



Stress in the Workplace

Meeting the Challenge



Stress in the Workplace

Meeting the Challenge

About This Publication

This publication, along with its companion piece, *Setting Up a Stress Management Program*, offers comprehensive research about the causes and impact of workplace stress, as well as its role in lost productivity and higher healthcare costs. The research also reviews successful organizational and individual strategies to help manage stress and reduce costs. Following these strategies can help reduce absenteeism and turnover, help employees better balance work/life responsibilities, and also reduce healthcare costs.

Health Advocate, a subsidiary of West Corporation, is the nation's leading healthcare advocacy and assistance company, serving more than 11,500 clients, including many of the nation's largest companies. Health Advocate's award-winning Health Advocacy program helps members navigate complex healthcare and insurance-related issues, saving them both time and money.

We also offer a suite of complementary solutions, including Wellness, EAP+Work/Life and Chronic Care Solutions, among others. Our fully integrated program EmpoweredHealth seamlessly combines our services into a single, convenient solution, helping members efficiently maximize their benefits.

We also leverage the power of pricing transparency, personalized health communications and more to help members make more informed decisions and get more value out of the healthcare system. All supported by a powerful data analytics engine delivering improved health and financial results.

For more information, visit [HealthAdvocate.com](https://www.healthadvocate.com).

Stress In The Workplace Meeting The Challenge

The alarming spike in the incidence of reported stress among employees in recent years and its impact on the bottom line has made the management of stress an urgent business strategy for American companies.

The figures are hard to ignore. More than one-third of American workers surveyed in 2013 reported experiencing chronic work stress. According to statistics from the American Psychological Association (APA), a startling two-thirds of Americans say that work is a main source of stress in their lives – and nearly one-third reported feeling tense or stressed on a regular basis while at work.^{1,2}

While the economy is improving, repercussions from the recent recession have created an environment of distrust between employees and their employers. Many workers also report feeling undervalued, under-compensated and stuck in their current role without opportunities for growth and advancement, compounding job-related stress.^{2,3} Other on-the-job stressors range from unclear job expectations and time pressures to noisy work stations. A significant factor is lack of accommodation for work/life balance, which can add to the stress load, especially for women who tend to be the primary caretakers of children and elderly loved ones.

Whatever the root causes, stressed workers tend to be fatigued, prone to mistakes and injuries, and are more likely to be absent.

And most significantly, they incur healthcare costs twice as high than for other employees. In total, the consequences of stress-related illnesses, from depression to heart disease, cost businesses an estimated \$200 to \$300 billion a year in lost productivity.^{3,4}

More employers are recognizing that now is the time for action. Workers who are stressed today can be disabled tomorrow.

The time to address stress is NOW

And, as society ages and elderly caregiving grows, stress is likely to grow as an issue, and along with it, inflated healthcare costs.

The encouraging news is that, with a dual strategy of organizational change and individual stress management, businesses can be proactive and promote healthier, more productive employees and reduce healthcare costs.

Stressed Workers. Stressed Bottom Line.

Stress, very simply, is a built-in condition. Humans are hard-wired to have a physical and psychological “stress” reaction when facing a perceived threat, whether it is real or not.

Specifically, the body reacts with the “fight or flight response” triggered by the sudden release of the cortisol and adrenaline hormones. These hormones keep the body and mind coiled, alert and ready for reaction to the threat. This reaction served as a useful, protective response when faced with primitive threats such as a saber-toothed tiger.⁵

But even in the modern-day work world, being under stress can serve as a useful motivator to perform, provided it is in the right degree and does not produce job strain. As far back as 1908, researchers discovered that once stress reaches a mid to high level, productivity drops off remarkably. And when productivity drops off, the bottom line suffers.⁶

Some effects of job stress are more easily quantified than others. Here are the many ways that prolonged, unhealthy job stress affects costs:

Disability and Accidents, Workers’ Compensation Claims

Stress-related distraction or sleepiness account for an estimated 60 to 80 percent of accidents on the job, according to the American Institute of Stress. Workers’ compensation claims for stress have increased substantially every year, threatening to bankrupt the system in several states.⁴

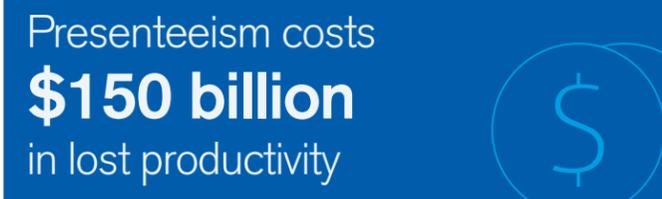
Absenteeism

An estimated one million workers miss work each day because of stress, costing companies an estimated \$602 per employee per year. And absenteeism is to blame for 26 percent of health-related lost productivity in business.^{4,7}

Presenteeism

As the term used to describe the opposite of absenteeism, “presenteeism” is the phenomenon of employees coming to work yet not functioning up to their capabilities on the job. In one survey, 60 percent of workers reported losing productivity due to stress while at work during the past month.⁸

