



The Economic Benefits of **REGULAR EXERCISE**



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A message from IHRSA and CYBEX



IHRSA is pleased to present *The Economic Benefits of Regular Exercise*.

This publication has been expanded and updated with persuasive data about our nation's health care crisis, the benefits of a corporate wellness program and, perhaps most importantly, figures outlining the substantial return on investment (ROI) experienced by several companies with such programs.

The popularity of health promotion as a standard benefit is rising: Experts say that 68% of employers offered wellness benefits in 2007, compared with 57% in 2003, according to the Society for Human Resource Management (SHRM). As health care costs rise, so, too, should this figure.

Employer involvement in employee wellness is essential — not only to the current generation of workers, but to future generations. Overwhelmingly, healthy, fit adults raise healthy, active children. The reverse is also true, and the consequences are dire.

IHRSA is grateful to ACAC Fitness & Wellness Centers for their enormous contribution to this publication, and to CYBEX for its sponsorship of this important resource.

In good health,

Joe Moore
President & CEO
IHRSA



Welcome to *The Economic Benefits of Regular Exercise*. CYBEX is pleased to help make the case to employers that regular exercise is imperative to the well-being of their employees and, therefore, that of their businesses.

Every day, it seems, research proves more ways in which regular exercise can improve one's physical and mental health. Now, when health care expenditures are soaring, we can also point to exercise as an essential money-saving tool.

We at CYBEX respect the critical role that fitness centers play in the mission of better health. Safe and effective exercise with reliable equipment is the hallmark of any facility, and that is what CYBEX delivers. Our products are engineered to maximize results for every user — from the beginner to the most advanced personal trainer. Each product we offer represents our dedication to creating the most superior biomechanical and ergonomic solutions in the fitness industry.

Best wishes for many healthy and prosperous years ahead.

Regards,

John Aglialoro
Chairman & CEO
CYBEX



■ ■ The Nation's Growing Health Crisis: *It's Everybody's (and Every Body's) Business*

It is impossible to put a price tag on the value of good health, but we can to some degree quantify the toll that poor health takes on our work lives: lost wages, reduced productivity, time away from work and medical costs. Other consequences of illness, such as reduced functioning and decreased quality of life, are immeasurable, yet we intuitively understand their tremendous impact.

The medical community identifies traits and lifestyle habits that increase the likelihood of certain diseases and conditions. Some risk factors are beyond our control (age, gender, ethnicity, family history), while others are modifiable (physical activity, weight, cholesterol, blood pressure, smoking). The more risk factors one has, the greater the chance of developing disease.

Obesity, diabetes, heart disease, high blood

pressure and cancer are associated with long-term lifestyle behaviors, such as physical inactivity, poor diet, smoking and excessive alcohol consumption. As these lifestyle diseases ravage the American population, the economic burden is apparent. Individuals are paying more out of pocket for medical treatment and prescriptions than ever before. Employers are feeling the effect of skyrocketing health care costs and decreased productivity due to illness. In the United States, health care expenditures make up the highest percentage of Gross Domestic Product (GDP) than any other country in the world.¹

Research conducted over the past 20 years leaves no doubt that exercise is an effective strategy to fight the effects of many adverse health conditions. While advances in the diagnosis and treatment of illness in the United

ACKNOWLEDGEMENTS

IHRSA would like to thank Christine O'Neal Thalwitz and Phil Wendel from ACAC Fitness & Wellness Centers for their tremendous contribution to compiling research, and CYBEX for its support and sponsorship of this publication. As a supporting organization of Exercise is Medicine™, IHRSA has included several examples of the many health benefits of exercise in this publication. IHRSA would like to thank the American College of Sports Medicine for its efforts to make physical activity and exercise a standard part of a disease prevention and treatment medical paradigm in the United States.

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Christine O'Neal Thalwitz has worked in the health and fitness industry for more than 20 years and spends the majority of her time finding creative ways to engage people in exercise. She is a writer/researcher for ACAC Fitness & Wellness Centers, founded by Phil Wendel, IHRSA board member 2005 – 2009. ACAC's flagship facility in Charlottesville, Va., is one of two commercial centers nationwide to be certified as a medical fitness facility by the Medical Fitness Association, an affiliate of the American Hospital Association. With additional locations in Crozet and Richmond, Va., as well as in West Chester, Pa., ACAC is committed to its mission of changing lives by providing quality programming and services to people of all ages and fitness levels.

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1. The World Health Organization. The World Report 2008: Primary Health Care—Now More Than Ever.



Q How much exercise is enough to produce health benefits?

A: Increasing one's current activity level, even just slightly, can begin to tip the scales favorably. Adding just a few minutes of activity each day can begin to improve fitness levels. Physical activity guidelines suggest that in order to achieve health benefits, American adults should try to accumulate 2 1/2 hours per week of moderate physical activity (or 1 1/4 hours of vigorous activity) and engage in activities that strengthen the major muscles of the body twice per week.¹⁵

Whether one exercises moderately for 30 minutes five times per week or vigorously for 25 minutes three times per week, the overall goal is to accrue minutes of physical activity.

States are critical, working proactively to thwart disease is both practical and economical. Much like a broad spectrum antibiotic, exercise can improve a variety of conditions. Its preventive value is even greater.

There is no simple solution to the nation's growing health crisis. It is evident, however, that if everyone were to become physically active, the savings for individuals, employers and the nation would be dramatic.

