

## MAKING THE CASE FOR A COMPREHENSIVE INFANT AND TODDLER POLICY AGENDA

We are all a product of our earliest experiences, and this means that our early experiences play an important role in who we become and how we contribute to society. Research and clinical experience from a range of disciplines—including neuroscience, behavioral research, program evaluation, and economics—demonstrates that the first experiences and relationships in life play a critical role in a child's ability to grow up healthy and ready to learn.

Yet, while almost every social policy—from welfare reform to education to mental health—affects infants and toddlers, the impact of these policies on very young children is seldom sufficiently addressed. We must translate what we know from research and clinical experience about the needs of infants and toddlers into effective, evidence-based policies and practices.

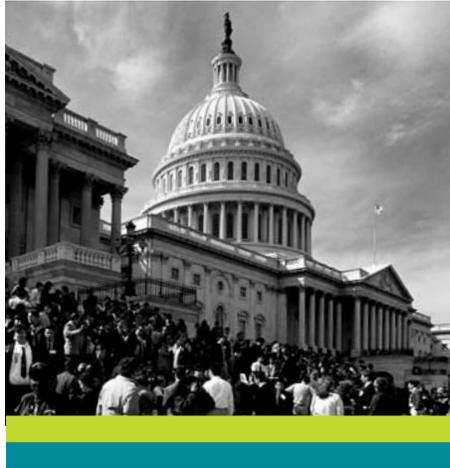
The purpose of this case statement is to provide an overview of some of the most compelling evidence for investing in and implementing a comprehensive infant and toddler policy agenda. The evidence boils down to six major points, which are described in more detail below.

1. Early experiences, coupled with the influence of genes, literally shape the architecture of the brain.
2. Early experiences take place in relationships.
3. All domains of development are interdependent.
4. Development is cumulative, so early experiences lay the foundation for all that follows.
5. Because early experiences matter, we must intervene with young children who are at risk.
6. Early experiences are a proven investment in our future.

The other tools in the *Policy Guide* serve as a complement to this case statement by providing the details of, and the research behind, the comprehensive policy agenda.

### EARLY EXPERIENCES, COUPLED WITH THE INFLUENCE OF GENES, LITERALLY SHAPE THE ARCHITECTURE OF THE BRAIN

Research shows that it is during the first three years of life when the brain undergoes its most dramatic development. The Center on the Developing Child at Harvard University offers an excellent summary of the science, as quoted and described in the bullets below. As this summary makes clear, the greatest opportunity for influencing a child's life begins on day one, and policy choices at all levels of government should reflect this knowledge.



- **“Brains are built over time, from the bottom up.** The basic architecture of the brain is constructed through an ongoing process” that involves the reciprocal influences of both genetics and early experiences<sup>1</sup> and “begins before birth and continues into adulthood.” Early experiences are much like the construction of a solid, stable building. The neural pathways and connections literally shape the

physical architecture of the brain, forming the strong foundation on which everything else is built. When it comes to the healthy development of infants and toddlers, this means that “the quality of that architecture” directly results in either “a sturdy or a fragile foundation for all of the learning, health and behavior that follows.”<sup>2</sup>

- **“The interactive influences of genes and experiences shape the developing brain.”**

Neuroscience teaches us that the interactive nature of the relationship between children and their caregivers - termed the “serve and return relationship”<sup>3</sup> is essential to the formation of the developing brain. Infants are great communicators, using sounds, facial

This guide was developed with the generous support of the A. L. Mailman Family Foundation and the ZERO TO THREE Carol Berman Fund.

expressions, gestures and body movements to let adults know what they want. “Adults respond with the same kind of vocalizing and gesturing back to them. In the absence of such responses-or if the responses are unreliable or inappropriate-the brain’s architecture does not form as expected, which can lead to disparities in learning and behavior.”<sup>13</sup>

