



## National Commission on Vision & Health

Undetected and untreated eye disorders, such as amblyopia and strabismus, can result in delayed reading and poorer outcomes in school. Studies indicate that visual factors are better predictors of academic success than race or socioeconomic status.<sup>1</sup> However, one in four school-age children suffers from vision problems that could have been treated if the child had been properly screened upon entering school.<sup>2,3</sup>

Studies show that while prevalence rates vary between demographic groups, there is an increasing need for eye care among children:

- 25% of children aged 5-17 have a vision problem;<sup>4</sup>
- 79% have not visited an eye care provider in the past year;<sup>5</sup>
- 35% have never seen an eye care professional;<sup>6</sup> and
- 40% who fail initial vision screening do not receive the appropriate follow up care.<sup>7,8</sup>

Younger children entering school are even less likely than teenagers to receive vision services. Only one out of 13 children under six years of age visited an eye care provider, compared with about one third of adolescents aged 12-17.<sup>5</sup>

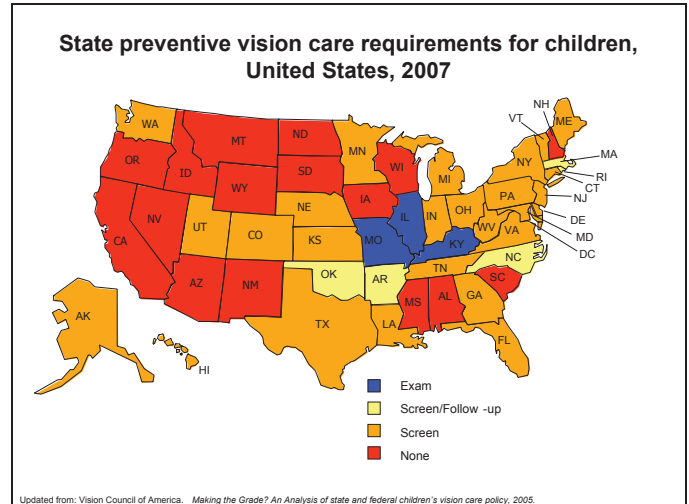
There are three primary methods for vision assessment: school-based vision screening programs; community-based or office based screening programs; and comprehensive eye exams conducted by an eye care professional.<sup>9</sup> The research consistently suggests that children are being examined and/or screened at very low rates. Only 22 percent of preschool-children received some vision screening, and only 15 percent received an eye exam.<sup>10</sup> In addition, studies have found that physicians do not consistently conduct vision screenings on children.<sup>11</sup>

Children who are racial and ethnic minorities, those with lower incomes, and those who lack insurance are even less likely than their affluent counterparts to receive eye care:

# Vision Exams for Children Prior To Entering School

- 17% of children with families earning less than 200% of FPL have seen a eye care provider (compared to 23% from more affluent families);<sup>5</sup>
- Uninsured children are three times as likely to go without eyeglasses when needed;<sup>12</sup>
- 24% of parents did not follow up for vision exam due to lack of financial resources;<sup>13</sup> and
- 15% of Asian, 19% of black, and 16% of Hispanic children have visited an eye care provider (compared to 23% of white children).<sup>5</sup>

Although eye problems can be detected early, vision exam and screening requirements for school-aged children vary widely by state. In fact, 16 states have no eye exam or vision screening requirements as children enter school or during the school year.<sup>14</sup> As a result, children with reading difficulty fall into two categories, those with undiagnosed eye problems and those with untreated visual problems.<sup>15</sup>



Vision screenings are not standardized. The quality and frequency of vision screenings vary by individual site or screener.<sup>16</sup> The public, and most importantly parents and teachers, believe that vision screenings can accurately identify those children who need a comprehensive eye exam. This frequently creates a false sense of security. A vast majority of children's vision screenings have high rates of false negatives, failing to adequately detect signs of significant vision problems in children chronically burdened by these difficulties.

Comprehensive eye exams by an optometrist or ophthalmologist for children are considered to be highly effective in detecting vision conditions.<sup>17,18</sup>

A vision examination improves the detection and treatment of eye problems.<sup>16,17</sup> Children who are successfully treated for their eye problems show increased performance in school. One study found that the provision of eye glasses and vision therapy to children is correlated with improved grades and higher scores on standardized tests.<sup>19</sup>

### Commission recommendations:

Providing access to comprehensive eye exams to children helps ensure success in school. If comprehensive exams by an optometrist or ophthalmologist are not possible, science-based vision screening with high sensitivity and specificity and controlled follow up for treatment is an acceptable, though not preferred, method to providing vision care for children.<sup>16,17,20</sup> Therefore, the National Commission on Vision and Health highly recommends that children have timely access to comprehensive eye exams.