What We Know

There is strong scientific evidence that exercise:²

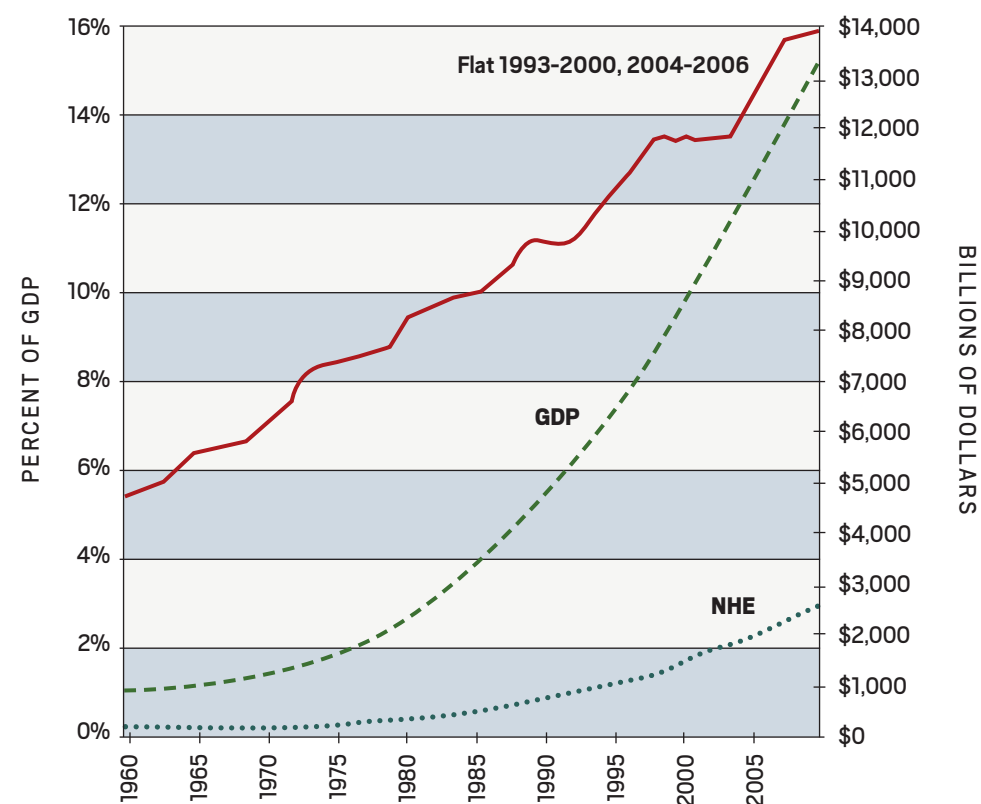
- reduces risk of premature death, heart disease, stroke, diabetes, high blood pressure, colon cancer and breast cancer
- reduces depression, anxiety and stress
- helps control weight
- helps build and maintain healthy bones, muscles and joints
- decreases the likelihood of falling
- enhances self-image and promotes psychological well-being

- increases energy
- reduces the risk of cognitive decline
- stimulates creative thinking^{3, 4, 5, 6, 7}

A Nation at Risk

- Only one of every three adults exercises regularly.⁸
- One in four adults does not exercise at all.⁹
- Two of every three adults are overweight or obese.¹⁰
- Nearly 40% of adults spend the majority of the day sitting.¹¹
- Eight out of 10 adults recognize the benefits of exercise, but only two exercise enough to meet physical activity guidelines.¹²
- U.S. adults report that they watch television an average of 2.2 hours per day and use a computer for 1.7 hours per day outside of working hours.¹³
- If the number of obese and overweight adults in the U.S. continues to grow as it has over the past three decades, nearly nine out of 10 adults will be considered overweight or obese by 2030.¹⁴

National Health Expenditures as % of GDP



The Truth About Corporate Wellness Programs

MYTH: Only big companies see results.

FACT: Cost-benefits studies with the strongest research design and greatest number of participants have typically centered on large companies like Johnson & Johnson, Citibank and Procter & Gamble. There is evidence, however, that small businesses can achieve comparable results with as few as five employees actively engaged in a well-managed program. (Sources: Annual Review of Public Health; *Journal of Occupational and Environmental Medicine*)

MYTH: Corporate wellness programs are costly and difficult to run.

FACT: Wellness programs can take the form of simple educational tools, such as posting a wellness bulletin board, or a short physical activity break built into the workday. Small, uncomplicated steps are often the best way to begin building a company culture of health and wellness and to gain momentum.

MYTH: Virtually all employees have to participate for a company to see a return on investment.

FACT: Widespread employee participation certainly boosts a company's rate of return, but significant gains can also be made on an individual level. Preventing just one medical event, such as a heart attack or stroke, in your company's work force could potentially offset the costs of providing an employee wellness benefit.



Health Care Costs in the U.S.

Total national health care expenditures have reached \$2.2 trillion, or more than 7,000 per person, indicating 16% of GDP.¹⁶

Health care spending is expected to reach \$4.2 trillion by 2017, or approximately

\$13,100 per person, representing nearly 20% of the GDP.^{17, 18}

Why are health care expenditures rising so quickly?

Demand for services and their rising costs are responsible for the greatest increases in spending. More than half of all Americans suffer from one or more chronic conditions, including diabetes, heart disease, hypertension, stroke, pulmonary conditions, cancers and mental health disorders.¹⁹

The cost of diagnosis and treatment for these conditions accounts for more than 75% of the nation's annual health care costs.²⁰

What is the solution?

While there is no single answer, it is clear that most chronic diseases can be prevented or improved with regular exercise. Rather than seeking out costly cures, we need to act on the knowledge that exercise is a powerful, affordable and accessible form of medicine.

It is staggering to think that if all physically inactive Americans were to begin exercising, we as a nation could realize a savings of \$77 billion in direct medical costs each year.²¹

Medical Spending: It's Every Body's Business

In addition to medical providers, insurance companies, employers and the government, individuals feel the financial pinch of increased medical spending.

In 2005, an individual with one chronic condition paid an average of \$655 out of pocket, while individuals with two chronic conditions spent \$1,039.

Individuals with three chronic conditions spent \$1,865.²²

In 2007, out-of-pocket spending across all populations averaged \$889 per person.²³

■ 2. U.S. Department of Health and Human Services. The Power of Prevention: Reducing the Health and Economic Burden of Chronic Disease. 2003. ■ 3. Ibid. ■ 4. U.S. Department of Health and Human Services. Physical Activity Fundamental to Preventing Disease. 2002. ■ 5. Sprague, B. L., et al. Lifetime Recreational and Occupational Physical Activity and Risk of In situ and Invasive Breast Cancer. *Cancer Epidemiology Biomarkers and Prevention*. February 1, 2007; 16(2): 236 - 243. ■ 6. Penedo, F. J. and J. R. Dahn. Exercise and well-being: a review of mental and physical health benefits associated with physical activity. *Current Opinion in Psychiatry*. Volume 18(2), March 2005, pp. 189-193. ■ 7. Blanchette, D. M. et al. Aerobic Exercise and Creative Potential: Immediate and Residual Effects. *Creativity Research Journal*. Volume 17, issues 2 & 3, July 2005, pp. 257-264. ■ 8. National Center for Health Statistics. National Health Institute Survey, 1997-March 2008. ■ 9. U.S. Centers for Disease Control and Prevention. Physical Activity and Good Nutrition: Essential Elements to Prevent Chronic Diseases and Obesity. U.S. Department of Health and Human Services. ■ 10. National Center for Health Statistics. Chartbook on Trends in the Health of Americans. Health, United States, 2006. Hyattsville, MD: Public Health Service. 2006. ■ 11. Barnes, P. (2007). Physical activity among adults: United States, 2000-2005. *National Center for Health Statistics Health E-Stats*. ■ 12. Lauer, H. Health & Fitness Business: An Interview with Harvey Lauer. July 1, 2004. ■ 13. National Association for Sport and Physical Education (2003). Adults/teens attitudes toward physical activity and physical education. *Sports J*. 6. ■ 14. Wang, Y., M. A. Beydoun, L. Liang, B. Caballero, and S. K. Kumanyika. Will All Americans Become Overweight or Obese? Estimating the Cost and Progression of the U.S. Obesity Epidemic. *Obesity*. 10, 351-357.

