



VISION in BUSINESS

INTRODUCTION

Healthy vision is vital for a productive and efficient workplace. Yet, employers and employees often take it for granted. Specifically, for the employer, eye injuries and job-related vision problems can be costly to both productivity and organization effectiveness. For employees, maintaining healthy vision is a critical component of good job performance as well as job satisfaction and quality of life.

A recent cost analysis shows that eye disease health care expenditures reach \$16 billion annually¹, an amount which exceeds expenditures for breast cancer (\$7.2 billion)², lung cancer (\$5.6 billion)³ and HIV (\$9.4 billion).⁴

As a result of these expenditures, healthy vision is increasingly being recognized as an important health issue in the workplace. To this end, the federal government has set a precedent by adding vision coverage to its new health plan which launched in November, 2006.

Interestingly, in 2006, the Kaiser Family Foundation's Employer Health Benefits Survey found that 50 percent of employers offer or contribute to dental benefits while only 21 percent offer or contribute to vision benefits (see Table 1).⁵ Since then, health plans have started to offer increased coverage for preventive vision care, but much more can be done by employers to champion the importance of vision health in the workplace and to offer vision care for the nation's employees.

The Vision Council of America offers this report to shine a light on the problems of uncorrected vision in the workplace and the growing impact it will have as Americans age. This report seeks to examine the prevalence and cost of vision problems and better understand the role of preventive vision care in improving productivity and the efficiency of the American workplace. The report also discusses vision's impact on employee quality of life, specifically with regard to reduced productivity, job satisfaction, and the potential rising costs due to the vision loss and impairment of the large aging Baby Boomer generation.



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Table 1. Percentage of Firms Offering Health Benefits That Also Offer or Contribute to a Separate Dental or Vision Benefit Plan, 2006

	Dental Benefits (%)	Vision Benefits (%)
FIRM SIZE		
200 – 999 Workers	77*	40*
1,000 – 4,999 Workers	86*	48*
5,000 or More Workers	90*	60*
All Small Firms (3 – 199 Workers)	49*	20*
All Large Firms (200 or More Workers)	80*	44*
REGION		
Northeast	58	31
Midwest	45	13*
South	47	17
West	53	23
ALL FIRMS	50%	21%

*Estimate is statistically different from estimate for all firms not in the indicated size or region category at $p < .05$.

Note: The survey asks firms that offer health benefits if they offer or contribute to a dental or vision insurance program that is separate from any dental or vision coverage the health plans might include.

Source: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 2006.

For the purposes of this report, a “visual impairment” is defined as eyesight that cannot be corrected to a normal level, and “vision problems” or “vision disorders” refer to all sight related issues that may or may not be treated with eyeglasses or other measures prescribed by an eyecare professional. For more detailed definitions of vision conditions, see Appendix A.

- The annual financial burden of major adult vision disorders exceeds \$50 billion annually.¹⁰
- There are nearly 800,000 work-related eye injuries each year, 90 percent of which are preventable.¹¹
- Nearly 90 percent of those who use a computer at least three hours a day suffer vision problems associated with computer eye strain.¹²

FAST FACTS

- Vision problems are the second most prevalent health problem in the country, affecting more than 120 million people.⁶
- An estimated 11 million Americans have uncorrected vision problems, ranging from refractive errors (near- or far-sightedness) to sight-threatening diseases such as glaucoma or age-related macular degeneration.⁷
- Every year, vision disorders account for more than \$8 billion in lost productivity⁸, and uncorrected vision can decrease employee performance by as much as 20 percent.⁹

COST

Vision disorders are costly in a variety of ways and the costs are borne by both the employee and the employer. According to recent studies, the annual financial burden of major adult vision disorders exceeds \$50 billion: \$35.4 billion to the U.S. economy and \$15.9 billion to individuals with vision problems and their caregivers.¹³ The impact of these disorders on the federal government alone reaches \$13.7 billion annually.¹⁴

Table 2. Breakdown of Costs by Vision Disorder¹⁵

Cataracts	\$6.8 billion
Refractive error	\$5.5 billion
Glaucoma	\$2.9 billion
Age-related Macular Degeneration	\$575 million
Diabetic retinopathy	\$493 million

