

**Center-based  
Child Care  
in the Pioneer  
Smart Start Partnerships  
of North Carolina**

UNC Smart Start Evaluation Report  
May 1996

This report was written by Kelly Maxwell, Donna Bryant, Ellen Peisner-Feinberg, and Virginia Buysse. Data for this report were gathered as part of the Smart Start Evaluation contract from the Department of Human Resources to the University of North Carolina at Chapel Hill. We want to thank all child care directors and providers who participated in this evaluation.

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**I**N NORTH CAROLINA, over 130,000 children under the age of 6 attended center-based child care in 1995. We know that children who receive *high quality* child care demonstrate better cognitive and social skills than children who receive lower quality child care, helping them become more healthy and prepared to succeed when they enter school.<sup>1</sup> Yet 18% of our kindergartners in 1995 were not considered by their teachers to be ready to participate successfully in school.<sup>2</sup> This percentage of children not ready for school could be reduced if *high quality* child care were available to all young children who needed it.

Smart Start (the North Carolina Early Childhood Initiative) was established in 1993 as a partnership between state government and local leaders, service providers, and families to better serve young children and their families, ensuring that all children enter school healthy and prepared to succeed. Smart Start's innovative approach requires local community partnerships to plan how best to meet their own community's needs, improve and expand previous programs for children and families, and design and implement new programs. Although each partnership decides how best to meet the needs of children and families, they are *all* working to improve the quality of early childhood education, including center-based care.

Are we providing high quality child care in North Carolina? What effect is Smart Start having on the quality of care? These questions were addressed in the evaluation of Smart Start by examining child care quality in the 12 pioneer Smart Start partnerships (representing 18 counties —11 counties plus 1 region composed of 7 counties). In the fall and winter of 1994–95, evaluation team members measured the quality of child care by visiting 184 child care centers from Smart Start counties. At each visit, researchers measured the quality of the preschool classroom, interviewed the director, and obtained demographic information and a self-assessment of training needs from the child care provider(s) in the observed classroom.<sup>3</sup> The information collected during these visits is described in this report and provides baseline evaluation data about the quality of child care services in these counties early in the Smart Start initiative. To determine whether child care quality improves, additional data from child care centers will be collected in 1996–97 and compared to baseline data.

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### **State Licensing and National Accreditation Standards**

States regulate child care through licensing standards. North Carolina has 2 major licensing levels. An "A" license represents the minimal acceptable standard of care. An "AA" license represents a higher standard of care, including better teacher-child ratios (i.e., more teachers per children), smaller group sizes, greater space per child, and more educational materials. The proportion of AA-licensed centers

is one indicator of child care quality at a very general level. In our sample of 184 centers from the first 12 Smart Start partnerships, only 39% were licensed at the higher AA level.

Whereas *all* child care centers operating full time must meet state regulations, some centers voluntarily meet standards of quality even higher than AA through an accreditation process of the National Association for the Education of Young Children (NAEYC). This national organization of early childhood providers has set the highest standards of quality for which centers can obtain accreditation. These standards cover many aspects of the physical and learning environment, such as the quality of the interactions between teachers and children, planned learning activities that are appropriate to children's ages and development, and teacher education and training. Obtaining accreditation is a lengthy process that takes at least a year, and the accreditation must be renewed every 3 years. In the North Carolina Smart Start sample at baseline, very few centers met these professional standards of quality. Only 6% of the centers were NAEYC accredited, although another 13% had begun the accreditation process.

These levels of licensing and accreditation are being monitored to see if Smart Start efforts will increase the number and proportion of higher quality centers. For example, between 1993 and 1995, the percentage of AA-licensed child care facilities increased by 25% in the pioneer Smart Start counties and increased by only 17% in the non-Smart Start counties. Future analyses will determine whether this trend continues and whether the increase in higher quality child care centers is associated with Smart Start efforts.

