

Health Determinants of Early School Success

BY BECKY MILES-POLKA

We tend to think of reading as a simple process of learning language, letters, and sounds, an easy and natural part of growing up. Yet reading is complex; it relies on a child's ability to focus attention, sit still, recognize sounds and symbols, hold images and associations in memory, follow directions, and process meaning from spoken and written words. Reading relies on the development of the whole child—including the closely entwined aspects of a child's physical, social, emotional, and cognitive health.

Good health is much more than the absence of disease. A child's capacities begin to develop before birth and continue to develop rapidly, fueling and shaping readiness to take on the tasks of learning and schooling. Children's brains and bones, energy levels, and mobility change and mature through the early years of life. This rapid development, including the wiring of the brain, arises from the integration of a child's physical, social, and emotional health. Relationships with consistent and caring adults nurture and influence each of these connected aspects of healthy development, which is directly linked to a child's learning capacity and progress. If children are to be able to read proficiently by the end of third grade, they need to be healthy and to develop language, literacy, and reading skills at an appropriate pace.

Each child develops at a unique pace and is more advanced in some areas than others at any given time. Beyond individual differences, however, income and racial disparities create profound differences in children's readiness for and success in reading. According to the 2011 Nation's Report Card issued by the National Assessment of Educational Progress, low-income students' reading achievement significantly trails that of their more affluent peers: 83 percent of all low-income fourth graders score below proficient compared to 67 percent of all fourth-grade children.

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Half of all fourth graders from low-income families score below the "basic" reading level compared to one-third of all fourth graders.

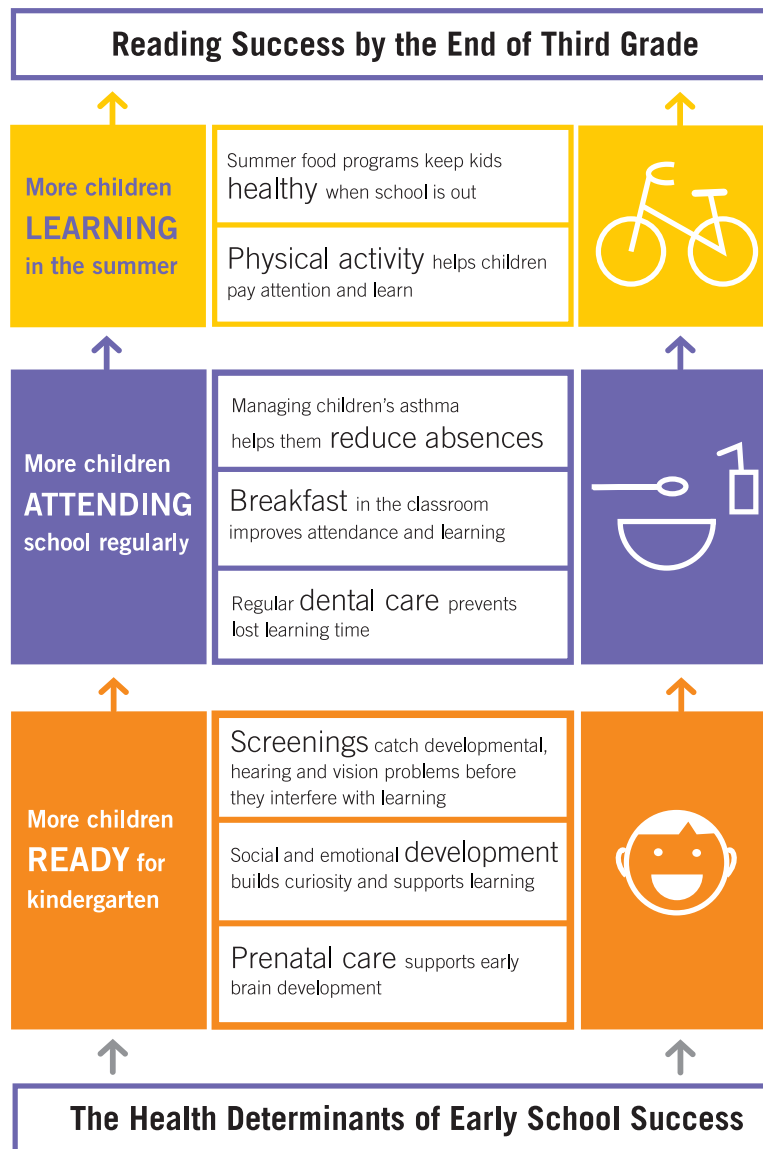
The Annie E. Casey Foundation found that for children of color from low-income families, the reading gap is even greater. These young children face substantial disparities in their health conditions, access to health insurance, and quality of care compared to their white peers from higher-income families. Achieving equity in children's health will go a long way toward closing the gap in children's academic success.

