



Why Do We Focus on the Prenatal-to-3 Age Period? Understanding the Importance of the Earliest Years

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RESEARCH BRIEF

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OVERVIEW

Investing in Families During the Earliest Years Can Improve Quality of Life in the Short and Long Term

Our health and wellbeing prenatally and during the first three years of life affect all future learning, behavior, and health. This time period is the most sensitive for a child's developing brain and body, yet many families face substantial challenges during these years. Decades of research have shown that babies and toddlers thrive when they have loving, responsive interactions in the earliest years.¹ Positive interactions with caregivers can produce long-term benefits not only for families, but also for society.² But parents need sufficient resources and skills to create the environments that set children up for success. The absence of such conditions can compromise a child's ability to learn and grow throughout life. The research to date yields implications for how to enhance the quality of life for the youngest children and their families. A comprehensive system to support infants and toddlers and their families ensures that parents have what they need to create nurturing environments for their children, that children are born healthy and receive assistance early if problems should occur, and that when children are not with their parents, they are in safe and engaging care environments.

The Earliest Years of Childhood Have a Profound Impact on Lifelong Health and Wellbeing

Our earliest experiences have lifelong consequences for our health and behaviors.³ Scientists studying neuroscience, epigenetics, endocrinology, inflammatory disorders, and other physiological systems have clearly demonstrated that our earliest environments shape the developing brain, influence the expression of our genes, and affect the health of our body's systems.^{4,5,6}

The most rapid period of growth for the human brain occurs in the earliest years of life. The structure and functioning of the human brain are determined not only by our genetics, but also by our interactions with other people and our environment, as the brain molds itself in response to the inputs it receives.⁷ The brain is also the most plastic during this time; in other words, the brain is the most adaptable to the conditions it experiences during this period of life.⁸ Because of this plasticity, young children are especially vulnerable to the conditions in their lives and their interactions with key caregivers during the youngest years.^{9,10,11} Adversity during this time can have far-reaching consequences, but this time can also provide a window of opportunity to build the basis for lifelong resilience.

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Safe, stable, stimulating, loving interactions between an infant and a parent or caregiver promote optimal brain and body development in the first three years of life.¹ To meet the substantial challenges that parenting brings, parents who have sufficient financial resources, social connections, limited stress, and good physical and mental health are in a better position than parents who struggle to make ends meet, feel isolated or overwhelmed, or have poor mental health.^{12,13,14}

Too many infants and toddlers do not experience the nurturing and responsive environments that positively shape developing brains and bodies, and instead are exposed to early adversity that inhibits optimal growth and development. Having a parent with severe depression, being exposed to violence in one's home or neighborhood, moving from house to house without a place to call home, going without enough to eat for days at a time—these instances of early adversity are far too common among our youngest children, and they disproportionately affect children of color and children whose parents have lower levels of education or income.¹⁵ Although children are incredibly resilient, exposure to chronic stressors early in life charts a course for physical, cognitive, and emotional health problems that can be costly for families and society to navigate.^{13,16} In fact, many disparities in health and wellbeing are rooted in the earliest years of development.¹³ The cost of inaction is an incredible burden for society to bear, and proactive interventions to support families can help ensure that all children have the best chance at reaching their full potential.

What Conditions Strengthen Family Wellbeing During the Earliest Years?

Drawing on decades of research in child development and early brain science, this brief identifies key universal objectives that can help ensure that our youngest children and their families get off to a strong start. These conditions align with the eight goals identified in the Prenatal-to-3 State Policy Roadmap, and they are broadly organized as follows.

▶ **Parental Resources, Skills, and Wellbeing:**

- Parents have the financial and material resources they need to provide for their families, the skills and incentives needed for employment, and the resources they need to balance working and parenting.
- Parents are mentally and physically healthy, with particular attention paid to the perinatal period.
- Parents engage with their children in the warm, nurturing, and stimulating interactions needed to promote healthy development.

▶ **Optimal Child Health and Development:**

- Children are born healthy to healthy parents, and pregnancy experiences and birth outcomes are equitable.
- Children's emotional, physical, and cognitive development is on track, and delays are identified and addressed early.

▶ **Institutional Supports:**

- Families have access to necessary social services through expanded eligibility, reduced administrative burden, and identification of needs and connection to services.
- When children are not with their parents, they are in nurturing, safe child care environments.

