

**Study Costs and Effectiveness Associated with NC Pre-K Slots**

**Session Law 2016-94, Section 12B.4,  
as amended by Measurability Assessments/Budget Technical  
Corrections, Session Law 2016-123, Section 5.4**



**Report to the**

**House Appropriations Committee on Health and Human Services**

**and**

**Senate Appropriations Committee on Health and Human Services**

**and**

**Fiscal Research Division**

**By**

**North Carolina Department of Health and Human Services**

**February 1, 2017**

## **Reporting Requirements**

### **STUDY COSTS AND EFFECTIVENESS ASSOCIATED WITH NC PRE-K SLOTS**

**SECTION 12B.4.(a)** As the objective of the NC Pre-K program is to provide high-quality educational experiences to enhance school readiness for eligible four-year-olds, the Department of Health and Human Services, Division of Child Development and Early Education, in consultation with the Department of Public Instruction, shall study the costs and effectiveness associated with funding slots for the NC Pre-K program. In conducting the study, the Division shall review and determine the following:

- (1) The total cost to fund a NC Pre-K slot, including administration and any local costs.
- (2) The program's anticipated effectiveness in preparing eligible four-year-olds in the five developmental domains outlined in the North Carolina Foundations for Early Learning and Development.
- (3) Whether the program's effectiveness as reviewed pursuant to subdivision (2) of this subsection justifies the costs associated with funding NC Pre-K slots or whether there are other alternatives to achieve the same objectives.
- (4) The State share needed to fund a NC Pre-K slot by each setting, including public schools, child care facilities, and Head Start.
- (5) The amount of funds needed to maintain the current number of NC Pre-K slots if the per slot cost was increased to the amount recommended by the study.
- (6) Recommendations on how often the NC Pre-K slot costs should be evaluated and reported to the General Assembly.
- (7) Any other relevant issues the Division deems appropriate.

**SECTION 12B.4.(b)** The Division of Child Development and Early Education shall report its findings and recommendations, including any legislative proposals, to the chairs of the House Appropriations Committee on Health and Human Services and the Senate Appropriations Committee on Health and Human Services and the Fiscal Research Division on or before February 1, 2017.

## Executive Summary

The Department of Health and Human Services, Division of Child Development and Early Education, in consultation with Department of Public Instruction, studied the costs and effectiveness associated with NC Pre-K slots and the NC Pre-K program. The NC Pre-K program is designed to provide quality educational experiences for eligible four year olds to enhance their school readiness.

NC Pre-K slots and classrooms are located in three types of child care sites: private and non-profit child care, public schools, and Head Start facilities. The standardized payment structure for NC Pre-K is based upon the number of 'slots' funded. A slot is used to reference the capacity of a site (or county) to serve one child for a full program year. The number of children actually served may be greater, since children may leave and enter the program during the year, and those children may share a slot allocation.

Funding allocations for individual slots vary from standard state rates of up to \$400 - \$650 per slot (per month, for the 10-month program), depending on the type of location of the NC Pre-K classroom. (Based on the availability of other resources, rates may be approved for more or less than these amounts.) According to a cost study of NC Pre-K slots completed by The Center for Urban Affairs and Community Services at North Carolina State University, the average cost per slot for NC Pre-K in private child care programs is \$9,088 per slot, with State funds covering 72% of the direct service cost. The study found that the average cost per slot for NC Pre-K in public schools is \$9,131 per slot, with State payments covering 56% of the direct service cost. According to the study, the average cost per slot for Head Start programs is \$9,197 per slot, with State support covering 46% of the direct service cost. On average, the study found the overall cost for a slot in the NC Pre-K program is \$9,126, with State funding covering 61% of the cost, or approximately \$5,534. This average State share is similar to the \$5,228 average cost/slot from the amount of funds in NC Pre-K contracts for SFY 16-17 divided by the number of children in contract to be served. This average cost/slot varies from year to year, depending on the distribution of where the children receive services (Head Start, public schools, or private child care).

It is not surprising that the NC Pre-K payment does not cover the entirety of the costs reported at a site, since the NC Pre-K program requirements state that other resources must be accessed in addition to State payments. This model maximizes services by using blended funds to provide high quality NC Pre-K programs to as many children as possible to. Other fund sources reported by contractors to support the NC Pre-K program include Smart Start, Head Start, Title I, and other local funds.

Currently the Division contracts with 91 entities for administration of the NC Pre-K program. Contractors receive an allocation for program administration and for direct services. Funding allocated for local administration of the NC Pre-K program is currently capped at 4% of each NC Pre-K contractor's total allocation. NC Pre-K contract administrators include Smart Start agencies, public school Local Education Agencies and other non-profit community agencies. Responses from contractors to the survey evaluating their actual administrative costs indicated a consensus supporting the need to increase the local administration allocation from the currently allowed 4%, to at least 8%, and up to as much as 15%. Contractors who were surveyed reported that due to the low cap on cost reimbursement for administrative activities, a potentially unsustainable proportion of their NC Pre-K administrative services are supported with non-NC Pre-K funding. The total average cost for all administrative categories (salaries, fringe, mandatory

benefits, office costs, agency costs, and costs drivers) was \$148,625 for Smart Start partnerships and \$143,771 for Local Education Agencies. The average NC Pre-K administrative allocation of \$79,031 and \$74,031 covered 53% and 51% of the average total administrative costs for Smart Start partnerships and LEAs, respectively.