The Campaign for Grade-Level Reading recognizes the important interconnections between health and learning, known as the health determinants of early school success. Children from low-income families have more frequent challenges that affect their health and well-being than more affluent children. The campaign has identified five Children's Health and Learning Priorities: health-related issues with a demonstrated relationship to one or more of the campaign's community solutions. They include prenatal care and infant development; comprehensive screenings, follow-up and early intervention; oral health; asthma management; and nutrition and physical activity. The campaign has developed materials to help community stakeholders incorporate strategies that can strengthen positive impact on children's health and learning. Growing Healthy Readers: Taking Action to Support the Health Determinants of Early School Success is a set of seven guides to assist coalitions in incorporating the Children's Health and Learning Priorities into Community Solutions Action Plans to achieve progress in the campaign's community solution areas of school readiness, attendance and summer learning and improve grade-level reading. (See Figure 1.)

Why Should Communities Address Healthy Births and Early Infancy?

Children who are born on time (after the thirty-seventh week of pregnancy) and at a healthy weight

Figure 1. Health Determinants of Early School Success



(about 5.5 pounds or greater) are described as “born healthy,” and they are more likely to survive the first year of life. The infant mortality rate (the percentage of infants who die before age one) is an indicator of how a community mobilizes to support its most vulnerable children and families. Non-Hispanic black and American Indian or Alaskan Native babies continue to have significantly higher infant mortality rates than those of other racial and ethnic groups.

Pregnancy is a time when low-income prospective mothers are both reachable and open to learning. By strengthening prenatal care and family supports

in a baby’s first few months of life, community leaders can contribute to physical and mental health for mothers and babies as well as babies’ optimal brain development and increased capacity for learning.

What Is Comprehensive Screening, Early Intervention, and Follow-up? Why Should Communities Address These Issues?

Infants, toddlers, preschoolers, and children in the earliest grades with unaddressed developmental, vision, hearing, or lead-poisoning concerns are among

those least likely to read proficiently by the end of third grade.

Screenings identify children who need follow-up and are likely to benefit from intervention, services, and supports to assist their development. Such screenings along with support for social and emotional development are critical because concerns in these areas can affect learning and a child's ability to read. An important part of ensuring that every child enters school ready to learn and becomes a good reader is to identify concerns early and then address them early, when interventions can be most effective.

Developmental screenings help identify any concerns regarding cognition and understanding, communication, fine and gross motor skills, social and emotional behavior, and problem solving and self-help.

Uncorrected vision difficulties can sabotage academic success. An estimated 20 percent of school-age children have a vision problem, most often nearsightedness, which makes it difficult to see at a distance, or farsightedness, which makes it difficult to read a printed page.

Although they are much less common than vision issues, uncorrected hearing impairments in young children are linked with lifelong speech and language deficits, poor academic performance, social challenges, and emotional difficulties. For a child born with a hearing loss, effective intervention within the first six months of life significantly improves future prospects. Many states require a hearing test soon after birth, but rescreening is indicated, especially if a child does not seem to be responding to sounds.

Lead is toxic to the brain and can cause serious and often irreversible cognitive impairment in children, with the greatest risks to the youngest children. High levels of lead in a child's blood often result in later academic failure and behavior issues.

Children's social and emotional development has a strong correlation to academic success. Children who are rated by their parents as having higher levels of emotional regulation score higher on assessments of math and literacy.

Healthy social-emotional development can be seen in children's growing ability to form positive relationships; express and manage a range of feelings; get along with adults and peers; and experience well-being, curiosity, and deep involvement in learning. Behaviors that reflect social-emotional skills include:

- An infant's loud babbling to get a parent's attention,
- A toddler's happy exploration of pots and pans in a kitchen cupboard,
- A preschooler's offer to help a friend build a block tower,
- A kindergarten child's persistence in completing a challenging puzzle, and
- A first grader's cooperation with peers and the teacher during a group project.

From birth on, young children's healthy social-emotional growth requires consistent support from caring, responsive adults. Young children need adults to help them practice using social-emotional skills in play with other children and in independent activities.

Healthy social-emotional development fuels children's learning, sense of well-being, positive relationships with adults and peers, and ability to meet challenges and to learn from others (parents, teachers, peers) and on their own.