## Classroom Standards

Requirements for group sizes and teacher-child ratios (i.e., the number of teachers per children in each class) have been established for the A- and AA-licensing standards as well as for the professional NAEYC standards (see Table 1). Children's care is more likely to be developmentally appropriate if there are fewer children in the class (i.e., smaller group sizes) and more teachers per children (i.e., better teacher-child ratios). Table 2 presents the percent of classes in our sample that met the group size and ratio requirements set by each level of standards (met only A-licensing standards, met AA-licensing standards, and met NAEYC standards). For infants, one-, and two-year olds, the standards for A and AA are the same. Only about a third of the classes for infants to 3-year-olds met the professional standards of quality established by NAEYC. Within each age level, some classes did not meet even the *lowest* state standard, an A licensing level. At the center level, only 13% met NAEYC standards for *all* of their classrooms (regardless of accreditation status). Forty-four percent met AA-licensing levels for all classrooms, 21% of centers met A-licensing levels for all classes, and 22% of the centers had 1 or more classes that were out of compliance with the A-licensing level. Overall, some classes within centers met the ratio and group size requirements of AA-licensing and NAEYC standards, but fewer centers met these standards for *all* of their classes.

**Table 1**  
Standards for Teacher-Child Ratios and Group Sizes in Child Care Centers

Age Group	A		AA		NAEYC	
	Ratio	Group Size	Ratio	Group Size	Ratio	Group Size
Infants	1:5	10	1:5	10	1:4	8
Ones	1:6	12	1:6	12	1:4	8
Twos	1:10	20	1:10	20	1:5	10
Threes	1:15	25	1:10	25	1:8	16
Fours	1:20	25	1:13	25	1:9	18
Fives	1:25	25	1:15	25	1:9	18

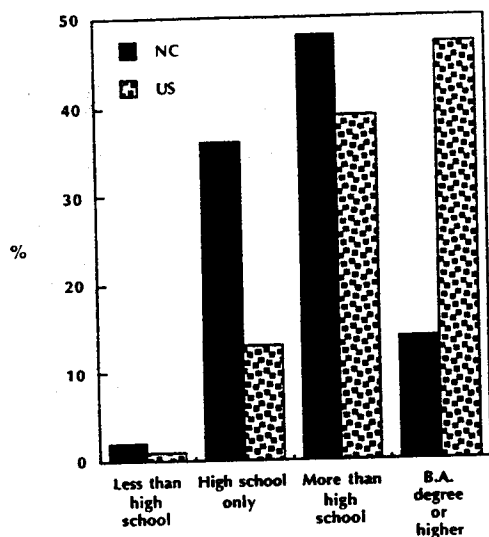
**Table 2**  
Percent of Child Care Classes in Smart Start Sample that Met Ratio and Group Size Standards<sup>a</sup> (N=184)

Age Group	Out of compliance	Met only the A standards	Met the AA standards	Met NAEYC standards
Infants	17%	—*	52%	31%
Ones	11%	—*	62%	27%
Twos	8%	—*	66%	26%
Threes	3%	26%	37%	34%
Fours	3%	17%	33%	47%
Fives	8%	8%	38%	46%

<sup>a</sup>Regardless of the licensing level of the center

\*Ratio and group size standards are the same for both A- and AA-licensing levels at this age

Figure 1  
Formal Education of Child Care Teachers  
in North Carolina and the US



### Teacher Education

A teacher's formal education is the strongest predictor of her teaching style in the classroom. Teachers with more education, especially those with a Bachelor's degree, are generally more sensitive, less harsh, less detached, and interact more appropriately with young children.<sup>4</sup> Clearly, employing well educated teachers is one of the keys to providing high quality care. In our sample of over 900 teachers, only 14% had a Bachelor's degree or higher. A little over a third had only a high school education. Compared to national data from 1990, North Carolina has far fewer well-educated teachers (see Figure 1).<sup>5</sup> More education would help teachers provide the learning environment necessary for children's development to thrive. The Smart Start evaluation team will collect information on child care teacher education again in the fall of 1996 to determine whether the overall education level of providers has increased since 1994.

