

# Investing in the Early Years

## The Costs and Benefits of Investing in Early Childhood in New Hampshire

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February 2017



## The child policy challenges facing New Hampshire

- The overall child poverty rate is relatively low, but rising
- Children who are at risk extend beyond the poverty population
- Today's workforce with young children needs affordable, high-quality, reliable care and education settings in order to be productive
- Today's children are tomorrow's workforce; investing early with vulnerable children can prevent costly outcomes in the future
- Given resource constraints, there is a need to optimize investments in early childhood

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## What we asked, what we found

Is there a need for new investment in early childhood in New Hampshire, particularly for at-risk children?

- ✓ 45 percent of young children live in families with inadequate income
- ✓ Up to 1 in 3 children are in an at-risk group from birth because of low income, single parenthood, and other factors
- ✓ Reach of current publicly funded programs does not meet the need
- ✓ There are lifelong consequences of early-life disadvantage

What is the evidence regarding the costs and benefits of alternative strategies for promoting child development from birth to kindergarten entry?

- ✓ Rigorous evidence documents the short- and longer-term benefits from early childhood programs
  - ★ Well-designed home visiting programs from before birth through the first few years of life
  - ★ High-quality preschool programs

What would be the expected returns in New Hampshire from expanding early childhood investments?

- ✓ \$4 to \$6 for every dollar invested in a proven nurse home visiting program
- ✓ \$2 to \$4 for every dollar invested in a one-year preschool program

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## Almost half of young children are in families with income below self-sufficiency

~70,000 New Hampshire children are 0 to 5 and not enrolled in kindergarten (2015)

Indicator	% Children 0 to 5	N Children per Cohort
Below 100% poverty	12%	1,510
100% to 200% poverty	18%	2,330
200% to 300% poverty	15%	1,920
Above 300% poverty	55%	7,040

**45%**  
of children birth to 5 are below 300% of poverty

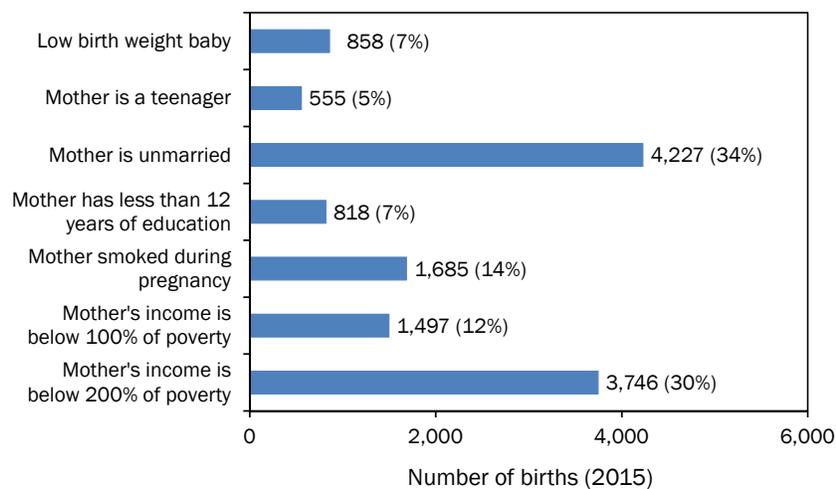


100% poverty = \$24,036 for family of four

SOURCE: RAND analysis of data from the American Community Survey.

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## Up to 1 in 3 children are in an at-risk group starting from birth



SOURCE: RAND analysis of data from the Centers for Disease Control and Prevention and the American Community Survey.

