Healthy, productive individuals make our nation strong and vibrant. Advances in medicine contribute to national economic growth by helping Americans recover more quickly from injury and illness, avoid lost or ineffective work time due to flare-ups of chronic conditions, and live longer with higher quality of life.

Progress in preventing and treating disease has added approximately 30 years to Americans’ life expectancy since the beginning of the 20th century. For example, over the past 50 years, advances in the treatment of cardiovascular disease alone have added more than three years to the life expectancy of men and women. As Americans live longer, healthier lives, they also are working longer, thus continuing their contributions to the economy. A one-year improvement in the life expectancy of the U.S. population translates into an estimated 4 percent increase in gross domestic product (GDP) – an increase currently equal to about $540 billion.

Yet, even as the U.S. health system’s ability to prevent and treat disease improves, the prevalence of chronic health problems among working Americans is rising. Individuals, of course, prefer to be healthy and productive rather than sick and unable to work. Yet, illness and chronic conditions can keep people out of work for days or even months at a time or force them to leave the workforce altogether. Inability to work diminishes individuals’ quality of life and capacity to provide for themselves and their families. Being unable to work can lead not only to a loss of financial security but also to reduced self-esteem and symptoms of depression.

In addition, lost or unproductive work days pose a significant cost to national and local economies. For example, in California, hypertension alone accounts for an estimated 2.8 million lost work days each year. And asthma accounts for an estimated 8 million lost work days each year in New York.

More and more employers, including hospitals, are recognizing that health status has a direct link to day-to-day productivity. They are taking new steps to promote health and wellness among their employees. Health care – that helps employees stay well, recover and return to work after illness, and effectively manage chronic conditions – not only benefits individuals but also has a positive effect for employers and the economy as a whole.

Three of 10 working individuals report health problems...

Chart 1: Percent of Persons Who Work Reporting Health Problems and Productivity Losses, 2003


Note: Excludes self-employed adults and workers with an undesignated wage rate. Health problems are defined as presence of a chronic condition (cancer, diabetes, arthritis, or heart attack/heart disease), presence of disability, or self-reported fair/poor health status; sick days are days missed work because self or family member sick; and reduced-productivity days are days unable to concentrate fully at work because not feeling well or worried about sick family members.
The incidence of chronic conditions among the working population is increasing. In 2003, three out of 10 U.S. workers reported having a health problem defined as presence of a chronic condition such as diabetes, arthritis, cancer or heart disease; presence of a disability; or self-reported fair or poor health status. These health conditions lead not only to missed work time (absenteeism) but also reduced productivity while at work (referred to as “presenteeism”). An estimated 69 million workers took sick days in 2003, amounting to 407 million lost work days. This translates into $48 billion in wages paid for time not worked because of illness.

A majority of working Americans have at least one absence from work due to illness or go to work sick during the course of a year. A survey of working Americans ages 19 to 64 found that two-thirds missed one or more days of work due to their own health problems or those of a family member in 2003. Additionally, half reported going to work while sick or while worried about the health problems of a family member, and thus were unable to work at full capacity while there.

…leading to lost work time and lower economic output.

Chart 2: Estimated Lost Work Time and Economic Output Due to Health Problems, Adults Ages 19-64

<table>
<thead>
<tr>
<th>Lost Days of Work (in millions)</th>
<th>Lost Economic Output (in $billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults Not Working for Health Reasons</td>
<td>4,487</td>
</tr>
<tr>
<td>Workers with any Sick Days</td>
<td>407</td>
</tr>
<tr>
<td>Workers with Reduced-productivity Days</td>
<td>478</td>
</tr>
</tbody>
</table>


Note: Non-working adults report not working due to disability, handicap, chronic disease, or other health reasons.

Common chronic conditions, on average, account for more than 10 days of work lost per year...

Chart 3: Number of Days Absent per Affected Individual per Year Due to 10 Conditions, 1997-1999

<table>
<thead>
<tr>
<th>Days Per Year, Absent (Low, Average, High)</th>
<th>Depression/Sadness/Mental Illness</th>
<th>Any Cancer</th>
<th>Respiratory Disorders</th>
<th>Asthma</th>
<th>Migraine/Headache</th>
<th>Allergy</th>
<th>Heart Disease</th>
<th>Arthritis</th>
<th>Diabetes</th>
<th>Hypertension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days Per Year, Absent</td>
<td>25.6</td>
<td>16.9</td>
<td>14.7</td>
<td>12.0</td>
<td>10.7</td>
<td>8.2</td>
<td>6.8</td>
<td>5.9</td>
<td>2.0</td>
<td>0.9</td>
</tr>
</tbody>
</table>

Conditions Affecting U.S. Employers.