Presenteeism costs
\$150 billion
in lost productivity



Presenteeism manifests in a variety of ways, including making mistakes, more time spent on tasks, poor work quality, impaired social functioning, burnout, anger, resentment, low morale and other detrimental factors. Overall, the price tag related to presenteeism adds up to nearly \$150 billion a year in lost productivity, according to the International Foundation of Employee Benefit Plans. The cost may be even higher if the stress underlying presenteeism is not addressed, as absenteeism, job resignations, chronic illness, and disability may be the result.⁷

Physical Effects

Workers who report that they are stressed incur healthcare costs that are 46 percent higher than for non-stressed employees, according to the National Institute for Occupational Safety and Health (NIOSH). And 60 to 90 percent of doctor visits are attributed to stress-related illnesses and symptoms.^{9,10}

Left untreated, prolonged stress can raise the risk for developing chronic—and costly—diseases. Among them: heart disease, diabetes and even some cancers, which can collectively account for a vast amount of all healthcare costs. Diabetes alone cost business \$69 billion in 2012 just in indirect medical expenses, such as 25 million work days lost to absenteeism and 113 million work days with reduced productivity.^{8,11}

Stress can also lower the immune system and play a role in a person’s susceptibility to more colds, flu and other infectious diseases. Additionally, people who are stressed are more likely to experience pain-related conditions and a host of other ailments, from teeth grinding and chest tightness to fatigue.^{5,8}

In fact, an APA survey found that 53 percent of workers reported fatigue due to work stress.⁸

Psychological Effects

Hallmark signs that workers are experiencing mental duress include poor concentration, short temper, job dissatisfaction and low morale.¹²

Stressed workers have an elevated risk of mental health problems, ranging from anxiety and substance abuse, and perhaps the most significant, depression. In fact, stress and clinical depression—the two often go hand in hand—trail family crisis as the second and third most significant problems in the workplace.^{8,13}

The National Institutes of Mental Health estimates that depression has resulted in \$23 billion a year in lost workdays.¹⁴

Stress-Related Illnesses

A 2004 Luminari Landmark Study found that people who work under stressful conditions, which can include work/life conflicts or lack of social support, autonomy and control, are at least twice as likely to experience the following physical and mental effects as other workers:¹⁵

- Heart and cardiovascular problems
- Anxiety, depression and demoralization
- Substance abuse
- Certain cancers
- Conflicts
- Injuries
- Infectious diseases
- Back pain

Unhealthy Coping Habits

In one survey, researchers found that to cope with stress, 40 percent of people smoked, 41 percent gambled, 35 percent shopped and 27 percent drank alcohol.⁸

Overeating is an unhealthy habit that can lead to obesity, a condition that costs businesses more than \$13 billion each year in medical costs and lost productivity.¹⁶

In a CareerBuilder.com survey, 26 percent of employees said they gained more than 10 pounds at work, while 12 percent indicated they gained more than 20 pounds. Nearly two-thirds of employees say that they eat unhealthy snacks—chips, candy, etc.—at work once a day; 25 percent said they did so two or more times a day.¹⁷

The Causes of Workplace Stress On and Off the Job

Organizational Causes

Job stress is commonly defined as the harmful physical and emotional responses that occur when the demands of the job exceed the capabilities, needs or resources of the worker. Studies show that employees who feel they have little control over their work in one way or another report higher stress levels.^{12,18}

According to the APA, the top stressors for people in the workplace, in order of importance, are:³

- Low salaries (51 percent)
- Lack of opportunity for growth and advancement (44 percent)
- Uncertain or undefined job expectations (39 percent)
- Job insecurity (38 percent)
- Long hours (37 percent)

Stress flows from work to home and vice versa

Additional on-the-job stressors include lack of participation in decision-making, ineffective management style and work environments that include disruptive noise levels. In fact, nearly 60 percent of workers in one study reported that noise such as coworker conversations enhanced by open offices caused added distraction and stress, and a study at Cornell University showed that even low-level office noise increased stress hormone levels.¹⁹

Longer work hours is another prime stressor. Almost half of employers report business performance is being affected by the stress of employees working long hours, and other impactful factors. Working overtime can result in poor mental performance, increased illness and workplace injuries.^{20,21}

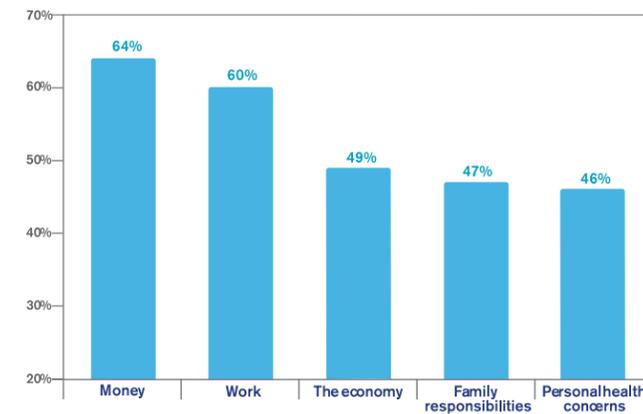
Work/Life Issues

The downturned economy and corresponding job layoffs, salary cuts, and heavier workloads have added to the stress in workers' personal lives, especially as they confront strained financial issues and compressed time allotment for family obligations.

