

EXECUTIVE SUMMARY

Evaluation of the North Carolina More at Four Pre-kindergarten Program

YEAR 5 REPORT

(JULY 1, 2005–JUNE 30, 2006)

Children's Outcomes & Program Quality in the Fifth Year



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OVERVIEW OF THE MORE AT FOUR PROGRAM

The North Carolina More at Four Pre-kindergarten Program, a state-funded initiative for at-risk 4-year-olds, is designed to help children be more successful when they enter school through provision of a classroom-based educational program during the year prior to kindergarten. More at Four began in 2001-2002, and provides funding for pre-k classrooms at a variety of different types of sites, including public schools, Head Start, and community child care centers (both for-profit and nonprofit). The programs operate on a school calendar and school-day basis, and individual classrooms may serve More at Four children exclusively or may be blended classrooms including children served through other sources. Local sites are expected to meet a variety of program guidelines and standards around curriculum, training and education levels for teachers and administrators, class size and student-teacher ratios, North Carolina child care licensing levels, and provision of other program services. The program first targets “unserved” children (those not already being served in a preschool program) and secondly, “underserved” children (those in a program but not receiving child care subsidies and/or those in lower quality settings). Children are eligible for More at Four based on family income (up to 300% of Federal poverty status) and other risk factors (limited English proficiency, identified disability, chronic health condition, and developmental/educational need). More at Four has served over 49,000 children during the first five program years (2002-2006).

STATEWIDE EVALUATION

The current report contains results from the fifth year of a statewide evaluation of the More at Four Program examining program quality and children’s outcomes. The current report includes data from two program years (2003-2004 and 2005-2006) to examine the findings from the most recent year as well as the robustness of these findings over time.

The primary research questions addressed by this evaluation included:

- What were the characteristics of the local programs?
- What was the quality of the services provided?
- What were the outcomes of children attending the More at Four Program?
- What factors were associated with better outcomes for children?

In order to address these questions, we gathered information from three sources: 1) monthly service reports about program characteristics and the children served from all sites; 2) observations of the quality of classroom practices in randomly-selected classrooms; and 3) individual child assessments of children’s growth in language and literacy skills, math skills, general knowledge, and social skills over the pre-k year.

PROGRAM CHARACTERISTICS

Information about the characteristics of the More at Four Program, including the local sites, the classrooms, and the children served in 2003-2004 and 2005-2006, provides a picture of program operations over this period of interest. While the size of the program has grown substantially over time, from 1,244 children served in the first year to 10,891 in 2003-2004 (year 3) and 17,251 in 2005-2006 (year 5), most characteristics of the local More at Four sites have remained fairly similar.

The median class size was 18 each year, with an average of three-quarters or more of the children in each classroom participating in More at Four. Nearly half of the children were served in public school sites and almost one-third were served in private for-profit child care settings, with smaller proportions in private nonprofit child care settings and Head Start.

The population of children participating in More at Four has continued to be at-risk and of high service priority status, as intended. Almost one-fifth of the children served spoke limited or no English at entry into the program. The programs continued to serve a primarily low-income population, with three-quarters of the children eligible for free lunch (i.e., at or below 130% of poverty). The majority of children (79% or more) each year were “unserved” at the time of enrollment, the targeted service priority group.

One area that has shown some positive change over this period is teacher qualifications, with a 25% increase (from 39% to 49%) in the number of teachers meeting the program guideline requiring a B-K license (or the equivalent) within four years, although this change is primarily occurring in public school settings. In community settings, the percentage of teachers with some type of early childhood credential (CDA or NCECC) has increased substantially (from 20% to 38%) while the percentage with no credential has decreased (from 53% to 37%).

CLASSROOM QUALITY

Observations of classroom quality were conducted in randomly-selected samples of More at Four classrooms operating in 2003-2004 (n=99) and 2005-2006 (n=57).