Average days absent per year and average annual dollar impact by condition from Goetzel, R.Z., et al. (2004). Health, Absence, Disability, and Presenteeism Cost Estimates of Certain Physical and Mental Health


Employed persons per state with each chronic condition was obtained by applying age-cohort-specific prevalence estimates for each condition to the number of employed persons in each corresponding age cohort to that condition.

Days absent per year (annual dollar impact) is the product of the number of employed persons per state with each chronic condition and the average days absent per year (average annual dollar impact) attributable to that condition.

Employed persons per state with each chronic condition was obtained by applying age-cohort-specific prevalence estimates for each condition to the number of employed persons in each corresponding age cohort to that condition.

Days absent per year (annual dollar impact) is the product of the number of employed persons per state with each chronic condition and the average days absent per year (average annual dollar impact) attributable to that condition.

Source: Avalere Health analysis. Estimates are attributable only to absenteeism and do not include lost work time due to presenteeism or disability.

Days absent per year (annual dollar impact) is the product of the number of employed persons per state with each chronic condition and the average days absent per year (average annual dollar impact) attributable to that condition.

Employed persons per state with each chronic condition was obtained by applying age-cohort-specific prevalence estimates for each condition to the number of employed persons in each corresponding age cohort to that condition.

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Source: Avalere Health analysis. Estimates are attributable only to absenteeism and do not include lost work time due to presenteeism or disability.

Days absent per year (annual dollar impact) is the product of the number of employed persons per state with each chronic condition and the average days absent per year (average annual dollar impact) attributable to that condition.

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Days absent per year (annual dollar impact) is the product of the number of employed persons per state with each chronic condition and the average days absent per year (average annual dollar impact) attributable to that condition.

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Source: Avalere Health analysis. Estimates are attributable only to absenteeism and do not include lost work time due to presenteeism or disability.

Days absent per year (annual dollar impact) is the product of the number of employed persons per state with each chronic condition and the average days absent per year (average annual dollar impact) attributable to that condition.

Employed persons per state with each chronic condition was obtained by applying age-cohort-specific prevalence estimates for each condition to the number of employed persons in each corresponding age cohort to that condition.

Days absent per year (annual dollar impact) is the product of the number of employed persons per state with each chronic condition and the average days absent per year (average annual dollar impact) attributable to that condition.

Source: Avalere Health analysis. Estimates are attributable only to absenteeism and do not include lost work time due to presenteeism or disability.
Absenteism
Health conditions such as heart disease, hypertension, diabetes, cancer and asthma are among some of the costliest conditions to employers in terms of both health care expenses and lost work days. In a study of the effect of physical and mental health conditions on productivity at six large U.S. employers, researchers determined that employers paid a total of $3,703 per employee for medical care, absenteeism and short-term disability costs associated with physical and mental health conditions. (This figure is averaged across all employees, not just those with health conditions. The cost per affected worker is much higher.) Each year, 10 common chronic conditions account for an average of more than 10 days of work loss, though some conditions, such as depression, cancer and respiratory disorders, may account for many more.

Avalere Health has estimated the state-by-state impact of three common chronic conditions – asthma, diabetes and hypertension. All told, just these three common conditions together account for significant losses in work days for individual states and the nation’s economy – on average, an estimated 69 million number of working Americans who took sick days in 2003.

State-by-state rates of lost work time vary markedly for three common chronic conditions.

Chart 5: Estimated Annual Number of Days of Work Absence per 1,000 Employed Persons Due to Asthma, Diabetes and Hypertension

On average, asthma accounts for 927 days of lost time per 1,000 working Americans each year.

Chart 6: Estimated Annual Number of Days of Work Absence per 1,000 Employed Persons Due to Asthma

Diabetes accounts for 112 days of lost time per 1,000 working Americans each year.

Chart 7: Estimated Annual Number of Days of Work Absence per 1,000 Employed Persons Due to Diabetes

<table>
<thead>
<tr>
<th>State</th>
<th>Days of Absence</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;80 Days</td>
<td>81-105 Days</td>
</tr>
<tr>
<td>National Average: 112 Days/1,000 Working Americans</td>
<td></td>
</tr>
</tbody>
</table>


Hypertension accounts for 181 days of lost time per 1,000 working Americans each year.