- **“The brain’s capacity for change decreases with age.** The brain is most flexible, or ‘plastic,’ early in life to accommodate a wide range of environments and interactions, but as the maturing brain becomes more specialized to assume more complex functions, it is less capable of reorganizing and adapting to new or unexpected challenges. Early plasticity means it’s easier and more effective to influence a baby’s developing brain architecture than to rewire parts of its circuitry in the adult years.”<sup>14</sup>
- **“Toxic stress damages developing brain architecture, which can lead to life-long problems in learning, behavior, and physical and mental health.** Scientists now know that chronic, unrelenting stress in early childhood, caused by extreme poverty, repeated abuse, or severe maternal depression, for example, can be toxic to the developing brain. While positive stress (moderate, short-lived physiological responses to uncomfortable experiences) is an important and necessary aspect of healthy development, toxic stress is the strong, unrelieved activation of the body’s stress management system.” When parents or other caregivers are not able to serve as buffers for toxic stress, it can become

“built into the body by processes that shape the architecture of the developing brain.”<sup>15</sup>

## EARLY EXPERIENCES TAKE PLACE IN RELATIONSHIPS

Early relationships are formative and constitute a basic structure within which all meaningful development unfolds.<sup>6</sup> In other words, relationships are the building blocks of healthy development.<sup>7</sup> If, as very young children, we have positive, predictable relationships with our parents or other caregivers, we will feel safe from harm and secure that our basic needs will be met. Our energy can therefore be spent on exploring the world around us and having the positive early learning experiences that will nurture our developing brains and help us to achieve healthy growth and development.

If, on the other hand, we do not have nurturing relationships with our parents and other caregivers, we are more likely to focus our energies on protecting ourselves and making sure our basic needs are met. In these circumstances, interacting with people and objects in the environment becomes more difficult, and there are greater challenges in our early learning experiences. Without these formative early relationships, we will have a harder time developing healthy relationships in the future.

## ALL DOMAINS OF DEVELOPMENT ARE INTERDEPENDENT

Research shows that all domains of development—social, emotional, intellectual, language, and physical—are



If, as very young children, we have positive, predictable relationships with our parents or other caregivers, we will feel safe from harm and secure that our basic needs will be met.

interdependent and work together to promote a child's overall health and well-being. Emotional health and social competence provide a solid foundation for emerging cognitive abilities, and together they are the “bricks and mortar that comprise the foundation of human development.”<sup>8</sup> This means that how we nurture a child's heart is just as important as how we nurture his mind and his body.

For example, language acquisition depends not only on hearing, the ability to distinguish sounds, and the ability to link meaning to specific words, but also on skills that emerge with social and emotional development—the ability to focus, pay attention, and engage in social relationships.<sup>9</sup>

### **DEVELOPMENT IS CUMULATIVE, SO EARLY EXPERIENCES LAY THE FOUNDATION FOR ALL THAT FOLLOWS**

Neuroscience confirms that the early years establish the foundation on which later development is built. The emergence of basic skills and competencies is directly linked to the later development of more complicated skills and competencies. How, and how well, we think, learn, communicate, concentrate, problem solve and relate to others when we get to school and later in our lives depends in large part on the experiences we have and the skills we develop during the earliest days, months, and years.

School readiness is a good example of this. Research

demonstrates that educational outcomes in the teenage years are related to academic skills at kindergarten.<sup>10</sup> Academic skills at kindergarten, in turn, are related to early experiences that foster the development of capabilities during the earliest years. There is, furthermore, a strong association between children's cognitive skills before they enter kindergarten with achievement in elementary and high school.<sup>11</sup> High school completion can even be predicted based on general cognitive ability in the preschool years.<sup>12</sup>

### **WE MUST INTERVENE WITH YOUNG CHILDREN WHO ARE AT RISK**

Although the early years are a time of great opportunity for babies, they are also a time of great vulnerability. A child's development can be seriously compromised by a disability or developmental delay or by environmental influences such as exposure to toxins, extreme poverty, malnutrition, substance abuse, child abuse and neglect, community or family violence, or poor quality child care. As noted earlier, early and sustained exposure to such risks can influence the physical architecture of the developing brain, preventing infants and toddlers from fully developing the neural pathways and connections that facilitate later learning.