■ 15. Centers for Disease Control and Prevention. 2008 Physical Activity Guidelines for Americans. ■ 16. Hartman, M. et al. National Health Spending in 2007: Slower Drug Spending Contributes to Lowest Rate of Overall Growth Since 1998. *Health Affairs*, 28, no. 1 (2009):246-261. ■ 17. Centers for Medicare & Medicaid Services. National Health Expenditure Data. NHE Fact Sheet: NHE Projections 2007-2017. Table 1 National Health Expenditures and Selected Economic Indicators, Levels and Annual Percent Change: Calendar Years 2002-2017. ■ 18. Poisal, J. A., et al. Health Spending Projections Through 2016: Modest Changes Obscure Part D's Impact. *Health Affairs*, 26, no. 2 (2007): w242-w253. ■ 19. DeVol, R. and A. Bedroussian. An Unhealthy America: The Economic Burden of Chronic Disease - Charting a New Course to Save Lives and Increase Productivity and Economic Growth. The Milken Institute, October 2007. ■ 20. Centers for Disease Control and Prevention. The Power of Prevention: Reducing the Health and Economic Burden of Chronic Disease. Atlanta: U.S. Department of Health and Human Services; 2003. ■ 21. Centers for Disease Control and Prevention. The State of Aging and Health in America. Merck Institute of Aging and Health. . and Pratt M, Macera CA, Wang G. Higher direct medical costs associated with physical inactivity. *Physician Sports Med*, 2000;28:63-70. Figure based on year 2000 dollars. ■ 22. Paez, K. A., et al. Rising Out-Of-Pocket Spending For Chronic Conditions: A Ten-Year Trend. *Health Affairs*, 28, no. 1 (2009): 15-25. ■ 23. Hartman, M. et al. National Health Spending in 2007: Slower Drug Spending Contributes to Lowest Rate of Overall Growth Since 1998. *Health Affairs*, 28, no. 1 (2009):246-261.

■ ■ Cutting Costs in the U.S. A Penny Saved Is . . . 5.6 Pennies Earned!

Studies show that modest investments in disease prevention can yield considerable results. A recent report by Trust for America's Health found that implementing low-cost health programs in communities nationwide could spare millions of Americans from serious diseases and save the U.S. billions of dollars within five years.

A review of evidence-based studies by the New York Academy of Medicine found that an annual investment of \$10 per person

in programs that increase physical activity, improve nutrition or break smoking habits can provide a return of \$5.60 for every dollar invested within five years. It was estimated that Medicare could save more than \$5 billion, Medicaid could save more than \$1.9 billion and private payers could save more than \$9 billion. These figures are conservative and do not include gains achieved in worker productivity, reduced absenteeism from work and school, and enhanced quality of life.

Return on Investment of \$10 per Person per Year in Strategic Disease Prevention Programs

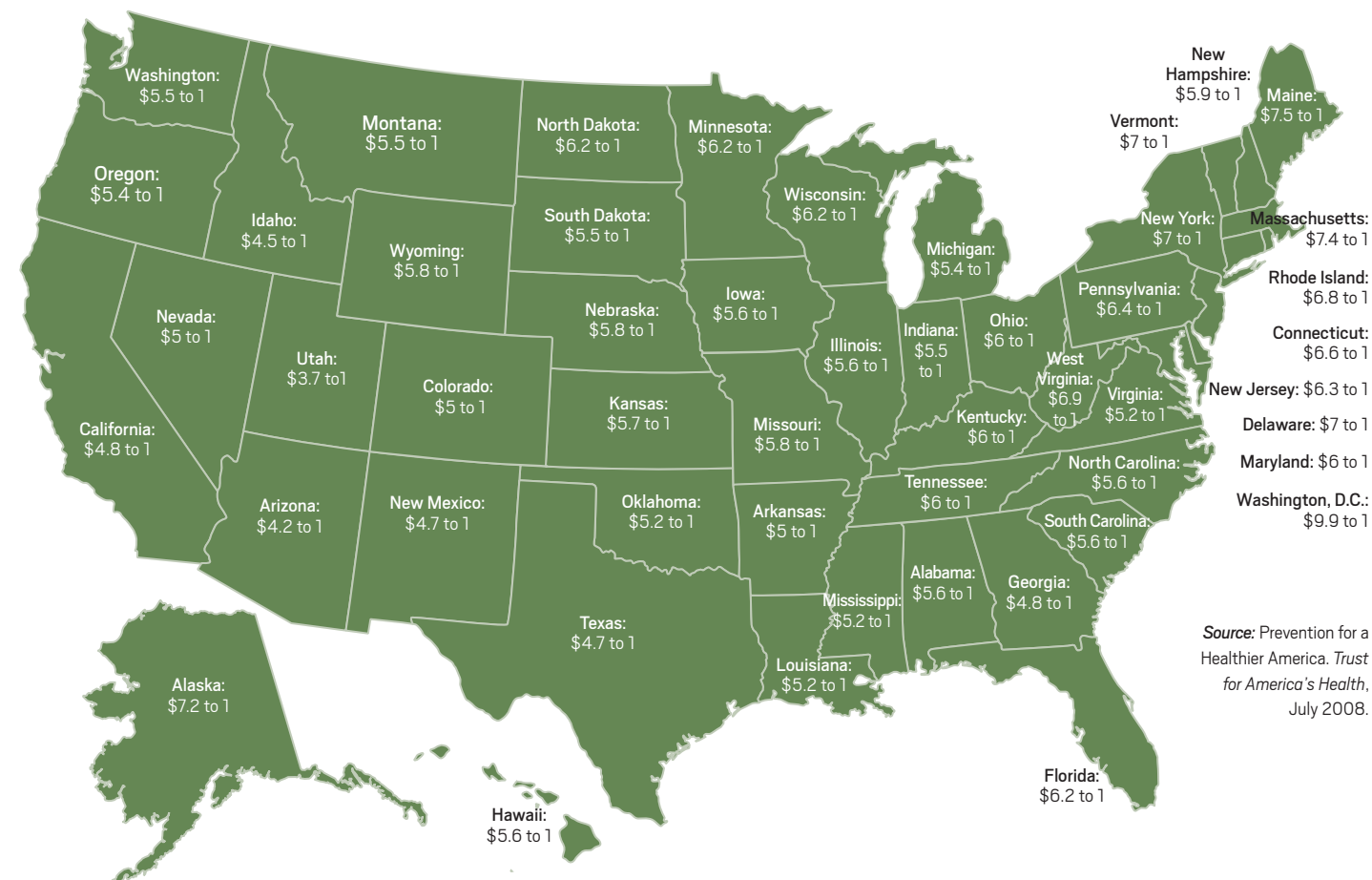
National Estimates

TIME FRAME	1 – 2 years	5 years	10 – 20 years
U.S. TOTAL	\$2,848,000,000	\$16,543,000,000	\$18,451,000,000
ROI	.96 : 1	5.6 : 1	6.2 : 1
CUMULATIVE BENEFITS	Within two years: Type 2 diabetes and hypertension reduced by 5%.	Within five years: Heart disease, kidney disease and stroke reduced by 5%.	Within 10 – 20 years: Some forms of cancer, arthritis and chronic obstructive pulmonary disease reduced by 2.5%.