Classroom Practices

The quality of classroom practices was somewhat lower for the 2005-2006 cohort than in previous years based on the ECERS-R (Early Childhood Environment Rating Scale-Revised). The average score was in the medium quality range in 2005-2006 (mean=4.4) compared to an average score in the high quality range for the 2003-2004 cohort (mean=5.3), based on a 1-7 scale from inadequate to excellent. Most classrooms in the more recent cohort scored in the medium quality range (86% scored 3.0-4.9), while most scored in the high quality range in the earlier cohort (76% scored 5.0-7.0). Almost half (47%) of the classrooms in 2005-2006 scored at or above 4.5 (as required by the More at Four program guidelines), compared to 88% in the earlier cohort. As programs continue to scale up, it is always an issue of interest to examine whether quality is maintained, although with one sample measured at a single point in time it is difficult to determine whether or not this decrease in quality is a general trend.

Literacy Environment

Observations of the quality of the literacy environment were conducted for the 2005-2006 cohort using the ELLCO (Early Language and Literacy Classroom Observation). The mean score on the Classroom Observation Scale (measuring both the General classroom environment and the Language/literacy/curriculum environment) was 3.7 (on a 1-5 scale from deficient to exemplary). Scores were relatively higher on the Classroom Observation Scale and the Literacy Environment Checklist (which measures the availability of books and writing materials in the room) than on the Literacy Activities Rating Scale (which measures the frequency of book reading and writing activities). These findings suggest that the More at Four classrooms are doing a somewhat better job of setting up a literacy-rich environment than actually carrying out literacy-related activities. Moreover, scores tended to be higher for reading activities than writing, an area that might be important to consider for professional development efforts.

Teacher-Child Interactions

Observations of the quality of teacher-child interactions conducted for the 2005-2006 cohort using the CIS (Caregiver Interaction Scale) indicated that teachers were fairly sensitive in their interactions with children. The mean CIS total score was 3.4 and the majority of classrooms (88%) scored 3.0 or above (on a 1-4 scale), with higher scores representing more positive interactions. Scores on the Sensitivity subscale indicated fairly high levels of positive interactions with children, while scores on the Harshness, Detachment, and Permissiveness subscales indicated fairly low levels of negative characteristics of interactions.

Factors Predicting Classroom Quality

Three sets of factors were examined hierarchically to determine whether they predicted differences in classroom quality: 1) Teacher qualifications (whether or not the lead teacher had a B-K license or the equivalent); 2) Class size; and 3) Classroom-level characteristics of the children served, including average proportion of More at Four children, average risk total score for More at Four children, and average service priority status for More at Four children.

There were no consistent patterns across measures or cohorts. Higher quality classroom practices (ECERS-R total child items score) were associated with having a lower proportion of More at Four children in the classroom for the 2005-2006 cohort alone, but not when combined with the 2003-2004 cohort. Higher quality literacy environments (ELLCO Classroom Observation score) were associated with lead teachers having a B-K license (or equivalent) after adjusting for class size, but not after adjusting for other classroom characteristics (average proportion of More at Four children, average risk total score, and average service priority status). There were no significant associations between any of these teacher or classroom factors and the quality of teacher-child interactions (CIS total score).

CHILD OUTCOMES

Individual assessments of children's language and literacy skills, math skills, general knowledge, and social skills were conducted near the beginning and end of each program year to provide information about children's growth over the program year. Children were included from 58 randomly-selected More at Four classrooms in 2003-2004 (n=514 children) and 57 randomly-selected classrooms in 2005-2006 (n=478 children).

Changes over Time in Child Outcomes

Consistent with the findings from previous years, children made significant gains in all skill areas over the More at Four program year for both cohorts (2005-2006 and 2003-2004): Language and literacy (receptive language, rhyming, story and print concepts, naming letters); math (applied problems, counting task); general knowledge (color knowledge, social awareness); and social skills. The one area that showed no significant change was children's problem behaviors, which were slightly below the population mean (slightly fewer problem behaviors), which is again consistent with the findings from previous years.

Differences in Child Outcomes by Classroom Quality

We also examined whether classroom quality was associated with differences in children's developmental progress over the More at Four program year. In general, there were few effects related to differences in classroom quality; better quality was associated with greater gains on rhyming and social skills, but lower gains on letter naming for the 2005-2006 cohort. These findings may be related to higher quality classrooms having less of a focus on teacher-directed instruction,

which may be more closely associated with this type of learning, and/or a greater focus on more advanced language/literacy skills (such as phonological awareness). However, these findings were not maintained when the two cohorts were combined.