Fortunately, program evaluation research demonstrates that quality, research-based early intervention programs that begin early can improve the odds of positive outcomes for the nation's youngest and most vulnerable children well into the adult years.<sup>13</sup> The following



Emotional health and social competence provide a solid foundation for emerging cognitive abilities, and together they are the “bricks and mortar that comprise the foundation of human development.”<sup>8</sup>

principles, developed by the National Forum on Early Childhood Program Evaluation, provide a framework for understanding what types of interventions will be successful and for which children:

- Access to basic medical care for pregnant women and children can help prevent threats to healthy development as well as provide early diagnosis and

appropriate management when problems emerge.

- For vulnerable families who are expecting a first child, early and intensive support by skilled home visitors can produce significant benefits for both the child and parents.
- For young children from low-income families, participation in very high-quality, center-based, early education programs has been demonstrated to

## Examples of effective early intervention programs

The list of factors listed above that may make early intervention effective are based on lessons learned from random assignment evaluations conducted on these programs, as well as from other studies.

### Early Head Start

**About the Program:**

**Pregnant women and low-income families with infants and toddlers receive home visits, center-based care, or a combination of the two. Activities focus on healthy prenatal outcomes; the promotion of intellectual, social, and emotional development; and the promotion of healthy family functioning.**<sup>12</sup>

### Research Findings:<sup>13</sup>

- Statistically significant, positive impacts on standardized measures of cognitive and language development.
- More positive approaches to learning.
- Fewer behavior problems.
- Parents were more involved and provided more support for learning.
- Parents had reduced risk of depression.
- Positive impact on child-father interactions.

For further information, see

[Learning, Thriving, and Ready to Succeed: Infants and Toddlers in Early Head Start.](#)

### Nurse Family Partnership<sup>14</sup>

**About the Program:**

**Vulnerable first-time pregnant women are partnered with a registered nurse early in their pregnancies and receive home visits through their children's second birthday. Activities focus on improving health, well-being, and self-sufficiency of low-income, first-time parents and their children.**

### Research Findings:

- Improved prenatal health and fewer childhood injuries.
- Mothers had fewer subsequent pregnancies and increased intervals between births.
- Increased maternal employment.
- Improved school readiness for children born to mothers with low psychological resources.
- Mothers had 61% fewer arrests, 72% fewer convictions, and 98% fewer days in jail.
- Children were 48% less likely to be a victim of child abuse or neglect and 59% less likely to be arrested.

For more information visit

[www.nursefamilypartnership.org](http://www.nursefamilypartnership.org)

### The Carolina Abecedarian Project<sup>15</sup>

**About the Program:**

**Children from low-income families received full-time, high-quality educational intervention in a child care setting from infancy through age 5. Activities focused on social, emotional, and cognitive areas of development with an emphasis on language.**

### Research Findings:

- Higher cognitive test scores from the toddler years to age 21.
- Higher academic achievement in reading and math from the primary grades through young adulthood.
- More years of education completed and more likely to attend a four-year college.
- Older, on average, when first child was born.
- Mothers whose children participated in the program achieved higher educational and employment status.

For further information visit [www.fpg.unc.edu/~abc/](http://www.fpg.unc.edu/~abc/)