Note: When ROI equals 0, the program pays for itself. When ROI is greater than 0, then the program is producing savings that exceed the cost of the program.

State-by-State Estimates

The following graphic is a state-by-state representation of the potential return on investment within five years of investing \$10 per person per year in strategic disease prevention programs. Estimates are based on potential reduction in health spending by state.



■ ■ Why Wellness at Work?

With the prevalence of chronic disease in the U.S. population, employers are feeling the impact of health care costs and lost productivity due to absenteeism, disability and presenteeism (being sick at work). Many conditions that affect a company's workforce are preventable and can be improved with regular physical activity.

Most working adults spend a substantial portion of their week in the workplace. On days they work, Americans are on the job an average of 7.56 hours, or about one-half of their waking hours.²⁴

This makes the workplace a useful and practical setting for introducing health and wellness-related initiatives that will benefit employees and their families, as well as employers.

Potential Benefits of Corporate Wellness Programs

Employees & Families

- Improve physical and mental health
- Lower personal medical costs
- Reduce absences from work and school
- Improve personal productivity
- Create a network of support

Employers

- Create a happier, more productive work force
- Reduce employee health care expenses
- Lower rates of absenteeism
- Reduce disability and workers' compensation claims
- Attract and retain talented employees

The Research

Illness and injury associated with an unhealthy lifestyle and modifiable risk factors can account for 25% of employee health care expenditures. Stress, smoking, overweight and lack of exercise contribute substantially to medical expenditures.²⁵

Employees who work out and maintain a healthy body weight have lower health care costs, fewer absences and increased productivity than inactive employees who are overweight or obese.²⁶



As an employee's weight increases, so do an employer's direct and indirect costs.^{27, 28}

Researchers at Brigham Young University studying employee health promotion programs have found that fitness programs are associated with reduced health care costs.²⁹

Being overweight increases yearly health care costs by \$125, and obesity is associated with an average increase of \$395 per year.³⁰

In the state of Michigan, physical inactivity results in the loss of 20 days per worker, costing the state \$8.6 billion annually.³¹

Employees who exercise one or more times per week, regardless of their weight, have lower health care costs than their sedentary co-workers.³²

On average, for every 100 employees . . .

- 44 suffer from stress
- 38 are overweight
- 31 use alcohol excessively
- 30 have high cholesterol
- 26 have high blood pressure
- 25 have cardiovascular disease
- 24 don't exercise
- 21 smoke
- 20 don't wear seatbelts
- 12 have asthma
- 6 are diabetic

Source: Department of Health and Human Services, 2007

■ 24. U.S. Bureau of Labor Statistics. Economic News Release: American Time Use Survey – 2007 results. Washington, D.C. Updated November 12, 2008. ■ 25. Anderson, D. et al. The relationship between modifiable health risks and group-level health care expenditures. Health Enhancement Research Organization Committee. *American Journal of Health Promotion*. 2000;15(1):45-52. ■ 26. Jacobson, B. and S. Aldana. Relationship Between Frequency of Aerobic Activity and Illness-Related Absenteeism in a Large Employee Sample. *Journal of Occupational and Environmental Medicine*. December 2001; 43(12): 1019-1025. ■ 27. Burton, W. The Economic Costs Associated with Body Mass Index in a Workplace. *Journal of Occupational and Environmental Medicine*. September 1998;40(9):786-792. ■ 28. Wang, F., et al. Relationship of Body Mass Index and Physical Activity to Health Care Costs Among Employees. *Journal of Occupational and Environmental Medicine*. 2004;46:428-436. ■ 29. Aldana, S. G. Financial impact of health promotion programs: a comprehensive review of the literature. *American Journal of Health Promotion*. 2001. ■ 30. Costs of Obesity, Drinking, Smoking and Growing Older. Daily Policy Digest: Health Issues/Preventive Medicine (National Center for Policy Analysis). April 19, 2002. ■ 31. Chenoweth, D, DeJong G, Sheppard L, Lieber M. Executive Summary: The Economic Cost of Physical Activity in Michigan. 2003. ■ 32. Wang, F., et al. Relationship of Body Mass Index and Physical Activity to Health Care Costs Among Employees. *Journal of Occupational and Environmental Medicine*. 2004;46:428-436.

**Wellness at Work:
It's Every Body's Business**

Employer-sponsored health care is the foundation for our nation's voluntary health insurance system. Employer health plans cover 60% of all Americans who have health insurance.³³

When an employee is ill, the economic burden of the disease is felt by the individual, his or her employer and other employees in the company. Health care costs rise and productivity falls. In response, employers often shift a greater percentage of their plan's cost to employees or eliminate benefits altogether. Decreases in productivity create additional losses for the company. Co-workers' health care premiums rise, and they may have to increase their own workloads to compensate for the sick individual's reduced work capacity.

Recent studies have attempted to quantify the annual losses a company endures based on employee illness. The following study estimated the total cost of health care, absence, short-term disability and presenteeism for several

physical and mental health conditions. Based on evidence from an extensive medical-related absence database and published productivity surveys, researchers were able to estimate condition-related costs.

Estimated Annual Economic Burden of Disease Per Employee³⁴
Medical and Productivity Losses for Top Diseases Across All Populations (Not Just Those With Disease)

Hypertension	\$392.31
Heart Disease	\$368.34
Depression/sadness/mental illness	\$348.04
Arthritis	\$326.88
Diabetes	\$256.91
Any cancer	\$144.01

Profiles of Success

More companies are offering wellness programs than ever before. According to a recent study, 57% of larger companies (500 employees or more) and 16% of smaller companies (fewer than 500 employees) offer some type of fitness and wellness incentive.³⁵

Return on investment among companies that offer wellness benefits vary depending on the type of program and participation. Researchers have documented anywhere from \$1.49 to \$13 return for every dollar invested in employee wellness. Programs that typically yield the most success are tailored to the specific needs of a company's work force and use specific measures to track results.

Success for Companies of All Sizes

MOTOROLA³⁶

Based in: Schaumburg, Ill., USA
Employees: 69,000

Programs: Including but not limited to disease management, exercise, stress management, health screenings and health risk appraisals.