Differences in Child Outcomes by Cumulative Risk Factor Levels

We examined whether there were differences in performance for children entering the program at different levels of cumulative risk (0-3 from low risk to high risk) based on poverty level (eligibility for free lunch, reduced-price lunch, or full-price lunch) and other risk factors (identified special need, limited English proficiency, and chronic health condition). Children in the highest-risk group scored significantly lower than children in the other risk groups in both the fall and spring on nearly all the language/literacy (receptive language, rhyming, story concepts, letter naming), math skills (applied problems, counting), and general knowledge (social awareness) measures for both cohorts.

Differences in Child Outcomes by English Proficiency Level

We examined whether there were differences in outcomes for children entering the program at different levels of English proficiency, based on individual assessments of oral language proficiency. For children in both cohorts, those at the lowest English proficiency levels (non-English speakers and/or those with limited English proficiency) tended to score lower in both the fall and spring than other children, especially those in the fluent groups. This pattern was evident for most measures of language/literacy skills (receptive language, rhyming skills, story concepts), math skills (applied problems, counting), and general knowledge (color knowledge, social awareness). Although their scores were lower, children at the lowest English proficiency level made greater gains over the More at Four year than more proficient children in several areas: Receptive language skills, applied math skills, color knowledge, social awareness, social skills, and problem behaviors (decreases in problem behaviors).

Growth in Developmental Skills for Spanish Subsample

Latino children comprise about one-fifth of the children served in More at Four, and given the findings related to English proficiency, it was of particular interest to explore their growth on both English and Spanish measures in the 2005-2006 sample (n=120). Even though the More at Four classrooms were primarily taught in English, Spanish-speaking children exhibited significant growth over the More at Four year on both the English and Spanish measures, including language/literacy skills (rhyming, story concepts, letter naming), math skills (applied problems, counting), and general knowledge (color knowledge, social awareness). The one exception was receptive language, where children showed significant growth in English but not in Spanish. Further, children who had higher initial skill levels and/or demonstrated greater growth in Spanish skills also gained more in English skills for several measures of language/literacy (story concepts, letter naming, rhyming skills), math (applied math skills and counting), and general knowledge (social awareness). These findings speak to the potential benefits of promoting children's native language skills in conjunction with their English skills.

SUMMARY AND DISCUSSION

The More at Four Program has continued to grow through its fifth year of operations in 2005-2006, increasing from almost 11,000 children two years earlier to more than 17,000 children. While the program has grown substantially in size, most characteristics of the program have not changed noticeably over time. There continues to be a range of different types of sites and classrooms participating, with nearly half in public sites and half in community sites. The program has continued to serve a diverse group of at-risk children, with the majority in targeted groups such as very low-income families (e.g., children qualify for free lunch) and children who are unserved in another early education program at the time of enrollment.

The results generally show a similar pattern to findings from previous years, even as the program has continued to scale up. One contrasting finding is that while there were some positive increases in the level of teacher qualifications, the quality of classroom practices was lower in the 2005-2006 sample than in earlier samples. Further, there was little association of classroom quality with children's outcomes. In terms of the overall effectiveness of the program for children, however, the results generally indicate a similar pattern to previous years. Children exhibited substantial developmental growth over the program year across multiple skill areas—language/literacy, math, general cognitive knowledge, and social skills. For Spanish-speaking children, growth occurred for skills assessed in both English and Spanish. Children at greatest risk entered the program with lower skill levels and still had not caught up to their peers in many areas by the end of the program year. Even though they made greater gains during pre-k in some areas, especially children at the lowest English proficiency level, these differences still persisted. These findings are consistent with a number of other large-scale studies that have found that pre-k participation was associated with sustained gains in language/literacy, math, and social skills as well as greater gains for children at greater risk.

The More at Four Program is designed for children at risk, especially those who otherwise would not have been likely to participate in a pre-k program, thus providing them with opportunities for an early education experience. The evidence from the present year's evaluation, as well as those in the past, suggests that such experiences are beneficial and likely to help these children on the path to school success.

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For more information about the Evaluation of the North Carolina More at Four Pre-kindergarten Program, visit the website at www.fpg.unc.edu/~mafeval.

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