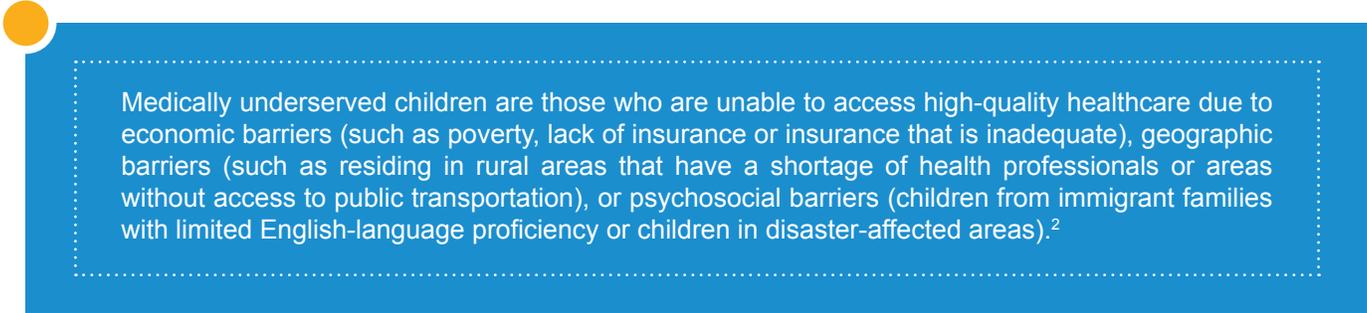

I. INTRODUCTION

Maximizing the educational experience and success of every child in America must be a priority and a critical national goal. Vitally important at the level of each child and family as a pathway out of poverty, the issue is also larger. If the nation is to remain economically stable, prosperous, innovative, and influential internationally over the coming decades, it is essential that children are healthy and well-educated, graduate from high school on time, and perform at their full potential.

Unfortunately, many children are not ready even for pre-kindergarten or kindergarten, or the rigors of the usual educational demands. The trajectory heading toward an inadequate academic experience may have its roots in early childhood, with children not reading at grade level in the early elementary years, poor performance in middle school and failure to graduate on time. In fact, in some low performing schools, on-time graduation may be as low as 50%.¹

There are many reasons for less than optimal academic performance. This is especially true for children who live with persistent adversities or chronic stress. Among the issues which can negatively affect learning are those that clearly relate to medical or health issues that have been unrecognized or undermanaged. In this report, these conditions are called “health barriers to learning,” or HBLs.

These conditions, referred to in this report as “Health Barriers to Learning” (HBLs), include the following: uncontrolled asthma, uncorrected vision problems, unaddressed hearing loss, dental problems, persistent hunger, certain untreated mental health and behavioral problems, and effects of lead exposure. Medically underserved children disproportionately suffer from untreated health conditions that undermine their ability to succeed in school.



Medically underserved children are those who are unable to access high-quality healthcare due to economic barriers (such as poverty, lack of insurance or insurance that is inadequate), geographic barriers (such as residing in rural areas that have a shortage of health professionals or areas without access to public transportation), or psychosocial barriers (children from immigrant families with limited English-language proficiency or children in disaster-affected areas).²

Left untreated, these *Health Barriers to Learning* can adversely affect children’s ability to see, hear, and pay attention in the classroom; their ability and motivation to learn; their attendance; their academic performance; and even their chances of graduating from high school. Strategic action by policymakers and practitioners in both the healthcare and education sectors requires a solid understanding of the nature and magnitude of the problem of *Health Barriers to Learning*. This report describes the disproportionate prevalence of HBLs in medically underserved children, how each HBL adversely affects learning, and what practitioners and policymakers can do to address and ultimately eliminate HBLs.



Race and ethnicity are complex constructs that have significant cultural significance. This report uses the definitions that the National Center for Education Statistics uses when reporting about race and ethnicity in government publications. These definitions are excerpted from the NCES website³:

Hispanic/Latino: This category includes individuals of any race who identify as Hispanic or Latino.

American Indian or Alaska Native: This category includes only persons who reported American Indian or Alaska Native as their sole race and did not report Hispanic/Latino ethnicity.

Asian: This category includes only persons who reported Asian as their sole race and did not report Hispanic/Latino ethnicity.

Black or African American: This category includes only persons who reported black or African American as their sole race and did not report Hispanic/Latino ethnicity.

Native Hawaiian or Other Pacific Islander: This category includes only persons who reported Native Hawaiian or Other Pacific Islander as their sole race and did not report Hispanic/Latino ethnicity.

White: This category includes only persons who reported white as their sole race and did not report Hispanic/Latino ethnicity.