- ROI: Savings of \$3.93 for every \$1 invested.*
- 2.4% increase in annual aggregate health care costs for participants vs. 18% for non-participants.
- \$6.5 million annual savings in medical expenses for lifestyle-related diagnoses (e.g., obesity, hypertension, stress).

HIGHMARK INC.³⁷

Based in: Pittsburgh, Pa., USA
Employees: 12,000

Programs: Including but not limited to disease prevention, exercise, nutrition, weight management and health-risk assessments.

- ROI: Savings of \$1.65 for every \$1 invested.*
- Health care expenses for participants were \$165 lower per person per year compared to non-participants, and their inpatient expenses were \$182 lower.

LINCOLN INDUSTRIES³⁸

Based in: Lincoln, Neb., USA
Employees: 565

Programs: Including but not limited to exercise, massage therapy, disease and health management, smoking cessation and health assessments.

- ROI: Savings of \$5.30 for every \$1 invested.*
- Employee health care costs were nearly half of the regional average (\$3,918.35 vs. \$7,394.23).
- Employee weight loss saved \$42,000.



- 40% lower absenteeism-related costs than the national average.

PAZMAC ENTERPRIZES LTD.³⁹

Based in: Langley, B.C., Canada
Employees: 30

Programs: Including but not limited to exercise, personal training, yoga and mental health services.

ROI: Average number of sick days per employee per year was 0.1 and turnover was extremely low (three employees in five years).

Additional ROI Reports

Return per dollar invested:

Coors	\$6.15
Kennecott	\$5.78
Equitable Life	\$5.52
Citibank	\$4.56
General Mills	\$3.90
Travelers	\$3.40
PepsiCo	\$3.00
Unum Life	\$1.81

Source: Wisconsin Public Health & Health Policy Institute Issue Brief, Volume 6, Number 5, Sept 2005 from T.E. Brennan Company, as reported in In Business: Madison, September 2004



33. DeNavas-Walt, C.B. Proctor, and J. Smith. Income, Poverty, and Health Insurance Coverage in the United States: 2007. U.S. Census Bureau, August 2008. 34. Goetzel, R., et al. Health, Absence, Disability, and Presenteeism Cost Estimates of Certain Physical and Mental Health Conditions Affecting U.S. Employers. *Journal of Occupational and Environmental Medicine*, April 2004; 46(4): 398-412. 35. MetLife. Sixth Annual Employee Benefits Trends Study: Findings from the National Survey of Employers and Employees. New York, NY, 2008. 36. U.S. Department of Health and Human Services. Prevention Makes Common "Cents." September 2003. 37. Naydeck, B. et al. The Impact of the Highmark Employee Wellness Programs on 4-Year Healthcare Costs. *Journal of Occupational and Environmental Medicine*, 2008; 50(2): 146-156. 38. The Health Project. 2008 C. Everett Koop National Awards Information. Company documentation: <http://healthproject.stanford.edu/koop/Lincoln%20Industries%202008/documentation.pdf>. 39. <http://www.clbc.ca/files/CaseStudies/pazmac.pdf>.

Caterpillar’s “Healthy Balance Program” helps employees modify health-risk behaviors, reduce health risks, improve long-term health and reduce health care costs. Programs include personalized education, phone coaching, on-site classes, newsletters and referral to community programs. The company anticipates a savings of \$700 million by 2015. (Source: U.S. Department of Health and Human Services)

At Dupont in Delaware, each dollar invested in workplace health promotion returned \$1.42 over two years in reduced absenteeism-related costs. Absenteeism dropped 14% at sites offering the health promotion program versus a 5.8% decline at sites without the program. (Source: The Wellness Councils of America)

Coca-Cola reported a reduction in health care claims of \$500 per employee with 60% participation in an exercise program. (Source: The Wellness Councils of America)



MDS Nordion’s comprehensive workplace program helped reduce employee absenteeism from 5.5 to four days per year and cut turnover to half the industry average.

(Source: The National Journal of Human Resource Management)

Irving Paper Ltd. offers its 375 employees a gym membership subsidy and programs for exercise, weight loss, nutrition and smoking cessation. The company saw short-term disability costs drop by more than 50% between 1995 and 2000.

(Source: Canadian Labour and Business Centre)

Exercise at Work

The ability of regular exercise to help prevent and treat common health problems is confirmed by extensive data. This section provides a detailed breakdown of how exercise improves the health and performance of those suffering from chronic physical and psychological maladies.

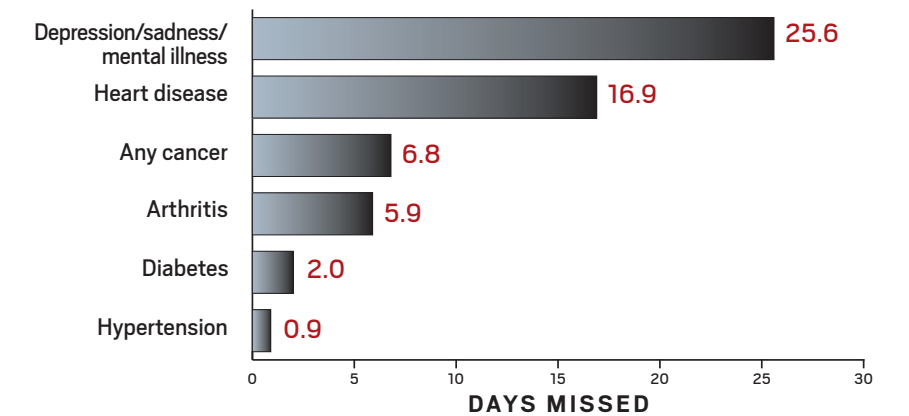


Reducing Absenteeism

In 2007, the average American worker missed seven days of work due to illness or injury.⁴⁰ Absenteeism costs the U.S. an estimated \$118 billion annually in medical expenses and lost productivity.⁴¹ In recent years, the average cost of absences per employee per year, excluding productivity costs, has ranged from \$422 to \$660.⁴² For employees with chronic diseases or conditions, this figure can be significantly higher.

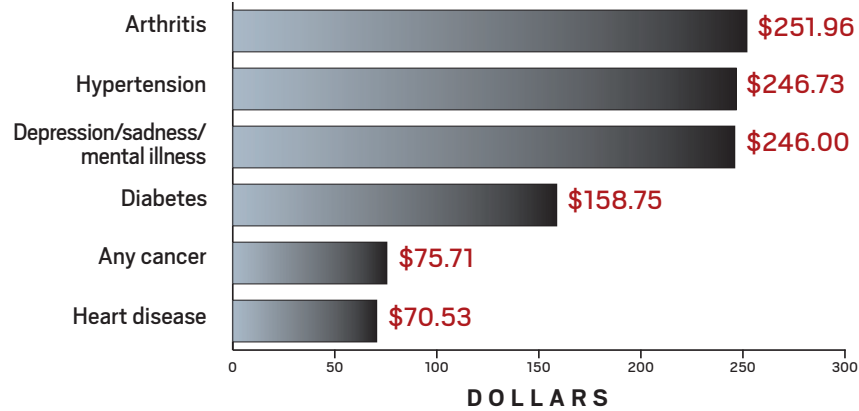
A 2004 study showed the average number of sick days as it relates to different illnesses (see right).

