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Vision Correction in the Developing World

Globally, there are roughly 2.3 billion people who suffer from refractive error, a common disorder in the eye that blurs vision.[1] Of these people, approximately 564 million (~25%) are considered visually impaired because they do not have access to corrective eye treatments. [2,3]

Refractive error is caused by the inability of the eye to focus light correctly on the retina, the tissue on the back of the eye, making objects up-close or at a distance appear blurry. The most common treatment for refractive error is a pair of eyeglasses. In the developed world, people who need high-quality eyeglasses can get them easily and cheaply; life could hardly be imagined without them. Eyeglasses assist people in everything from reading a newspaper, to driving a car, to interacting with others.

Left uncorrected, however, refractive error can negatively affect a person's economic opportunity, social standing, and ability to perform everyday tasks. For those living in the developing world, where access to eyeglasses is limited, these impacts are a harsh reality.

This case specifically examines the prevalence of refractive error in the developing world and the issues contributing to the lack of access to eye screenings and eyeglasses. It also highlights two organizations, Essilor and VisionSpring, and their respective approaches to addressing the global need for eyeglasses – in a financially sustainable manner.

Types of Refractive Error

The two common types of refractive error are farsightedness and nearsightedness:

- **Farsightedness** prevents a person from clearly seeing objects up-close. This can be caused by either presbyopia or hyperopia. Presbyopia is the age-related hardening of the eye's lens. This leads to light being focused behind the retina. Since the condition is age-related, there is a high prevalence of presbyopia in adults older than 65 years. In 2005, it was estimated that over a billion people in the world had the disorder.[4] Similar to presbyopia, hyperopia also causes farsightedness, but is due to the irregular shape of the overall eye rather than the hardening of the lens.

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