

# RESEARCH BRIEF

**ZERO TO FIVE**

*A healthier Montana starts here*

## EARLY EDUCATION

Identifying verified outcomes on participants and the return on investment experienced by states who implement early childhood programs.

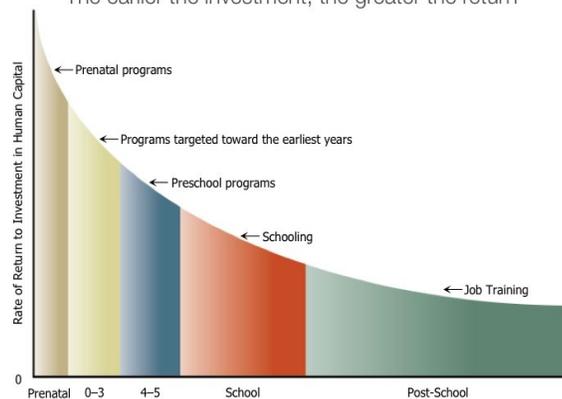
## REFERENCES

- Diffy, L., Parker, E., Atchison, B. (2017). [50 State Review: State Pre-K Funding 2016-17 Fiscal Year: Trends and opportunities.](#)
- Gormley, Jr., W., Phillips, D., & Anderson, S. (2017). [The Effects of Tulsa's Pre-K Program on Middle School Student Performance.](#)
- Harvard University Center on the Developing Child. (2007). [Inbrief: Early Childhood Program Effectiveness.](#)
- Heckman, J.J. (2017). [The Heckman Curve.](#)
- Montana Department of Public Health and Human Services. (2018). [STARS Preschool Evaluation Report: 2017-2018 Year one.](#)
- Nonprofit Finance Fund. (n.d.) [Pay for Success: Basics.](#)
- Reynolds, A. J. (1999). [The Chicago Longitudinal Study: A study of children in the Chicago public schools.](#)
- Reynolds, A. J., Temple, J. A., White, B. A. B., Ou, S.-R., & Robertson, D. L. (2011). [Age 26 cost-benefit analysis of the Child-Parent Center early education program.](#)
- Sanchez, C. (2017). [Does Preschool Pay Off? Tulsa Says Yes.](#)

## Participant outcomes and return on investment for states participating in early childhood programs.

### EARLY CHILDHOOD DEVELOPMENT IS A SMART INVESTMENT

The earlier the investment, the greater the return



Source: James Heckman, Nobel Laureate in Economics

Figure 1 – Heckman's Curve

Studies conducted during the last 40 years have demonstrated that investing in early childhood services have numerous benefits for children, parents, and local communities. Dr. James Heckman is a Nobel Prize winning economist who, along with a team of psychologists, sociologists, and neuroscientists has conducted longitudinal research showing that investing in high-quality early childhood programs positively benefits health, reduces crime, increases income and cognitive development, and increases a mother's income after returning to work. His team also concluded that comprehensive and high-quality early childhood programming results in an estimated 13% return on investment. Heckman's economic analysis indicates that an investment in early childhood development, especially among disadvantaged children, provides a strong return through improved personal achievement and social productivity (See Figure 1 – Heckman's Curve).

Heckman's findings are important for Montana's early childhood educators, policy-makers, and local coalitions. In 2017, Governor Bullock and the Montana legislature secured \$6 million in funding to expand high quality early education programs for Montana's 4 and 5-year old children. The STARS Preschool has produced promising outcomes in participants' school readiness including growth in socioemotional development. The STARS Preschool is a multiple delivery model with programs implemented by both public schools and private community programs. Both delivery models have demonstrated successful elements. The private programs provided environments for optimal socioemotional learning and participants showed strong growth on developmental indicators. The STARS Preschool served 300 children and the

high demand and initial outcomes highlight the need to consider expanding early childhood programs across Montana (STARS Preschool Evaluation Report, 2018). Below is a summary of findings from early childhood education programs in Illinois, Oklahoma, and Virginia.

**Chicago, Illinois** - The Child-Parent Center (CPC) Program was established in 1967 and operates through the Chicago Public School system. The program offers half day preschool, half or full day kindergarten, primary grade programs for 1st-3rd graders, and parent education programs.