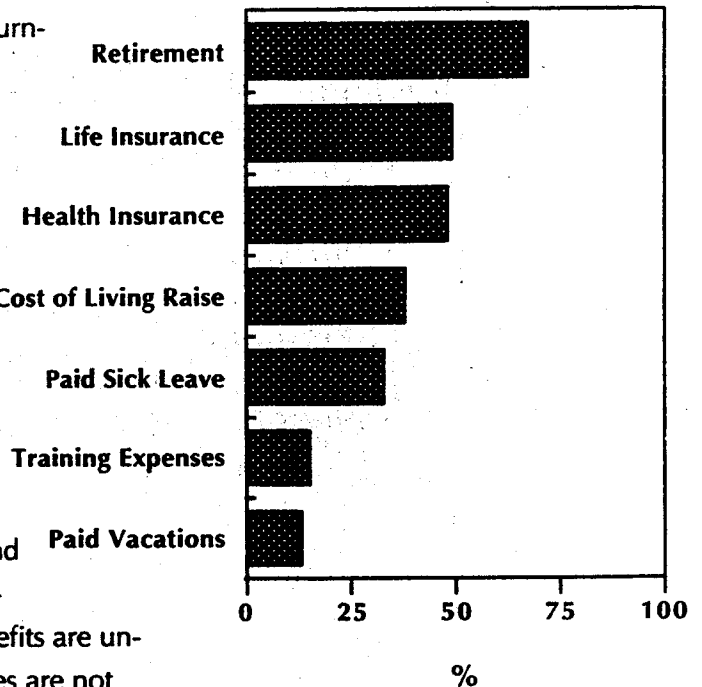
### Teacher Turnover Rate

Keeping teacher turnover low is another key to high quality care. Children's development is fostered by having warm relationships with consistent caregivers. When caregivers change frequently, they cannot get to know each child and his or her unique learning styles. In the 12 Smart Start pioneer partnerships, the average teacher turnover rate in 1994-95 was 32%. This is well above the 10% turnover typical of public schools and higher than the national child care teacher turnover rate of 25%.<sup>6</sup> For the average center, this means that of the 6 lead teachers employed, 2 quit each year, leaving behind children who must form new relationships with new caregivers.

### Wages and Benefits

If teacher turnover is so harmful to children, what can be done to improve it? The National Child Care Staffing Study reported staff wages as one of the most important predictors of turnover.<sup>7</sup> Simply stated, teachers with better pay and benefits stay longer. In the 12 pioneer Smart Start counties, the typical lead teacher earned \$5.77 an hour in 1995 (approximately \$12,000 a year). This is about the same hourly rate made by hotel housekeepers (\$5.85), bartenders (\$5.62), and parking lot attendants (\$5.47) in North Carolina.<sup>8</sup> Benefits for child care providers were also poor. Many centers did not offer basic benefits that most of us expect with our jobs (see Figure 2). For instance, 33% of the centers did not offer paid sick or personal leave and 48% did not cover any of the costs of health insurance for their employees. The low wages and benefits are undoubtedly a reason that more teachers with degrees are not working in child care and why even the most dedicated teachers leave the profession to take better paying jobs.

Figure 2  
Percent of Centers NOT Offering  
Typical Employee Benefits



### Cost of Child Care

Child care, regardless of the quality of care provided, is costly. The median monthly fee for infant care in our sample was \$275 per month. For toddlers, it was \$260 and for preschoolers, \$240. These fees varied widely across centers and counties. For instance, fees for preschoolers ranged from \$138 to \$550 per month in the pioneer Smart Start sample.

Although child care cost is most often thought of as the *cost to parents* (i.e., fees), costs can also be looked at in terms of the *operating costs* for centers to provide child care. While parent fees are usually expensive in relation to family income, they do

### Services Provided by Child Care Centers

What services are available in child care centers in North Carolina? In our sample, almost all of the centers provided meals for children (91%) and many provided developmental screenings (e.g., 51% provided vision screenings, 59% provided speech and language screenings). About half of the centers also provided transportation (53%) and before- and after-school care (52%). Fewer than 5% were open on weekends and evenings, and almost none provided care for children who were sick.

Thus, parents who work during non-daytime hours or who have a sick child must find alternative arrangements.

not cover all of the costs of providing care. Generally, parent fees cover about 73% of the total operating costs to centers.<sup>9</sup> The remaining costs have to be paid by other means (e.g., public funds, donations). Because child care is such a labor-intensive industry, labor costs account for about 70% of the operating costs of centers.<sup>10</sup> The operating costs would be higher if child care staff received better wages and benefits. *High quality* child care is even more expensive for centers to provide, with higher quality care related to fewer children per staff member, better educated staff, and higher staff wages—which means hiring more well-educated staff and paying them higher wages. Therefore, efforts to improve the quality of child care may result in higher operating costs to centers and higher parent fees.