Cause of Employee Stress	Employers Who Say Stress Affects Business Performance	Employers Taking Strong Action
Long hours, doing more with less	48%	5%
Work/life balance	32%	16%
Technologies that expand availability	29%	6%
Managers' inability to recognize stress	24%	7%
Managers' inability to find solutions for stress	20%	14%
Extra time, problems related to security	8%	2%
Safety fears	5%	27%

Source: Watson Wyatt/National Business Group on Health 2007/2008 Staying@Work report

COMMON STRESSORS
Very or somewhat significant source of stress



Source: American Psychological Association. Stress in America. Feb. 4, 2015

“Stress flows both ways,” explains Michael Baime, M.D., Clinical Associate Professor of Medicine at the University of Pennsylvania School of Medicine, and founder and Director of the Penn Program for Stress Management, in a 2009 interview. “Stress is accumulated over time and additive between different domains. The stress that someone has at home, relating to their health or financial situation, comes with them into the workplace. And when they leave work at the end of the day, the stress from their job also goes home with them.”

The figures bear this out. Many employers report that stress due to work/life balance affects business. Likewise, workers report that work/life balance creates stress in the following ways:

- Job demands have interfered with their ability to fulfill family or home responsibilities
- Difficulty balancing work and family life
- Work interferes with their personal time⁸

Caregiver stress

One significant work/life balance stressor is caregiving for elderly parents, an issue that is likely to grow more prominent as the population ages. According to U.S. Census projections, by 2030, one in five Americans will be a senior citizen.²² And, while 14 percent of adults in their 40s and 50s have already cared for an aging parent or elderly family member, nearly 70 percent believe they will be doing this in the future.²³

The daunting tasks of searching for qualified in-home or nursing care, addressing Medicare issues and other senior concerns can be even more of a challenge for the growing legion of

“sandwich” generation Americans—those caring for elderly loved ones and also raising children. As for the workers who are among the 52 million Americans burdened with caring for an ill or disabled loved one, the challenges of work/life balance can be particularly difficult. In many cases, leaving a job can be the unfortunate result.²⁴

Complex healthcare issues

The move towards consumer-driven health plans and shifting more responsibility for making healthcare decisions to employees means that workers are left on their own to navigate the complex healthcare system. They must resolve burdensome healthcare coverage and billing issues, for instance, during normal working hours when providers and insurance offices are open. In turn, productivity can suffer.

Workplace Stress and Working Women

Job stress affects both men and women, although there are some gender differences in certain aspects. One study has found that women experiencing cumulative job stress are much more likely than men to have associated poor mental health conditions, such as anxiety, depression and chronic fatigue.²⁵

In general, women are more likely than men to experience physical symptoms of stress, such as fatigue, irritability, headaches and depression. Women are also more likely than men to cope with job stress with unhealthy behaviors, such as poor eating habits.^{8,18}

For working women, caregiving and balancing work/life issues is a significant stressor. Well over half of the caregivers in the United States are women and 59 percent are also employed.³⁸

Specifically, women are the primary caretakers of children, including children who have a chronic illness such as asthma, now the leading cause of school absence as well as the cause of more than 15 million days of less productive work or absences per year.²⁷

Overall, working women who are also caregivers often face work adjustments, including reduced hours, taking leaves of absence and even quitting their jobs, according to a report sponsored by the National Alliance for Caregiving. Not surprisingly, women are more than twice as likely as their male counterparts to report the benefits of having employer-provided support systems that offer counseling or support groups.^{28,29}

Workplace Intervention: Organizational and Individual Approach

“Work stress imposes enormous and far-reaching costs on workers’ well-being and corporate profitability,” says former NIOSH Director Linda Rosenstock, M.D., M.P.H. In commenting on the NIOSH report “Stress...at Work,” she remarked: “The good news is, at least some of these costs are avoidable. Research and experience tell us that certain factors, such as a heavy workload, conflicting or uncertain job responsibilities and job insecurity, are stressors across organizations and that the risk for job stress can be reduced through smart, strategic action.”³⁰

The success depends on a long-term and dedicated commitment on the part of the organization, according to Dr. Michael Baime of the Penn Program for Stress Management. “If changes are to be made to reduce costly stress in the workplace, employers must truly value the health as well as the productivity of their workers,” he says. “Additionally, the strategy must be a dual approach of organizational changes and encouraging individuals to learn to manage their stress, no matter what the source.”

Strategies need not be elaborate or expensive. Simply planning ways to improve communication and recognize employees can be effective. For example, supervisors of North Side Food, based in the Pittsburgh area, meet with hourly employees every six weeks in order to identify workplace stressors and open communication between management and workers.

The company has also instituted a program to recognize workers’ accomplishments and promote leadership training. As a result of these efforts, the company reported no major layoffs and an annual attrition rate of just four percent.³¹

Start with Honest Evaluation

NIOSH suggests that companies evaluate the scope of stress in the workplace by looking at absenteeism, illness and turnover rates and performance problems. From there, employee surveys and/or committees can help determine specific stressors and if they are concentrated in one specific department or are company-wide. It is also important to ask employees what strategies may provide remedies.¹²

Offer an HRA

One effective evaluation tool is a Health Risk Assessment (HRA). The HRA is an online or print questionnaire provided to employees

that helps identify risks for diseases and contributing lifestyle factors, such as stress levels. The HRA enables workers to learn about their individual risks and can be an effective motivator towards making healthy lifestyle changes to reduce those risks, according to the Mayo Clinic.³²

Address Job Roles

The American Psychological Association suggests a range of ways that a company’s culture can be changed to help reduce stress:

- Ensure that workloads are in line with workers’ capabilities and resources.
- Design jobs to provide meaning, stimulation and opportunities for workers to use their skills.
- Clearly define workers’ roles and responsibilities.
- Give workers opportunities to participate in decisions and actions affecting their jobs.
- Improve communications to help reduce uncertainty about career development and future employment prospects.
- Provide opportunities for social interaction among workers.¹²

Work/Life Balance Strategies

Establishing work schedules that are compatible with demands and responsibilities outside the job and offering supportive services can help reduce stress. Here are some key strategies:

Flex time.