The CPC's preschool and kindergarten programs are federally funded through Title I of the Elementary and Secondary Education Act of 1965. Primary grade programs are funded through state Title I dollars. In 2014, the City of Chicago received a four-year, \$17 million Social Impact Bond, through the Non-Profit Finance Fund "Pay for Success (PFS)". Social impact bonds shift financial risk to private investors and if outcomes are not met investors are not paid. Typically, the payer is the government and they agree to provide funding if and when the services delivered achieve pre-defined outcomes that are verified by independent evaluators (Basics, n.d.). Chicago entered into the PFS contract through the passage of a city ordinance. The City of Chicago and the Board of Education of the City of Chicago are the payers if the designated outcomes are met. The Social Impact Bond allowed for the CPC to expand their half-day preschool model to work with an additional 2,620 children and their families.

The CPC is the subject of the Chicago Longitudinal Study (CLS) which "investigates the educational and social development of a same-age cohort of 1,539 low-income, minority children (93% African American) who grew up in high-poverty neighborhoods in central-city Chicago and attended government-funded kindergarten programs in the Chicago Public Schools in 1985-1986" (Reynolds, 1999, p.1). The goals of the study include generating data to inform policy related to early childhood education in urban areas and other states (Reynolds, 1999, p.5). Through a cost benefit analysis, the researchers found the program benefits outweighed the costs (Reynolds et al., 2011). "Total public benefits per participant ranged from \$8,000 to \$61,246, which corresponds to a \$2.11-\$7.20 return per dollar invested" (Reynolds et al., 2011, p. 395). Reynolds et al. (2011) found that the preschool programs had the highest return on investment and greatest overall social impact. The positive return on investment is partially attributed to the high quality of services and the program's multi-service delivery model. Study limitations include projected versus actual benefits (standard measurement, but notable), and the likelihood of unmeasured benefits (Reynolds e. al., 2011).

**Tulsa, Oklahoma** - The Tulsa Pre-K Program is administered by the state's school districts who sometimes partner with local service providers such as Head Start to deliver their programs. Currently, 70% of 4-year old children are enrolled in the program. State law requires all state-funded pre-k programs abide by specific standards to ensure programs are high-quality. Teachers must have bachelor's degree, be early childhood certified, and child/staff ratios of 10 to one must be maintained (Gormley Jr., W., Phillips, D., & Anderson, S., 2017). Despite Oklahoma's high rate of poverty and low school funding, the Tulsa program has demonstrated that high standards can be maintained over time and that the benefits outweigh costs (Gormley Jr., W., Phillips, D., & Anderson, S., 2017).

Oklahoma is one of four states that offers universal pre-k. The Tulsa Pre-K program has been the subject of a longitudinal study by Georgetown University since 2001. Their research centers on

pre-k participants and their performance in middle school. This study is unique because it measures longer term outcomes than previous research and has shown that pre-k can have long lasting positive effects. The researchers found that “Middle school students who were in pre-k years earlier have higher math test scores, are more likely to enroll in honors courses, and are noticeably less likely to have been retained in grade” (Sanchez, C., 2017).

The Georgetown researchers estimate “that the cost of full-day pre-K in Tulsa is \$10,000 per student. The latest data shows that the long-term benefits of the Tulsa program exceed the short-term costs by at least two to one in current dollars” (Sanchez, C., 2017). Funding comes from a combination of Title I, Head Start, special education, and general funds.

**Virginia -** In 2015, Virginia invested \$1 million to implement Kindergarten Readiness Program assessments and, in 2018, invested another \$6 million for the assessments and preschool teacher observations and coaching in preschool programs. By 2019, Virginia estimates that the number of students participating in the program will increase by 300 percent; from 20,000 to roughly 90,000 students. Governor Northam also established a “Children’s Cabinet” to concentrate on early childhood education. Future plans involve expanding access to the assessments during preschool education to track how children are developing and to provide data to policymakers, city councils, and key leaders to identify patterns and to guide decision-making about other areas to invest in to promote school success. Virginia has estimated its return on investment at between 4-9% in the areas of grade retention, remedial and special education, higher graduation rates, and higher earnings as adults.

Questions on this article? Contact:



**UNIVERSITY OF  
MONTANA**  
Center for Children, Families, and  
Workforce Development  
health.umt.edu/ccfwd  
ccfwd@umontana.edu



**ZERO TO FIVE**  
*A healthier Montana starts here*  
www.zerotofive.org

Center for Children, Families, and Workforce Development  
<https://health.umt.edu/ccfwd>