The NC Pre-K program has been shown by multiple independent researchers to have lasting positive impacts on children and communities. In annual evaluations by the FPG Child Development Institute, NC Pre-K has been shown in each evaluation to improve children's abilities and school readiness in three key domains of learning: Language development and Communication (Literacy); Cognitive Development (Math/Quantitative Skills); and Emotional and Social Development. In addition to helping children immediately be better prepared for kindergarten, based on a study of third-grade end-of-grade (EOG) scores for all children in NC, low-income children who had attended the NC Pre-K program scored higher on reading and math EOGs than low-income children who had not attended the NC Pre-K program. A separate independent study completed by the Duke Center for Child and Family Policy, conducted similar analyses and released a report in November 2016 that "North Carolina's investment in early child care and education programs resulted in higher test scores, less grade retention and fewer special education placements through fifth grade".<sup>1</sup>

If it is assumed that other resources will continue to be invested in NC Pre-K, the State share needed to make up the difference in what is currently paid and actual cost was found to be approximately \$1,800 per slot. With this average, it would cost approximately \$48,634,200 additional annually to maintain services for the 27,019 children currently in contract to receive NC Pre-K services in SFY 16-17.

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<sup>1</sup> Published November 16, 2016 In [Research](https://today.duke.edu/2016/11/early-childhood-spending-benefits-dont-fade-away-nc-study-finds), Early Childhood Spending Benefits Don't Fade Away, NC Study Finds. <https://today.duke.edu/2016/11/early-childhood-spending-benefits-dont-fade-away-nc-study-finds>

## **North Carolina Pre-Kindergarten Program (NC Pre-K): A Cost Study for NC Pre-K Funding Slots<sup>2</sup> and Effectiveness of the Program**

### **Introduction**

The North Carolina Pre-Kindergarten (NC Pre-K) program is designed to provide quality educational experiences for eligible four-year-olds to enhance school readiness. Children are determined eligible if they meet specific age requirements; participants must be four years of age by August 31<sup>st</sup> of that year, and other eligible requirements beyond age such as gross family income thresholds, having an identified disability, indicated as limited English proficiency, or the child of an active duty military member, and meet service priority criteria indicating that they are at-risk. (For a detailed description of the eligibility requirements see

[http://ncchildcare.nc.gov/pdf\\_forms/NCPre-K\\_Program\\_Requirements\\_Guidance.pdf](http://ncchildcare.nc.gov/pdf_forms/NCPre-K_Program_Requirements_Guidance.pdf)).

Eligible children receive high quality educational experiences in pre-kindergarten settings within public schools, Head Start programs, and private for-profit and non-profit child care centers. Each site that houses NC Pre-K slots must also go through a rigorous qualification process and meet North Carolina Division of Child Development and Early Education (DCDEE) regulatory standards and maintain a child care licensed star rating<sup>3</sup> of a 4 or 5 stars. Lead teachers in NC Pre-K classrooms must hold or be working toward a North Carolina Birth-through-Kindergarten or Preschool Add-on Continuing license and issued by the State Board of Education. Lead Teachers must complete the three-year Beginning Teacher Support Program as required by State Board of Education policy, rating “proficient” on all NC Professional Teaching Standards for the Birth-Through-Kindergarten Continuing License. Teachers’ Assistants must hold a minimum of a GED, must be working toward or hold an Associate’s Degree in early childhood education/child development, or must have a Child Development Associate credential.

NC Pre-K sites are required to provide instruction in their Pre-K program for 10 months (36 weeks) a year with a 6.5 to 10 hour day, not including transportation time. Classroom sizes cannot exceed 18 children per class, with one lead teacher and one assistant teacher, or a 1 to 9 staff-to-child ratio. Classrooms serving children with disabilities may have a lower than 1 to 9 staff-to-child ratio. NC Pre-K must also provide breakfast or a morning snack along with lunch that meets USDA requirements. Parents or guardians cannot be charged for the cost of a NC Pre-K slot but can be charged for child care services before or after the instructional day has begun or ended and during the holidays and summer months.

At the state level, DCDEE administers the NC Pre-K program. At the local level, the Program is administered through ninety-one contract agencies by county or geographic region in coordination with their local NC Pre-K committees. NC Pre-K contractors subcontract with local providers with a classroom or classrooms that meet the NC Pre-K program requirements.

NC Pre-K classrooms are located within three types of child care sites: public schools, Head Start programs, and private for-profit and non-profit child care centers. Payment rates per child vary depending on the type of location of the NC Pre-K classroom. Head Start programs may be reimbursed up to a maximum monthly NC Pre-K rate of \$400 per child. Public schools

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<sup>2</sup> Sponsored by: Division of Child Development and Early Education, NC Department of Health and Human Services. Prepared by: The Center for Urban Affairs and Community Services, North Carolina State University, December 15, 2016.

<sup>3</sup> Child Care licensing in North Carolina is based on a 1 through 5 Star rated licensing system. Facilities which meet the minimum requirements are given a Star rating of 1. Facilities that receive a Star rated license of 4 or 5 have voluntarily exceeded the minimum licensing requirements and are considered to be of higher quality.

serving NC Pre-K children have a maximum monthly rate of \$473 per child. For private child care centers, the maximum monthly rate per child is \$650 if the classroom teacher has a Birth-through-Kindergarten License or higher. For classrooms in which the lead teacher holds a BA/BS degree or higher but is working toward the Birth-through-Kindergarten license, the maximum monthly rate per slot is \$600. DCDEE does grant exceptions to payment rates on a case-by-case basis.