Children with lags in social-emotional development often show distress and disruptive behavior that interfere with learning. Research by Cathy Huaqing Qi and Ann P. Kaiser has shown that behavior problems are common in young children: Rates of behavior difficulties range from 9 to 14 percent among all young children and approach 30 percent among children living in poverty.

Failure to prevent or treat troubling behavior at an early age places children at high risk of mental health issues that impede learning and school success.

How Does Oral Health Contribute to Early School Success?

Oral health problems are the single most common chronic disease of early childhood and are five times more common than asthma. Results of the 2009–2010 National Health and Nutrition Examination

Survey, conducted by the Centers for Disease Control and Prevention, showed that some 25 percent of three- to five-year-olds and of six- to nine-year-olds living in poverty had untreated dental caries.

Tooth decay causes children pain, loss of sleep, reduced concentration and attention span, and absence from school or preschool. Children also may limit their food intake and variety, leading to decreased consumption of healthy foods, which in turn affects their energy, attention, and capacities for learning.

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Children from low-income families and children of color are most vulnerable and are at much higher risk of missing school. The W. K. Kellogg Foundation reported in 2012 that significant disparities persisted in children's oral health conditions: 37 percent of African American children and 41 percent of Hispanic children had untreated tooth decay, compared with 25 percent of white children. Only 40 percent of children from low-income families have an annual dental visit. In far too many states and communities, the dearth of dentists who accept Medicaid-enrolled children severely limits children's access to oral health care. The PEW Center on the States, for example, found that in 2009, only 44 percent of Medicaid-enrolled children nationwide received dental services.

Why Is Asthma of Such Concern?

Asthma is a chronic disease that affects the lungs. Asthma attacks cause inflammation and narrowing of the airways in the lungs, leading to wheezing, coughing, and shortness of breath. Asthma is widely recognized as one of the most common chronic diseases in children. Many children develop asthma before the age of five. It is the most significant health-related cause of school absence among children each year.

Respiratory infections; allergens such as mold, pollen, and furry animals; and irritants such as tobacco

smoke, some cleaning products, stress, and physical activity can trigger asthma symptoms.

Uncontrolled asthma symptoms pose significant risks to children's health and learning. Minority children from low-income urban households have disproportionately high rates of asthma. Children with severe asthma experience considerably more sleep problems than other children, with more fatigue during waking hours. Fatigue from disturbed sleep can lead to less energy for learning.

Asthma is the leading medical cause of school absence, leading to 14 million missed school days annually, according to the Asthma and Allergy Foundation of America. It is also the third leading cause of hospitalization for children under fifteen. In 2010, 7 million children in the United States had asthma. Black children are twice as likely to have asthma as white children. Boys are 45 percent more likely than girls to have ever been diagnosed with asthma. Black youth, especially those from poor families, are disproportionately affected.

How Do Nutrition and Physical Activity Impact Learning?

Abundant evidence links nutrition to learning and to the challenges facing children from low-income families. In 2012, the US Department of Agriculture reported that more than 47 million Americans lived in households that had difficulty putting food on the table. Children who suffer from poor nutrition during the brain's most formative years score much lower on tests of vocabulary, reading comprehension, and general knowledge than those who are adequately nourished. Iron-deficiency anemia leads to a shortened attention span, irritability, fatigue, and difficulty concentrating. Anemic children tend to do poorly on vocabulary, reading, and other tests.

Children who skip breakfast are less able to differentiate among visual images, show increased errors in their school work and tests, and have slower memory recall. Low-income children tend to gain weight during the summer months, because they lack access to healthy food and opportunities for physical activity.

Engaging in physical activity supports key aspects of brain functioning that are critical to learning. For

young children (from birth through age five), physical activity enhances motor skills, social skills, and brain development, all critical components of school readiness. Children learn through play, developing cognitive skills as they interact with their indoor and outdoor environments and social-emotional skills through play with peers.

For school-age children, physical activity and improved academic performance are strongly connected. Children who perform better on physical fitness tests are more likely to earn higher reading and math scores, and those who participate in organized sports report higher achievement in school.

The evidence is clear: Children in low-income families have significant health disparities and are less likely to be successful in school. Given this strong evidence, the Campaign for Grade-Level Reading recognizes that it cannot move the needle on third-grade reading without addressing the important health issues that impact children's development and ultimately how well they learn and succeed in school.

As community coalitions continue to address school readiness, attendance, and summer learning, the integration of health strategies will be key to achieving progress on reading proficiency. The campaign will continue to work with national partners and local leaders to help develop specific solutions targeted to the needs in communities. Understanding the health concerns that affect children's learning, as well as effective practices for addressing them, will enable communities to move forward on third grade reading gains.

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