However, increasing both the *amount* of government child care subsidies to low-income families and the *number* of families receiving these subsidies should enable more families to use better quality (and more expensive) child care. Every pioneer Smart Start partnership has allocated part of their funds to the government child care subsidy system to provide financial assistance with child care expenses for low-income families. From 1993 to 1994, the pioneer Smart Start counties *reduced* the number of children on the child care subsidy waiting list by 42%, compared to a 36% *increase* of children on the waiting list in non-pioneer Smart Start counties during the same period. With Smart Start support, these children and families are receiving the child care they need. The challenge is to ensure that this care is also high quality care.

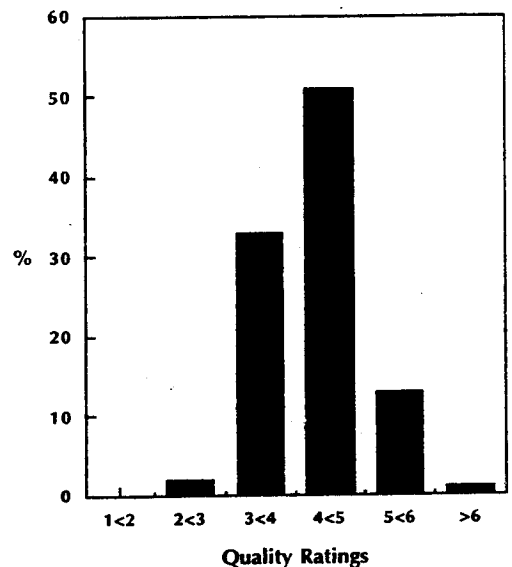
### Child Care Quality

Only 14% of the preschool classes in our sample were providing high quality care. The quality of preschool classrooms was measured through on-site observations in child care centers

(using the *Early Childhood Environment Rating Scale*<sup>11</sup>). The quality of care was characterized as poor, mediocre, or good, based on how well it met the needs of children, including their needs for health, safety, opportunities for learning, and social and emotional relationships with caregivers and other children. As shown in Figure 3, very few classrooms provided care that was poor (quality ratings from  $1 < 3$ ) and the majority of classrooms provided care in the mediocre range (quality ratings from  $3 < 5$ ). This suggests that most child care centers were at least minimally meeting children's basic needs for health and safety but were less good at providing appropriate opportunities for learning and for developing warm relationships with others. Only 14% of the classes provided good care (quality ratings of 5 or above), which is much lower than one would hope.

Overall, these findings indicate that for most young children in child care centers in North Carolina, their physical, social, emotional, and intellectual needs are not being met well. By not meeting these basic needs of children in the preschool years, it will be difficult to meet the primary goal of Smart Start which is to ensure that *all* children enter school healthy and ready to succeed. To determine whether the quality of care has improved over the first 2 years of Smart Start, observations by evaluation team members will be conducted again in child care centers in the fall of 1996.

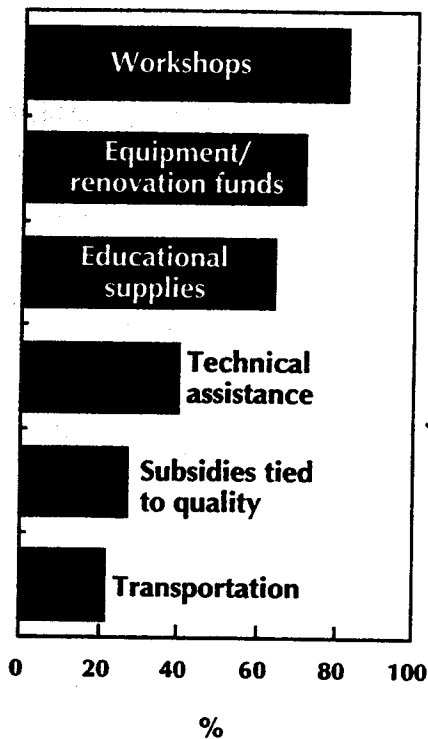
**Figure 3**  
**Quality of Preschool Classrooms**



