

**The North Carolina
ABCD Project:
*A New Approach for Providing
Developmental Services in
Primary Care Practice***

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OVERVIEW

The North Carolina Division of Medical Assistance, in collaboration with the North Carolina Office of Research, Demonstrations and Rural Health, has developed, implemented and replicated a new health care delivery model that provides child development services to young children. The project has created a community-based comprehensive and coordinated child development services system, one that builds upon the existing infrastructure of the state's enhanced primary care case management system (The ACCESS II/III program). The new health care delivery model consists of the integration of developmental screening and surveillance into well-child visits in pediatric and family practice offices and is followed by case management for parents who express concerns about their child's development. As part of the project, North Carolina has also formed a state advisory group to identify changes to state policies and reimbursement mechanisms that may be necessary to support the new model.

The North Carolina project is supported by the Commonwealth Fund's Assuring Better Child Health and Development program (ABCD) and administered by the National Academy for State Health Policy. The ABCD initiative seeks to build the capacity of states to provide child development services to low-income children enrolled in Medicaid.

As the project enters its third year (and the final year of foundation support), objectives include replicating the demonstration in two other counties in the state and augmenting the evaluation to better assess the impact of the program on young children's health and development. The demonstration project has already shown significant promise. This field report provides an overview of the project, its accomplishments to date, and lessons for other states.

THE NORTH CAROLINA ABCD INITIATIVE

A major goal of North Carolina's Department of Health and Human Services (DHHS) is to create a system of health care that can consistently improve access, quality, and cost-effective care for Medicaid recipients. Toward this goal, the Department has begun building community-based systems of care for its Medicaid and SCHIP beneficiaries, especially for children. The community-based systems includes public and private providers who together take on the responsibility for the defined population, launch health management programs, and assume responsibility for performance.

Prior to launching the ABCD project, North Carolina had begun to examine the need to improve the delivery and financing of child development services for Medicaid children. A recent estimate suggests that 12 to 16 percent of American children have a developmental or behavioral disorder.¹ These disabilities include speech and language delays, mental retardation, learning disabilities, and emotional and behavioral problems. However, only about half of these children are detected before they enter school. As Frances Glascoe, Ph.D. and Henry Shapiro, M.D. have written: "Underdetection is unfortunate because it eliminates the possibilities of early intervention. Children who participate in early intervention programs prior to kindergarten are more likely to graduate from high school, hold jobs, live independently and to avoid teen pregnancy or delinquency."² In North Carolina, referrals to early intervention services have averaged between two to four percent.³

To address this and other issues, North Carolina's DHHS submitted a proposal to The Commonwealth Fund's Assuring Better Child Health and Development (ABCD) initiative in late 1999 to fund a quality improvement effort that would focus on building the State's capacity to provide early child development services to low-income children. In early 2000, North Carolina – along with Utah, Vermont, and Washington – was awarded a three-year grant from The Commonwealth Fund.

The North Carolina project is designed to achieve six key objectives:

- To develop and implement a model program for Medicaid children that encompasses their health, social, and developmental needs;
- To secure local community involvement in the delivery of early childhood development services;

¹ Rosemarie B. Hakim and Barry V. Bye. "Effectiveness of Compliance With Pediatric Preventive Care Guidelines Among Medicaid Beneficiaries," *Pediatrics* 108 (2001): 90-97.

² Frances Page Glascoe, Ph.D. and Henry L. Shapiro, M.D. "Developmental and Behavioral Screening," *Pediatric Development and Behavior* (<http://www.dbpeds.org/articles/>), updated August 1, 1999.

³ Early Intervention in North Carolina, 2000 Annual Report to the Governor, North Carolina State Interagency Coordinating Committee.

- To integrate services to ensure the most efficient use of resources and to maximize existing services while minimizing duplication;
- To identify and respond to family concerns;
- To monitor and track the impact of the changes on Medicaid policy; and
- To help parents understand developmental milestones/behavior and ways to facilitate healthy development.

The North Carolina ABCD project was begun in the spring of 2000 and was designed, from its inception, to serve as a model for future replication throughout the state. The model consists of two major components:

- the introduction of a standardized and validated screening tool at selected well child visits and
- follow-up case management for those families that indicate they have concerns about their child's growth and development.

Other important pieces include the development and dissemination of parent education materials about child development and a state advisory group to identify and recommend changes to reimbursement or procedures that would facilitate program sustainability and expansion.

North Carolina's ABCD demonstration project was first implemented in the largest pediatric practice in Guilford County, Guilford Child Health (GCH), which consists of three separate clinic sites that together serve some 9,000 low-income children, 97 percent of whom are covered by Medicaid or SCHIP. Marion Earls, M.D., a developmental pediatrician, is the practice's medical director. Dr. Earls oversees the demonstration project at the practice level and acts as its physician champion. (For more information on Guilford Child Health, see page 14.)