This standardized rate structure was implemented by DCDEE in SFY 12-13, based on the estimated average cost of the site to meet NC Pre-K program requirements to provide services. The maximum Head Start rate of \$400/child was based on additional costs incurred to dually enroll NC Pre-K children in the Head Start Program. Additional costs included extending the Head Start operating hours in the day, increased teacher qualifications, and a decrease in the maximum number of children allowed per classroom. The \$473 per child rate in public schools was estimated based on the average salary of a public school teacher with a Birth-Kindergarten license, the average salary of a public school teacher assistant, plus some classroom operating costs, recognizing that operating costs are shared across several programs. The maximum rate of \$600/\$650 per child for private sites depending on whether the lead teacher holds a Birth-Kindergarten license were estimated based on the average lead teacher and teacher assistant salaries, program equipment, occupancy, and other administrative costs.

### **(1) The total cost to fund a NC Pre-K slot, including administration and any local costs.**

#### **Overview of Key Findings**

The purpose of this legislative study was to assess the true financial costs associated with providing quality educational experiences for children served by the NC Pre-K program. Study findings suggest that the cost per slot does *not* vary greatly across type of site - public schools, Head Start programs, and child care centers; whereas, the *percent* of the cost per slot covered by the NC Pre-K Funding amount *does* vary.

Ninety-four (94) NC Pre-K classroom sites, representing an approximate reflection of the percentage of each type of site location in the program, were contacted by staff working with the NCSU Center for Urban Affairs and Community Services and asked to complete a worksheet detailing their **direct service costs** associated with providing services to students through the NC Pre-K program.

Accounting for all direct service costs associated with **private child care centers** and the children they serve in the NC Pre-K program, on average the **cost per slot is \$9,088 with NC Pre-K funding covering 72% of the cost.** For **Head Start programs and public schools, the average cost per slot is \$9,197 with 46% of the costs covered and \$9,131 with 56% of the costs covered, respectively.** The difference in the percent of the cost covered across the type of sites is due to variations in the amount of NC Pre-K funding received for each NC Pre-K slot. Head Start programs in the study received on average \$3,964 annually in NC Pre-K funding per slot. For public schools, the average was \$4,777, and for private child care centers the average was \$6,257.

The main driver of direct service costs at all the sites was personnel expenses. In public schools, the costs associated with employees, both salaries and benefits, accounted for 72% of the total cost per slot. In Head Start programs, the percentage was 77%. The percentage for private child care centers was 72%. Public schools paid their Lead Teachers and Assistant Teachers the highest salaries: \$43,565 for Lead Teachers and \$21,526 for teacher assistants. However, public schools also reported having fewer staff dedicated to a classroom at each site. In Head Start programs, the average salary for a lead teacher was \$32,986 and for assistant teachers \$20,585. Private child care centers paid their lead teachers an average of \$25,372 annually. For assistant

teachers, the average salary was \$20,269. While private child care centers reported lower salaries than public schools and Head Start programs, they reported having more staff at each site, with an average of 15 employees per site. It is important to note, to determine the NC Pre-K cost per slot in all sites, the analysis took into account the costs associated with providing education to *all* pre-kindergarteners at the site and not just those enrolled in the NC Pre-K program.

Additional operating costs, beyond personnel costs, account for roughly 30% of the cost per slot. The variation in cost between the sites provides insight into difference in costs per slot as well. Food and food preparation is one of the per-child costs that vary significantly across site type. Public Schools reported the highest cost for food and food preparation at \$ 1,017 per child. Child care centers reported on average \$913 per child, with Head Starts reporting a cost of \$829 per child. For per square foot costs, rent/lease/mortgage of the facility also differed significantly across site types. Sites in Public Schools reported a cost of \$0.16 per square foot for rent/lease/mortgage. Head Start programs reported a cost of \$4.10 per square foot, while private child care centers reported, on average a cost of \$13.61 per square foot.

**Table 8. Overview of Key Findings.**

	<b>Head Start Programs</b>	<b>Public Schools</b>	<b>Private Child Care Centers</b>
<b>Average Cost per Slot</b>	<b>\$9,197</b>	<b>\$9,131</b>	<b>\$9,088</b>
<b>Overall Cost and Funding</b>			
➤ Staffing Expenses per Slot	\$7,082	\$6,379	\$6,541
➤ Operating Costs per Slot	\$2,114	\$2,752	\$2,548
<b>Average Annual NC Pre-K Funding per Slot</b>	<b>\$3,964</b>	<b>\$4,777</b>	<b>\$6,257</b>
<b>Percent of Costs Covered by NC Pre-K Funding*</b>	<b>46%</b>	<b>56%</b>	<b>72%</b>
<b>Staffing Expenses Cost Drivers</b>			
Average Number of Staff at Site	9	5	15
Average Lead Teacher Salary	\$32,986	\$43,565	\$25,372
Average Assistant Teacher Salary	\$20,585	\$21,526	\$20,269
<b>Operating Cost Drivers**</b>			
Per-Child Costs	\$1,429	\$1,444	\$1,339
Per-Square Foot Costs	\$9.11	\$13.95	\$20.82
➤ Average ft <sup>2</sup> of Sites	2,180	1,609	2,927
Per-Staff Costs	\$242	\$254	\$283
➤ Average Number of Staff at Site	9	5	15
Per-Site Operating Costs	\$6,019	\$9,158	\$7,905

*\*This percentage does not include other sources of funding, such as Head Start funds, Title I funds, Exceptional Children funds and grants, which may be used to fund the cost of a slot at a site.*

*\*\*These numbers are derived at the site level, not by slot, and cannot be summed to estimate an average cost per slot.*

