



## EXECUTIVE SUMMARY

### Purpose of the NC Pre-K Evaluation Study

The primary purpose of the 2017-2018 NC Pre-Kindergarten (NC Pre-K) Evaluation was to examine the effectiveness of the NC Pre-K Program using a randomized controlled trial (RCT) design. Because children are randomly assigned to either receive NC Pre-K (treatment) or not (control) in an RCT, differences in outcomes can be causally attributed to treatment rather than to other differences between the children and families in the two different groups.

This small-scale study is designed to follow children longitudinally from pre-k into elementary school in order to examine the short- and longer-term effects. The current study (2017-2018) provided baseline data during the pre-k year for 582 children who were randomly assigned to either NC Pre-K (treatment=473) or the waitlist (control=109) in two selected counties with large waitlists (with very few crossovers between groups).

The RCT study addressed three primary research questions: (1) Do children who receive access to enrollment in NC Pre-K (treatment group) exhibit better outcomes than children who do not receive access to enrollment (control group)?; (2) Are there factors that affect the impact of treatment – children’s level of oral language proficiency or pre-k classroom quality?; and (3) What are the effects for children who are dual-language learners?

Data collection included individual assessments of children’s language, literacy, math, executive function, and behavior skills. Demographic information about the children and families was obtained from state administrative data and parent surveys, and observations of classroom quality and teacher demographic surveys were gathered for children in pre-k settings.

In addition, key characteristics of the NC Pre-K Program during the 2017-2018 year, along with trends over time (2003-2004 to 2017-2018), were examined based on state-wide administrative data (NC Pre-K Kids and NC Pre-K Plan). Information examined included characteristics of the local NC Pre-K settings, the children served, the qualifications of teachers, and distributions and counts of program participants and service providers.

### Results

*Children who attended NC Pre-K performed significantly better on some language and literacy skills at the end of pre-k compared to those who did not attend NC Pre-K.* Results indicated better performance for children in the treatment group than in the control group for vocabulary and letter and word recognition skills – two key measures related to subsequent school readiness as well as later reading and school success. These results were found in both the ITT (intent-to-treat) and the TOT (treatment-on-treated) analyses, suggesting that these effects are consistent

when considering actual treatment received as well as randomly assigned condition.

*Dual-language learners who attended NC Pre-K performed significantly better on some literacy and math skills at the end of pre-k compared to those who did not attend NC Pre-K.* For the subsample of Spanish-speaking DLLs, positive effects of treatment were found for letter and word recognition skills and knowledge of math concepts (a skill that has both math and literacy aspects) when measured in English. These results were found in both the ITT and the TOT analyses, suggesting that these effects are consistent when considering actual treatment received as well as randomly assigned condition.

*There were no significant effects of NC Pre-K for other academic and social skills measured in English or Spanish (after statistical adjustments).* The study did not find significant effects for other measures after adjusting for multiple tests, including literacy skills (written comprehension), math skills (problem solving), executive function, and parent ratings of social skills and problem behaviors. The researchers used strict criteria for significance as well as conservative adjustments to guard against false positive effects, and thus excluded some results from the final set of findings that did not meet these criteria. There also were no significant differences when skills were measured in Spanish rather than in English for the DLL subsample, although that is less surprising given that the language of instruction in these classrooms generally was in English. Also, children's level of oral language proficiency and the quality of their pre-k classroom (for children in pre-k settings) had no differential effects on the impact of treatment.

*One continuing trend in the NC Pre-K Program has been improvement in the levels of teacher education and credentials.* There have been significant trends toward increasing teacher education and licensure levels, and a significant decreasing trend in those with no credential over the past 15 years, since NC Pre-K became a statewide program. In 2017–2018, almost all NC Pre-K lead teachers had at least a bachelor's degree in both public school and private settings (>99%). Most lead teachers in public schools (96%) and private settings (86%) had a B-K license, while relatively few teachers had no credential.

## Overview of the NC Pre-Kindergarten Program

NC Pre-K is a state-funded educational program for eligible 4-year-olds, designed to enhance their school readiness skills. Initiated in 2001–2002, the statewide pre-k program has served over 400,000 children, with an average annual cost per child of approximately \$5,534. Children are eligible for NC Pre-K primarily based on age (4 years old) and family income (up to 75% of state median income), although children with higher family incomes may be enrolled with at least one of the following additional factors: limited English proficiency, identified disability, chronic health condition, educational need, or a parent actively serving in the military. NC Pre-K provides funding for serving eligible children in classroom-based educational programs in a variety of setting types, including public schools, Head Start, and private child care centers (both for-profit and nonprofit). NC Pre-K operates on a school schedule for 6-1/2 hours/day and 36 weeks/year. Local sites are expected to meet a variety of program standards around curriculum, screening and assessment, training and education levels for teachers and administrators, class size, adult:child ratios, North Carolina child care licensing levels, and provision of other program services.

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This report is available at <http://www.fpg.unc.edu/projects/evaluation-nc-pre-kindergarten-program>.