

A series of brief summaries of the scientific presentations at the National Symposium on Early Childhood Science and Policy.

By creating and implementing effective early childhood programs and policies, society can ensure that children have a solid foundation for a productive future. Four decades of evaluation research have identified innovative programs that can improve a wide range of outcomes with continued impact into the adult years. Effective interventions are grounded in neuroscience and child development research and guided by evidence regarding what works for what purpose. With careful attention to quality and continuous improvement, such programs can be cost-effective *and* produce positive outcomes for children.

1 Effective services build supportive relationships and stimulating environments. To develop strong brain architecture, babies and toddlers require dependable interaction with nurturing adults and safe environments to explore. *Toxic stress* (see InBrief: The Impact of Early Adversity on Brain Development) can damage that architecture, but programs in a variety of settings—the home, early care and education, foster care, and other environments—can protect children from the effects of toxic stress by providing stable relationships with responsive caregivers. Within the context of these



Providing supportive relationships and safe environments can improve outcomes for all children, but especially those who are most vulnerable. Between 75 and 130 of every 1,000 U.S. children under age 5 live in homes where at least one of three common precipitants of toxic stress could negatively affect their development.

POLICY IMPLICATIONS

- The development and retention of a skilled early childhood workforce is critical for success. Across all agencies and programs, a workforce that is appropriately skilled, trained, and compensated is a major contributor to achieving the best possible child and family outcomes. Ongoing investment in workforce skills and professional development is essential for program improvement.
- Quality of implementation is key. Model programs can lose their impact if not brought to scale correctly. Rigorous program standards, ongoing training and technical assistance, and continual quality assessment and improvement are critical to ensuring the ongoing effectiveness of large-scale programs.
- A multi-strategy approach will best enable states to ensure healthy futures for children. No single program can meet the diverse developmental needs of all children. A more promising approach targets a range of needs with a continuum of services that have documented effectiveness.

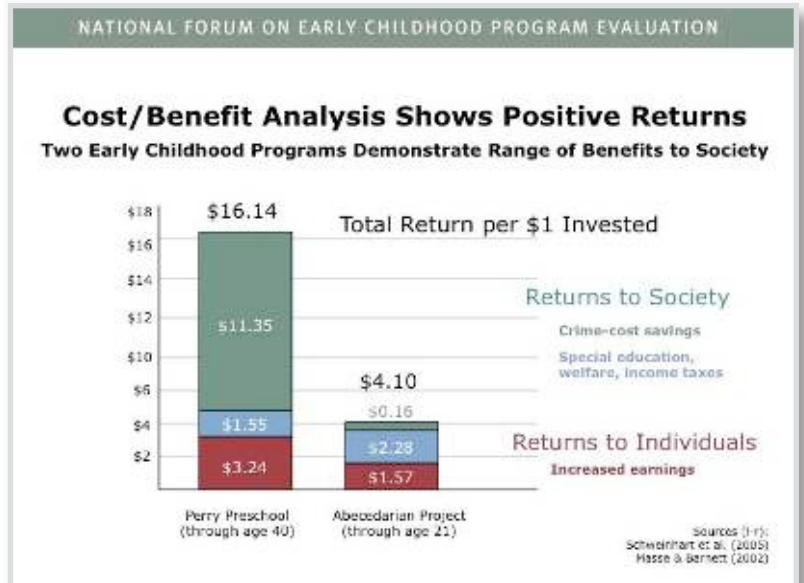
relationships, programs must support emotional, social, and cognitive development because they are inextricably intertwined in the brain. We can't do one without the other.

2 Effective interventions address specific developmental challenges. Decades of brain science and developmental research suggest a three-tiered approach to ensure the health and well-being of young children:

- Tier 1 covers the basics — the health services, stable, responsible caregiving, and safe environments that all children need to help them build and sustain strong brains and bodies.
- Tier 2 includes broadly targeted interventions for children and families in poverty. Programs that combine effective center-based care and education for children with services for parents, such as education or income supports, can have positive effects on families and increase the likelihood that children will be prepared to succeed in school.
- Tier 3 provides specialized services for children and families who are most likely to experience toxic stress. Specific, effective treatments, such as interventions and services for child maltreatment, mental health, or substance abuse, can show positive outcomes for children and parents and benefits to society that exceed program costs.

3 Effectiveness factors distinguish programs that work from those that don't. Evaluation science helps identify the characteristics of successful programs, known as effectiveness factors. In early care and education, for example, the effectiveness factors that have been shown by multiple studies to improve outcomes for children include:

- Qualified and appropriately compensated personnel
- Small group sizes and high adult-child ratios



Two major early childhood programs with effectiveness factors (see #3, below), the Perry Preschool Project and the Abecedarian project, show a range of sizable returns to the participants and to society for every dollar invested.

- Language-rich environment
- Developmentally appropriate “curriculum”
- Safe physical setting
- Warm and responsive adult-child interactions

4 Effective early childhood programs generate benefits to society that far exceed program costs. Responsible investments focus on effective programs that are staffed appropriately, implemented well, and improved continuously. Extensive analysis by economists has shown that education and development investments in the earliest years of life produce the greatest returns. Most of those returns, which can range from \$3 to \$16 per dollar invested, benefit the community through reduced crime, welfare, and educational remediation, as well as increased tax revenues on higher incomes for the participants of early childhood programs when they reach adulthood.

For more information, see “A Science-Based Framework for Early Childhood Policy” and Working Papers from the National Forum on Early Childhood Program Evaluation.

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