## **Summary of Key Findings for Per Slot Costs**

### **Head Start Programs (14 Sites Surveyed)**

- The average number of NC Pre-K funded slots in a classroom was 13
- The average monthly funding for an NC Pre-K slot was \$396
- Monthly NC Pre-K funding ranged from \$150 to \$650 per slot
- The average cost per slot across all Head Start program sites was \$9,197
- NC Pre-K funding accounted for 46% of the cost per slot
- Salaries and Benefits accounted for 77% of the cost per slot
  - The average number of staff at a site was 9
  - The average salary for lead teachers was \$32,986
  - The average salary for assistant teachers was \$20,585
- Additional Operating Costs accounted for 23% of the cost per slot
  - Per-child costs averaged to \$1,429
  - Per-square foot costs averaged to \$9
  - Per-staff costs averaged to \$242
  - Per-site costs averaged to \$6,019

### **Public Schools (46 Sites Surveyed)**

- The average number of NC Pre-K funded slots in a classroom was 14
- The average monthly funding for an NC Pre-K slot was \$478
- Monthly NC Pre-K funding ranged from \$341 to \$620 per slot
- The average cost per slot across all public school sites was \$9,131
- NC Pre-K funding accounted for 56% of the costs per slot
- Salaries and Benefits accounted for 72% of the costs per slot
  - The average number of staff at a site in Pre-K classrooms was 5
  - The average salary for lead teachers was \$43,565
  - The average salary for assistant teachers was \$21,526
- Additional Operating Costs accounted for 28% of the costs per slot
  - Per-child costs averaged to \$1,444
  - Per-square foot costs averaged to \$14
  - Per-staff cost averaged to \$254
  - Per-site costs averaged to \$9,158

### **Private Child Care Centers (34 Sites Surveyed)**

- The average number of NC Pre-K funded slots in a classroom was 14
- The average monthly funding for an NC Pre-K slot was \$626
- Monthly NC Pre-K funding ranged from \$496 to \$650 per slot
- The average cost per slot across all Private Centers was \$9,088
- NC Pre-K funding account for 72.16% of the costs per slot
- Salaries and Benefits accounted for 71.55% of the costs per slot
  - The average number of staff at a center was 15
  - The average salary for all lead teachers was \$25,372 annually
  - The average salary for assistant teachers was \$20,269 annually
- Additional Operating Costs accounted for 28% of the costs per slot
  - Per-child costs averaged to \$1,339
  - Per-square foot costs averaged to \$21
  - Per-staff costs averaged to \$283.25

- Per-site costs averaged to \$7,905.44

## **NC Pre-K Contract Administrative Cost Survey Results**

Per Session Law 2016-94, HB 1030, Section 12B.4.(a)., the Division of Child Development and Early Education (DCDEE), in collaboration with the NC Department of Public Instruction, also surveyed all 91 NC Pre-K contracting agencies during the months of October to December 2016 to collect information related to the **costs of administering and managing the NC Pre-K program at the contract administrative agency level.**

The 91 local NC Pre-K contract administrative agencies (Contractors), which are Smart Start/nonprofit agencies or public school/local education agencies/LEAs, subcontract with a network of approximately 1,165 local providers across the early childhood system to provide NC Pre-K services for eligible 4-year old children in private child care facilities, Head Start centers and public school classrooms. Each local administrative agency is required to complete, in collaboration with a local NC Pre-K committee, multiple administrative activities for the program including planning, site selection, child find and eligibility, consultation with families, child placement, subcontracting activities, technical assistance, program site and fiscal and, professional (teacher BK licensure mentoring, observation/evaluation) monitoring.

The portion of funding allocated to administer the NC Pre-K program locally is currently capped at 4% of each Contractor's total allocation. Responses from Contractors to the survey indicated a consensus supporting the need to increase the local administration allocation from the currently allowed 4%, to at least 8%, and up to as much as 15%.

The findings below are the Contractors' **estimates** of their administrative costs, as exact amounts would require far more in-depth analyses. Based on the responses in the comments sections of the survey, these estimates are conservative and potentially continue to underestimate the true costs of administering the NC Pre-K program. For example, often the documented time allocated to personnel to administer the program is far less than the actual time and effort spent. Costs to administer NC Pre-K are often provided in-kind without a specific allocation of dollar amounts for personnel, use of facilities, utilities, and building costs are often not documented for individual programs.

Because NC Pre-K is administered through different auspices, survey analyses were conducted separately for nonprofit agencies (Smart Start Partnerships, Community Action Agencies, Head Start, n=48) and Local Education Agencies (LEAs, n=43).

The primary purpose of the results below is to demonstrate the estimated proportion of the local NC Pre-K administrative services that are supported with supplemental or *non-NC* Pre-K funding. The sum total average cost for all administrative categories (salaries, fringe, mandatory benefits, office costs, agency costs, and costs drivers) was \$148,625 for Smart Start partnerships and \$143,771 for Local Education Agencies. The average NC Pre-K administrative allocation of \$79,031 and \$74,031 covered 53% and 51% of the average total administrative costs of Smart Start partnerships and LEAs, respectively.