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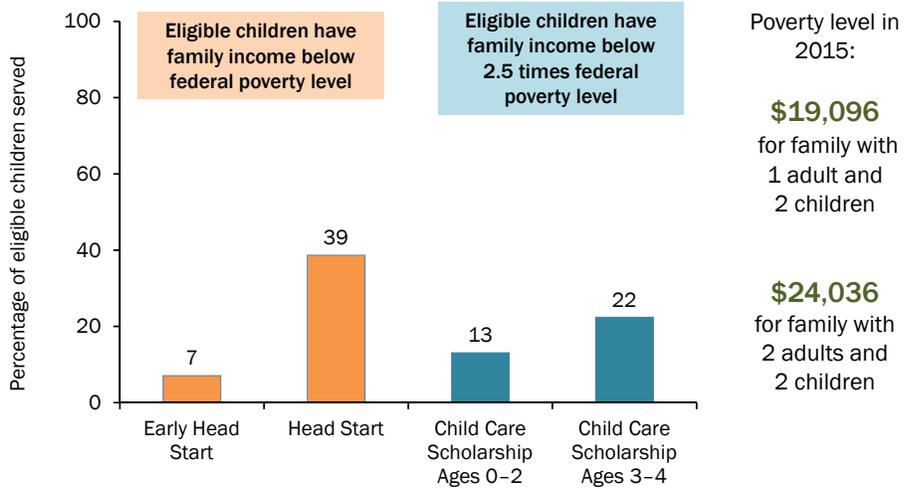
## Public funding for early childhood in New Hampshire is largely from federal sources

Program	Ages Served	Source	Funding in New Hampshire (millions)
MIECHV (home visiting)	Prenatal to 3	Federal	\$1.0
Early Head Start	Birth to 3	Federal	\$4.7
Head Start	3 and 4	Federal	\$11.8
Federal Title I	3 and 4	Federal	\$1.7
Local district preschool	3 and 4	Federal/local	[not available]
Child Care Scholarships	Birth to 12	Federal/state	\$17.9
<b>Total</b>			<b>\$37.1 +</b>

SOURCE: RAND analysis of data for federal fiscal year 2014–2015.

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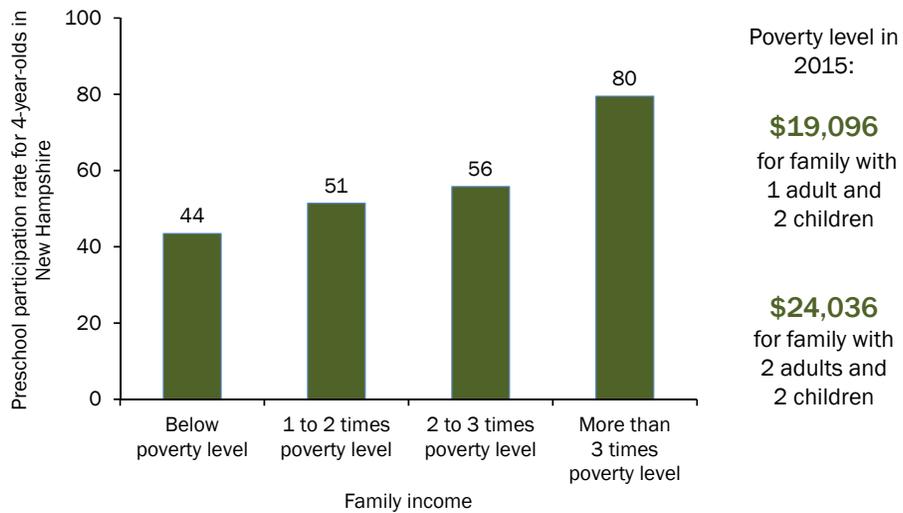
## Programs do not have sufficient funding to reach all who are eligible or could benefit



SOURCE: RAND analysis.

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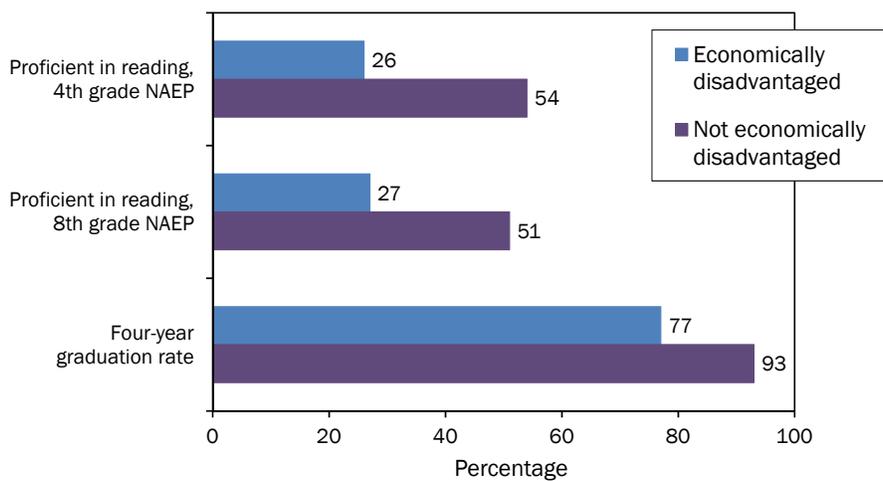
## Participation in preschool programs in New Hampshire is closely tied to family income