In the summer of 2000, the project charted workflow processes in all three GCH clinic sites. Designated clinic staff, in collaboration with the state's Office of Rural Health and Demonstrations, also began developing and field testing screening, referral, and parent education protocols across the practices. A major component of this work involved a review and analysis of available screening tools and the adoption of the Ages & Stages Questionnaire (ASQ). (See Table 1.) The second major task of the project was the hiring of an early intervention specialist to facilitate the project's operations, oversee the collection and analysis of data from the ASQs, and provide support to families.

The Screening Tool

The integration of an evidence-based, standardized screening tool into the physician practices has been central to the work of the demonstration project. Like other screens, the ASQ assists providers in their ability to identify children who are at risk of delay or disability, to flag those who need further assessment, and to identify strengths of the child.

At the same time, the ASQ helps to involve parents in a conversation about the child's health and development. As Dr. Earls notes, even for children without substandard scores on the screen, the instrument is an excellent communication tool. It helps pediatricians talk with parents about issues of concern, provides reassurance to anxious parents, and reinforces parent education. At GCH, the clinic's Reach Out and Read program is also integrated into the process, ensuring that nearly all children who are screened are provided with a developmentally appropriate book to take home with them from their check-up.

In serving these critical functions, the screening tool has the potential to reduce the severity and impact of developmental problems on children and their families.

The ASQ is designed to be completed by parents and can be administered at up to 19 intervals between four and 60 months of age. The 30 items on each of the forms focus on five developmental areas: communication, gross motor, fine motor, problem solving, and personal/social. It is quickly and easily scored, sensitive and specific in identifying problems, and inexpensive to administer. While the form is written at a fourth to sixth grade reading level, it is possible for parents who are unable to read the form to complete it by having someone read the questions to them.

The GCH physician practices chose not to administer the ASQ at every possible visit, but rather opted to focus on five key ages between birth and age four (6, 12, 24, 36, and 48 months). Providers have the option to use the form at other intervals as they deem appropriate.

In the GCH practices, parents typically complete the ASQ in the examining room.⁴ Dr. Earls estimates that most parents complete the form in about five to ten minutes. The doctor or nurse practitioner scores the form when he or she enters the room, a process which takes about two to three minutes, and then reviews the results with the parent by discussing the child's strengths, topics of concern, and the need for an evaluation, if appropriate. Evaluations are typically conducted through a local consortium of child service providers. The consortium includes representatives from county and state agencies, among them the public health department, social services, mental health services, the Department of Public Instruction, the Infant and Toddler program, and the Developmental Evaluation Center (DEC). The consortium was established in response to the passage of Public Law 99-457, the federal Individuals with Disabilities Education Act (IDEA). This multi-disciplinary team of professionals focuses on the specific needs of families and children and coordinates services. (See Figure 1 for a depiction of the screening and referral process instituted at Guilford Child Health.)

⁴ The cost of an ASQ kit is \$190 and an unlimited number of copies may be made, free of charge, from the originals.

Table 1: Overview of Developmental Screening Tools

	ASQ ⁵	BINS ⁶	DDST ⁷	PEDS ⁸	CDI ⁹	BRIGANCE ¹⁰	PSC ¹¹	GAPS ¹²
Type/Ages	Parent questionnaire (2 mos-5 yrs)	Direct elicitation (3-24 mos)	Direct elicitation	Parent questionnaire (0-8 yrs)	Parent questionnaire (3 mos-6 yrs)	Direct elicitation (21 mos-7.5 yrs)	Parent questionnaire	Child & parent questionnaires (11-21 yrs)
Staff required	Para-professional	MA or equivalent	3.5 hours of training	Para-professional	Para-professional	Professional	Para-professional	No Scoring
Time to score	5 minutes	10-15 minutes	20-30 minutes	5 minutes	10 minutes	10-15 minutes	7 minutes	20 minutes
Cost (per kit)	\$190	\$195	\$91 kit \$185 training materials	\$39	\$41	\$249	Free down-load	Free download from AMA
Refills	OK to copy	Needed	\$26-\$100	\$30-\$50			Ok to copy	Ok to copy
Languages	English Spanish	English	English	English Spanish	English Spanish	English Spanish	English	English Spanish
Reading Level	4 th - 6 th Grade	NA	NA	5 th Grade		NA		

⁵ Ages and Stages Questionnaire. Paul Brooks Publishing Co., PO Box 10624, Baltimore, MD 21285-0624. 1-800-638-3775. www.pbrookes.com.

⁶ Bayley Infant Neurodevelopmental Screen. The Psychological Corp., 555 Academic Court, San Antonio, TX 78204. 1-800-228-0752. www.psychcorp.com

⁷ Denver Developmental Screening Test. Denver Developmental Materials, Inc., PO Box 371075, Denver, CO 80206-0919. 1-800-419-4729

⁸ Parents Evaluation Developmental Status. Ellsworth & Vandermeer Press, PO Box 68164, Nashville, TN 37206. 1-888-729-1697. www.pedstest.com