	<b>Smart Start Partnerships</b>	<b>Local Education Agencies (LEAs)</b>
<b>Response Rate:</b>	46/48=96%	41/43=95%
Average Admin Allocation:	\$79,031	\$74,031
Average reported <b>Supplemental Funds</b> (e.g.: Child Care Subsidy, Child and Adult Care Food Program, Smart Start, Local Appropriations, Private Foundations (donations), Private Providers, Developmental Day Preschool, Title I Preschool, Exceptional Children/Preschool Disabilities, Head Start, Public Schools, Military, Local City/County Government):	\$74,031	\$287,994
<b>Average Salaries:</b>	\$82,389	\$76,697
Average Salaries paid with NC Pre-K funds:	\$44,937	\$31,938
Average Salaries paid with <b>Supplemental Funds</b> :	\$37,453	\$44,758
Average Percentage paid with <b>Supplemental Funds</b> :	45%	58%
<b>Average Fringe (e.g., health, retirement accounts, annual/vacation/sick/personal time):</b>	\$22,425	\$19,502
Average Fringe paid with NC Pre-K funds:	\$12,189	\$7,876
Average Fringe paid with <b>Supplemental Funds</b> :	\$10,236	\$11,626
Average Percentage paid with <b>Supplemental Funds</b> :	45%	60%
<b>Average Mandatory Benefits (e.g., FICA, disability, unemployment, worker's comp):</b>	\$5,682	\$19,595
Average Mandatory Benefits paid with NC Pre-K funds:	\$3,669	\$8,084
Average Mandatory Benefits paid with <b>Supplemental Funds</b> :	\$2,103	\$11,511
Average Percentage paid with <b>Supplemental Funds</b> :	37%	59%
<b>Average Office Costs (e.g., Rent/Lease, Mortgage, Mortgage interest, Real estate taxes, Utilities, Property Insurance, Maintenance, Repair, Cleaning, Telephone &amp; Internet):</b>	\$12,950	\$20,351
Average Office Costs paid with NC Pre-K funds:	\$7,217	\$1,535
Average Office Costs paid with <b>Supplemental Funds</b> :	\$5,733	\$18,816
Average Percentage paid with <b>Supplemental Funds</b> :	44%	92%
<b>Average Contract Agency Costs (e.g., phone, audit, fees, misc.)</b>	\$8,353	\$307
Average Site Costs paid with NC Pre-K funds:	\$814	\$6.95
Average Site Costs paid with <b>Supplemental Funds</b> :	\$7,539	\$300
Average Percentage paid with <b>Supplemental Funds</b> :	88%	98%
<b>Average Cost Drivers (e.g., Administrative Oversight Costs: System Planning, Advisory Committee Oversight, Budgeting, Auditing, Payment, Contracts, Bidding, Monitoring, Blending Funding, etc., Service Support: Child Find, Transition Support, Professional Development, Technical Assistance, Quality Improvement, Transportation, etc.):</b>	\$16,826	\$7,319
Average Cost Drivers paid with NC Pre-K funds:	\$1,340	\$1,911
Average Cost Drivers paid with <b>Supplemental Funds</b> :	\$15,486	\$5,408
Average Percentage paid with <b>Supplemental Funds</b>	92%	74%

## Underestimated Costs

The results of this survey indicate that the allowed administrative percentage underestimate the actual costs to manage and deliver local NC Pre-K services. Unreimbursed administrative staff time is required at the site level to ensure compliance with NC Pre-K higher standards, such as minimum teacher licensure and education requirements and use of an approved curriculum. Contractors reported that existing positions often incorporate NC Pre-K responsibilities that are not reflected in allocated cost; subsequently, the estimates of actual personnel costs in current expenditure/cost reports are underestimated.

Supplemental funds are utilized for administrative costs of NC Pre-K, such as accounting, property insurance and facility costs. In addition, survey responses reported that costs incurred during screening, determining child eligibility and consulting with families are often not captured in dollars. LEAs often indicated that school districts do not allocate the indirect cost distribution of staff to individual programs operated by school systems, including NC Pre-K. The staff that serve the entire LEA provide support to NC Pre-K in myriad ways in the forms of IT/computer support, payroll support, accounts payable support, human resources and finance/contracting/monitoring support.

## **Summary and Recommendations**

While the research team worked diligently to collect and report accurate data on the cost to provide quality educational experiences which will enhance school readiness in regards to the funding of NC Pre-K slots, there are limitations that should be kept in mind. Many of the sites surveyed did not have the requested data readily available and required extra time to search their own records. Coordinating data collection, especially for cost data, often required more than one person. Moreover, the detail and in-depth nature of studying costs associated with providing quality care is a time intensive process. The window of time for data collection coincided with two natural disasters which made the collection of data more difficult and as a result led more respondents to use default values provided in the survey form.

The cost analysis model chosen to study the cost of providing quality care did not isolate the cost for classrooms within sites that housed NC Pre-K slot, but looked at the site as a whole when determining staffing expenditures and additional operating costs. In subsequent analyses to determine the cost of funding an NC Pre-K slot, the data collection tool as well as the data collection framework should be modified, not only look at the site, but to capture more detailed information about the NC Pre-K classrooms themselves as well as additional revenue sources thus allowing for a more accurate approximation of cost.

Regarding program administration costs, although the NC Pre-K Program is administered as a 10-month program for children's attendance, it requires year round administration, including summer efforts toward recruitment, eligibility determination and site selection and set-up. Some Contractors reported that the program could consume 30 to 40 percent of the agency's time, but provide a significantly lower percentage of program revenue. In these cases (most cases), the 4% administrative allocation covers a fraction of those administrative costs. As such, a large percentage of the survey responses and estimates indicated that administrative costs of NC Pre-K are funded with supplemental sources. While supplemental or "other resources" are required as part of the NC Pre-K Program, the state does not stipulate what *portion* of Pre-K costs should come from "other resources." Because of the significant amount of resources from other sources being required and utilized locally, Contractors expressed concern surrounding the viability of the NC Pre-K program if those supplemental funding sources were reduced, and/or no longer available to cover the additional costs of the NCPK program.

A total per child cost for NC Pre-K that includes the slot and Contractor administrative costs was estimated as follows.

- The current administrative cost per child is roughly \$212.40, based on Contractors' initial SFY 16-17 NC Pre-K administrative allocations (however, some Contractors choose to use some of their administrative funds for slots). This is approximately 4% of the \$5,228 amount allocated per child this year. According to the Contractor survey of administrative costs, NC Pre-K funds approximately half of the average

administrative costs reported. Doubling the \$212.40 to cover this gap would result in a per child administrative cost of approximately \$425. This amount would be approximately 8% of the \$5,228 currently allocated for Contractor administration.

