008) indicated company wellness programs are producing a significant return on investment. The study looked at the health issues and five important health behaviors that can affect employee health status: regular exercise, healthy levels and types of fat intake, five daily servings of fruits and vegetables, moderate drinking, non-smoking. When company

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wellness programs address these major areas there is a ROI in not only bottom line savings but other areas such as unscheduled absenteeism, productivity and engagement (presenteeism), turnover, customer satisfaction and loyalty, recruitment.

The growing prevalence of overweight and obesity* are major health risk factors that contribute to higher health benefit costs and cannot be ignored. Figure 3 represents workers-compensation data results found in a Duke University study involving 11,700 individuals (Hitti, Miranda. 2007):

Figure 3: Duke University Workers Compensation Study



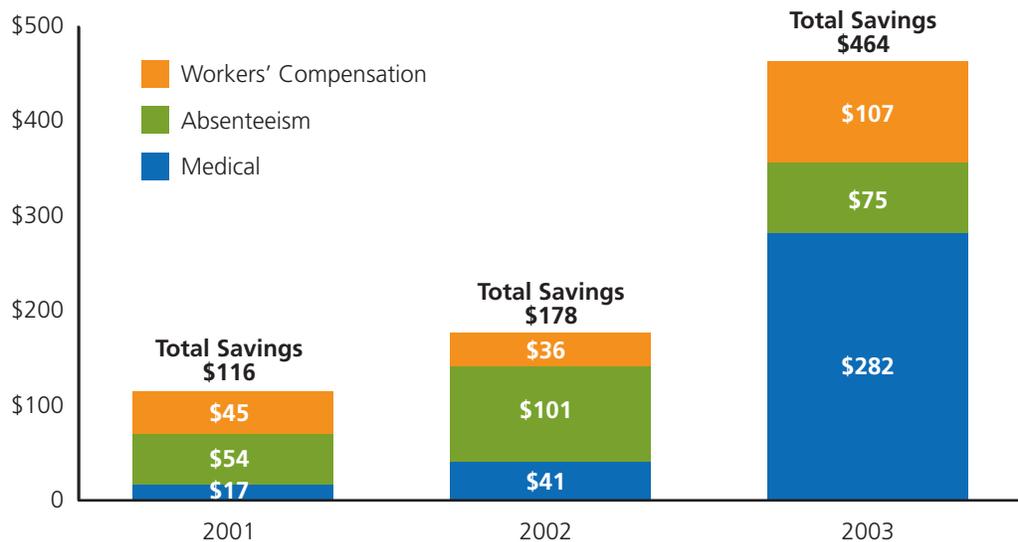
Source: US Corporate Wellness, ROI-based Analysis of Corporate Wellness Programs, 2010
*overweight and obesity were measured by Body Mass Index (BMI)

Company wellness programs are not standardized and they are not 'one-size-fits-all.' However, a December 2010 article in the Harvard Business Review (Berry, L., Marabito, A., and Baun, W., 2010) reported positive cost saving results from companies that have established wellness programs. The article stated "Johnson & Johnson Company leaders estimate that wellness programs have cumulatively saved the company \$250 million on healthcare costs over the past decade; from 2002 to 2008, the return was \$2.71 for every dollar spent." Another case noted in the article stated: "In 2001 MD Anderson Cancer Center created a workers' compensation and injury care unit within its employee health and well-being department, staffed by a physician and a nurse case manager. Within six years,

lost work days declined by 80% and modified-duty days by 64%. Cost savings, calculated by multiplying the reduction in lost work days by average pay rates, totaled \$1.5 million; workers' comp insurance premiums declined by 50%." Companies who pay for employees' health insurance plans have a strong business case to invest in keeping their employees healthy. In addition to the hard cost savings, companies with wellness programs have seen a reduction in absenteeism, increased productivity, and increased employee satisfaction.

A three-year study conducted at a health system in Minneapolis found that health risks decreased after the implementation of a comprehensive worksite wellness program (Eischen, B. and Anderson, D. 2005). This led to increased savings due to reduced healthcare costs, absenteeism, and workers' compensation claims each year of the program (Figure 4).

Figure 4: Wellness Program Savings



Source: Fairview Alive Program Evaluation (StayWell, 2004)

Company wellness programs focus on preventive measures to keep healthy employees healthy and to help individuals with disease to improve their health status. Prevention of disease is the key to success in lowering overall healthcare costs.

Summary and Implications

Overwhelmingly, recent health status statistics are indicators of a potential health “train wreck” in the near future. Lifestyle behaviors such as poor nutrition and lack of exercise impact our health. Major chronic diseases, such as diabetes, hypertension and other cardiovascular disease, cancer, and depression are increasing among the 40+ population. These preventable chronic diseases affect our quality of life and longevity, and result in skyrocketing healthcare costs.

One positive indicator for the future is that increases in education and health literacy have been a major force for improvement in health over time, primarily in the area of disability. If we can continue to educate, we can have an impact

on changing the trajectory of disability, diminishing quality of life, and increasing healthcare costs.

Companies with worksite wellness programs can be a significant change agent health status and lowering costs.

Innovative technologies and tele-health help in areas such as alleviating complications due to falls, reducing the mismanagement of medications, coordination of services, communication between providers, and providing information and support. These tools can help turn the table on the

management of unnecessary acute treatments, such as emergency room visits, and on medical expenses. Improved services from professional and informal care providers shift the focus from expensive facility and nursing services to more humane homecare services.

Companies with worksite wellness programs can be a significant change agent in improving health status and lowering costs. Research linking health status of employees with increased productivity and decreased costs should be an incentive to employers to get on the wellness band-wagon. Additional research is needed to produce more effective worksite health and wellness programs, especially for the small employers. Forming partnerships between consumers, employers, health plans, and healthcare organizations will stimulate improved quality, lower costs, and increase productivity in the workplace.

We can change our health status, to improve our quality of life as we age, and reduce the out-of-control costs of healthcare. Changing unhealthy behaviors and embracing efforts in prevention, health promotion, and wellness education will curb the increasing costs and ultimately, ‘Add Life To Years.’

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