Researchers have found direct correlations between the correct vision prescription and productivity and efficiency. Whether people with eye problems suffer general discomfort, functional impairment or extreme pain, their productivity has been proven to decline. Uncorrected vision can cause lost productivity and accuracy even for people who do not have any symptoms. In fact, every year, vision disorders alone account for more than \$8 billion in lost productivity¹⁶, and uncorrected vision can decrease employee performance by as much as 20 percent.¹⁷

Vision disorders are also associated with increased error rates and absenteeism. Studies show that workers with visual impairments are more likely to be dissatisfied with their jobs and may be absent more frequently to deal with the stress and fatigue caused by their vision problems.¹⁸

“Presenteeism” is another common consequence of vision disorders and accounts for the number of employees, even those with perfect attendance, who are working with impairments and disabilities, which causes them to work less efficiently. Presenteeism among employees results in 32 times more productivity losses than absenteeism alone.¹⁹ In addition to lower job satisfaction and absenteeism, employees with visual impairments also bear a direct financial cost. Studies show that the visually impaired have lower average annual earnings (\$23,345) compared to adults who have normal vision (\$33,195).²⁰

Furthermore, people with vision disorders may even be less likely to be employed at all: 85 percent of Americans with normal vision are gainfully employed, compared with 44 percent among the visually impaired.²¹

FISCAL IMPACT ON STATES

The Vision Council of America conducted a state-by-state economic analysis to better understand the state breakdown of the economic burden of vision disorders. Using data available from the U.S. Census Bureau, the Vision Council of America calculated the proportion of the population age 45 and older residing in each state and multiplied this figure by the annual financial burden of major adult vision disorders estimated in the 2007 Prevent Blindness America report, “The Economic Impact of Vision Problems: The Toll of Major Adult Eye Disorders, Visual Impairment and Blindness on the U.S. Economy.”

Key findings include:

- In 17 states, the annual financial burden of major adult vision disorders exceeds \$1 billion, and in an additional 15 states, that burden exceeds \$500 million.
- The states representing the largest cost burden are: California (\$5.5 billion), Florida (\$3.9 billion), New York (\$3.6 billion), Texas (\$3.1 billion), Pennsylvania (\$2.7 billion), Illinois (\$2.2 billion), Ohio (\$2.1 billion), Michigan (\$1.8 billion), New Jersey (\$1.6 billion), and North Carolina (\$1.4 billion).

For a breakdown of the overall financial burden by state, please refer to Table 3.

Table 3: Estimated Annual State Financial Burden of Vision Disorders

State	Estimated Annual Burden of Vision Disorders	State	Estimated Annual Burden of Vision Disorders
Alabama	\$782,932,061	Montana	\$186,699,058
Alaska	\$66,924,878	Nebraska	\$337,516,647
Arizona	\$985,887,719	Nevada	\$344,055,894
Arkansas	\$509,822,308	New Hampshire	\$236,799,781
California	\$5,526,923,280	New Jersey	\$1,624,706,662
Colorado	\$662,715,174	New Mexico	\$314,718,866
Connecticut	\$733,532,941	New York	\$3,564,525,647
Delaware	\$151,191,254	North Carolina	\$1,409,642,792
District of Columbia	\$94,456,929	North Dakota	\$142,558,509
Florida	\$3,905,369,864	Ohio	\$2,143,553,159
Georgia	\$1,200,253,663	Oklahoma	\$614,172,744
Hawaii	\$254,629,685	Oregon	\$691,214,110
Idaho	\$234,666,778	Pennsylvania	\$2,725,797,883
Illinois	\$2,198,813,476	Rhode Island	\$229,478,034
Indiana	\$1,089,242,506	South Carolina	\$713,345,062
Iowa	\$645,816,346	South Dakota	\$162,219,512
Kansas	\$522,198,689	Tennessee	\$991,731,046
Kentucky	\$696,103,462	Texas	\$3,065,932,284
Louisiana	\$711,403,915	Utah	\$298,464,394
Maine	\$267,405,441	Vermont	\$119,206,228
Maryland	\$924,774,266	Virginia	\$1,204,160,775
Massachusetts	\$1,265,875,968	Washington	\$1,072,807,729
Michigan	\$1,803,437,842	West Virginia	\$362,814,842
Minnesota	\$936,458,950	Wisconsin	\$1,060,552,347
Mississippi	\$467,758,960	Wyoming	\$86,338,345
Missouri	\$1,058,391,296		