- The cost per slot analysis showed a range of \$9,088 - \$9,197.
- Adding the cost per slot and Contractor administrative cost per slot gives a range of an average total cost of \$9,513 - \$9,622 per child.

For comparison, the average amount/slot allocated for SFY 16-17 NC Pre-K allocations was \$5,228, which includes administrative funds. The amount of other state, federal, and local resources that Contractors reported spending in NC Pre-K in SFY 15-16 was annualized at \$68.2 million (does not include in-kind resources, only cash). If this amount of resources continues in SFY 16-17, the amount available per child in NC Pre-K increases to \$7,765 per child.

### **Recommendations:**

1. Follow up with a second study to collect more information on revenues that support the NC Pre-K slot by type of setting. Now that an average cost per slot has been determined of \$9,088 - \$9,197, a deeper analysis of revenues by site type that are invested in NC Pre-K will assist DCDEE in projecting better reimbursement rates. This would also help in setting a minimum amount or percentage of other funds and resources required to be invested in the slot cost.
2. Consider increasing the NC Pre-K administrative cost cap, (either a dollar amount or a percentage of the contract), which could include funds for classroom start-up and maintenance of Pre-K classrooms, and stipulate the minimum/maximum of in-kind/other resources that are required to administer NC Pre-K services to maintain program viability.
3. Consider a menu of options or categories that better define how Contractor administrative funds may be used to support local needs (e.g., chart of accounts to include: transportation services, committee support, BK licensure mentoring/evaluation, professional development/curricula, assessment training, monitoring).
4. Consider what State resources may be available to help offset local costs needed to successfully administer the program. These costs may include Birth-Kindergarten licensure, teacher compensation, and professional development activities.

### **(2) The program's anticipated effectiveness in preparing eligible four-year-olds in the five developmental domains outlined in the North Carolina Foundations for Early Learning and Development.**

#### **Purpose of the NC Pre-K Evaluation<sup>4</sup>**

Since the NC Pre-K program began, a variety of statewide evaluation studies have been conducted. These annual evaluations have included multiple studies of program services,

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<sup>4</sup> **North Carolina Pre-Kindergarten Program Evaluation: Summary of Research (2002-2015)**, © January 2017 by Ellen S. Peisner-Feinberg, FPG Child Development Institute, The University of North Carolina at Chapel Hill. This research was funded by the North Carolina Division of Child Development and Early Education, Department of Health and Human Services and a summary is available at <http://www.fpg.unc.edu/projects/evaluation-nc-pre-kindergarten-program>.

classroom quality, and children's outcomes during their pre-k year as well as longer-term into kindergarten and third grade.

One of the primary research issues addressed by these evaluation studies has been what are the outcomes for children attending NC Pre-K and what factors are associated with better outcomes? The evaluation research has focused on three key domains of learning: Language development and Communication; Cognitive Development; and Emotional and Social Development. These three domains are essential to children's later school success and also comprise the primary foundations of the curricula and instructional approaches used in NC Pre-K classrooms. A summary of key findings based on these three domains of learning, as well as other key findings related to classroom quality and program characteristics are presented below.

## **Key Findings**

### **Child Outcomes - Language Development and Communication Skills/Literacy**

- The NC Pre-K Program has positive effects on children's language development and communication skills.
- Based on a study of third-grade end-of-grade (EOG) scores for all children in NC across two years, low-income children who had attended the NC Pre-K program scored higher on reading EOGs than low-income children who had not attended the NC Pre-K program (90% of program participants were low-income in NC Pre-K).
- Based on a study with a treatment and a comparison group, positive effects were found following participation in the NC Pre-K program on children's language and literacy skills, with similar findings for different groups of children (by poverty status, risk factor status, or English proficiency level).
- Based on several longitudinal studies of children from pre-k through kindergarten, comparisons to norm-referenced measures show that children who participate in NC Pre-K make greater than expected gains in language and literacy skills during pre-k and continuing into kindergarten.
- These studies also indicate that the NC Pre-K program has positive effects on language and literacy skills for dual language learners (DLLs). Children who have lower levels of English proficiency make gains at an even faster rate than other children, although those children typically start pre-k with lower levels of skills, and often have not caught up to their peers even by the end of kindergarten.

### **Child Outcomes – Cognitive Development/Math Skills**

- The NC Pre-K Program has positive effects on children's cognitive development.
- Based on a study of third-grade end-of-grade (EOG) scores for all children in NC across two years, poor children who had attended the NC Pre-K program scored higher on math EOGs than poor children who had not attended the NC Pre-K program (90% of program participants were poor in NC Pre-K).
- Based on a study with a treatment and a comparison group, positive effects were found following participation in the NC Pre-K program on children's math skills, with similar findings for different groups of children (by poverty status, risk factor status, or English proficiency level).

- Based on several longitudinal studies of children from pre-k through kindergarten, comparisons to norm-referenced measures show that children who participate in NC Pre-K make greater than expected gains in math and general knowledge skills during pre-k and continuing into kindergarten.
- These studies also indicate that the program has positive effects on math and general knowledge skills for dual language learners (DLLs). Children who have lower levels of English proficiency make gains at an even faster rate than other children, although they typically start pre-k with lower levels of skills and often have not caught up to their peers even by the end of kindergarten.

### **Child Outcomes – Emotional and Social Development**

- The NC Pre-K Program has positive effects on children’s emotional and social development.
- Based on several longitudinal studies of children from pre-k through kindergarten, comparisons to norm-referenced measures show that children who participate in NC Pre-K make greater than expected gains in social skills during pre-k and continuing into kindergarten.

