

## Issue Brief: One in Four U.S. Students Missing the Equivalent of 135 Days of School Content each School Year

Nearly all tasks a child performs in the classroom depend on healthy visual skills. Research indicates that students with undetected and untreated vision disorders (*i.e., one in four students*), miss a shocking 75 to 90 percent of all learning (*the equivalent of 135 days of school content annually*), due to hidden vision challenges (*i.e., binocular vision challenges and non-myopic / non-nearsighted refractive errors*) that make them unable to cognitively process classroom information.<sup>1</sup>

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These children are not identified for three reasons:

1. Most vision disorders are not symptomatic. The general absence of signs and symptoms leaves many students unaware they are impaired. These students have no frame of reference of how others process visual information and rarely make a complaint. Also, their parents, and teachers do not know they are seeing or processing vision information any worse than other students.
2. When signs and symptoms are present, they are often not recognized as “vision” related. Instead, the signs and symptoms associated with not being able to fully participate in class are misidentified as behavioral issues which become confused with attention-deficit hyperactivity disorder (*ADHD*) and/or the need for an Individualized Education Plan (*IEP*).
3. A reliance in the U.S. on “vision screening” in schools has compounded this problem. Significant numbers of children with vision disorders, apart from severe amblyopia (*lazy eye*), are not identified by the screening. They are returned to the classroom with a clean bill of vision health, even as their vision system is not functioning properly for learning. Also alarming is that students who fail these vision screenings rarely receive needed care, including, diagnosis and treatment.

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<sup>1</sup> Saw, S.M., et al., IQ and the association with myopia in children. *Invest Ophthalmol Vis Sci*, 2004. 45(9): p. 2943-

<sup>2</sup> Association between reading speed, cycloplegic refractive error, and oculomotor function in reading disabled children versus controls, Patrick Quaid and Trefford Simpson, *Graefes Arch Clin Ophthalmology* (2013) 251:169-187.

<sup>3</sup> [http://www.visionandhealth.org/documents/Child\\_Vision\\_Report.pdf](http://www.visionandhealth.org/documents/Child_Vision_Report.pdf)

The fundamental reason school screenings miss most vision disorders is that they rely primarily upon assessment of distance vision with eye charts with no consideration of near vision, or the ability of a child to use his or her eyes together; skills essential to reading and reading comprehension. Behavioral health experts are now finding a significant percentage of children labeled with ADHD have undiagnosed vision conditions, likely masquerading as ADHD. Discoverable through eye examination by an eye doctor, many disorders of vision are found at triple the typical rates among individuals labeled with ADHD.<sup>4</sup> Research also shows children with IEPs and juvenile offenders have high rates of non-nearsighted, undiagnosed, and untreated eye problems including hyperopia (*farsightedness*) affecting reading speed and comprehension.

Unfortunately, only a small percentage of children receive an eye examination by an eye doctor. In the U.S. only 7 percent of children have had an eye examination, by an eye doctor, preceding the start of first grade.<sup>5</sup> Of importance, a new National Association of Science and Medicine (NASM) report *Making Eye Health a Population Health Imperative: Vision for Tomorrow (2016)* reveals; "Avoidable vision impairment occurs as a result of outdated assumptions, missed opportunities, and shortfalls in public health policy and health care delivery.... the more formidable challenge is lack of access to care (*i.e., eye examination by an eye doctor*)."<sup>6</sup> To date, three forward-thinking states (*Nebraska, Illinois, and Kentucky*) require eye exams, by an eye doctor, for children before entering first grade.

Simply put, to avoid children missing the equivalent of 135 days of school content each academic year, all children should receive a comprehensive eye examination by an eye doctor (*doctor of optometry/optometrist*), before age 6, with the eye exam recorded in the child's immunization record and reported to the child's education system.<sup>7</sup>

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<sup>4</sup> DeCarlo DK, ADHD and Vision Problems in the National Survey of Children's Health. *Optom Vis Sci.* 2016 May;93(5):459-65. doi: 10.1097/OPX.0000000000000823.

<sup>5</sup> 2002 National Health Interview Survey as cited in CDC MMWR, 54(17), 425-9

<sup>6</sup> <http://www.nationalacademies.org/hmd/Reports/2016/making-eye-health-a-population-health-imperative-vision-for-tomorrow.aspx>

<sup>7</sup> <http://www.guideline.gov>.