Absences by Illness⁴³ Per Employee per Year



⁴⁰ U.S. Bureau of Labor Statistics. Economic News Release: Nonfatal Occupational Injuries and Illnesses Requiring Days Away from Work, 2007. Washington, D.C. November 20, 2008. ⁴¹ Hewitt Associates LLC. Health Trends Digest. Spring 2007. Reporting results of a study by CCH, a division of Wolters Kluwer. ⁴² CCH 2007 Unscheduled Absence Survey and CCH 2005 Unscheduled Absence Survey. ⁴³ Goetzel, R., et al. Health, Absence, Disability, and Presenteeism Cost Estimates of Certain Physical and Mental Health Conditions Affecting U.S. Employers. *Journal of Occupational and Environmental Medicine*. April 2004; 46(4): 398-412.

Estimated Annual Costs of Presenteeism in Overall Population⁴⁷ By Disease per Employee per Year



What is my BMI?
BMI (kg/m²) = weight (in pounds)
x 704.5/height (in inches)²

Reducing Presenteeism

Presenteeism is the productivity loss associated with employees being sick at work. The annual cost of presenteeism, estimated at \$180 billion per year,⁴⁵ is about 65% greater than the annual cost of absenteeism. Studies have found that presenteeism costs are greater than direct health costs and account for 18% to 60% of overall expenditures related to certain health conditions.⁴⁶

Fighting Obesity and Overweight

Obesity and overweight adversely impact health, quality of life and life expectancy. The most commonly used measure of whether someone has increased health risks due to weight is body mass index, or BMI. Adults with BMI between 25 and 29.9 are considered overweight. Adults with BMI of 30 or greater are considered obese.

Effects on Health

Overweight and obesity raise the risk for more than 20 chronic diseases and conditions:

- type 2 diabetes
- coronary heart disease
- congestive heart failure
- angina pectoris
- stroke
- high blood cholesterol
- hypertension
- cancers (uterine, breast, colorectal, kidney and gallbladder)
- osteoarthritis
- depression
- Alzheimer's disease and dementia
- pregnancy complications
- fertility (based on ovulation and menstrual irregularities)
- liver and gallbladder disease
- sleep apnea^{49, 50, 51, 52}

EXERCISE IS MEDICINE™

In a study by the University of Michigan of 28,375 employees, productivity decreased by 2.4% for each health-risk factor. Physical inactivity, obesity and stress were among the risk factors that significantly reduced productivity.⁴⁸

Quality of Life and Life Expectancy

Studies have suggested that the effects of obesity are similar to aging 20 years,⁵³ but researchers disagree about the impact of obesity on life expectancy. Some researchers have calculated that obesity currently shortens life expectancy by four to nine months and that life expectancy could continue to decline by as much as five years if obesity trends continue.⁵⁴

Other reports suggest that despite the prevalence of debilitating, obesity-related illnesses, Americans are living longer.⁵⁵ There is no winning outcome. Americans are either dying sooner or they are living longer with pain.

It's Every Body's Business

Nation: Medical costs associated with obesity and overweight account for 9.1% of total annual health care expenditures. In 2002 dollars, this represents \$92.6 billion.⁵⁷ Indirect costs account for an additional \$40 billion.⁵⁸

Employers: Obese employees cost private employers in the U.S. as much as \$45 billion annually in medical costs and productivity costs.⁵⁹

Individuals: Obese individuals spend 36% more than the general population on health services and 77% more on medications.⁶⁰

EXERCISE IS MEDICINE™

Adults gain two hours of life expectancy for each hour of regular exercise!⁵⁶

Rising Rates of Obesity: It All Adds Up

How did this happen?

Fewer than half of adults in the U.S. engage in recommended levels of physical activity.⁶¹ A 2007 survey shows that on any given day, only 18.5% of Americans engage in



exercise.⁶² At the same time, daily caloric intake for the average American has increased by more than 500 calories since 1970.⁶³ In the absence of increased physical activity, 500 extra calories per day for one year translates into 52 additional pounds of body weight! With the majority of adults moving less and eating more than in years past, it is easy to see why rates of obesity and overweight have steadily risen.

EXERCISE IS MEDICINE™

One study showed that active employees take 27% fewer sick days and report 14–25% fewer disability days than inactive employees.⁴⁴

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What can we do about it?

Obesity is a preventable condition. Increasing physical activity and modifying food intake should be the first line of treatment, both proactively and therapeutically. Even sustained, modest reductions in weight can have profound benefits.

Losing as little as 5% of your total body weight may:

- reduce your risk of coronary heart disease
- delay or prevent the onset of type 2 diabetes
- decrease stress on your hips, knees and back, and lessen inflammation in your body
- reduce symptoms of osteoarthritis⁶⁴

Losing 10% of your total body weight may:

- increase life expectancy by two to seven months
- reduce expected lifetime medical care costs by \$2,200 to \$5,300⁶⁵

EXERCISE IS MEDICINE™

Maintaining an active lifestyle, even without accompanying weight loss, produces health benefits. One study suggests that expending 100 extra calories per day, which is roughly the equivalent of walking an extra mile or taking an additional 2,000 steps, could prevent weight gain in most of the population.⁶⁶

Preventing and Treating Diabetes & Pre-diabetes

As many as 23.6 million adults and children in the U.S. have diabetes. Three-quarters of this population has been diagnosed, but it is estimated that 5.7 million Americans are unaware that they have the disease.⁶⁷

Type 2 diabetes, which is linked to physical inactivity and obesity, accounts for 90-95% of diabetes cases. Previously referred to as “adult-onset” diabetes, type 2 diabetes rates among children and teens are on the rise.⁶⁸

An additional 57 million Americans have pre-diabetes, meaning that their blood glucose levels are higher than normal, but not high enough to be classified as type 2 diabetes. Not all individuals with pre-diabetes develop type 2 diabetes. Research has shown that losing weight and increasing physical activity can prevent or delay the onset of diabetes.⁶⁹ Such lifestyle interventions are less costly than medications and can help improve all-around health.

It's Every Body's Business

Nation: The total estimated cost of diabetes in 2007 was \$174 billion.