Spotlight on Eye Injuries

There are nearly 800,000 work-related eye injuries each year. Every day, approximately 2,000 U.S. workers receive some form of medical treatment for eye injuries related to or sustained at work. While vision loss is one of the top ten disabilities, 90 percent of eye injuries are preventable. Men typically fall victim to eye injuries more often than women. In 2004, men made up 80 percent of the eye injury cases that resulted in days away from work. In that same year, men had an eye injury rate four times that of women.²²

Eye injuries occur most often among those who operate heavy machinery or moving parts and those who work in construction. Seventy percent of eye injuries are a result of coming into contact with an object or piece of equipment, and 26 percent of eye injuries are due to exposure to harmful substances or environments.²³ Each year, 15,000 welding equipment-related eye injuries and 10,000 power tool eye injuries occur.²⁴

These injuries come with significant costs. Workplace eye injuries cost businesses \$300 million annually in medical bills, compensation and downtime.²⁵ Among private industry employees in 2004, there were 37,000 reported days away from work cases because of eye injuries.²⁶

The highest rates of job-related eye injuries occur in:

- Manufacturing: 26%
- Trade, transportation and utility: 24%
- Construction: 18%²⁷

Spotlight on Computer Eye Strain

Each day 140 million Americans spend time in front of a computer at work. The poor edge definition of the images on a computer screen can cause a repetitive refocusing effort for the eye muscles, leading to a variety of symptoms including blurred vision, headaches, or dry, irritated eyes as well as neck and back aches.²⁸

Nearly 90 percent of those who use a computer at least three hours a day suffer from these symptoms, known collectively as computer eye strain. In fact, the National Institute for Occupational Safety and Health, a division of the Centers for Disease Control and Prevention, reports that such computer-related eye strain is the number one office-related complaint.²⁹ It is even more common than carpal tunnel syndrome, a repetitive strain injury associated with computer use that is estimated to cost over \$8 billion annually in medical bills and lost work days.³⁰

Eyecare professionals conduct more than 10 million eye exams every year to address computer use problems. According to the American Optometric Association, 70 to 75 percent of the 140 million Americans using computers would benefit from corrective computer eyewear.³¹

Employees who use the computer for more than three hours a day are at high risk of developing computer eye strain. While this affects workers in many fields, the employees in the professions below are a sampling, but are not limited to, those who may be at risk:

- Engineers
- Stockbrokers
- Administrative assistants
- Editors
- Accountants
- Graphic artists
- Software developers
- Architects
- Telemarketers
- Customer service representatives³²

CONCLUSION

It is important for both employers and employees to recognize the vital link between healthy vision and workplace performance. An estimated 11 million Americans have uncorrected vision problems, and states' financial burden for these conditions range from \$97 million to \$5.7 billion. As Baby Boomers continue to age, the cost and impact of vision problems will continue to skyrocket.

There are several things that can be done to maintain healthy vision. For example, an effective vision plan for employees is worth the investment. Studies have shown that employers gain as much as \$7 for every \$1 spent on vision coverage.³³ While there is a growing trend of vision coverage, as of now, fewer than half of all employers include such coverage in their employee health plans. Increased productivity and accuracy as well as higher job satisfaction are just a few of the payoffs.

For employees, it is important to schedule regular eye exams with an eye doctor to ensure healthy vision. Permanent vision loss is not a normal part of aging, and there are steps everyone can take to prevent the onset of serious eye diseases. Because vision-threatening conditions such as glaucoma, age-related macular degeneration and cataracts often have no warning symptoms, it is crucial to have a professional eye exam. Eye exams can also help detect other serious health problems including diabetes and hypertension.

TIPS

For Employers:

Employers should encourage employees to schedule regular eye exams with an eyecare professional and should consider the following guidelines for vision coverage:

- Work with a strategic insurance partner to offer vision coverage that takes into consideration:
 - ▶ Group needs and expectations
 - ▶ Employee demographics
 - ▶ Employees' current eye care need and benefits
 - ▶ Evaluate insurance carrier's administrative capabilities

Additionally, employers should ensure a safe working environment and consider the following options for a safe workplace:

- Establish a 100 percent mandatory program requiring eye protection as needed.
- Plan for emergencies – establish first aid procedures for eye injuries.
- Conduct ongoing education programs about eye safety.
- Consider eyewear with ultra-violet protection for workers who spend extended periods of time outdoors, such as drivers, construction workers and others.