SOURCE: RAND analysis of 2011–2015 American Community Survey microdata file.

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## Large and persistent gap in NH education outcomes based on family economic status



SOURCE: RAND analysis of National Assessment for Educational Progress New Hampshire results and New Hampshire Department of Education results.

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## Multiple evidence-based home visiting models

- MIECHV program identifies 17 evidence-based models
- Healthy Families America (HFA) model being implemented in New Hampshire
  - Target population and program services vary across sites with evidence base
  - 12 highly rated evaluation studies
  - Longest follow-up is to age 7 of the focal child
- Nurse-Family Partnership is another proven model
  - Target population and program services follow single model
  - 19 highly rated evaluation studies
  - Evaluation findings extend to age 19 of the focal child
  - Evidence of returns as high as \$6 for every dollar spent

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## Growing evidence base of benefits for scaled-up preschool programs

- Programs implemented at national, state- or school-district level with rigorous evaluation
- Children in low and moderate income families benefit
- Programs with weaker quality tend to show small or no effects
- Per child cost estimates range from \$4,700 per child for a part-day program to \$8,500 per child for a school-day program
- Estimates of economic return for scaled-up programs range from \$2 to \$4 for every dollar spent

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## Improved outcomes from early childhood programs can lead to potential spillover benefits

Outcome Affected	Spillover Benefit	Gov' t	Partic.	Rest of Soc.
Improved school readiness	Link to later education success and adult earnings			
Reduced child abuse and neglect	Lower cost for child welfare system and health care system; lower victim costs			
Reduced use of special education, grade retention	Lower costs for special education, regular education			
Increased high school graduation rate	Income gain for participants; tax revenue for government			
Reduced public assistance use	Reduced transfer payments (but offset by lower participant income)			
Reduced crime and contact with criminal justice system	Lower costs for criminal justice systems and lower crime victim costs			

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## Benefit-cost analysis (BCA) compares program cost to value of outcomes

- Program cost
  - + Value of outcomes for participants
  - + Value of outcomes for government
  - + Value of outcomes for rest of society
- = Net monetary benefits to society > 0 ?
- or
- = Benefit / Costs > 1?

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Costs and benefits are measured in present discounted values.

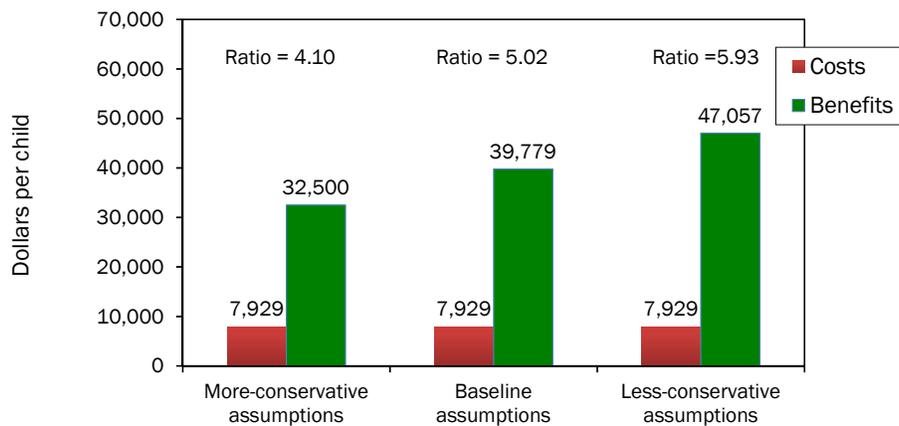
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## Model nurse home visiting program implementation in New Hampshire

- Voluntary program for first-time mothers with family income below poverty level
- Proven Nurse-Family Partnership model is implemented with fidelity
- Program serves 100 mother-child pairs each annual birth cohort
- Program cost, based on New Hampshire salaries, is about \$5,000 per family per year
- Baseline assumption is that the program is 80 percent as effective as it was when evaluated in Elmira, Memphis, and Denver

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## Nurse home-visiting program generates a return of \$4 to \$6 for every dollar invested



SOURCE: RAND analysis.