Allowing workers to start or end the workday earlier or later can reduce work/life stress, especially for working parents. Flex time can also reduce the stress of commuting in rush hour traffic.¹⁸

Job sharing.

This allows at least two people trained to perform each job, enabling each employee to have time off without losing productivity.³³

Work from home

Working from home results in higher morale and job satisfaction and lower employee stress and turnover, according to an analysis of two decades of studies involving nearly 13,000 employees, conducted by researchers at Pennsylvania State University. The prime reason is that working at home provides employees more control over how they do their work, according to lead author Ravi S. Gajendran. Working at home also helps workers better manage work/family demands.³⁴

Longer lunch hours

Extending the lunch hour may help discourage snacking and fast food. One survey found that nearly three quarters of employees say that they eat unhealthy snacks—chips, candy, etc.—at work once a week; 27 percent said they did so three or more times a week.³⁵ Adequate time may also encourage time for calming or other stress-reduction activities such as walking.

Eldercare support

Many companies have begun to contract with geriatric care specialists to help with issues such as finding doctors to address age-related diagnosis, and arranging transportation to medical appointments.

Healthcare advocacy

Offering an expert who can personally address healthcare issues, such as helping to resolve medical bills and interacting with insurance and providers, can help employees reduce worry and stay focused on their job.

EAPs (Employee Assistance Programs)

EAPs are typically offered by the HR department as part of the employer’s health insurance plan to assess and address personal issues that affect employee performance and productivity. Issues can range from substance abuse to family problems, and EAPs often include counseling benefits. Studies show that EAPs for substance abuse can reduce workers’ compensation claims, employer healthcare costs, and absenteeism. In a study involving 50 companies, EAPs reduced absenteeism by 21 percent, decreased workplace injuries by 17 percent and increased productivity by 14 percent.^{36,37}

Offer a Range of Wellness Activities

Exercise and relaxation techniques can all help lower the stress response in the body and improve well-being. One study shows that physical activity at work can increase productivity. Providing two, half-hour breaks twice a week resulted in employees with healthier weight, lowered blood pressure, increased energy, better sleep schedules and improved stress management skills, in just eight weeks, according to a study conducted by the Baptist Health System in Mississippi.³⁸

Stress management workshops

Scheduled workshops that educate employees about the sources of stress, effects on their health and how they can reduce stress can be effective if backed by practical stress

management techniques that employees can use on and off the job, according to Dr. Michael Baime of the Penn Program for Stress Management. Find a reputable wellness vendor that offers employer-based stress management programs.

Build in exercise breaks

Research has found that light to moderate exercise such as a walking or yoga can lower the cortisol levels that can lead to stress. A short walk each day may refresh employees during the work day, reducing stress and increasing productivity.^{39,40}

Onsite support groups

Stress can be alleviated when employees share concerns about work issues, life crises, family issues, caregiving and stress management methods. These support groups can be ongoing and include employees at all levels.⁴¹

Do Not Single Out Employees

Identifying specific employees for participation in wellness programs is inappropriate, discriminating and stigmatizing.

According to the Americans with Disabilities Act (ADA), employers must make certain they are not requiring any exams or making inquiries of employees that may reveal any information about any physical or mental health issues that may be associated with a disability. Overall, employers are encouraged to obtain legal guidance during the design and implementation of a wellness program to ensure ADA compliance.^{42,43}

Office Environmental Design

Reducing environmental stress may include refiguring the workplace to include natural lighting, improving air flow, providing quiet rooms for massage or yoga sessions and reducing noise levels. When noise levels are reduced through the use of well-designed ceilings and furniture or sound masking machines, employee focus is estimated to increase by 48 percent.¹⁹

Mindfulness Training: An Emerging Stress Management Technique

Mindfulness training, a method that was first developed by Jon Kabat-Zinn, Ph.D., founder of the Center for Mindfulness in Medicine, Health Care, and Society at the University of Massachusetts Medical School, is a stress management technique that involves training the mind to focus attention on the moment. This “mindfulness” technique aims to reduce stress, increase productivity and enhance awareness through relaxation techniques, physical exercises and cognitive behavioral approaches.⁴⁴

“These approaches train people to find the ability to locate rest, stillness, silence, and qualities of peace and relaxation into their everyday moments,” explains Michael Baime, M.D., director of the Penn Program for Stress Management in Philadelphia and a leading authority on the training. “Mindfulness helps them manage their own impulses and reactivity, they become less critical, and it helps them meet their goals. The training diffuses reactivity in a way that others can sense, and so can become contagious in the workplace.”