Chart 8: Estimated Annual Number of Days of Work Absence per 1,000 Employed Persons Due to Hypertension

<table>
<thead>
<tr>
<th>State</th>
<th>Days of Absence</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;160 Days</td>
<td>160-179 Days</td>
</tr>
<tr>
<td>National Average: 181 Days/1,000 Working Americans</td>
<td></td>
</tr>
</tbody>
</table>


However, the individual impact of each of these diseases varies. For example, nationwide asthma accounts for an estimated 927 days absent per 1,000 employed individuals each year, but state-by-state estimates of days of lost work range from 696 (SC) to 1,244 (RI) per 1,000 working persons. And each year, hypertension accounts for an estimated 200 days or more of work absence per 1,000 employed residents of states in the Southeastern U.S., but fewer than 160 days per 1,000 working individuals in states in the North and Southwest. This analysis illustrates the high costs of common conditions and reveals an opportunity to improve health-related productivity.

Presenteeism

Newly emerging research on health and productivity shows that presenteeism – when people are at work but not fully functioning because of illness or other medical conditions – can cut individual productivity by one-third or more. Bank One, in a large internal study of its health care-related costs, found that the company spent $116 million on direct medical costs in 2000. However, further analysis revealed that direct
HeAltHy people Are tHe FounDAtion For A proDuctive Americ A

medical costs comprised merely 24 percent of the total health care costs borne by the company. The remaining 76 percent was attributable to indirect health-related costs: $312 million to presenteeism, $27 million to absenteeism, $27 million to short-term disability and $6 million spent for long-term disability.¹⁶

Indeed, a large proportion of employees’ health-related costs may be due to employees who are sick on the job and, thus, are not working at the same capacity as they would be if healthy. Presenteeism is difficult for employers to measure, as the employees in question are physically present at work, even if compromised, yet the financial impact of presenteeism is serious.

Better Health – and Health Care – Can Lead to Improved Productivity

Acute and chronic health problems are burdensome for individuals and society. Illness interferes with individuals’ ability to conduct everyday tasks and may impede their ability to go to work and contribute fully to society. Employers also have recognized that direct health care costs and the associated costs of lost productivity can be a large component of overall company expenses. Prevention of chronic illness and its complications, aided by advances in


¹Presenteeism: Individuals are at work but are not fully functioning because of illness or other medical conditions, resulting in decreased productivity.

---

**Common chronic conditions contribute to sizeable presenteeism costs…**

**Chart 9: Estimated Average Annual Cost of Presenteeism* per Employee with Condition**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Cost per Employee with Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthritis</td>
<td>$252</td>
</tr>
<tr>
<td>Hypertension</td>
<td>$247</td>
</tr>
<tr>
<td>Depression/Sadness/Mental Illness</td>
<td>$246</td>
</tr>
<tr>
<td>Allergy</td>
<td>$222</td>
</tr>
<tr>
<td>Migraine/Headache</td>
<td>$189</td>
</tr>
<tr>
<td>Diabetes</td>
<td>$159</td>
</tr>
<tr>
<td>Any Cancer</td>
<td>$76</td>
</tr>
<tr>
<td>Asthma</td>
<td>$72</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>$71</td>
</tr>
<tr>
<td>Respiratory Disorders</td>
<td>$33</td>
</tr>
</tbody>
</table>

**…which can account for the majority of employers’ total health-related costs.**

**Chart 10: Bank One’s Total Health-related Costs by Expense Category, 2000**

<table>
<thead>
<tr>
<th>Expense</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical and Pharmaceutical</td>
<td>24% ($116M)</td>
</tr>
<tr>
<td>Long-term Disability</td>
<td>1% ($6M)</td>
</tr>
<tr>
<td>Short-term Disability</td>
<td>6% ($27M)</td>
</tr>
<tr>
<td>Absenteeism</td>
<td>6% ($27M)</td>
</tr>
<tr>
<td>Presenteeism</td>
<td>63% ($312M)</td>
</tr>
</tbody>
</table>


Note: Figures are based on Bank One annual data for 2000. Workers’ compensation accounted for less than 1% of indirect medical costs.
diagnostic tools and pharmacological therapies, can reduce the burden of these conditions on individuals and the nation’s economy. Type 2 diabetes, a major cause of morbidity and mortality in the U.S., currently affects 20.8 million Americans. As the number of young Americans diagnosed with diabetes continues to grow, the condition is likely to become even more common in the working-age population. Complications associated with diabetes can cause individuals to exit the workforce and may lead to increased absenteeism or impaired productivity among those who remain working. Already, productivity losses due to diabetes are estimated to be about one-third of the yearly total economic costs associated with the illness – $40 billion of $132 billion.