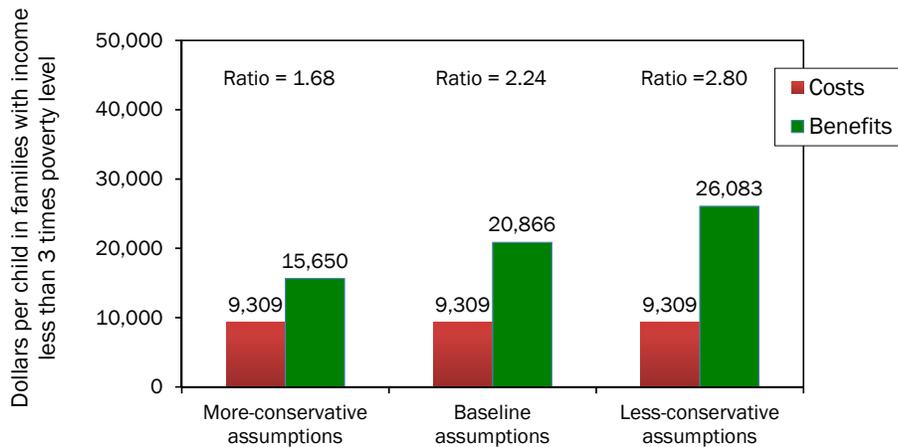
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## Model high-quality one-year targeted preschool program

- Voluntary program for 4-year-olds in families with income up to 3 times poverty level
- Participation rate reaches 80 percent
- Program follows proven scaled-up models in states and districts
  - Six hours per day for school year
  - Lead teacher with bachelor’s degree and pay parity with public school kindergarten teachers
- Program cost, based on New Hampshire salaries, is about \$9,300 per child per year
- Baseline assumption is that the program is 80 percent as effective as it scaled-up state and district programs

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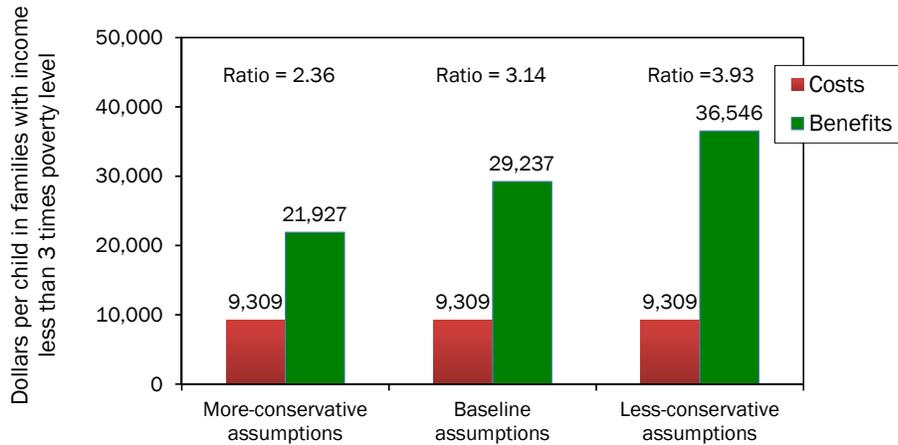
## High-quality preschool for children up to 3 times poverty level returns \$2–\$3 for every dollar invested



SOURCE: RAND analysis.

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## Return could be as high as \$4 per dollar invested with a more targeted program



SOURCE: RAND analysis.