Emerging evidence reveals the effectiveness of the technique. Dr. Baime and his colleagues conducted a three-month mindfulness-based work site program at the Philadelphia-based Scheie Eye Institute. After employees learned and practiced mindfulness techniques for a period of six weeks, their reported emotional exhaustion decreased from nearly 25 percent to almost 15 percent. At the end of the full three-month program, depression and fatigue were both reduced by nearly half. Other early evidence shows that mindfulness can improve how people regulate their attention and ability to concentrate.^{45,46}

Success Stories/Case Studies

A number of companies, including some of the largest in the country, have addressed stress management in a variety of ways with reported success in several areas.

GlaxoSmithKline (GSK)

GSK launched its “Team Resilience” program for its employees and managers in 2001 to take corrective team actions against job stressors. The program included an employee survey to

determine the sources of stress, which identified late meetings, artificial deadlines and other on-the-job stressors. By the end of 2008, participants reported an 80 percent reduction in workplace pressures, a 25 percent drop in work/life conflict, and a 21 percent increase in satisfaction with GSK as an employer.⁴⁷

WRSystems, Ltd.

Virginia-based WRSystems addressed work/life balance by providing flex time, work from home and job sharing. As a result of their mentor program, employee education programs, health and safety guidelines, as well as work/life balance policies, turnover, injuries and accidents were reduced and healthcare claims fell significantly.⁴⁸

Bank of America

Bank of America implemented a wellness program that featured educational materials and Health Risk Assessments. As a result, healthcare costs decreased by 20 percent over a two-year period with an ROI of more than 5:1.⁴⁹

Delnor Community Hospital

Delnor Community Hospital, located near Chicago, found that stress management strategies reduced employee turnover from 28 percent down to nearly 21 percent in two years, saving the hospital nearly \$800,000.⁵⁰

BlueCross BlueShield of Tennessee

In a survey of their employees, 42 percent showed moderate to severe levels of stress. After installing a pilot stress management program in partnership with Boulder Creek, California-based HeartMath, the findings included a decrease in exhaustion—a hallmark symptom of stress. The company estimated it could save \$2 million annually in healthcare costs by instituting the program in all locations.⁵¹

CEMEX

Utilizing 10 years of data from employee stress studies, Houston-based building materials manufacturer CEMEX implemented an Online Stress Management Seminar in 2009 to assess and diagnose stress as well as provide individualized recommendations for participating employees. Within the first year, 92 percent of participating employees reported the online seminar an “excellent” option to help improve stress management.⁵²

Innovative Solutions

Many companies have turned to “out-of-the-box” approaches to address stress, geared to their organization. Here are some examples of innovative strategies:

In-house art programs.

Burlington, Massachusetts-based Lightbridge, an e-commerce payment management company, established in-house art programs to help employees channel stress.⁵³

Green workplaces.

A recent study found that workers who had proximity to windows and indoor plants rated their job satisfaction significantly higher than employees with no direct proximity to “green” elements. Green elements have also been shown to reduce frustration and anxiety on the job, as well as turnover.^{54,55}

Simulating nature.

Interestingly, even employees who have indirect contact with nature suffer from less stress and illness and have increased well-being as well as clearer thinking. As a creative solution for windowless offices, some companies are installing large screens throughout office buildings that depict natural settings, such as oceans and forests. Employees can have input on what is shown on the screens.⁵⁶

Pets in the office.

Researchers have found that pets can have a calming effect on humans and can lower blood pressure, a leading cause of doctor visits.^{57,58}

Less Stress Equals Lower Healthcare Costs

Emerging studies from around the world indicate that stress management in the workplace helps stem the tide of healthcare costs, and may be especially important in the face of the current global economic climate.

One recent preliminary study reported in Hypertension, focused on an Italian company facing downsizing. The company's

workers who reported work-related stress had a higher incidence of fatigue, headaches, high blood pressure and other typical symptoms.

Employees were offered a weekly, one-hour stress management session focusing on mental relaxation techniques, cognitive restructuring exercises and coping skills to handle stress, including work-related stress.

The results showed that those who participated in the authentic stress management program had lower blood pressure than those who participated in the “passive” (not real) stress management program.

The researchers remarked that these early results indicate that stress management programs were a relatively no-cost but effective way to address stress-related factors that contribute to healthcare costs. “By addressing stress at work, where stress occurs, rather than in a clinic, we think we have prevented workers from becoming patients,” according to one of the investigators, Massimo Pagani, M.D., of the University of Milan.^{59,60}

In addition to lowering healthcare costs, numerous surveys also show that less stressed workers and those satisfied with their work/life balance are more inclined to stay with their companies. They are also more likely to recommend them as places to work. It all adds up to a healthier bottom line.^{61,62}

Commitment is Key

No matter what stress management techniques are installed, the key to success is to have a continuing commitment to improving the health and well-being of all employees.

Important components to ensure a business strategy that successfully addresses stress include:

- Long-range strategies customized to the employee population and company culture
- Multiple approaches and an ongoing communications campaign
- Emphasis on both organizational and individual change
- Achievable goals with built-in time tables
- Rewards and incentives for even the small changes

Addressing the management of stress can be a vital wellness strategy that makes for a healthier, happier workforce and a stronger, more productive company.