### **Program Quality**

- Classroom quality for the NC Pre-K Program is in the medium to high range across a number of different areas that have been measured—global quality, teacher-child instructional interactions, language and literacy environment, and teacher sensitivity. Classroom quality has remained fairly similar over the years in almost all areas. Although scores are still not as high as they could be, very few classrooms have scored in the low quality range.
- Similar to most other pre-k samples, NC Pre-K classroom quality tends to be higher for areas related to the general classroom environment and the sensitivity and supportiveness of teacher-child interactions than for aspects related to instructional support.
- There have not been consistently definitive predictors determined for classroom quality, including factors such as teacher qualifications, class size, and the composition of the classroom. Likely, this is because there are program requirements that are known to relate to higher quality (e.g., lower class size, higher adult:child ratios, teacher qualifications, use of curriculum). These have resulted in a restricted range of quality (toward the higher end) which may have prevented these associations from being found.

### **Program Characteristics**

- There have been consistent improvements in teacher qualifications—increases in the proportion of teachers with four-year degrees and B-K licenses and decreases in the proportion of teachers with no credential. In the most recent sample, more than 99% of lead teachers had a BA/four-year degree or above, and nearly all those in public school settings and three-quarters in private settings had a B-K license.
- The NC Pre-K Program has continued to ensure that it primarily serves an at-risk, diverse population of children from different racial and ethnic backgrounds, including a substantial number of dual-language learners. The majority of children in NC Pre-K had not previously been in a preschool program.
- NC Pre-K classrooms have continued to be offered in a variety of setting types, including public school, for-profit and non-profit child care, and Head Start.

## Conclusions

Based on a series of research studies over the past 14 years, the NC Pre-K Program has demonstrated positive outcomes for children in key domains of learning for later school success, including Language development and Communication; Cognitive Development; and Emotional and Social Development. The results from these studies suggest that participation in NC Pre-K helps improve children's skills across all of these learning domains and can have long-term benefits that may help reduce the achievement gap for poor children. In addition, the level of quality has remained fairly constant over time, and there have been substantial improvements in teacher qualifications (one of the primary areas of focus for the program). These results indicate that the program clearly has several areas of strength; as it has grown over the years into a full-scale statewide program, the effects for children and the quality of classroom practices have been maintained. However, as with any program, there are some areas for improvement; two broad recommendations from these findings would be to support efforts to help increase the overall level of classroom quality and to support efforts for improving instruction for DLLs.

### **(3) Whether the program's effectiveness as reviewed pursuant to subdivision (2) of this subsection justifies the costs associated with funding NC Pre-K slots or whether there are other alternatives to achieve the same objectives.**

Multiple independent and University evaluation studies have collected data from NC Pre-K classrooms and programs and analyzed that information to determine whether the NC Pre-K/NC Pre-Kindergarten (previously known as More at Four) program is effective in creating lasting impacts for children exposed to its benefits. The results of these studies have *consistently* shown lasting positive impacts for the children involved, the classrooms and communities they are a part of, and then as a result, for the school systems these children attend and their families and the State of NC as a whole.

As per a requirement of the legislation establishing the NC Pre-K program<sup>5</sup>, the [NC Pre-K Program Evaluation Project at the Frank Porter Graham \(FPG\) Child Development Institute](#) has provided external evaluation for the NC Pre-K Program since its inception during 2001-2002 (as More at Four). A variety of statewide evaluation studies have been conducted, including multiple studies of program services, classroom quality, and children's outcomes during their pre-k year as well as longer-term into kindergarten and third grade.

The primary research questions addressed by these evaluations have included:

- What were the key characteristics of the local NC Pre-K Programs?
- What was the quality of NC Pre-K classrooms and what factors were associated with better quality?

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<sup>5</sup> **SECTION 12B.1.(e)** Reporting. – The Division of Child Development and Early Education shall submit an annual report no later than March 15 of each year to the Joint Legislative Oversight Committee on Health and Human Services, the Office of State Budget and Management, and the Fiscal Research Division. The report shall include the following:

- (1) The number of children participating in the NC Pre-K program by county.
- (2) The number of children participating in the NC Pre-K program who have never been served in other early education programs such as child care, public or private preschool, Head Start, Early Head Start, or early intervention programs.
- (3) The expected NC Pre-K expenditures for the programs and the source of the local contributions.
- (4) The results of an annual evaluation of the NC Pre-K program.

- What were the outcomes of children attending NC Pre-K and what factors were associated with better outcomes?
- To what extent have there been any changes over time in these results?

Each time these evaluations have shown positive outcomes for children in both the short and long term, as referenced in item two (2) of this legislative report.

In addition to the legislatively required FPG Child Development Institute studies, researchers from the [Duke Center for Child and Family Policy](#) conducted similar analyses and released a report in November 2016 that “North Carolina’s investment in early child care and education programs resulted in higher test scores, less grade retention and fewer special education placements through fifth grade”.<sup>6</sup>

The research, published online November 17 in *Child Development*, looked at more than 1 million North Carolina public school students born between 1988 and 2000. Researchers asked whether the state’s Smart Start and More at Four programs provided long-lasting benefits for children, or if previously seen positive results diminished by the end of elementary school? The researchers found the programs’ benefits did not fade with time, as in some early childhood intervention programs. Instead, the positive effects grew or held steady over the years.

“The impacts of both Smart Start and More at Four on children persist across the entire elementary school period... By the end of fifth grade, children living in counties with average levels of Smart Start and More at Four funding saw improved educational outcomes. These results were equivalent to a gain of more than six months of reading instruction and more than three months of math instruction. The children also had significantly higher mean math and reading scores in grades three, four and five.

