

# Voices of Child Health in Chicago REPORT

Volume 2 Number 7 August 2020

# REPORT HIGHLIGHTS

Seventy-six percent of Chicago children at least 1 year old have had their vision tested with pictures, shapes and letters.

The two most common places where children had their vision tested was an eye doctor or eye specialist (62%) and at school (27%).

Younger children were less likely to have had their vision tested than older children

•••••



# Stanley Manne Children's Research Institute

Smith Child Health Research, Outreach and Advocacy Center



# Child Vision Testing in Chicago

Vision screening in children is a critical tool that aids in early detection of vision problems.¹ Early detection is important because it has been shown to reduce the risk of vision loss at age 7 by 50%.² Furthermore, children with undetected vision problems have lower academic performance than children with good vision.³.⁴ The American Academy of Pediatrics and American Academy of Ophthalmology recommend that starting at age one, children should have visual acuity testing using age appropriate "optotypes" such as pictures, shapes or letters. Children younger than 1 year old should have their vision examined through methods such as external inspection of the eyes and examination of the pupils.⁵

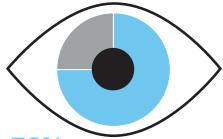
In this report, we examine child and adolescent vision health in Chicago. Researchers at Ann &Robert H. Lurie Children's Hospital of Chicago teamed up with the Chicago Department of Public Health (CDPH) on the 2018–19 Healthy Chicago Survey, Jr. to ask parents from all 77 community areas in Chicago whether their child had ever had their vision tested.

# What proportion of Chicago youth have had a vision exam?

To understand more about vision health for Chicago children, we asked parents the following question about one randomly selected child in the household: "Has this child ever had his or her vision tested with pictures, shapes or letters?" If a parent responded yes, then we asked: "At what kind of place or places did this child have his or her vision tested?"

Among Chicago youth 1–17 years old, 76% had their vision tested at some point and 24% had not (Figure 1). This is similar to national rates of vision testing (78%), although the national comparison was measured among younger children (0–5 years old) who had their vision checked. $^6$ 

**Figure 1.** Proportion of Chicago children who have had their vision tested



**76%** 

of Chicago children at least 1 year old had their vision tested with pictures, shapes and letters at some point.

## Where do Chicago children get vision care?

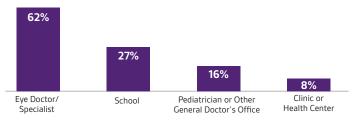
The most common places for having a child's vision tested were: eye doctor or eye specialist (62%), school vision testing (27%), pediatrician or other general doctor's office (16%) and clinic or health center (8%) (Figure 2). If a child had their vision tested at more than one type of place, parents were able to select more than one response. The likelihood of getting a vision exam at school was similar for kids who attended public and non-public schools (30% and 26%, respectively).

#### Are some kids more likely to get vision care than others?

Younger kids (1-5) years old) were less likely to have had their vision tested (44%) than kids 6-11 years old (89%) and kids 12-17 years old (94%) (Figure 2). Data from the 2016-17 National Health Interview Survey indicated that even among younger children (3-5) years old), the proportion of kids who had their vision tested by a doctor or other healthcare

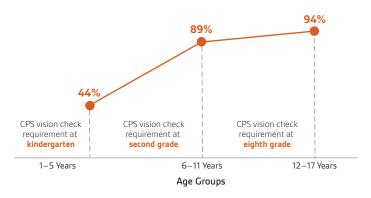
Figure 2. Vision testing of chicago youth

#### Prevalence of Vision Screening Per Location Where Vision Was Tested



Places Where Vision was Tested

## Proportion of Chicago Children Who Had Their Vision Tested, by Child Age Group, in Relation to Chicago Public Schools Vision Testing Requirements



professional increased with age.<sup>7</sup> In our survey, there were no differences in child vision testing rates by household income, child gender, parent education level, child health status or by parent's insurance type (none, private, public). When we examined vision testing by child race and ethnicity, there was a difference in vision testing rates that approached statistical significance. Non-Latinx Black children were most likely to have had a vision screening (82%), followed by non-Latinx White children (78%), and Latinx children (73%).

In Illinois, schools are required to provide annual vision screening for all preschool children (3 years old and older) in any public or private educational program or licensed care facility, and for school age children in kindergarten, second and eighth grades. Chicago Public Schools require a vision examination upon enrollment for all children entering kindergarten and all children entering the State of Illinois for the first time at any grade level.

Vision screening for kids is important because early detection of vision problems can help prevent potential vision loss.<sup>2</sup> Good vision is important for children's physical development, overall well-being and academic success.<sup>10,11</sup> For instance, a focus group of teachers, parents and students described how uncorrected vision deficits were connected to lower student focus, perseverance and class participation, and these reductions negatively affected academic functioning and stress.<sup>3</sup> Additionally, other research shows that youth with visual deficits have lower self esteem and higher anxiety than youth without visual deficits.<sup>12,13</sup> Visual screening can help by detecting visual problems early, preventing negative outcomes for children.