Footnotes

1. American Psychological Association. "2013 Work and Well-Being Survey." APA Center for Organizational Excellence. 2013. <<http://www.apaexcellence.org/assets/general/2013-work-and-wellbeing-survey-results.pdf>>.
2. American Psychological Association. "Stress in America." 4 Feb. 2015. <<http://apa.org/news/press/releases/stress/2014/stress-report.pdf>>.
3. American Psychological Association. "2014 Work and Well-Being Survey." APA Center for Organizational Excellence. 2014. <<http://www.apaexcellence.org/assets/general/2014-work-and-wellbeing-survey-results.pdf>>.
4. American Institute of Stress. "Job Stress." <<http://www.stress.org/job.htm>>.
5. Wein, Harrison, Ph. D. "Stress and Disease: New Perspectives." National Institutes of Health, The NIH Word on Health. October 2000. <<http://www.nih.gov/news/WordonHealth/oct2000/story01.htm>>.
6. Yerkes, Robert M. and John D. Dodson. "The Relation of Strength of Stimulus to Rapidity of Habit-Formation." *Journal of Comparative Neurology and Psychology*. 18 (1908): 459-462.
7. Willingham, Jacqueline G. "Managing Presenteeism and Disability to Improve Productivity." *Benefits & Compensation Digest*. 45.12 (Dec. 2008).
8. American Psychological Association. "Stress in America." 7 Oct. 2008. <<http://apahelpcenter.mediaroom.com/file.php/163/Stress+in+America+Executive+Summary+10-02-08+NO+Embargo.doc>>.
9. Humana. "Combat Stress at Work to Promote Health." Focus. Apr. 2009. <<http://apps.humana.com/marketing/documents.asp?file=1143441>>. http://www.dmaonline.org/Publications/articles/2005_02_039StressChange.pdf.
10. Benson, Herbert, M. D. "Role of the Mind in Physical Healing and Health." Testimony before the U.S. House of Representatives. Nov. 1997. (published by American Psychological Association.) <<http://home1.inet.tele.dk/torlars/Peace/relax.htm>>.
11. American Diabetes Association. "Economic Costs of Diabetes in the U.S. in 2012." *Diabetes Care*. 26.4 (April 2013): 1033-1046. <<http://care.diabetesjournals.org/content/36/4/1033.full>>.
12. NIOSH/U. S. Department of Health and Human Services. *Stress...At Work*. Pub. 99-101. Washington, D.C.: GPO, 1999. <<http://www.cdc.gov/niosh/docs/99-101>>.
13. The Kent Center for Human and Organizational Development. "Coping With Your Job: Stress and Depression in the Workplace." <http://www.thekentcenter.org/txt-Coping_with_Job.pdf>.
14. Pfeifer, Stephen M., Ph. D. "Equal Coverage for Mental Health." *APApractice.org*. 2008. <http://www.apapractice.org/apo/pracorg/legislative/equal_coverage_for.html#>.
15. Luminari, Inc. "Creating Healthy Corporate Cultures for Both Genders: A National Employee Survey." A Luminari Landmark Study. June 2004. <<http://www.embracingwomenshealth.com/about/press/luminari/OriginalResearchPres.pdf>>.
16. U.S. Department of Health and Human Services. "Prevention Makes Common 'Cents.'" Washington, D.C.: GPO, Sep. 2003. <<http://aspe.hhs.gov/health/prevention>>.
17. Haefner, Rosemary. "Has Your Job Expanded Your Waistline?" *CareerBuilder.com*. 1 July 2008. <<http://msn.careerbuilder.com/Article/MSN-1568-Workplace-Issues-Has-Your-Job-Expanded-Your-Waistline/?ArticleID=1568&cbRecursionCnt=1&cbsid=8532595df22b464ab0aafddb551b9dc8-298329381-VB-4>>.
18. Swanson, Naomi G., Ph. D. "Working Women and Stress." *Journal of the American Women's Medical Association*. 55.2 (Spring 2000).
19. American Society of Interior Designers. *Sound Solutions: Increasing Office Productivity Through Integrated Acoustic Planning and Noise Reduction Strategies*. Washington, D.C.: American Society of Interior Designers. 2005. <<http://www.steelcase.com/na/files/6b553f1913a144c6ab61136f58c560a7/Acoustics%20Sound%20Solutions.pdf>>.