Undergirding all of these aims is the goal of a more equitable system that eliminates long-standing disparities in access and outcomes based on race, ethnicity, and socioeconomic status. These universal goals pinpoint the conditions that children need to thrive and pave the way for interventions that can support children's growth in the earliest years.

Children Need Healthy, Supported Parents Who Have Adequate Resources and Skills

Healthy parents who are equipped with the resources and skills necessary to care for their children are likely to engage in higher quality interactions with their children. When families face poverty and economic insecurity, the associated chronic stress can affect the quality of

relationships between parents and children,^{17,18} the safety of home environments for children,¹⁹ and longer-term child development.²⁰ In contrast, healthy adult-child interactions can buffer young children from the negative effects of stress.¹¹ Adequate household resources, parents' ability to work, and healthy parenting skills help to create the nurturing environments that children need.

Household Economic Security

Experiences of financial hardship during early childhood can disrupt healthy brain development and compromise the foundation for long-term learning, behavior, and health.¹ Approximately 1 in 5 young children in the US, or roughly 19.5 percent of children under age 3, live in families with annual household incomes of less than 100 percent of the federal poverty level (FPL), or \$24,300 per year for a family of four.²¹ These families face great difficulties just with meeting basic needs and are likely to face challenges related to adequate shelter, nutrition, and medical care.¹⁸ They also are more likely to experience stress, which can compromise parents' ability to engage in the warm, responsive interactions that are critical to infants' and toddlers' healthy development.^{22,23}

Furthermore, irregular and unpredictable work schedules, lack of affordable child care, and limited access to paid time off can compromise a parent's ability to maintain stable employment and earn enough income to adequately provide for a family. According to data from the National Survey of Children's Health, nearly 1 in 10 parents of young children report having to quit, decline, or substantially change a job due to problems with child care.²⁴ For young children in families for whom job instability creates financial hardship, the associated stress on parents can compromise children's physical and mental health, cognitive development, educational achievement, emotional wellbeing, and social adjustment later in life.^{12,25,26}

Experiences of financial hardship during early childhood can disrupt healthy brain development.

The financial hardships described above have disproportionate impacts on families of color relative to White families. The poverty rate varies considerably by race and ethnicity.²⁰ Childhood poverty impacts children not only because of the associated deficits in material wellbeing, but also because of the chronic stress poverty imparts on children and their families.²⁷ Financial hardship is a major predictor of food insecurity, which can lead to malnutrition and have negative impacts on children's health.^{28,29,30} Moreover, families with low incomes are more likely to live in crowded housing, which increases the risk of housing instability or homelessness and is often associated with chaotic environments that do not promote healthy child development.³¹ Black and Hispanic children are also more likely than their peers to experience early challenges associated with their parents' job instability. In 2019, prior to the collapse of the economy and child care market brought on by the COVID-19 pandemic, unemployment was higher among Black (7.9%) and Hispanic (5.4%) families than among White (4.5%) and Asian (4.1%) families.³²

Parental Health and Wellbeing

Parents' physical and mental health affects their ability to care for their children and engage in the warm, responsive interactions that infants and toddlers need for long-term healthy development. Yet parents often do not have the resources they need to care for themselves adequately while they care for their children, particularly during the perinatal period, which can pose unique health challenges to families. For example, between 7 and 15 percent of postpartum women experience depressive symptoms.^{33,34} However, not all mothers get the help they need. A study by the Centers for Disease Control found that among women who had recently given birth, 1 in 8 reported that they had not been asked about depression during postpartum visits.³⁵

Parental depression can have a particularly negative impact on the parent-child relationship through lower quality caregiving, as well as a detrimental effect on the relationship between parents.^{16,17} Parents who struggle with depression may find it more difficult to respond warmly to their children, or to respond at all, which can compromise the security of the attachment bond between infants and toddlers and their parents—the very bond that serves as the basis for children to safely navigate the world and acquire new skills.¹⁶ Children may experience long-term consequences if depression interferes with the responsive, nurturing environment that they need.¹⁶

Social factors that influence health extend beyond biophysiological factors and also include the conditions in which people are born, grow, live, work, and age.³⁶ Therefore, parents who experience substantial adversity are at a higher risk of facing both physical and mental health challenges. Whereas various social factors—such as food insecurity, inadequate access to housing, exposure to violence, and availability of transportation—can have a negative impact on parental health, other social factors, such as parental support and community inclusiveness, can have a beneficial effect on parental health and wellbeing.³⁵ Deleterious social factors, such as those listed above, contribute to toxic stress, which negatively impacts health through chronic wear and tear on the body. Because physical and mental health are intertwined, interventions that support parental mental health also can improve physical health outcomes, and vice versa. Whereas some programs impact health directly, such as those that bolster social support among parents, others support parent health indirectly, such as those that ensure adequate financial resources.