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## Implications for policy

- Consider investments in a portfolio of targeted early childhood programs with clear economic return
  - Expand NFP model for low-income first-time mothers
  - Expand state-funded preschool at least for families in poverty
- Ensure programs adhere to proven models, meet standards for high quality, and maximize attendance
- Align and integrate birth to five system with K–12 education
- Monitor and evaluate implementation of proven and promising programs to improve quality and ensure maximum effectiveness
- Build an integrated data system
  - Identify children and families at risk
  - Ensure families can access the continuum of early childhood services
  - Support monitoring and evaluation

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## Questions and discussion



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## Investing in the Early Years

### The Costs and Benefits of Investing in Early Childhood in New Hampshire

Joni A. Kaulby

**Key Findings**

- A notable share of young children in New Hampshire (ages 0 to 5) live in early childhood because of low income and other factors that may compromise healthy development.
- Children who experience low income and other early life adversities are at risk for lower levels of education, lower test scores in high school, and lower income in adulthood.
- Public investments in young children in New Hampshire—such as home visiting in the first few years of life, universal child care, and early learning programs—can lead to a range of economic benefits for children and their families, not to say to reach higher on the income ladder when children all face risks to work childhood.
- A growing body of evidence documents benefits in multiple domains from home-visiting models that serve at-risk mothers, being pregnant, and continue through the first few years of the child's life. The strongest evidence for universal preschool comes from the Head Start Partnership (HSP) program. Our benchmark analysis for New Hampshire of an HSP program that would serve five-year-old economically disadvantaged children shows a return of about \$4.56 for every dollar invested.
- Extensive research has documented the short- and long-term benefits of participating in universal high-quality preschool programs, particularly for children in lower socioeconomic families. Our benchmark analysis for New Hampshire of a high-quality universal voluntary preschool program that would be available to children in families with income up to three times the federal poverty level indicates a positive return of about \$2 for every dollar invested, with an even higher return for programs targeted at the disadvantaged children.



## RESEARCH BRIEF

## The Economic Returns from Investing in Early Childhood Programs in the Granite State

**W**hile the growing understanding of the importance of the first five years of a child's life for development and the consequences for children who face income-related adversities, much has been expanding their investments in early childhood programs specifically those targeted toward at-risk children. Such investments have been demonstrated to benefit children and their families in their early life, as they are prepared to meet school and in the longer term (as children perform better academically, receive better educational outcomes, experience better health and mental outcomes, and require fewer social services). Policy makers and the public view such programs as an important means of investment strategy that builds the human capital, and therefore the productivity, of the future workforce.

In support of investments in New Hampshire considering options for expanding investments in early childhood, especially for the state's most vulnerable children, researchers from the RAND Corporation conducted an assessment of the landscape of current investments in early childhood programs in the state and estimated the economic evidence on the benefits and costs of these investments for early childhood and the impact on the state's economy. This study estimates the economic returns to the state from investments in early childhood, and high-quality preschool, and estimates the costs and benefits of at-risk children to invest in early childhood programs targeted at at-risk children.

**Current Early Childhood Landscape**

On average, young children in New Hampshire in their first year of life (ages 0 to 5) and have not yet entered kindergarten (the majority will attend) will have a 10 percent chance of living in a household of child well-being on average (total significant pockets of poverty and disadvantage for the state's young children). The official poverty rate for children younger than age 6 in 2015 stood at 12 percent, but the poverty rate has been on a general upward trend for the last 15 years. Furthermore, with the federal poverty level (FPL) set at twice the state's median income, 40.5 percent of the state's children and their families are in poverty. The official poverty rate is also not accurate for the high cost of living in the state. In 2015, 10 percent of young children in New Hampshire were in low income households (with income below twice the state's median income) for about \$16,000 for the above-referenced family of three. To reach self-sufficiency in New Hampshire, families would need an income of about three times FPL. All percent of the state's young children live in families with income that is below the threshold for being self-sufficient, or more than twice the state's median income. The majority of these children in New Hampshire would be considered at-risk, or children at risk of economic hardship, if their family income is at or below the state's median income, which is roughly 50 percent of the state's median income and cognitive development.

There are still risks and ongoing disadvantages to children from economic conditions for children in terms of lower levels of readiness for

Report and policy brief available at [www.rand.org](http://www.rand.org)

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