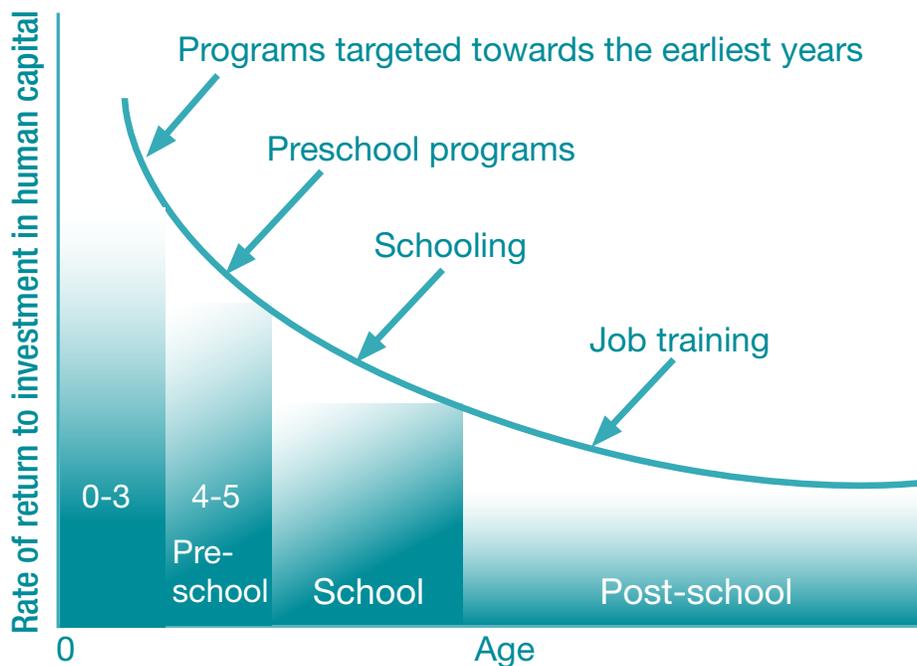
- enhance child cognitive and social development.
- For young children from families experiencing significant adversity, two-generation programs that simultaneously provide direct support for parents and high-quality, center-based care and education for the children can have positive impacts on both.
- For young children experiencing toxic stress from recurrent child abuse or neglect, severe maternal depression, parental substance abuse, or family violence, interventions that provide intensive services matched to the problems they are designed to address can prevent the disruption of brain architecture and promote better developmental outcomes.
- For families living under the poverty level, work-based income supplements for working parents have been demonstrated to boost the achievement of some young children.<sup>14</sup>

## EARLY EXPERIENCES ARE A PROVEN INVESTMENT IN OUR FUTURE

High-quality, research-based interventions for at-risk infants and toddlers not only benefit individual children but also benefit society in ways that far exceed program costs. Cost-benefit analyses conducted by numerous economists clearly demonstrate the importance of the earliest experiences and interventions for at-risk children.

Economic analysis demonstrates that for every dollar invested in early childhood programs, savings of \$3.78 to \$17.07 can be expected.<sup>16</sup> This is because early interventions for young at-risk children promote school retention, improve the quality of the workforce, help schools to be more productive, raise earnings, strengthen social attachments, and reduce crime, teenage pregnancy, and welfare dependency.<sup>17</sup> While business subsidies may lead to a greater short-

## Rates of Return to Human Capital Investment at Different Ages; Return to an Extra Dollar at Various Ages



Heckman, J. "Investing in Disadvantaged Young Children Is Good Economics and Good Public Policy" Testimony before the Joint Economic Committee Washington D.C., June 27, 2007 Reprinted with permission.

**INFANT & TODDLER POLICY FRAMEWORK** © 2009

**Health:**

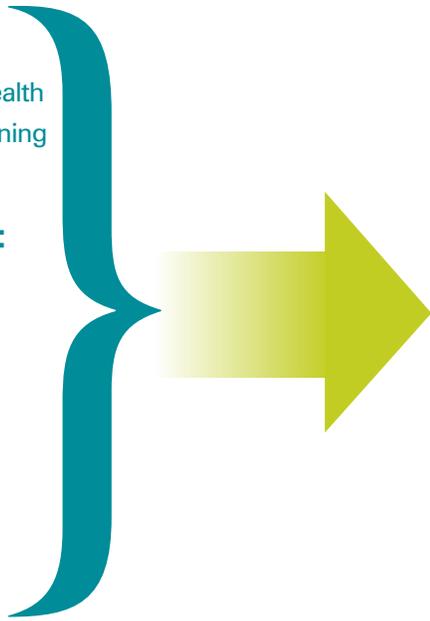
- Physical Health
- Social & Emotional Health
- Developmental Screening