Nurturing Child-Parent Interactions

As discussed above, stable, responsive relationships with caregivers during the earliest months and years of a child's life are key to long-term healthy development. A child's developing brain depends on secure attachments and serve-and-return interactions, in which adults reliably and appropriately respond to a child's cries, babbles, and other bids

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for connection. Persistent absence of warm, reciprocal interaction increases the likelihood that a child will experience poor outcomes of health and wellbeing.²² Neglect—which accounts for the majority of child maltreatment cases—is associated with a particularly wide range of mental and physical health consequences, including behavioral disorders, interpersonal difficulties, chronic illness, and poor school achievement.²²

By contrast, daily reading, playing, and talking with a child can support early child development, as can other nurturing behaviors. These interactions shape brain architecture, both providing the positive stimulation children need for typical development and acting as a buffer to stress, protecting the developmental process from disruption.²¹

However, the critical early years also can be stressful for parents, who may themselves struggle to cope with the demands of parenting and to connect with their children. Also, when families experience adversity related to economic hardship, limited education, or discrimination, the associated stress can interfere with child-parent interactions and perpetuate socioeconomic, racial, and ethnic disparities in children's health risks.³ Children need a safe environment, protected from neglect and other chronic stressors, to truly thrive.¹⁰

Given the challenges of parenting through the early years and the critical role parents play in children's development,³⁷ efforts to improve parents' social support, knowledge, and coping and problem-solving skills can promote positive long-term developmental trajectories in children.³⁸ Teaching parents the skills for warm and responsive caregiving can minimize the long-term negative effects of childhood adversity.¹¹

Child Health Begins Before Birth and Requires Tracking Optimal Development and Treating Problems Early

Child health and wellbeing are unmistakably tied to parental health. Research demonstrates that childhood health begins with a healthy parent prior to conception. Key aspects of maternal health, such as adequate nutrition³⁹ and exposure to stress in utero,^{40,41} impact the development of the human brain during pregnancy. Maternal health prior to and during pregnancy plays a key role in child health at birth, which helps establish the basis for lifelong health and development. Parental mental health also impacts children through the quality of caregiving and the relationship between parents.^{16,17} Children also need frequent, preventative care throughout their lives to track their social-emotional, physical, and cognitive development, and to identify needs early and address them quickly. Critical and sensitive periods of growth during the earliest years create a window of opportunity for improving a child's lifelong trajectory for growth and development.⁴²

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Healthy and Equitable Births

Setbacks and trauma that children and families experience due to pregnancy and birth complications can have enduring, lifelong consequences for children. Many babies in the US are born thriving, but children who are not may need substantial resources, care, and devotion, not just to survive infancy but to meet the challenges beyond, so that they are ready for school, relationships, independence, and eventually adulthood.⁴³ A child who is born prematurely arrives before the 37th week of pregnancy, a time during which the rapidly developing brain and other organs still benefit dramatically from the unique advantages of the intrauterine environment.⁴⁴ Premature birth increases the likelihood of low birthweight (less than 2,500 grams), which predisposes children to breathing and feeding difficulties, vision and hearing problems, developmental delays, and learning disabilities, among other short- and long-term complications, including chronic diseases such as hypertension and heart disease later in life.^{42,45,46}

When mothers have access to health care, both mothers and babies experience positive outcomes. Women need adequate health care over their life course to ensure healthy pregnancies, and disparities can be a reflection of cumulative exposure to adversity across the lifespan.⁴⁷ Supporting women throughout the life course increases the likelihood that they will have healthy pregnancies, fewer birth complications, and healthier newborns.⁴⁸ It is particularly important that women also have access to family planning services, preventative health care prior to conception, and prenatal care in the earliest stages of pregnancy. Prenatal care provides a window of opportunity for health care providers to assess and treat health conditions before birth—which can lead to safer births and lower rates of infant and maternal mortality and morbidity.^{49,50}