Over the past few decades, Type 2 diabetes has become more manageable as a result of technological improvements in devices that enable self-monitoring of blood glucose, better accuracy of HbA1c tests and new insulin and oral drug therapies. Notably, workers who are able to achieve glycemic control of their diabetes with medications are more likely to keep their jobs, are more productive at work, and miss fewer days of work. Glipizide, for example, has been shown to reduce absenteeism significantly and to raise employment retention.

Cancer, a leading cause of morbidity and mortality, as well as productivity loss, costs the U.S. $190 billion each year. Breast cancer accounts for nearly one in three diagnosed cancers in women. According to the National Institutes of Health, nearly 180,000 women will be newly diagnosed with breast cancer in 2007, and more than 40,000 women are expected to die of the disease.

Routine mammography screening may reduce breast cancer mortality by as much as 30 percent. Mammograms offered by employers at the worksite can benefit both the individual and the employer. Employer-sponsored, on-site mammograms help overcome barriers to screening, such as cost and inconvenience, by allowing women to be screened without taking time off from work. Such screening can lead to earlier cancer detection and improved survival. Sixteen of the 18 employees diagnosed with cancer following worksite mammography at Eli Lilly and Company had stage 0 or stage I cancer. But earlier detection via mammography (employer-sponsored, on-site) can also lead to fewer lost workdays – 33.9 days for those screened compared to 74.5 for others in one study – and save money in treatment costs – $18,526 for those detected via screening compared to $35,031 for others.

New surgical techniques and treatments also can facilitate, and even hasten, employees’ return to work. For example, recent treatments for heart disease such as angioplasty (PTCA) and coronary artery bypass (CABG) have allowed patients to return to work following surgery, including those who were unemployed due to cardiac ailments prior to surgery. In one study, 77 percent of those employed prior to PTCA or CABG were working again at two years post surgery. Only 11 percent were unable to return to work for cardiac reasons. Further, 45 percent of patients not working due to cardiac causes prior to surgery had returned to work two years following surgery. A separate study of PTCA and CABG found similar results. All patients working before
Employers are now well aware that workers’ health and vitality affect their productivity, which in turn impacts the company’s performance and competitiveness. Increasingly, employers recognize that they have an important role to play in promoting health and productivity.

Today, employers have an assortment of tools at their disposal that have been shown to promote better health and productivity for employees, including on-site clinics, health promotion and wellness programs, health insurance and sick leave benefits. More than 100 of the nation’s 1,000 largest employers now offer on-site care, including clinics with occupational health care, primary care and pharmacy services. That number is forecasted to surpass 250 by the end of 2007. Mortgage insurer

Employers Recognize Their Role in Promoting Health and Well-being

Chart 12: Average Percent Change in Employers’ Costs Resulting from Workplace Health Promotion and Wellness Programs

<table>
<thead>
<tr>
<th>Health Costs</th>
<th>Absenteeism</th>
<th>Workers’ Comp./Disability Management Claims Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>-27%</td>
<td>-28%</td>
<td>-30%</td>
</tr>
</tbody>
</table>


“...” from the field

“We believe that if we care for our employees, we will increase our productivity.”

Brent Pawlecki, MD, Associate Medical Director, Pitney Bowes

surgery and more than half of patients not working for health reasons were able to return to work after surgery.

Additionally, many health conditions with far less impact on mortality, but very common to individuals of working age, can now be treated and managed effectively. For example, migraines are estimated to cost employers nearly $13 billion per year in missed work days and lost productivity, with $8 billion directly attributable to absenteeism alone. Severe headaches may cause employees to leave work early, rest in their offices or call in sick. In the early 1990s, the FDA approved the first of a new class of medications called triptans, which more effectively stopped a migraine attack and its associated symptoms than did traditional pain medications. One case study found that triptans saved over one hour of productivity per migraine attack – 0.64 absenteeism hours and 0.60 presenteeism hours.

Similarly, seasonal allergies affect millions of Americans, with prevalence highest among working-age adults. A survey by the Employer Health Coalition, Inc. found that workers in Florida suffering from seasonal allergies lost more than three days of work in a four-week period due to impairment on the job as a result of seasonal allergy symptoms or sedation associated with their allergy medications. However, allergy medications, such as non-sedating antihistamines, can ameliorate allergy symptoms and restore employee productivity. So, while workers with untreated seasonal allergies may have a 10 percent drop-off in productivity during allergy season, workers who use non-sedating antihistamines show no significant declines in productivity.
Freddie Mac operates an on-site health clinic for more than 4,300 employees at its company headquarters; it costs $586,000 each year, but the annual return on that investment – from savings on direct medical costs and an estimated 12,318 hours saved in time away from work – is $900,000. Such clinics offer convenience and lower costs for employees as well.

