Social Determinants of Vision and Health as it Relates to Learning

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Centering Health Equity in the Early Years

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Fellow, Frank Porter Graham Child Development Institute (FPG)
Founding Director, Equity Research Action Coalition at FPG

Presenter at the 2021 Focus on Eye Health National Summit
July 15, 2021
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<th>Age</th>
<th>Synaptic Density</th>
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<td>At birth</td>
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<tr>
<td>6 years old</td>
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<td>14 years old</td>
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Source: Rethinking the Brain, Families and Work Institute, Rima Shore, 1997; Founders Network slide.
First 1,000 days are critical.
FIGURE 1-1 Variable health trajectories: Life course approach.
NOTE: This figure includes several examples; however, there are many other variables that impact health trajectories (see Chapter 3).
SOURCE: Adapted from Halfon et al., 2014.

High quality early childhood experiences matter.
Early childhood is part of the life course, and we must endow children with protection, affection, and connection.

Social determinants of early learning

• Attention to Black-White gaps has not led to discernible improvement in Black children’s health, well-being, and schooling outcomes

• Need to examine public policies, political well, centering of children’s rights, examining our values

Our limited attention to and investment on very young children and their families is in contradiction with the science.
Unfortunately, early childhood opportunities are not early enough, equally effective, and race-centered.

- Black babies are more likely to die, be born preterm, be low birth weight, and also lose their mother during childbirth

- Effect sizes for early intervention – home visiting & early childhood programs – range from negative (-.49), null to moderate effects (.69)
Majority of infants and toddlers in non parental care, likely to live in poverty, and less likely to receive subsidy.

- 1 in 5 babies live in poverty with more poverty in the South
- Babies less likely to receive subsidies compared to preschool children

**FIGURE 3-11** Percentage of federally eligible children receiving subsidies by age and income.

NOTES: Poverty figures are based on 2013 poverty thresholds published by the U.S. Census Bureau. For families with one adult and two children, 150 percent of poverty is $28,154 ($2,346 monthly).

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<th>Call of Action</th>
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<td><strong>Intervene</strong></td>
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<td><strong>Create</strong></td>
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<td><strong>Maximize</strong></td>
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<td><strong>Implement</strong></td>
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<td><strong>Integrate and coordinate</strong></td>
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Our Changing Vision
Students, Social Needs, and Social Determinants of Health

Donna Mazyck
National Association of School Nurses
School Nurses – Partner in Vision and Eye Health

Promote health & wellbeing to facilitate student access to learning with focus on the health of student populations and focus on individual students. Steps include
• Assessment
• Planning
• Implementation
• Evaluation
Student Vision and Eye Health: Impact on Learning

Child development

Challenges in the classroom

Early literacy and learning

Permanent vision loss

Cami et al., 2020; Wong et al., 2020
Social Needs: Impact on Vision, Eye Health and Learning

• Multiple scenarios that impact vision screening
• Challenges to accessing vision care may include
  • Lack of flexibility with family work schedule
  • Transportation to and from office of eye care professionals
• Lack of clarity on vision screening results
• Unclear follow-up after screening

McClendon & Zeni, 2019
Social Determinants of Health: Impact on Vision, Eye Health and Learning

- Poverty or financial hardship
- Food insecurity
- Cultural factors
- Literacy and English language proficiency
- Access to primary care
- Hierarchy of needs
- And...

Schroeder et al, 2018
Resources

• National Center for Children’s Vision and Eye Health partnered with NASN to provide a resource for school nurses
  12 components of a Strong Vision Health System of Care
  https://www.nasn.org/nasn/nasn-resources/practice-topics/vision-health

• Local resources for eye care exams and corrective lenses
References


References


Our Changing Vision
Vision for Baltimore: Lessons learned from school-based delivery of pediatric eye care

Megan E Collins, MD, MPH
Johns Hopkins University School of Medicine
Berman Institute of Bioethics
Johns Hopkins Consortium for School-Based Health Solutions
Overview

1) Why do we need school-based vision care?
2) How does Vision for Baltimore work?
3) What lessons have we learned?
Academic Consequences of Vision Impairment

In Plain Sight: Reading Outcomes of Providing Eyeglasses to Disadvantaged Children

Robert E. Slavin, PhD\textsuperscript{a}, Megan E. Collins, MD\textsuperscript{b}, Michael X. Repka, MD, MBA\textsuperscript{c}, David S. Friedman, MD, PhD, MPH\textsuperscript{d}, Lucy I. Mudie, MBBS, MPH\textsuperscript{e}, Josephine O. Owoeye, O.D., MPH, FAAO\textsuperscript{b,1}, and Nancy A. Madden, PhD\textsuperscript{a}

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JESPAR, 2018

Impact of eyeglasses on academic performance in primary school children

Lisa A. Hark, PhD, RD,\textsuperscript{a,1} Avrey Thau, BS,\textsuperscript{1} Alexandra Nutaitis, BS,\textsuperscript{1} Eileen L. Mayro, BA,\textsuperscript{a,1} Tingting Zhan, PhD,\textsuperscript{1} Nooreen Dabbish, PhD,\textsuperscript{1} Judie Tran, BS,\textsuperscript{1} Linda Siam, BS,\textsuperscript{1} Michael Pond, BA,\textsuperscript{1} Angela R. Rice, MBA,\textsuperscript{1} Alex V. Levin, MD, MHSc\textsuperscript{1,2}

Canadian Journal of Ophthalmology, 2019
School vision screening

Community eye exam

Glasses wear and retention

~1 in 4 need eyeglasses
1) Why do we need school-based vision care?
2) How does Vision for Baltimore work?
3) What lessons have we learned?
Vision for Baltimore  Overview

- Launched in Fall 2016
- Provides vision screenings, eye exams, and glasses to kids directly in schools
- Serving all Baltimore City Public School students in PreK – 8th grade
All Care is Delivered Directly at School

• Screenings are performed by Baltimore City Health Department.

• Eye exams are provided by Vision To Learn optometrists.

• If glasses are needed, they are dispensed at school, where they will have the greatest impact on learning.
Vision for Baltimore Impact to Date

- 64,000+ students screened
- 11,000 eye exams completed
- 8,000+ students provided glasses
1) Why do we need school-based vision care?
2) How does Vision for Baltimore work?
3) What lessons have we learned?
Vision Screening Failure Rate by Grade Levels

Pre-K = pre-kindergarten; K = kindergarten
Percentage showing proportion of students who failed among those enrolled per grade level
Study results show positive impact of eyeglasses on academic achievement

- Improved testing scores in English Language Arts
- Students in the lowest 25% at baseline and those with individual education plans had greatest improvement
Vision for Baltimore during COVID-19

• COVID-19 infection control precautions adopted
• Screening and exam protocols modified
• Exams provided by appointment on-site at schools
• Increased health education & outreach
Re-Imagining School-Based Vision Care in the Era of COVID-19

• Strengthen program communication and parental engagement
• Ensure continuity of care with community providers
• Expand the use of telehealth and other app-based technology
Thank you!

Questions?

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