### **Child Care Quality and Smart Start Participation**

Smart Start was designed to improve the quality of child care by providing teacher training, educational materials, and other supports to centers and child care providers. Are centers participating in these Smart Start quality improvement opportunities? In our sample of child care centers from the original 12 Smart Start partnerships, 95% of the centers were participating at least minimally in Smart Start. Center participation in various Smart

**Figure 4**  
Centers Participating in  
Smart Start Sponsored Activities



Start activities is described in Figure 4. Not surprisingly, individual centers varied in their participation in Smart Start. Some centers were participating in many activities while others were only participating in one. Centers that were participating *more* in Smart Start were providing significantly *better* quality child care than centers less involved in Smart Start. The training, quality improvement grants, and other efforts funded by Smart Start may well have helped improve the quality of care in these centers. However, it is also possible that the differences in quality existed prior to Smart Start, with centers which were already providing higher quality care being more interested in participating in Smart Start. Data collected in future years will help clarify this relationship between Smart Start involvement and higher quality child care.

### Quality of Care for Children with Special Needs

Of the 184 child care centers visited by the Smart Start evaluation team, 64 (35%) enrolled at least 1 preschooler with disabilities (children who have been diagnosed as delayed in 1 or more areas of their development). This reflects a growing national trend to include young children with disabilities in regular child care settings. How does the quality of care for children with disabilities compare with the quality of care for typically developing children? To answer this, the Smart Start evaluation team compared the quality of care (as measured by *ECERS* scores) in child care centers that enrolled at least 1 child with disabilities to the care provided by centers that enrolled only typically developing preschoolers. Programs that enrolled children with disabilities provided better quality care than those that enrolled only typically developing children. Not surprisingly, teachers from classes that enrolled children with disabilities rated themselves as being *more* knowledgeable and skilled in serving children with disabilities and as needing less training than teachers who did not serve children with disabilities.

These findings may be interpreted in several ways. Parents and service providers may seek out the highest quality child care centers as placements for young children with disabilities. On the other hand, centers that enroll children with disabilities may attract or seek out training resources that lead to better trained staff and overall improvements in program quality for all the children they serve. Many Smart Start partnerships are providing training and assistance to child care providers who care for children with special needs. As additional data are collected in future years, it will be interesting to see whether more children with disabilities will be served in child care—and whether their care will be of high quality.

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### **Conclusions**

The quality of child care in North Carolina needs to be improved. Compared to national averages, the teacher turnover rate is high and teacher education is low. Seven percent of the child care classes are out of compliance with even the minimum state regulations. Only 14% of the child care classes are providing good quality care.

Smart Start is designed to improve the quality of child care. We know that Smart Start participation is positively associated with higher quality care. When the Smart Start evaluation team repeats the child care observations in the fall of 1996—2 years after full implementation of Smart Start—we should know whether these many quality improvement efforts are making a difference. ■

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## Notes

- <sup>1</sup> Cost, Quality, & Child Outcomes Study Team. (1995). *Cost, quality and child outcomes in child care centers*. Denver, CO: Economics Department, University of Colorado at Denver.
- <sup>2</sup> 1995 Smart Start Evaluation Kindergarten Teacher Survey.
- <sup>3</sup> For a more detailed description of the evaluation methods, refer to the January 1995 report, "Overall Summary of Smart Start Evaluation 1994-95 Child Care Data from the Pioneer Counties."
- <sup>4</sup> Whitebook, M., Howes, C., & Phillips, D., (1989). *Who cares? Child care teachers and the quality of care in America*. Final report of the National Child Care Staffing Study. Oakland, CA: Child Care Employee Project.
- <sup>5</sup> Kisker, E. E., Hofferth, S. L., Phillips, D. A., & Farquhar, E. (1991). *A profile of child care settings: Early education and care in 1990*. Princeton, NJ: Mathematica Policy Research, Inc.
- <sup>6</sup> Ibid.
- <sup>7</sup> Whitebook, M., Howes, C., & Phillips, D., (1989). *Who cares? Child care teachers and the quality of care in America*. Final report of the National Child Care Staffing Study. Oakland, CA: Child Care Employee Project.
- <sup>8</sup> Employment Security Commission. (1995). *Wage rates in selected occupations: 1994-95*. Raleigh, NC: Labor Market Information Division.
- <sup>9</sup> Cost, Quality, and Child Outcomes Study Team. (1995). *Cost, quality and child outcomes in child care centers*. Denver, CO: Economics Department, University of Colorado at Denver.
- <sup>10</sup> Ibid.
- <sup>11</sup> The *Early Childhood Environment Rating Scale* was developed in 1980 by Thelma Harms and Dick Clifford. It is a well-established global measure of child care quality that has good reliability and validity and has been used widely in child development research. The *ECERS* includes 37 items covering seven general areas: personal care routines, furnishings and display for children, language-reasoning experiences, fine and gross motor activities, creative activities, social development, and adult needs. Scores can range from 1 to 7, with scores from 1 < 3 considered "poor," scores from 3 < 5 considered "mediocre," and scores of 5 or greater considered "good."

