

# Measuring the Impact of Vision Care and Vision Wear

During a time when employer expenses and benefit offerings must be evaluated closely, employers need to be able to quantify the impact of vision-related problems and the potential savings behind a vision benefit.

One dramatically underestimated vision condition impacting employee performance is **uncorrected or undercorrected refractive error**. This basically means people need vision correction to see well, but either don't have access to eyewear or their current eyewear isn't adequate for them to see to their full potential.

Refractive error is an error in the focusing of light by the eye that can cause reduced visual acuity. Common conditions contributing to refractive error include myopia (nearsightedness), hyperopia (farsightedness), astigmatism and presbyopia (see Table 1). In total, more than 4 out of 5 adults wear some kind of vision correction to compensate for these common vision problems, and just about everyone will need some form of correction by age 40, when presbyopia affects up-close vision.

All of these vision conditions are highly treatable with corrective lenses (eyeglasses or contacts) or refractive

surgery. However, there are many reasons people may not seek treatment when they have a problem or treatment may not be effective.

- First, people may not realize they can't see well. Children have no frame of reference, so they may be seeing poorly for a long time before it impacts their performance significantly enough for a parent or teacher to intervene and recommend getting a vision test. Additionally, adults who develop vision problems – especially emerging presbyopes – may not realize right away that they need vision correction.
- Second, people **may not realize their prescriptions are out-of-date**. Even in adulthood, prescriptions can change, but this happens so gradually the wearer may not realize it and attribute headaches or blurred vision to another cause.
- Other people **may resist seeking treatment** even if they realize their vision isn't what it should be. Some children don't want to wear glasses. Similarly, adults who have never needed vision correction may see presbyopia as a sign of aging – and therefore may put off seeing an eye doctor. They may simply

Table 1: Spotlight on Common Causes of Refractive Error

Condition	Cause	Prevalence in the U.S.
Myopia (Nearsightedness)	Eyeball is too long or the cornea has too much curvature. Light entering the eye isn't focused correctly and distant objects look blurred.	41.6% of population. <sup>xxi</sup> A recent research study <sup>xxi</sup> shows an increase in myopia since the 1970s – when prevalence was only 25% – potentially due to an increase in up-close work. <sup>xxii</sup>
Hyperopia (Farsightedness)	Eyeball is too short or the cornea has too little curvature. Light entering the eye is not focused correctly and close objects look blurred. May appear blurred or eyestrain may appear more frequently hyperopia.	25% of population. <sup>xxiii</sup>
Astigmatism	Cornea is not perfectly rounded in shape. Larger amounts cause distorted or blurred vision, eye discomfort and headaches. May be present along with myopia and hyperopia.	Most Americans have some degree of astigmatism; <sup>xxiv</sup> affects one-third of over age 20. <sup>xxv</sup>
Presbyopia	Lens becomes less flexible with age and loses ability to focus. Close objects look blurred.	51% of population. <sup>xxiii</sup> Just about everyone develops this condition between ages 45 and 50.

hold objects far away to read them, rely on family members, etc.

- Even when people seek it, **treatment may not be sufficient**. Some refractive error is so severe it cannot be corrected. Sometimes there may be errors in the prescription, a wave in the lens when it's processed, or another problem. Additionally, LASIK surgery may not correct vision to 20/20, or people's vision may change with age and still require additional vision correction.
- Finally, some people cannot afford or **have no access** to a simple eye exam and pair of eyewear. Given the importance of seeing well to productivity, and the relatively low cost of providing eyewear, it is a missed opportunity to not provide this service to everyone.

What's startling is just how common the problem is. In the U.S., a huge percentage of the population is not seeing as well as they should be due primarily to undercorrected refractive error – in other words, they may be wearing vision correction, but it's not where it should be. The Centers for Disease Control and Prevention's annual Behavioral Risk Factor Surveillance System (BRFSS) survey found that an amazing **34 percent of Americans reported having trouble with up-close vision.**<sup>xxvi</sup> **Another 17 percent reported trouble seeing far away.** This is not the percentage of people having conditions that can cause trouble seeing up-close and far-away, but rather those who noticed a problem with their vision in these areas – in the vast majority of cases a completely fixable problem.

## References

xxi Vitale, Susan, et. al. Increased prevalence of myopia in the United States between 1971-1972 and 1999-2004. *Arch Ophthalmol*. 2009;127(12):1632-1639. <http://archophth.ama-assn.org/cgi/content/full/127/12/1632?home#EEB90018F2>. Accessed March 5, 2010.

xxii American Optometric Association. <http://www.aoa.org/myopia.xml>. Accessed March 5, 2010.

xxiii Lombardo, Anthony, et. al. Demographics of refractive surgery patients and market trends. *Refractive Management, Volume 1: Module 5*. American Academy of Ophthalmology.

xxiv American Optometric Association. <http://www.aoa.org/Astigmatism.xml>. Accessed March 5, 2010.

xxv Lighthouse International. <http://www.lighthouse.org/eye-health/common-eye-conditions/astigmatism/>. Accessed March 5, 2010.

xxvi Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2007.

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