Employers: Medical expenditures for individuals diagnosed with diabetes are approximately 2.3 times more than they would be without diabetes. Yearly expenditures for diabetics average \$11,744 per year with \$6,649 attributable to diabetes.⁷¹

Employees with diabetes who control their blood sugar cost employers \$24 per month per person compared to \$115 per month per diabetic employee who does not control blood sugar.⁷²

In the workplace, diabetes results in:⁷³

- 15 million work days lost due to absenteeism
- 120 million work days with presenteeism, or reduced performance on the job
- 107 million work days lost due to diabetes-related disability

Individuals:

There were 6 million days of reduced productivity for individuals outside the work force.⁷⁴

The number of doctor visits related to diabetes increased from 25 million in 1994 to 36 million in 2007.⁷⁵

Between 2001 and 2007, the average diabetes prescription cost jumped from \$56 to \$76.⁷⁶

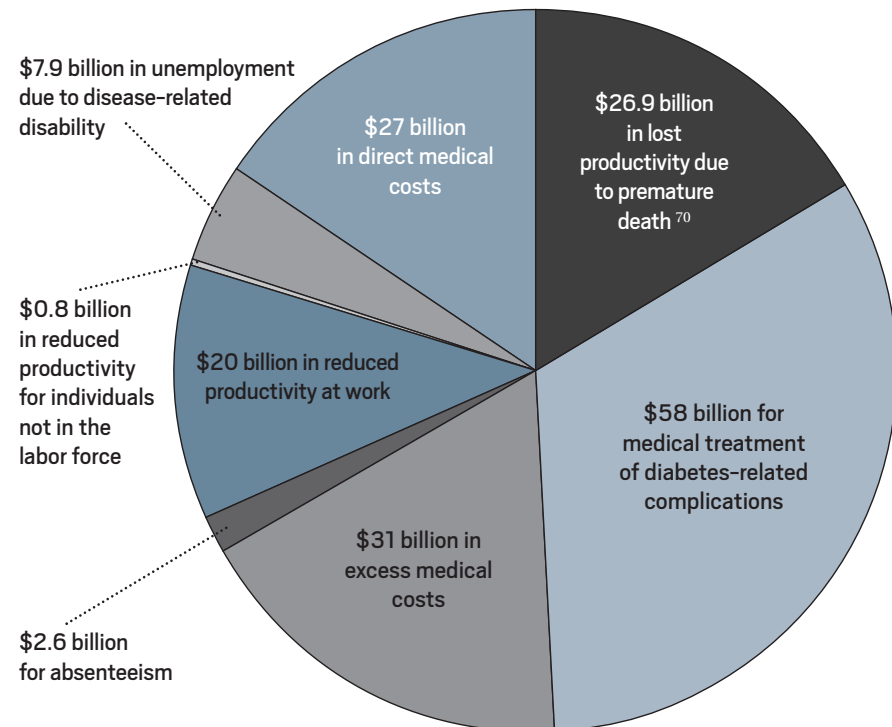
EXERCISE IS MEDICINE™

Diet and exercise can prevent 90% of the cases of type 2 diabetes. The consequences of diabetes, i.e., heart attack, stroke, kidney failure, amputations and blindness, among others, rank first in direct health care costs, consuming \$1 of every \$7 spent on health care.⁷⁷

Exercise helps control type 2 diabetes by:

- improving the body's use of insulin
- controlling weight (decreased body fat improves insulin response)
- increasing muscle strength
- increasing bone density and strength
- lowering blood pressure
- improving blood cholesterol levels
- improving circulation
- increasing energy levels
- reducing stress and anxiety
- lowering risks for other health problems, including heart attack, stroke and some cancers⁷⁸

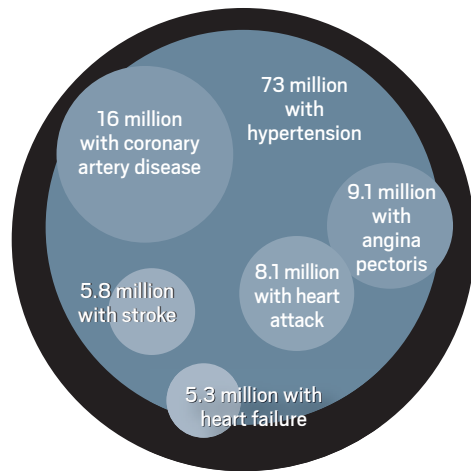
Total Estimated Cost of Diabetes in 2007



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Fighting and Preventing Heart Disease & Stroke



80.7 million Americans have one or more cardiovascular diseases.

One in three Americans lives with one or more cardiovascular diseases:

- Nearly one in three adults has high blood pressure.
- Every 26 seconds, someone suffers a coronary event, and every minute, someone dies from one.
- The average age for a first heart attack is 64.5 for men and 70.4 for women.
- Every 40 seconds, someone suffers a stroke, and every three to four minutes, someone dies from one.

Heart disease is the leading cause of death in the United States. Stroke is the third leading cause of death. These conditions claim the lives of more than 870,000 Americans every year. In fact, every day, 2,400 Americans die of a cardiovascular disease, an average of one death every 37 seconds. This is more than the lives claimed by cancer, diabetes and accidents combined.^{79, 80}

It's Every Body's Business

Nation: Estimated direct and indirect costs for 2008⁸¹

Cardiovascular diseases — \$448.5 billion
Stroke — \$65.5 billion
Coronary heart disease — \$156.4 billion
High blood pressure — \$69.4 billion
Heart failure — \$34.8 billion

Employers:⁸²

Of the top 10 most costly conditions to U.S. companies, four of them — high blood pressure, heart attacks, diabetes and angina pectoris — are related to heart disease and stroke.

Employees at high risk for heart disease and stroke have significantly higher health care expenditures — 228% higher for heart disease and 85% higher for stroke.

Employees with a history of heart conditions or stroke can save their employers \$547 per year by controlling their blood pressure.

Individuals: Lifetime risk for cardiovascular diseases is two in three for men and more than one in two for women.⁸³ Severely obese women can expect to incur a lifetime cost of \$9,400 for heart-related diseases compared to \$7,900 for moderately obese women, \$6,700 for mildly obese women and \$5,800 for women who are not obese.⁸⁴

Improving Mental Health

■ Stress

Four in 10 Americans report that they are frequently stressed. Groups affected most include parents with children under the age of 18, adults under the age of 55, and working adults. Only slightly more than half of all Americans (53%) report having enough time to do what they want to do each day.⁸⁵

■ Depression & Anxiety

One in four adults suffers from a diagnosable mental disorder.⁸⁷ Nearly one in 10 adults suffers from a mood disorder, such as depression, and nearly one in five has an anxiety disorder.⁸⁸ Data from a recent national survey showed that among all people with depression, only 29% reported contact with a health professional.⁸⁹ Left untreated, mental disorders interfere with personal relationships, work and even physical health.