Approximately 700 women die in childbirth each year in the US.⁵¹ Although maternal mortality has fallen globally, the maternal mortality rate in the US increased between 50 and 70 percent over the past 20 years, and the rate of severe maternal morbidity has doubled.⁵² Most of these new mothers' deaths—an estimated 60 percent—are considered preventable. Among developed countries, the US stands alone in these troubling upward trends.⁵⁰ Adverse birth outcomes disproportionately affect Black families. Black infants are more likely than Hispanic and White infants to be born low birthweight,⁵³ and Black mothers are more than twice as likely to die in childbirth⁵⁴ or experience severe maternal morbidity⁴⁹ than White or Hispanic mothers—a racial disparity that persists across socioeconomic status and worsens at the highest educational levels.^{55,56} High rates of infant and maternal mortality and morbidity in the US, as well as racial inequities in these rates, underscore the importance of access to health care during this critical part of life.

Child Health and Development

Optimal health prenatally and at birth creates a strong foundation for lifelong development, but children also need other factors to truly thrive. Researchers have described health as a “lifelong adaptive process that builds and maintains optimal functional capacity and disease resistance”—influenced by a person's physical, psychological, and social environment.^{41,57} While traditional health interventions such as good nutrition and immunizations are important for children, so too are the psychosocial contexts of their earliest relationships with key caregivers, which build the basis for social-emotional wellbeing.

Because a child's developing brain is most flexible during the earliest months and years of life, this time period sets the foundation for lifelong health and wellbeing. Adverse experiences and the absence of nurturing interactions during this period increase the likelihood of both physical and mental health difficulties in adulthood, including cardiovascular disease, diabetes, and respiratory and immunological disorders, as well as challenges with learning and mental wellbeing.^{4,13,58,59} Despite the importance of this age period, children are more likely to experience abuse and neglect during their first three years of life than at any other age.⁶⁰ Furthermore, health risk factors, such as low birthweight, as well as social risk factors, such as poverty, can increase a child's risk of disability.⁶¹

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Healthy child development encompasses physical, emotional, behavioral, cognitive, and language development.⁶² Thus, frequent assessment to track all domains of child development is essential during the earliest years of life. The second year of life, in particular, is the period for the fastest language acquisition as the child's brain develops,⁶³ and research has shown that differences in language skills based on socioeconomic status are already evident in children at 18 months old.⁶⁴ Identifying and treating early indications of disability or developmental delay during a child's early years can improve childhood outcomes, increasing the likelihood of long-term benefits.⁶⁵ Such interventions are important because 1 in 6 children in the US has a disability.⁶⁰ Identifying needs early and addressing them immediately reduces the likelihood of disabilities worsening, decreases the need for later services, and saves money.⁶⁶

Institutional Changes Can Improve Use of Social Services and Access to Affordable, High-Quality Child Care

Opportunities for institutions to better serve our youngest children and their families, from social service institutions to child care systems, are pervasive in the scientific literature. An important first step for many social service institutions is to ensure that families who are eligible for resources and services actually receive them. Improvements to the early child

care and education system can also promote the health and wellbeing of infants and toddlers and their families. Social service institutions and child care systems can impact families in a variety of ways—they can help ensure that parents and children are healthy mentally and physically (e.g., Medicaid, Early Intervention), that parents have skills and resources to care for their children (e.g., home visiting programs, paid family leave, state earned income tax credit), and that parents and other caregivers have the capacity to create the stimulating and nurturing environments that promote learning and growth for our youngest children (e.g., Early Head Start).

Access to Services

Many communities provide a number of benefits and programs to children and families, with varying eligibility criteria and modes of delivery. However, families often do not have equitable access to such services. Three common methods to increase access to services include (1) expanding eligibility criteria, (2) reducing administrative burden (the amount of effort that families must expend to receive a benefit), and (3) screening families for specific needs and then connecting them to precise services.