**Family Supports:**

- Basic Needs
- Parent Education
- Home Visiting
- Child Welfare
- Paid Family Leave

**Early Learning:**

- Child Care
- Early Head Start
- Early Intervention



**Good Health**

**Strong Families**

**Positive Early Learning Experiences**

term boost to state job growth, early childhood intervention programs provide a greater long-term boost<sup>18</sup> because they lead to a long-run increase in labor force participation, income, Gross Domestic Product, savings, investment, and tax revenues, and to improved health and decreased mortality.<sup>19</sup>

The cost-benefit research shows that for at-risk children, playing catch-up later in life is expensive and inadequate. We need to address the needs of vulnerable infants and toddler today. Without effective intervention, children who start behind, stay behind.

**CONCLUSION**

We know that early experiences lay the foundation for a bright future for all infants and toddlers. Early experiences can enhance or diminish inborn potential and shape the opportunities and risks that young children encounter.<sup>20</sup> Because the early years are so critical for future development, we need to invest in and implement a policy agenda that will translate what we know from science and

clinical experience into what we do for our very youngest children and families.

The policy agenda articulated in the *Early Experiences Matter Policy Guide* is grounded in the fact that all infants and toddlers need good health, strong families, and positive early learning experiences. In order to achieve these outcomes, we need policies and programs that promote each of these areas. Specifically, we need policies that promote good physical and social and emotional health and that provide for developmental screening to identify children whose development may deserve closer observation or assessment. We need policies that provide for basic needs, quality parent education, home visiting, child welfare services, and paid family leave. We also need policies that promote good quality child care, the expansion of Early Head Start, and high-quality early intervention services for infants and toddlers with disabilities or developmental delays, as well as for those who are at risk for developmental delays.

**INTEGRATED PLANNING & ACTION** © 2009

**Services + Infrastructure = System**

**Accessible**  
**Affordable**  
**High Quality**  
**Culturally Responsive**

**Regulations & Standards**  
**Quality Improvement**  
**Professional Development**  
**Accountability & Evaluation**  
**Public Engagement**  
**Political Will Building**  
**Governance & Leadership**  
**Financing**

While the agenda seems straightforward enough, it is actually far more complex. Because all of the domains of development are interrelated for very young children, we need to promote comprehensive and coordinated policies to achieve these outcomes.

The implementation of policies often means the provision of services. To be effective, services must be accessible, affordable, high quality, and culturally responsive. They must be part of an infrastructure that provides for regulations and standards, quality improvement and professional development

opportunities, and accountability and evaluation. Public engagement, political will, strong governance and leadership, and adequate financing are essential elements in the infrastructure. Together the services and infrastructure provide families with the comprehensive, cohesive system they need.

The tools in this *Policy Guide* provide the details of, and the research behind, the comprehensive policy agenda. We hope that you will find them valuable as you work to translate what we *know* into what we *do* for infants, toddlers, and their families.

*Author: Erica Lurie-Hurvitz, Director, ZERO TO THREE Policy Center  
 February 2009*

**Acknowledgements**

Many thanks to Debbie Rappaport and Julie Cohen for their expertise in overseeing all aspects of this project, and to Debbie for bringing a fresh writing style to each of the policy briefs. We are grateful for Ki Lagomarsino's attention to detail in coordinating the successful publication of the Policy Guide. Thank you to the authors of the Policy Guide materials: Julie Cohen, Elizabeth DiLauro, Barbara Gebhard, Janine Kossen, Lynn Jones, Erica Lurie-Hurvitz, Florence Nelson, and Debbie Rappaport. We appreciate the members of the ZERO TO THREE Policy Task Force for their guidance and insight: Ron Lally, Sheila Kamerman, Linda Gilkerson, and Harriet Meyer.