Both programs also lowered the odds of children needing special education during elementary school. Average Smart Start funding was linked to a nearly 10 percent reduction in special education placements in grades three, four and five. More at Four, meanwhile, also significantly reduced special education placements. Average More at Four funding reduced the odds of special education placements by 29 percent in third grade, by 43 percent in fourth grade and by 48 percent in fifth grade.

Additionally, both Smart Start and More at Four reduced the probability of students being held back during elementary school. In counties that received an average Smart Start funding allocation, a child’s chance of being retained by fifth grade declined by 13 percent. Average More at Four funding reduced children’s odds of being held back during elementary school by 29 percent.

The findings held regardless of poverty level, suggesting that the programs created an enhanced learning environment for all. One possible explanation for the overall improvement is that teachers did not need to attend to behavior problems or remediation, the researchers said.

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<sup>6</sup> Published November 16, 2016 In [Research](#), Early Childhood Spending Benefits Don't Fade Away, NC Study Finds. <https://today.duke.edu/2016/11/early-childhood-spending-benefits-dont-fade-away-nc-study-finds>

It is also noteworthy that in many cases, NC Pre-K funds are blended with other resources. Because these classrooms are blended, other children in the classroom are benefiting from the NC Pre-K program.

The objectives of NC Pre-K are to provide high quality educational experiences to enhance school readiness for eligible four-year-old children. Program requirements are designed to prepare children in all five of the developmental domains outlined by the National Educational Goals Panel and the North Carolina Foundations for Early Learning and Development. The More at Four/NC Pre-K Program is nationally recognized for meeting all benchmarks for a high quality pre-kindergarten program. The local NC Pre-K committee structure engages community leaders to come together to plan for blending resources to serve children, and investments made at the local level keep State costs below what it costs to provide NC Pre-K services. We know of no comparable Pre-K program that consistently delivers high quality educational services statewide that has been shown to impact measurable child outcomes.

**(4) The State share needed to fund a NC Pre-K slot by each setting, including public schools, child care facilities, and Head Start.**

Current NC Pre-K policy requires that programs must demonstrate that they are accessing resources other than NC Pre-K. Other resources may be cash and/or in kind and are reported annually to DCDEE. These include Smart Start, Head Start, Title I, Preschool Early Childhood funds, the Child and Adult Care Food Program funds, and local funds. The blending of funds and resources is encouraged so that children across early childhood programs may benefit from braided services.

However, if it is assumed that 100% of NC Pre-K costs are to be borne by the State, and the average total cost per slot for NC Pre-K is \$9,513 - \$9,622, since the average estimated funds available per child is \$7,765, the State share needed to make up the difference is estimated to be between \$1,748 - \$1,857 per slot.

Without an average amount of type of other revenue per site available, DCDEE is unable to determine the State share needed by Head Start, public schools, and private child care sites. A follow up study is recommended to further identify which resources are accessed by types of NC Pre-K sites.

**(5) The amount of funds needed to maintain the current number of NC Pre-K slots if the per slot cost was increased to the amount recommended by the study.**

The number of children served has been sustained at the current average cost because of other funds invested and blended in the program. Contractors may also request rate exceptions if the cost to serve children at a site is lower due to blended funds, which helps to maximize the number of children who may be served. Notwithstanding, to estimate the amount of funds needed as requested by this provision, if it were assumed that no additional resources were available and that the State will pay for 100% of the remaining cost for NC Pre-K services according to this study, the following estimate is provided. If the State share needed to make up the difference in cost of \$1,748 - \$1,857 per slot, it would cost an additional \$47,216,412 to \$50,161,483 annually to maintain services for the 27,019 children currently in contract to receive NC Pre-K services in SFY 16-17.

**(6) Recommendations on how often the NC Pre-K slot costs should be evaluated reported to the General Assembly.**

Per requirements of the Child Care Development Block Grant, which is the primary funding source for Child Care Subsidy Assistance and the Division of Child Development and Early Education, a child care market rate survey must be completed on a three-year cycle, with the next market rate survey to be completed by 2018.

While the child care market rate survey more directly asks providers to report what they *charge* for care, and the current NC Pre-K cost evaluation asks providers to determine how much it *costs* for them to provide their services, the Division feels that there is enough similarity and shared information gathered through these processes that they can and should be completed on a similar cycle.

Reimbursement rates for the NC Pre-K program have not been substantially changed since DCDEE moved to statewide reimbursement rates in SFY 2012-13. As such, those rates are certainly due for re-evaluation and the program would benefit from a routine evaluation of costs and reimbursement.

**(7) Any other relevant issues the Division deems appropriate.**

While there is currently sufficient capacity to serve NC Pre-K children, we have concerns about the early childhood workforce in the future. In addition to these studies' findings about the current cost of providing care, it is imperative that legislators are informed that North Carolina is at risk of soon not having enough preschool and pre-k teachers for classrooms that serve young children, both in the formal NC Pre-K program and in early childhood care settings statewide. The limited funds available to support the needs of licensed, educated teachers in preschool programs does not equal the support and wages available to licensed teachers in public schools.

Both two and four year colleges in North Carolina have reported a decrease in enrollment in early childhood education programs, and child care providers report high turnover rates among their classroom employees. Working in an early education classroom is a physically and mentally demanding job, generally with very low pay and few, if any, employment-related benefits. The problem is most significant in infant and toddler classrooms where the needs of the children are greatest and the children themselves are most vulnerable. If teacher compensation is not addressed, it is the belief of DCDEE that North Carolina could find itself in a position unable to provide adequate education and care for North Carolina's children because of a decrease in its workforce.