What is known about the topic: As described in Annie E Casey's *2016 KIDS COUNT Data Book* report,⁴ disparities in educational achievement by race and income persist. Attaining proficiency in reading and math and graduating from high school are important educational milestones that put children on track to reach their life potential. While national rates of achievement on all three of these milestones are low, they are even lower for minority children and children in poverty. Nationwide, 65% of fourth graders in public school read below the proficient level. This rate is even higher in black (82%), Hispanic (79%) and American Indian (78%) children. Children with low reading proficiency are more likely to feel disengaged from school and drop out, compromising their earning potential, and chances of success in later life. About 68% of eighth graders in public school are not proficient in math, with higher rates in black (88%), Hispanic (81%) and American Indian (81%) children. A basic competence in math is critical for everyday functioning and improves one's employability. Nationally, almost 1 in 5 (18%) of children do not graduate from public high school on time, with even higher rates for children who are Hispanic (24%), black (28%), American Indian (30%), economically disadvantaged (25%), and who have limited English language proficiency (37%). Students who graduate from high school are more likely to pursue future education, earn more, and enjoy better health.

A vast body of literature shows that educational attainment is complex and determined by a variety of factors, including sociodemographic factors (race, ethnicity, socioeconomic status, gender, family structure, family size, educational and occupational attainment of parents), individual factors (cognitive ability, self-esteem, attitudes towards school, educational and occupational aspirations), participation in early intervention programs, family-related factors (parents' involvement, parents' attitudes and values toward educational attainment, child taking on adult roles, family stressors), and school-related factors (academic achievement, absenteeism, behavior problems, grade retention, changing schools, school characteristics).⁵

This report aims to draw attention to the important ways in which health influences these determinants of educational success. Two prominent literature reviews that present considerable evidence about this

topic are: C.E. Basch's 2010 report *Healthier Students are Better Learners: A Missing Link in School Reforms to Close the Achievement Gap*⁶ and the 2015 article *Critical Connections: Health and Academics*⁷ published in the *Journal of School Health*. Basch's 2010 report provides a detailed description of how vision problems, asthma, teen pregnancy, aggression and violence, lack of physical activity, lack of breakfast, and inattention and hyperactivity disproportionately affect urban minority youth. The report also examines specific ways in which these health conditions impede motivation and ability to learn, and focuses on school-based interventions that can offer specific, evidence-based solutions. More recently, the *Journal of School Health* article, which also draws upon Basch's 2010 report, summarizes the literature on the connection between health and academic achievement using the Whole School, Whole Community, and Whole Child (WSCC) framework, which is an ecological approach that focuses on the health and education of students through services and programs provided by the school, a supportive school environment, and contributions of family and community.

What this report adds: This report builds on these and other literature reviews, as well as other studies on specific HBLs—but originates from a clinical perspective. For almost 30 years, Children's Health Fund, a national nonprofit organization, has been bringing primary and mental health care to children living in poverty. Working intensively within communities at schools, homeless shelters, and drop-in centers for street youth, the clinical teams see children every day who have fallen through the cracks of both the medical and educational systems, challenged by health problems that threaten their wellbeing and chances for success in school. Driven by this experience, this report brings a social determinants of health- and trauma-informed clinical perspective to describe the nature and prevalence of HBLs in vulnerable children. Secondly, this report presents evidence of the huge gap between the services that clinical guidelines recommend for identifying, managing and treating HBLs and what children actually receive. Thirdly, the report offers practitioners and policymakers in both the healthcare and education sectors a comprehensive set of recommendations to deepen and broaden the safety net for vulnerable children in a variety of settings—school, clinic, home and community.

Structure of the Report: For each HBL, this report describes: i) the prevalence of the HBL; ii) the extent of unmet need for services to identify, manage, and treat the HBL; iii) the impact of the HBL on learning; and iv) conclusions summarizing the key points. The report ends with a set of recommendations for practitioners and policymakers in the healthcare and education sectors.

LITERATURE REVIEW STRATEGY: The particular Health Barriers to Learning discussed in this review were chosen based on: i) their prevalence in pediatric underserved populations; ii) the presence of evidence in the literature supporting a connection to educationally-relevant outcomes; and iii) the existence of implementable screenings and interventions to treat or mitigate the condition. For each Health Barrier to Learning, a number of key documents based on relevance to the topic were identified—literature reviews summarizing evidence on the link between a specific HBL and learning as well as original research. The references listed in the key documents as well as literature that cited the key documents were then reviewed. The main criterion for including a literature source was relevance to topic. In order to paint a broad picture, all types of literature (i.e. not only articles in peer-reviewed journals but also reports by government agencies and nonprofit organizations) and all types of study designs (i.e. not restricted to study designs that would allow for causal inference) were considered for inclusion. While study authors' self-reported assessment of bias has been included when relevant, this report does not independently and systematically assess risk of bias for each study and across studies. All sections were reviewed by content experts.