### About the National Commission on Vision and Health

The National Commission on Vision and Health strives to improve the nation's visual health by collaborating with science and health policy experts to ensure informed analysis and policy recommendations in order to prevent blindness, improve vision, and eliminate vision health disparities. The Commission aims to provide unbiased and authoritative information and advice concerning health policy to decision-makers, health professionals, and the public at large and to integrate vision care into public health programs at the national, state and local levels.

<sup>1</sup> Vaughn W, Maples WC, Hoenes R. The association between vision quality of life and academics as measured by the College of Optometrists in Vision Development quality of life questionnaire. *Optom* 2006; 77:116-123.

<sup>2</sup> Vision Council of America. A Summary of Medical Literature on Vision Screenings and Eye Exams. Alexandria, VA, 2004. [http://www.2020advocacy.com/s\\_2020/images/PDFs/StudiesSummary2004.pdf](http://www.2020advocacy.com/s_2020/images/PDFs/StudiesSummary2004.pdf) (Accessed February 28, 2008)

<sup>3</sup> Williams et al. Amblyopia treatment outcomes after screening before or at age 3 years: follow up from randomized trial. *BMJ* 2002;324(7353):1549.

<sup>4</sup> Kleinstein, RN et al. Refractive error and ethnicity in children. *Arch Ophthalmol* 2003; 121:1141-1147.

<sup>5</sup> Centers for Disease Control and Prevention. Visual impairment and use of eye-care services and protective eyewear among children – United States, 2002. *MMWR* 2005; 54:425-429.

<sup>6</sup> The Vision Care Institute. Americans' Attitudes and Perceptions about Vision Care. Conducted by Harris Interactive on behalf of The Vision Care Institute™ of Johnson & Johnson Vision Care, Inc., 2006.

<sup>7</sup> Donohue SP, Johnson TM, Leonard-Martin TC. Screening for amblyogenic factors using a volunteer lay network and the MTI photoscreener. *Ophthalmol* 2000;107:1637-44.

<sup>8</sup> Preslan MW and Novak A. Baltimore vision screening project. Phase 2. *Ophthalmol* 1998;105(1):151-153.

<sup>9</sup> Ferebee A. Childhood Vision: Public Challenges & Opportunities, A Policy Brief. The Center for Health and Health Care in Schools. November 2004. Retrieved on July 5, 2008 from:

<http://www.healthinschools.org/Health-in-Schools/Health-Services/School-Health-Services/School-Health-Issues/~media/Files/PDF/visionfinal.ashx>

<sup>10</sup> Vision In Preschoolers Study (VIP Study): National Eye Institute Health information. National Institute of Health.

<http://www.nei.nih.gov/neitrials/viewStudyWeb.aspx?id=85> (Accessed February 26, 2008)

<sup>11</sup> Broderick P. Pediatric vision screening for the family physician. *Am Fam Physician* 1998; 58(3): 691.

<sup>12</sup> Newacheck PW, Stoddard JJ, Hughes DC, Pearl M. Health insurance and access to primary care for children. *N Engl J Med* 1998; 338:513-519.

<sup>13</sup> Mark H and Mark T. Parental reasons for non-response following a referral in school vision screening. *J School Health* 1999; 69(1):35-38.

<sup>14</sup> Vision Council of America. Making the Grade? An Analysis of State and Federal Children's Vision Care Policy. Alexandria, VA, 2005.

<sup>15</sup> New Jersey Commission on Business Efficiency of the Public Schools. Individual Supportive Education Reform Agenda for New Jersey Reading, 2006.

<http://www.bettervisioninstitute.org/research/Research/NJ%20ed%20link%20report.pdf> (Accessed August 18, 2008)

<sup>16</sup> Ferebee A. Childhood Vision: Public Challenges & Opportunities, A Policy Brief. The Center for Health and Health Care in Schools; 2004. Retrieved on July 5, 2008 from:

<http://www.healthinschools.org/Health-in-Schools/Health-Services/School-Health-Services/School-Health-Issues/~media/Files/PDF/visionfinal.ashx>

<sup>17</sup> White AJ. Eye Exams for Children: Their Impact and Cost Effectiveness. Abt Associates, Cambridge, MA, 2004. provided)

[http://www.abtassociates.com/reports/ES\\_Cost\\_Effectiveness\\_of\\_Eye\\_Exams.pdf](http://www.abtassociates.com/reports/ES_Cost_Effectiveness_of_Eye_Exams.pdf) (Accessed February 26, 2008)

<sup>18</sup> Vision in Preschoolers Study Group. Comparison of preschool vision screening tests as administered by licensed eye care professionals in the vision in preschoolers study. *Ophthalmol* 2004;111:(4)637-650.

<sup>19</sup> Marshall, EC, Meetz, RE, Harmon, LL. Through Our Children's Eyes: The Vision Status of Indiana School Children. Health Policy Group School of Optometry Indiana University. June 2007.

<sup>20</sup> Vision in Preschoolers Study Group. Sensitivity of screening tests for detecting vision in preschoolers-targeted vision disorders when specificity is 94%. *Optom Vis Sci* 2005;82(5)432-438..

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