Chronic illnesses and medical events, including cancer, diabetes, Parkinson's disease, heart attacks and strokes, can trigger depression. There is also evidence that a history of depression is a risk factor for certain conditions, including heart disease, heart attacks, hypertension, type 2 diabetes, Alzheimer's disease, arthritis, back pain and asthma.^{90, 91, 92}

It's Every Body's Business

Nation: The annual cost of depression alone is \$83.1 billion in medical expenditures, lost productivity and other related costs.⁹⁴

Employers: Major depressive disorder is the leading cause of disability in the U.S. for adults ages 15–44 and ranks among the top three workplace issues, following family crisis and stress.⁹⁵

Individuals: Mood and anxiety disorders that greatly limit a person's ability to function for at least 30 days per year likely result in more than \$193 billion per year in lost earnings. Affected individuals reported earning 40% less in the previous year than individuals without mental disorders.⁹⁶

Preventing and Treating Other Chronic Diseases and Conditions

■ Arthritis

At least 46 million Americans (about one in five) have a diagnosed form of arthritis, and nearly 19 million people find that arthritis limits their daily activities. Nearly two-thirds of all individuals with arthritis are under the age of 65. More than half of all adults with diabetes and heart disease have arthritis. Being overweight or obese increases the risk of developing osteoarthritis.⁹⁷ One study showed that women who lose as little as 11 pounds can decrease their risk of knee osteoarthritis by more than 50%.⁹⁸

■ Osteoporosis

It is estimated that 10 million Americans have osteoporosis: 8 million women and 2 million men. An additional 34 million are believed to have low bone mass.⁹⁹ One study showed that women who walked at least four hours per week reduced their risk of hip fracture by 40% compared to sedentary women. The equivalent of jogging three times per week reduced the risk by 50%.¹⁰⁰

■ Back Pain

Back pain affects eight of 10 Americans at

some point in their lives and is more common among individuals who are not physically fit.¹⁰¹ Many forms of exercise, including walking, yoga and strengthening exercises, can aid in the prevention and treatment of chronic low back pain.^{102, 103}

■ Cancer

Studies have reported that the lifetime risk for developing some type of cancer is one in two for both men and women.¹⁰⁴ Several scientific studies indicate that moderate to vigorous physical activity can cut the risk for several kinds of cancer, including colon, breast and uterine cancer.^{105, 106}

It's Every Body's Business

Arthritis: This is the leading cause of disability in the U.S., costing \$81 billion in medical care, including \$47 billion in indirect costs.^{107, 108}

Osteoporosis: This condition costs \$19 billion in related bone fractures.¹⁰⁹

Low Back Pain: Anywhere from \$20 billion–\$50 billion is spent on relieving back pain.¹¹⁰

Cancer: Cancer costs \$89 billion in medical care, including \$18.2 billion in lost productivity.¹¹¹



EXERCISE IS MEDICINE™

Research out of Duke Medical Center found that regular exercise can be just as effective as medicine in treating some of the symptoms of depression. Individuals were divided into four groups: group-based exercise therapy, home-based exercise, antidepressant medication and a placebo group. When assessed, the exercise therapy group did just as well as the medication group, and the home-based exercise group saw improvement as well, though to a lesser extent. All three treatment groups did better than the placebo group.⁹³



EXERCISE IS MEDICINE™

A sedentary lifestyle doubles the risk of heart disease! Some studies suggest that individuals who have been physically inactive throughout their lives can cut their risk of coronary heart disease by 90% by adopting a very active lifestyle.⁸⁵

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Steps to Building a Successful Company Wellness Program



Engage Employees in Exercise

Company wellness campaigns generate excitement and improve participation in health promotion programs. In addition to individualized health strategies and personal coaching, group programs can foster employees' success by building camaraderie and increasing retention. Short-term motivational programs, such as IHRSA's *Lost It at the Club!* & *Get Active America!* initiatives, offered in conjunction with a local fitness provider, can jumpstart your team's commitment to fitness.

- Partner with a local organization that can provide fitness and wellness guidance and support.
- Host a health fair to build interest in fitness & wellness.
- Assess your work force's needs with health risk appraisals.
- Identify and prioritize areas for improvement based on assessments.
- Implement programs tailored to the needs and desires of your company's work force.
- Provide individual feedback and follow up on a regular basis.
- Measure progress annually (biometric markers, company expenditures) to document return on investment.

Best Practices in Corporate Wellness
Always conduct assessments before starting a program. You need to investigate how your company currently spends money and the medical issues that need to be addressed in your work force.

Raise awareness. Market your programs internally with educational tools (wellness boards, newsletters, e-mail tips). Offer free screenings and incentives to encourage employee participation.

Use incentives that your employees value. Survey your employees to find out what kind of incentives they prefer. Insurance-based incentives are among the most popular, but even simple rewards, like special parking spots or public recognition, are motivating.

Keep incentives and rewards positive. Participation in the program should be fun. Celebrate employee progress.

Upper-management support is critical. Encourage participation from key figures in the organization.

Create the ideal environment for change. Consider employee convenience and comfort when designing a program. Offering benefits during the workday often increases participation. Avoid activities that seem invasive or intimidating.

What kinds of health and wellness benefits do companies offer?

A recent survey by the Society for Human Resource Management showed the percentage of companies that offer various health and wellness benefits. Some of the benefits included:

Fitness center subsidy or reimbursement	36%
Health and lifestyle coaching	33%
Weight-loss programs	31%
On-site fitness centers	21%
Nutrition counseling	20%
On-site fitness classes	15%
Stress reduction programs	14%
Fitness equipment subsidy or reimbursement	6%

EXERCISE IS MEDICINE™

"Indeed, exercise is not an option, but a necessary, active, direct way that people can maintain good health, avoid illness, improve the quality of their lives, reduce their health care costs and extend their life expectancy."¹¹³ —Ronald Davis, M.D., past president of the American Medical Association

Additional Resources

Web links:

American College of Sports Medicine: www.acsm.org

American Journal of Health Promotion: www.ajhp.com

International Health, Racquet & Sportsclub Association (IHRSA) consumer web site: www.healthclubs.com

Wellness Councils of America: www.welcoa.org

Personal health risk online assessment tools:

For cancer, diabetes, heart disease, osteoporosis and stroke: www.diseaseriskindex.harvard.edu/update, www.yourdiseaserisk.wustl.edu

For diabetes: www.diabetes.org

For heart attack and coronary artery disease: www.americanheart.org

Body Mass Index information:

Adult BMI calculator and BMI-for-age growth charts from the Centers for Disease Control: www.cdc.gov

Online children's BMI calculator: www.kidsnutrition.org

Physical Activity Guidelines: www.cdc.gov/physicalactivity

Organizations for resources and programming within the workplace:

American Diabetes Association

Centers for Disease Control & Prevention

American Heart Association

World Health Organization

Arthritis Foundation

Council on Aging

American Red Cross

National Coalition for Promoting Physical Activity

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