Several ZERO TO THREE staff contributed time and expertise to this publication: Lynette Ciervo, Michelle Green, Tammy Mann, Matthew Melmed, and Valerie Singleton. Many thanks to Austin Metze for his design of this publication, copyediting by Serena Leigh Krombach, and the final product by Master Print, Inc.

## About Us

The ZERO TO THREE Policy Center is a nonpartisan, research-based resource for federal and state policymakers and advocates on the unique developmental needs of infants and toddlers. To learn more about this topic or about the ZERO TO THREE Policy Center, please visit our website at [www.zerotothree.org/policy](http://www.zerotothree.org/policy).



National Center for Infants, Toddlers, and Families

- 1 National Research Council and Institute of Medicine, *From Neurons to Neighborhoods: The Science of Early Childhood Development*. Jack Shonkoff and Deborah A. Phillips, eds. Washington, DC: National Academy Press, 2000.
- 2 Center on the Developing Child, Harvard University, *In Brief: The Science of Early Childhood Development*. NGA Center for Best Practices, National Conference of State Legislatures, and Center on the Developing Child, Harvard University, 2008, [www.developingchild.harvard.edu](http://www.developingchild.harvard.edu).
- 3 Ibid.
- 4 Ibid.
- 5 Ibid.
- 6 National Research Council and Institute of Medicine, *From Neurons to Neighborhoods*.
- 7 Ibid.
- 8 National Scientific Council on the Developing Child, *The Science of Early Childhood Development*. National Scientific Council on the Developing Child, 2007, [www.developingchild.net](http://www.developingchild.net).
- 9 National Research Council and Institute of Medicine, *From Neurons to Neighborhoods*.
- 10 Ibid.
- 11 Ibid.
- 12 Ibid.
- 13 Ibid.
- 14 Center on the Developing Child, Harvard University, *A Science-Based Framework for Early Childhood Policy: Using Evidence to Improve Outcomes in Learning, Behavior, and Health for Vulnerable Children*. Center on the Developing Child, Harvard University, 2007, [www.developingchild.harvard.edu](http://www.developingchild.harvard.edu).
- 15 Early Head Start National Resource Center @ ZERO TO THREE, "What is Early Head Start?" Early Head Start National Resource Center @ ZERO TO THREE, 2008, [www.ehsnrc.org](http://www.ehsnrc.org).
- 16 ZERO TO THREE Policy Center, *Early Head Start Works*. ZERO TO THREE, 2007, [www.zerotothree.org](http://www.zerotothree.org).
- 17 Nurse-Family Partnership, "Proven Outcomes." Nurse-Family Partnership, 2008, [www.nursefamilypartnership.org](http://www.nursefamilypartnership.org).
- 18 University of North Carolina FPG Child Development Institute, "The Carolina Abecedarian Project." University of North Carolina FPG Child Development Institute, 2007, [www.fpg.unc.edu](http://www.fpg.unc.edu).
- 19 James Heckman, Rob Grunewald, and Arthur Reynolds, "The Dollars and Cents of Investing Early: Cost-Benefit Analysis in Early Care and Education." *Zero to Three* 26, no. 6 (2006).
- 20 James J. Heckman, *Investing in Disadvantaged Young Children Is an Economically Efficient Policy*. Committee for Economic Development/The Pew Charitable Trusts/ PNC Financial Services Group Forum on Building the Economic Case for Investments in Preschool, 2006.
- 21 Partnership for America's Economic Success, *Long-Term Economic Benefits of Investing in Early Childhood Programs: Proven Programs Boost Economic Development and Benefit the Nation's Fiscal Health*. Partnership for America's Economic Success, 2008, [www.partnershipforsuccess.org](http://www.partnershipforsuccess.org).
- 22 Ibid.
- 23 National Research Council and Institute of Medicine, *From Neurons to Neighborhood*.

Design: Metze Publication Design

Photo credits: Page 1 – David H. Lewis/Stockphoto.com;  
Page 2 – Debbie Rappaport; Page 3 – Debbie Rappaport  
Models in images are for illustrative purposes only.