20. Watson Wyatt. "Few Employers Addressing Workplace Stress, Watson Wyatt Surveys Find." (Press Release) 14 Feb. 2008. <<http://www.watsonwyatt.com/news/press.asp?ID=18643>>.
21. Dawson, Todd, et. al. "Industry Trends, Costs, and Management of Long Working Hours." Conference Abstract at NIOSH Conference: Long Working Hours, Safety and Health: Toward a National Agenda. Apr. 29 – 30, 2004. <<http://www.cdc.gov/niosh/topics/workschedules/abstracts/dawson.html>>.
22. Hobbs, Frank B. 65+ in the United States. U. S. Bureau of the Census, Current Population Reports, Special Studies, P23-190. Washington, D.C.: GPO, 1996. <<http://www.census.gov/prod/1/pop/p23-190/p23-190.html>>.
23. PewResearch Center. "The Sandwich Generation - Rising Financial Burdens for Middle-Aged Americans." 30 Jan. 2013. <http://www.pewsocialtrends.org/files/2013/01/Sandwich_Generation_Report_FINAL_1-29.pdf>.
24. Suthers, Kristen, Ph. D. "Women Still Shouldering the Burden: Caregiving in the 21st Century." *Women's Health Activist*. July/ August 2006. <http://www.nwhn.org/newsletter/options/print.cfm?info_id=84>.
25. Godin, Isabelle, et. al. "A Prospective Study of Cumulative Job Stress in Relation to Mental Health." *BMC Public Health*. 5 (2005) 67+. <<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1177967>>.
26. The National Women's Health Information Center, U.S. Department of Health and Human Services. "Caregiver Stress: Frequently Asked Questions." 1 May 2008. <<http://www.womenshealth.gov/faq/caregiver-stress.cfm>>.
27. Asthma and Allergy Foundation of America. "Asthma Facts and Figures." <<http://www.aafa.org/print.cfm?id=8&sub=42>>.
28. National Alliance for Caregiving and AARP. *Caregiving in the U. S.* Apr. 2004. <<http://www.caregiving.org/data/04finalreport.pdf>>.
29. Family Caregiver Alliance. "Women and Caregiving: Facts and Figures." May 2003. <http://www.caregiver.org/caregiver/jsp/content_node.jsp?nodeid=892>.
30. Centers for Disease Control, U.S. Department of Health and Human Services. "Strategies for Preventing Job Stress." (Press Release). 5 Jan. 1999. <<http://www.cdc.gov/Niosh/updates/stresrel.html>>.
31. Mamula, Kris B. "Reducing Workplace Stress Can Help Companies' Bottom Lines." *Pittsburgh Business Times*. 14 Nov. 2008. <<http://pittsburgh.bizjournals.com/pittsburgh/stories/2008/11/17/focus5.html>>.
32. Mayo Clinic. "Mayo Clinic Health Solutions Launches New Online Health Management Tool for Businesses." (Press Release). 8 Nov. 2006. <<http://www.mayoclinic.org/news2006-mchi/3760.html>>.
33. American Psychological Association. "Employer Recommendations." *Public Policy, Work, and Families: The Report of the APA Presidential Initiative on Work and Families*. 2004. <<http://www.apa.org/work-family/employers.html>>.
34. Gajendra, Ravi S. and David A. Harrison. "The Good, the Bad, and the Unknown About Telecommuting: Meta-Analysis of Psychological Mediators and Individual Consequences." *Journal of Applied Psychology*. 92.6 (2007): 1524 - 1541. <<http://www.apa.org/journals/releases/apl9261524.pdf>>.
35. Nationwide Better Health. "As Obesity Rates Continue to Rise, Is the Workplace a Source of or Solution to Unhealthy Lifestyle Habits?" (News Release) (n.d.). <<http://www.nwbetterhealth.com/docs/press-releases/obesity-press-release.pdf>>.
36. Roman, P. M. and T. C. Blum. "The Workplace and Alcohol Problem Prevention." *National Institute on Alcohol Abuse and Alcoholism. Alcohol Research and Health*. 26.1 (2002): 49-57. <<http://csat.samhsa.gov/IDBSE/employee/EAPsthAddressSubstanceAbuseSaveMoney-wpb9.pdf>>.
37. "Employee Assistance Programs (EAPs): A Benefit for Employers." Arizona H.I.D.T.A., Demand-Reduction Program, Drug-Free Workplaces, Schools & Communities. (n.d.). <<http://www.drugwatch.org/reports/DWIEAPEng.pdf>>.