**REPORTS FROM THE UNC SMART START EVALUATION TEAM**  
**Frank Porter Graham Child Development Center at University of North Carolina – Chapel Hill**

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***Emerging Themes and Lessons Learned: The First Year of Smart Start (August 1994)***

This report describes the first-year planning process of the pioneer partnerships and makes some recommendations for improving the process.

***Smart Start Evaluation Plan (September 1994)***

This report describes our comprehensive evaluation plan at the onset of the evaluation, designed to capture the breadth of programs implemented across the Smart Start partnerships and the extent of possible changes that might result from Smart Start efforts.

***Keeping the Vision in Front of You: Results from Smart Start Key Participant Interviews (May 1995)***

This report documents the process as pioneer partnerships completed their planning year and moved into implementation.

***North Carolina's Smart Start Initiative: 1994-95 Annual Evaluation Report (June 1995)***

This report summarizes the evaluation findings to date from both quantitative and qualitative data sources.

***Reinventing Government? Perspectives on the Smart Start Implementation Process (November 1995)***

This report documents pioneer partnership members' perspectives on 2 major process goals of Smart Start: non-bureaucratic decision making and broad-based participation.

***Center-based Child Care in the Pioneer Smart Start Partnerships of North Carolina (May 1996)***

This brief report summarizes the key findings from the 1994-95 data on child care quality.

***Effects of Smart Start on Young Children with Disabilities and their Families (December 1996)***

This report summarizes a study of the impact of Smart Start on children with disabilities.

***Bringing the Community into the Process: Issues and Promising Practices for Involving Parents and Business in Local Smart Start Partnerships (April 1997)***

This report describes findings from interviews and case studies about the involvement of parents and business leaders in the Smart Start decision-making process.

***The Effects of Smart Start on the Quality of Child Care (April 1997)***

This report presents the results of a 2-year study of the quality of child care in the 12 pioneer partnerships.

***North Carolina's Smart Start Initiative: 1996-97 Annual Evaluation Report (April 1997)***

This report summarizes evaluation findings related to each of the four major Smart Start goals.

***Kindergartners' Skills in Smart Start Counties in 1995: A Baseline From Which to Measure Change (July 1997)***

This report presents baseline findings of kindergartners' skills in the 43 Smart Start counties.

***Child Care in the Pioneer Partnerships 1994 and 1996 (December 1997)***

This report presents more detailed information about child care centers that were included in *The Effects of Smart Start on the Quality of Child Care (April 1997)*.

***Families & the North Carolina Smart Start Initiative (December 1997)***

This report presents findings from family interviews of families who participated in Smart Start in the pioneer counties. The interviews included questions about child care, health services, family activities with children, and community services and involvement.

***The Effects of Smart Start Child Care on Kindergarten Entry Skills (June 1998)***

This report presents results from kindergartners who attended Smart-Start-funded child care centers compared to a random group of kindergartners who attended a broad range of child care or no child care.

***Effect of a Smart Start Playground Improvement Grant on Child Care Playground Hazards (August 1998)***

This report presents results from a comparison of the playground safety of child care playgrounds in a county that used Smart Start funds for playground improvement compared to a non-Smart Start county.

***Smart Start and Local Inter-Organizational Collaboration (August 1998)***

This report presents data about the effectiveness of the Smart Start initiative on improving collaborative relationships. Qualitative and quantitative data were obtained from 269 respondents in 10 local Partnerships.

***Smart Start Client Information System Feasibility Study (September 1998)***

This report presents findings from a study of the feasibility of creating a system to count uniquely all children and families served by Smart Start.

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