Eligibility criteria can include the broad or narrow guidelines that allow an individual to qualify for services, as well as guidelines that specifically include or exclude certain populations, such as immigrants. Decisions regarding eligibility criteria drive variation in whether two individuals with similar needs receive similar help. Families of color, in particular, are less likely to receive services, even though they are eligible, as demonstrated by research on programs such as Medicaid, WIC (Women, Infants, and Children), and Early Intervention (EI) services.^{67,68} For example, in a study about EI services, eligible Black children under age 2 were found to be 5 to 8 times less likely to receive services than White children, depending on the eligibility category.⁶⁹

Administrative burden—or the barriers that increase the time, money, and psychological distress of applying for and maintaining enrollment in any public assistance program—also influences the proportion of families who receive services. Burdensome policies that require recertification of benefits to take place in person rather than remotely, or that require recertification to take place every 3 months rather than 12, or that require a host of documents be presented to prove eligibility, discourage eligible families from receiving services. Burdensome rules can result from intentional or inadvertent features of regulations that states put in place.⁷⁰ Regardless of the intentions, administrative burden is costly and inefficient, and it reduces services among those who are eligible.

Identifying needs early and addressing them immediately helps to reduce the need for later services and saves money.⁶⁵ An adequate system for screenings and referrals requires four components: (1) screening to identify the precise services that are needed, (2) referring and connecting the family to the needed services, (3) serving the family to address the need, and (4) monitoring outcomes to ensure the need is addressed. A breakdown in any of these

links to services threatens the health of the system and may compromise improvements in outcomes.

These barriers in social service institutions often inhibit families from getting the help they need. To support families during the earliest years, institutions can expand eligibility criteria, reduce burdensome policies to receive benefits, and identify and address problems as soon as possible, through a strong system of screenings and referrals.

Child Care in Nurturing and Safe Settings

Nearly 7 million children are enrolled in child care centers in the US, and approximately 60 percent of those children are 3 years old or younger.⁷¹ However, data show that only 24 percent of infants and toddlers are placed in child care considered to be high quality by established standards.⁷² This fact alone illustrates the need for improvements in families' ability to access child care, but other issues further complicate this issue. Affordability and proximity of care each play a critical role in determining families' child care options. Child care typically accounts for a substantial portion of a family's budget, approximating—and often eclipsing—the cost of housing.⁷³ Families who live in low-income neighborhoods typically have fewer child care options than families in other neighborhoods, a factor that limits access to affordable, quality child care—especially for those children for whom quality care is particularly important—and perpetuates existing racial and socioeconomic disparities.^{74,75,76}

Only 24 percent of infants and toddlers are placed in child care considered to be high quality by established standards.

Caregivers in child care environments often struggle to obtain adequate resources to provide necessary care. Education and training, financial security, food security, and health and wellbeing all affect caregivers' interactions with children.^{3,77,78} But research shows that child care workers commonly earn wages insufficient for meeting basic needs and that they experience high rates of food insecurity, as well as poor mental wellbeing.⁷⁹ Caregivers who work with infants and toddlers typically earn even lower wages than their peers who work with children ages 3 to 5.⁸⁰

Because serve-and-return interactions with caregivers provide vitally important positive stimulation for young children and buffer the developing brain from the effects of stress,²¹ interactions with caregivers in the child care setting are just as fundamental to brain architecture as relationships at home. Just as parents need support to focus on connecting with children, so do caregivers in child care settings. However, the current research base remains inconclusive on how best to leverage components of child care—such as subsidy rates, workforce qualifications and compensation guidelines, or class sizes and child-caregiver ratios—to improve the quality of these interactions.

Measuring child care quality is also difficult. Observational tools, such as the Classroom Assessment Scoring System (CLASS) and Environment Rating Scales (ERS), can be used to track and assess classroom safety and quality, but “process” quality in particular (the richness of classroom interactions and learning experiences) can be difficult to identify and measure, and implementing these assessments can be costly.⁸¹ These tools are evolving and improving to accommodate the growing awareness of young children’s unique developmental needs,⁸² but in the meantime working parents still must make decisions about how best to ensure their children receive high-quality care.

Finally, there is an unacceptable lack of rigorous research that establishes causal links between states’ policy efforts and child care quality and children’s outcomes. Rigorous research that focuses specifically on infants and toddlers is even more sparse. Research is clear that children thrive from high-quality interactions, that teachers need sufficient resources to provide high-quality care, and that families need equitable access to high-quality care, but the solutions for how to measure high-quality care and how to improve the quality of care need much more study. Opportunities for improvement within the child care system are plentiful; as these changes occur, rigorous research should be conducted to help us better understand how to ensure equitable access to high-quality care for all children, especially our youngest ones.

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The Prenatal-to-3 Policy Impact Center at The University of Texas at Austin LBJ School of Public Affairs translates research on the best public investments into state policy actions that produce results for young children and society.



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