38. Beason, Sandy. "Finding Time for Workplace Fitness." Get Fit Mississippi. (n.d.). <<http://www.getfitmississippi.com/node/2489>>.
39. Starks, Michael, et. al. "The Effects of Phosphatidylserine on Endocrine Response to Moderate Intensity Exercise." *Journal of the International Society of Sports Nutrition*. 5 (2008): 11. <<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2503954>>.
40. "Exercise: Rev Up Your Routine to Reduce Stress." MayoClinic.org. 23 July 2008. <<http://www.mayoclinic.com/health/exercise-and-stress/SR00036>>.
41. Cahill, Janet, Ph. D., et. al. "Reducing Occupational Stress." Presentation at Work Stress and Health '95 Conference, Washington, D. C. Sept. 1995. (published by Job Stress Network.) <<http://www.workhealth.org/prevention/prred.html>>.
42. "Americans With Disabilities Act: Questions and Answers." ADA Business Connection. 29 Dec. 2005. <<http://www.ada.gov/employt.htm>>.
43. Office of Health Policy, U.S. Department of Health and Human Services. "Appendix F-Incentives for Healthy Behavior." <<http://aspe.hhs.gov/health/blueprint/appendixf.shtml>>.
44. "Welcome to Penn Program for Stress Management." Univ. of Pennsylvania Health System. <<http://pennhealth.com/stress>>.
45. Blaimie, Michael, M. D. "Penn Program for Stress Management." Complementary/Alternative Therapies at the University of Pennsylvania. 4.1. (Winter 2005). <<http://www.med.upenn.edu/progdev/compmed/documents/Volume4No.1Winter05.pdf>>.
46. Jha, Amishi P., et. al. "Mindfulness Training Modifies Subsystems of Attention." *Cognitive, Affective & Behavioral Neuroscience*. 7.2 (2007): 109-119. <http://www.amishi.com/lab/assets/pdf/2007_JhaKrompingerBaime.pdf>.
47. GlaxoSmithKline. "Health and Wellbeing Programmes." 2008 Report. 24 Mar. 2009. <<http://www.gsk.com/responsibility/health-and-wellbeing-programs.htm>>.
48. American Psychological Association. "Psychologically Healthy Workplace Awards and Best Practices Honors, 2009." <http://www.phwa.org/assets/general/PHWA_Magazine_2009.pdf>.
49. Fries, J. F., et. al. "Two-Year Results of a Randomized Controlled Trial of a Health Promotion Program in a Retiree Population: The Bank of America Study." *American Journal of Medicine*. 94.5 (1993): 455-462.
50. HeartMath. "Delnor Community Hospital's Story," (Press Release). April 2002. <<http://www.heartmath.com/press-room/pr-delnor-hospital-increases-patient-satisfaction-employee-retention-with-heartmath.-%96-april-2002.html>>.
51. Hatch Woodward, Nancy. "More Than a Deep Breath: Stress Management Programs Mean Great Results." *National Trends*. 6 Nov. 2006. <<http://www.bcbst.com/about/news/our-experts/sharon-gilley/gilley-HRWire%20.pdf>>.
52. Sloan Center on Aging & Work at Boston College. "The MetLife Study of Global Health & Wellness." 2013. <https://www.metlife.com/assets/institutional/products/benefits-products/MetLifeGlobalHealthWellness_exp0116.pdf>.
53. Bushnell, Davis. "Companies Respond to Employee Stress, Burnout in Bad Times." *Boston Globe*. 17 Nov. 2002. <http://www.boston.com/jobs/globe/articles/111702_burnout.html>.
54. Dravigne, Andrea, et. al. "The Effect of Live Plants and Window Views of Green Spaces on Employee Perceptions of Job Satisfaction." *HortScience*. 43 (1 Feb. 2008):183-187. <<http://hortsci.ashspublications.org/cgi/content/abstract/43/1/183>>.
55. "Greener Offices Make Happier Employees." *American Society for Horticultural Science*. (Press Release). 19 May 2008. <http://www.eurekalert.org/pub_releases/2008-05/asfh-gom051908.php>.
56. Rojas-Burke, Joe. "The Best Natural Healer Turns Out to Be Nature." *The Oregonian*. 27 May 2009. <http://www.oregonlive.com/health/index.ssf/2009/05/the_best_natural_healer_turns.html>.
57. Allen, K., et. al. "Pet Ownership, But Not ACE Inhibitor Therapy Blunts Home Blood Pressure Response to Mental Stress." *Hypertension*, 38 (October 2001): 815-820. <<http://www.deltasociety.org/Document.Doc?id=307>>.
58. Centers for Disease Control, U.S. Department of Health and Human Services. "High Blood Pressure: Facts and Figures." 9 Apr. 2009. <<http://www.cdc.gov/bloodpressure/facts.htm>>.
59. Lucini, Daniela, et. al. "Stress Management at the Worksite. Reversal of Symptoms Profile and Cardiovascular Dysregulation." *Hypertension*. 49 (Feb. 2007):291-297. <<http://hyper.ahajournals.org/cgi/content/abstract/01.HYP.0000255034.42285.58v1>>.
60. Peck, Peggy. "Work-Based Stress Management Good for the Heart." *MedPage Today*. 8 Jan. 2007. <<http://www.medpagetoday.com/Cardiology/Prevention/4821>>.
61. Watson Wyatt. "Playing to Win in a Global Economy – 2007/2008 Global Strategic Rewards® Report and United States Findings." Executive Summary. <<http://www.watsonwyatt.com/research/resrender.asp?id=2007-US-0164&page=1>>.
62. Forum for People Performance Management and Measurement. "Employee Loyalty Linked to Satisfaction With Benefits." *The Forum Report*. Nov. 2007. <http://www.info-now.com/newsletters/forum/forum_nov07_web.html>.

About Health Advocate

Health Advocate, a subsidiary of West Corporation, is the nation's leading healthcare advocacy and assistance company, serving more than 11,500 clients, including many of the nation's largest companies. Health Advocate's award-winning Health Advocacy program helps members navigate complex healthcare and insurance-related issues, saving them both time and money. We also offer a suite of complementary solutions, including Wellness, EAP+Work/Life and Chronic Care Solutions, among others. Our fully integrated program EmpoweredHealth seamlessly combines our services into a single, convenient solution, helping members efficiently maximize their benefits. We also leverage the power of pricing transparency, personalized health communications and more to help members make more informed decisions and get more value out of the healthcare system. All supported by a powerful data analytics engine delivering improved health and financial results.

For more information, call 866.799.2655, email info@HealthAdvocate.com or visit HealthAdvocate.com.

Available Resources

Health Advocate offers a companion piece to this whitepaper, *Setting Up a Stress Management Program*, to provide a step-by-step guide to help organizations implement strategies to manage stress among their employees and reduce costs. This piece, along with other Health Advocate publications and informational resources about current topics in healthcare and the workplace, are available for free on our website at healthadvocate.com/publications.aspx.

we connect. we deliver.