#### REFERENCES:

- Loh AE, Chiang MF. Pediatric Vision Screening. Pediatrics in Review. 2018;39(5)225-234 https://doi.org/10.1542/pir.2016-0191
- 2. de Koning HJ, Groenewoud JH, Lantau VK, et al. Effectiveness of screening for amblyopia and other eye disorders in a prospective birth cohort study. *J Med Screen*. 2013;20(2):66–72
- Dudovitz RN, Izadpanah N, Chung PJ. Parent, Teacher, and Student Perspectives on How Corrective Lenses Improve Child Wellbeing and School Function. J Matern Child Health. 2016;20:974–983. https://doi.org/10.1007/s10995-015-1882-z
- Grisham D, Powers M, Riles P. Visual skills of poor readers in high school. Optometry. 2007;78:542-549
- Committee on Practice and Ambulatory Medicine, Section of Ophthalmology, American Association of Certified Orthoptists, American Association for Pediatric Ophthalmology and Strabismus, American Academy of Ophthalmology. Visual System Assessment in Infants, Children, and Young Adults by Pediatricians. *Pediatrics*. 2016;137(1)e20153596. DOI: 10.1542/ peds.2015-3596
- Kemper AR, Crews JE, Strickland B, Saaddine JB. Vision Screening Among Children <6 Years Medical Expenditure Panel Survey, United States, 2009-2010. Morbidity and Mortality Weekly Report. 2014;63(2):43-46.
- 7. Black Ll, Boersma P, Jen A. Vision Testing Among Children Aged 3-5 Years in the United States, 2016-2017. NCHS Data Brief, No 353. Hyattsville, MD: National Center for Health Statistics. 2019. https://www.cdc.gov/nchs/products/index.htm.
- 8. http://www.dph.illinois.gov/topics-services/prevention-wellness/vision-hearing
- ). Minimum Health Requirements 2020-2021. Chicago Public Schools.
- Gudgel D. Eye Screening for Children. American Academy of Ophthalmology. 2020. https://www.aao.org/eye-health/tips-prevention/children-eye-screening
- Goldstand S, Koslowe KC, Parush S. Vision, Visual-Information Processing, and Academic Performance among Seventh-Grade Schoolchildren: A More Significant Relationship Than We Thought? Am J of Occu Ther. 2005;59(4):377-89. DOI: 10.5014/ajot.59.4.377
- Łazarczyk JB, Urban B, Konarzewska B, et al. The differences in level of trait anxiety among girls and boys aged 13-17 years with myopia and emmetropia. *BMC Ophthalmol*. 2016;16(1):201. DOI 10.1186/s12886-016-0382-2
- Dias L, Manny RE, Hyman L, Fern K, Correction of Myopia Evaluation Trial Group. The relationship between self-esteem of myopic children and ocular and demographic characteristics. Optom Vis Sci. 2002;79(11):688-96.

#### **HOW THE SURVEY WAS CONDUCTED**

This report presents findings from the 2018-19 Healthy Chicago Survey, Jr., administered by the Chicago Department of Public Health in collaboration with Lurie Children's. The survey was administered via phone interviews from December 2018 through May 2019. The sample consisted of 2,982 adults in Chicago, 740 of whom were the parent, step-parent or guardian (referred to as "parents" in this report) of at least one child under 18 years old living in the household. The survey cooperation rate was 12%. All analyses were conducted with statistical weighting so that they are representative of the adult population of the City of Chicago during the time period of data collection. For more information about health in your community, visit <a href="mailto:chicagohealthatlas.org">chicagohealthatlas.org</a>.

#### SUGGESTED CITATION

Davis MM, Heffernan ME, Smith TL, Bendelow A, Bhatti PK, Prachand NG, Weaver KN, Laflamme EM. Child Vision Testing in Chicago. *Voices of Child Health in Chicago Report*. Vol 2, Number 7. August 2020. Available at <a href="https://linearchy.org/childVision2020">luriechildrens.org/ChildVision2020</a>.

#### This report was developed and published as a partnership:



Nikhil G. Prachand, MPH Director of Epidemiology Kingsley N. Weaver, MPH Senior Epidemiologist Emily M. Laflamme, MPH Senior Epidemiologist

#### Stanley Manne Children's Research Institute™

Smith Child Health Research, Outreach and Advocacy Center

Matthew M. Davis, MD, MAPP, Director Marie E. Heffernan, PhD, Associate Director Tracie Smith, MPH, Senior Epidemiologist Anne Bendelow, MPH, Data Analyst Punreet K. Bhatti, MD, Research Associate

#### **CONTACT INFORMATION**

For more information on Voices of Child Health in Chicago, contact:

Mary Ann & J. Milburn Smith Child Health Research, Outreach and Advocacy Center Stanley Manne Children's Research Institute

Ann & Robert H. Lurie Children's Hospital of Chicago 225 East Chicago Avenue, Box 157, Chicago, IL 60611-2991

voicesofchildhealth@luriechildrens.org

#### luriechildrens.org/voices

This project is supported in part by an anonymous foundation, the Founders' Board of Ann  $\Theta$  Robert H. Lurie Children's Hospital of Chicago, and the Chicago Department of Public Health.