

## High-Quality Early Education: Health Benefits

High-quality early education is an effective strategy for improving school performance and reducing achievement gaps among low-income and minority students. Equally important is that high-quality early education is critical to children's health and social development. Research into three landmark programs<sup>1</sup> – the Abecedarian Project, the Chicago Child-Parent Centers (CPC), and the High/Scope Perry Preschool Program – demonstrates that high-quality early education provides both immediate and sustained health benefits to individuals and society.<sup>2</sup>

### Early childhood: A healthy foundation

In the first few years of life, a foundation is laid for lifelong health and well-being. Recent research has uncovered the keys to promoting young children's health and influencing lifelong health, learning, and behavior.<sup>3</sup>

- Stable, responsive relationships help infants become securely attached, with more positive emotions and less anxiety in early childhood. This helps children establish relationships with peers and teachers at school.
- Safe, supportive environments should be free from toxic chemicals and encourage physical activity and socialization.
- Appropriate nutrition throughout the life cycle is critical, particularly in the first few months and years when the brain grows most rapidly.

Toxic stress, or strong, frequent, prolonged adversity, can disrupt young children's brain architecture and lead to stress-related disease and cognitive impairment in adulthood.

### Early education's impact: Improved health outcomes

High-quality early education programs deliver important on-site services, such as nutritional supports, and proactively engage parents to enhance children's well-being at home. As a result, participants in high-quality early education programs report fewer health problems and stronger family relationships with positive health outcomes recorded throughout their 30s.<sup>4,5</sup> Improving health outcomes is especially relevant in Massachusetts, a state that spends more than \$13 billion annually, roughly 36% of its state budget, on health care.<sup>6</sup>

- CPC families provided increased support for their child's social and emotional development and only 5% of CPC participants were victims of abuse or neglect, compared to 10.3% of non-participants.
- Participants in the CPC program were 26% less likely to have depressive symptoms when assessed at ages 22-24 (12.8% compared to 17.4%).
- As adults, Abecedarian participants were 11% less likely to experience depression than non-participants and CPC participants also experienced fewer depressive symptoms.
- In their mid-30s Abecedarian participants were less likely to experience signs and symptoms of cardiovascular and metabolic diseases. Female participants were less likely to have pre-hypertension and abdominal obesity, while male participants were less likely to have stage-1 hypertension with no male participants found to have metabolic syndrome, compared to 25% of non-participants.
- Perry Preschool graduates were less likely to miss work for health-related reasons, leading to gains in personal income and improved socio-economic status.

### Greater access to health services

High-quality early education programs have the potential to increase children's access to health services through referrals, screenings and preventive services (e.g. immunizations).<sup>7</sup> Benefits extend into adulthood where researchers have found a significant relationship between participation in high-quality early education and health insurance coverage, awareness of one's health, and the ability to pay for and seek treatment.

- More CPC participants possessed health insurance as adults than non-participants (70.2% versus 61.5%), with similar findings for Abecedarian male participants in their 30s.
- As adults, Perry Preschool participants were 15% more likely to proactively seek medical treatment.

## Reduction in high-risk behaviors

Adolescents and adults who have participated in high-quality early education make more productive choices about their personal health and safety, leading to improved life outcomes.<sup>8</sup>

- Abecedarian Project participants were 16% less likely to smoke than non-participants and Perry Preschool participants were less likely to use drugs (23%) and abuse alcohol (10%). CPC participants were 19-24% less likely to participate in substance misuse and daily smoking at age 26.
- Abecedarian Project participants were less likely to become teenage mothers. Teenage mothers with children enrolled in Perry Preschool were 58% more likely to graduate from high school.
- Perry Preschool participants were 23% more likely to report wearing a seatbelt (57% versus 34%).

## Societal benefits

High-quality early education benefits children and families, but also provides a significant return to society. Overall, high-quality early education can improve public health, reduce medical costs and produce healthier citizens who are more employable, less dependent on social services, and capable of generating greater tax revenues.

- CPC has demonstrated a \$10.83 return for every dollar invested in the preschool program, with the average economic savings for society totaling \$92,220 per participant. This return on investment results from decreased crime rates and special education placements, as well as increased earning revenues and health care access. The decreased rates of participant substance misuse results in a \$2,800 savings, with decreased depressive symptoms attributed to a \$494 savings per participant.
- Abecedarian participants' decreased rate of smoking has been shown to contribute to lower mortality rates, presenting approximately \$17,800 of savings per participant.

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<sup>1</sup> Evidence on health outcomes resulting from high-quality early education: Barnett, W. S., and Masse, L. N. (2002). *A Benefit Cost Analysis of the Abecedarian Early Childhood Intervention*. Retrieved December 12, 2007, from the National Institute for Early Education Research: <http://nieer.org/resources/research/AbecedarianStudy.pdf>; Campbell, F. A., et al. (2002). Early childhood education: Young adult outcomes from the Abecedarian Project. *Applied Developmental Science*, 6(1): 41-57; Nores, M., et al. (2005). Updating the economic impacts of the High/Scope Perry Preschool Program. *Educational Evaluation and Policy Analysis*, 27(3): 245-261; Reynolds, A.J., et al. (2007). Effects of a school-based, early childhood intervention on adult health and well-being: A 19-year follow-up of low-income families. *Archives of Pediatric Adolescent Medicine*, 161(8):730-739.

<sup>2</sup> Shulman, K. *Overlooked Benefits of Pre-kindergarten*. Retrieved December 12, 2007, from the National Institute for Early Education Research: <http://nieer.org/resources/policyreports/report6.pdf>.

<sup>3</sup> Center on the Developing Child at Harvard University (2010). The Foundations of Lifelong Health Are Built in Early Childhood. <http://www.developingchild.harvard.edu>

<sup>4</sup> Campbell, F. A., et al. (2014). Early Childhood Investments Substantially Boost Adult Health. *Science*. 343(6178): 1478-1485.

<sup>5</sup> Reynolds, Temple. White. Ou & Robertson. (2011). *Age 26 cost-benefit analysis of the child-parent center early education program*. *Child Development*. 82(1): 379-404.

<sup>6</sup> Massachusetts Budget and Policy Center. (2015). Mass Health and Health Reform Funding in the FY2014 General Appropriations Act. Retrieved from [http://www.massbudget.org/reports/pdf/mmpi\\_gaa\\_14.pdf](http://www.massbudget.org/reports/pdf/mmpi_gaa_14.pdf)

<sup>7</sup> Does for Tots. (2008). Investing in Early Care and Education is a Powerful Public Health Initiative for New York's Children. Retrieved August 11, 2008 from the Does for Tots website: <http://65.36.225.239/DFTNY/documents/DFT-brief-PreKNewYorkFINAL.pdf>.

<sup>8</sup> Campell, F. A., et al. (2012). Adult outcomes as a function of an early childhood educational program: An Abecedarian project follow up. *Developmental Psychology*. 48(4): 1033-1043

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