For Employees:

- When working on a computer you should:
 - ▶ Blink more often to refocus your eyes.
 - ▶ Every 20 minutes, take a 20-second break and look at something at least 20 feet away.
 - ▶ Dim overhead lights directly above the computer.
 - ▶ If you wear glasses, talk to your eyecare professional about anti-reflective lenses to reduce glare, eye strain and fatigue.
 - ▶ Sit away from the monitor and maintain good posture while sitting in your chair.
- When working around machinery:
 - ▶ Make sure you wear protective eyewear that meets the approval of the American National Standards Institute (ANSI), which will be clearly marked "ANSI Z87"
 - ▶ Inspect work areas, access routes and equipment.

Definitions of Vision Disorders**Age-related Macular Degeneration –**

Age-related macular degeneration (AMD or ARMD) is a condition that affects the retina of the eye leading to loss of sharp, central vision, which is needed for seeing objects clearly.

Blindness – Legal blindness is defined as visual acuity is 20/200 or less in the better eye with the best possible correction.

Cataracts – Cataracts cloud the eye's naturally clear lens causing frequent changes in prescription, changes in color, poor night vision caused by increased sensitivity to bright lights, problems with glare from lamps or the sun, and double vision.

Diabetic Retinopathy – A secondary complication of diabetes, diabetic retinopathy causes small blood vessels to swell and leak liquid into the retina, blurring the vision and possibly leading to blindness if left untreated.

Glaucoma – Glaucoma occurs when normal fluid pressure inside the eyes slowly rises, damaging the eye's optic nerve and resulting in vision loss and eventually blindness.

Refractive Errors – Refractive errors are the most common eye disorders. Refractive errors occur when the shape of the eye doesn't refract light properly, so images become blurred. The four most common refractive errors are myopia (nearsightedness), hyperopia (farsightedness), astigmatism, and presbyopia.

ENDNOTES

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APPENDIX A

MORE ON VISION DISORDERS

Age-Related Macular Degeneration

Age-related macular degeneration (AMD or ARMD) is a condition that affects the macula, a portion of the retina, and leads to loss of sharp central vision. AMD is the leading cause of legal blindness in America. Approximately 15 million Americans live with the disease and it is most common in older people ages 75–80. Symptoms include gradual loss of the ability to see objects clearly; distorted vision; gradual loss of color vision; and dark or empty areas appearing in the center of vision.

Blindness

Legal blindness is defined as a best corrected visual acuity that is less than or equal to 20/200 in the better eye or a visual field that is restricted to 20 degrees or less in the better eye. Approximately 1.3 million Americans are legally blind.

Cataracts

A cataract is a clouding of all or part of the normally clear lens within the eye. It will eventually block and distort light entering the eye. More than 20.5 million Americans over age 40 are affected with this condition. Cataracts are usually found in people over age 55, but occasionally younger people can get them. Symptoms include cloudy or blurry distance vision; altered color perception; problems with glare; difficult reading fine print; poor night vision and frequent changes in corrective lenses.

Diabetic Retinopathy

Diabetic retinopathy is a secondary complication of diabetes and is caused by changes in the blood vessels of the retina. Small blood vessels swell, leak and hemorrhage into the retina blurring vision and occasionally leading to blindness. When detected and treated in a timely fashion, significant vision loss can usually be avoided. Approximately 4.1 million Americans with diabetes have diabetic retinopathy. Anyone with diabetes, either type 1 or type 2, is at risk of developing this condition. At least yearly examinations are necessary for diabetics, as diabetic retinopathy has no symptoms.

Glaucoma

Glaucoma is a condition in which the optic nerve is gradually damaged because the pressure inside of the eye is too high. Between three and four million Americans have glaucoma; including an estimated 1.5 to two million people who do not even know that they have the disease. Those who are over 40, Hispanic, African American, have a family history of glaucoma, are very nearsighted or diabetic are at higher risk of developing the condition. The most common type of glaucoma develops gradually and painlessly, with no symptoms for an extended period of time. If untreated, loss of side vision will occur and may eventually lead to blindness.

Refractive Errors

Refractive errors occur when there is a variance between the focusing strength of the eye and the length of the eyeball. When a refractive error is present, light entering the eye is not focused, which results in a blurry image. Refractive errors are the most common vision disorder and can be corrected by eyeglasses, contact lenses or refractive surgery. The four most common refractive errors are myopia (nearsightedness), hyperopia (farsightedness), astigmatism, and presbyopia.