Employers also may offer a range of on-site preventive services including disease management, fitness centers, healthy cafeteria programs, health risk assessments, smoking cessation programs and employee assistance programs. These programs help employees engage in healthy lifestyles and preventive behaviors. Ninety-six percent of the employee members of Pioneer Hi-Bred International’s corporate fitness center report that the on-site center helps them exercise regularly. Approximately 90 percent of all employers in the U.S. with 50 or more employees say they have some form of health promotion program.

One such example is the Cleveland Clinic Employee Wellness Program. It strives to integrate wellness into the culture of the Cleveland Clinic to enhance employees’ health and quality of life. It provides such things as a health-risk assessment, disease management programs, fitness centers and other wellness-oriented programs. The Clinic is measuring the effects that the wellness program has on employee health and overall satisfaction in addition to a number of other factors.

Another example is the Hospital for Joint Diseases Orthopaedic Institute Return to Work Program, which is designed to prevent lower back pain work-related disability and promote a healthy and expedited return to work. For employees participating in this initiative, 75 percent were able to remain working.

On-site health care and wellness programs show measurable results in improving the health and well-being of participating employees. For example, at-risk employees participating in Highsmith, Inc.’s wellness initiatives realized sizeable declines in high blood pressure and high cholesterol. Employees of SwedishAmerican Health System in Rockford, IL, who attended a 40-hour course addressing nutrition, physical activity and risk factors for chronic disease not only gained increased awareness of healthy habits, they also had significantly lower cholesterol, blood pressure and body fat six months after completing the program.

Workplace disease management and health promotion programs not only help employees get and stay healthy, they also pay dividends. A review of 42 published studies of workplace health promotion and wellness programs found an average savings of $5.93 for every $1 spent. This study also found workplace wellness programs yielded an average reduction in sick leave absenteeism of 28 percent; in health costs of 26 percent; and in workers’ compensation and disability management claims costs of 30 percent. In general, savings are due to lower medical costs, reduced...
absenteeism and presenteeism, fewer workers’ compensation and short-term disability claims, and increased productivity. For example, Johnson & Johnson’s health and wellness program saved an estimated average of $225 per employee per year for the first four years after the program’s introduction. These reported savings are from reduced medical expenditures alone and do not count productivity gains, which are expected to further boost Johnson & Johnson’s rewards.52

Employees, of course, want to stay healthy, and they appreciate the availability of workplace wellness benefits. More than half of 1,200 employees at small to mid-sized firms recently surveyed agreed that having a wellness program encouraged them to remain with their current employer, work harder and perform better.53

In addition to offering on-site primary care clinics or sponsoring health promotion programs, employers believe that offering health insurance can contribute to company performance. In one survey, two-thirds of small employers said they believe that health benefits contribute to better employee health, and more than one-half agreed that insurance coverage helps to reduce absenteeism.54 In another survey, 40 percent of employers agreed health benefits were “extremely or very important” for improving worker productivity.55

Health insurance coverage also is important to the economy at large. The Institute of Medicine estimates the value lost to the economy due to poorer health, disability and early death among uninsured Americans is between $65 billion and $130 billion each year.56 Furthermore, other common employer-sponsored benefits, including paid sick leave, also may boost productivity. For example, workers who are able to take paid time off to see a doctor are actually likely to take fewer sick days than workers who cannot take paid leave. Moreover, workers with paid sick leave are less likely to come to work sick, and thus are more likely to be productive while at work.57

Improvements in Health Benefit Both Individuals and Society

Acute and chronic illness not only affects individuals, it also represents a significant loss to our nation’s economy in the form of sick days and days of reduced capacity at work. These costs may only grow as more workers are afflicted with chronic conditions such as diabetes. However, advances in health care offer more effective, more tolerable and less invasive treatment options to help people lessen or eliminate symptoms of acute and chronic illness, recover from illness more quickly and regain or maintain employment.

QUESTIONS FOR CONSIDERATION

- How can employers and health care providers, along with others in their communities, partner to improve the health and productivity of workers?
- What can employers do to encourage healthy behaviors and timely care-seeking behaviors among their employees, for both preventive and acute needs?
- How might employers better support employees’ efforts to return to work following illness?
- In what ways might health care policy reform efforts recognize and support employers that offer health insurance and health promotion programs for workers and their families?