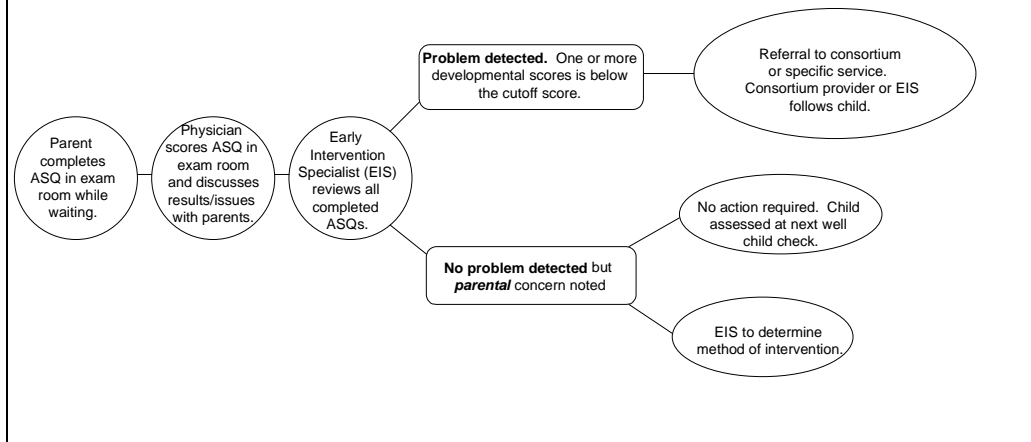
⁹ Child Development Inventory. Behavior Science Systems, Inc., PO Box 580274, Minneapolis, MN 55458.

¹⁰ Brigance Diagnostic Inventory of Early Development. Curriculum Associates, Inc., 153 Rangeway Road, North Billerica, MA 01862. 1-800-225-0248. www.curricassoc.com

¹¹ Pediatric Symptom Checklist. Child Psychiatry, Bulfinch 351, Massachusetts General Hospital, Boston, MA 02114. 617-724-3163.

¹² Guidelines for Adolescent Preventive Services. American Medical Association. www.ama-assn.org/

**Figure 1: North Carolina ABCD Screening and Referral Process:
Guilford Child Health**



The Early Intervention Specialist

In addition to adopting and integrating the ASQ into each physician practice, the project has used its ABCD grant funds to hire an early intervention specialist (EIS). The specialist facilitates the project's operations at each of the sites and oversees the collection of information from the ASQs. In addition, the EIS presents referrals to the consortium on behalf of the clinics and provides support to families who express concerns about their child, whether or not the child is identified through the screening process as needing specific services or additional assessment.

The early intervention specialist conducts home visits and assists with parent education. In addition, she helps families who express concerns about domestic violence, drug abuse, stress management, unemployment benefits, housing, child care, education, specialized developmental services, and maternal depression.

The EIS is expected to have a four-year undergraduate degree along with knowledge of developmental disabilities and experience working with families and young children. In addition to her bachelor's degree in social work and prior work experience with Head Start, the current specialist is nearing completion of 230 hours of training towards a Full Personnel Certificate, demonstrating competencies in child development, family development, screening and assessment, interdisciplinary family service planning, intervention strategies, interagency and community process, and professionalism and ethics.

REPLICATION OF THE ABCD MODEL TO OTHER PHYSICIAN PRACTICES IN GUILFORD COUNTY

Since the demonstration began in 2000, the project has worked to put in place the components necessary to replicate the pilot in other practices across the state. In the project's second year, the model was expanded from Guilford Child Health's three pediatric clinics to three family practice sites in Guilford County. Together, these six practices comprise the physician practices of the Guilford Access Partnership (GAP), a local community care network that treats more than 50 percent of the County's Medicaid population. (For more information about GAP, see *The State and County Context* later in this report.)

Project staff have carefully documented their work in the pilot practices and developed an office guide to assist physician practices in incorporating the ABCD model. The guide includes, among other things, information on developmental screens, a detailed template to guide a practice in developing the work flows and systems necessary to implement the initiative, referral forms, member materials, and program data. (See Appendix A.)

Many of the materials developed for the North Carolina ABCD initiative – posters for the waiting room, tip sheets for doctors, parent education materials – are available in electronic format so that a new practice can have access to them easily and at no cost, save for printing.

As the ABCD initiative has expanded to each of the six practices, it has been adapted to fit the particular needs and realities of each site. Staffing resources, community partnerships, and office structures all play a role in determining exactly how the initiative will be implemented. For instance, at Guilford Child Health, all children who are identified by established office protocols as medically "high risk" are first referred to the practice's team directed clinic. Others, identified through the ASQ screening as needing further evaluation and/or services, are typically referred to the local consortium of child service providers. The referral process at other practices is directed in other ways, by a local counselor at one of the sites, by the hired early intervention specialist at others.

ACCOMPLISHMENTS AND FINDINGS: PRELIMINARY RESULTS FROM THE EVALUATION

The demonstration project has contracted with the Institute of Health Science and Society at the University of North Carolina Greensboro to design a database and provide continuous data management support.

Each quarter, the Institute provides the project with data related to three evaluation measures:

1. The number of children who were screened as a percentage of well-child visits.
2. The number of children who failed the developmental screen as a percentage of the total number of children screened.¹³
3. The number and type of referrals as a percentage of the total number of children screened.¹⁴

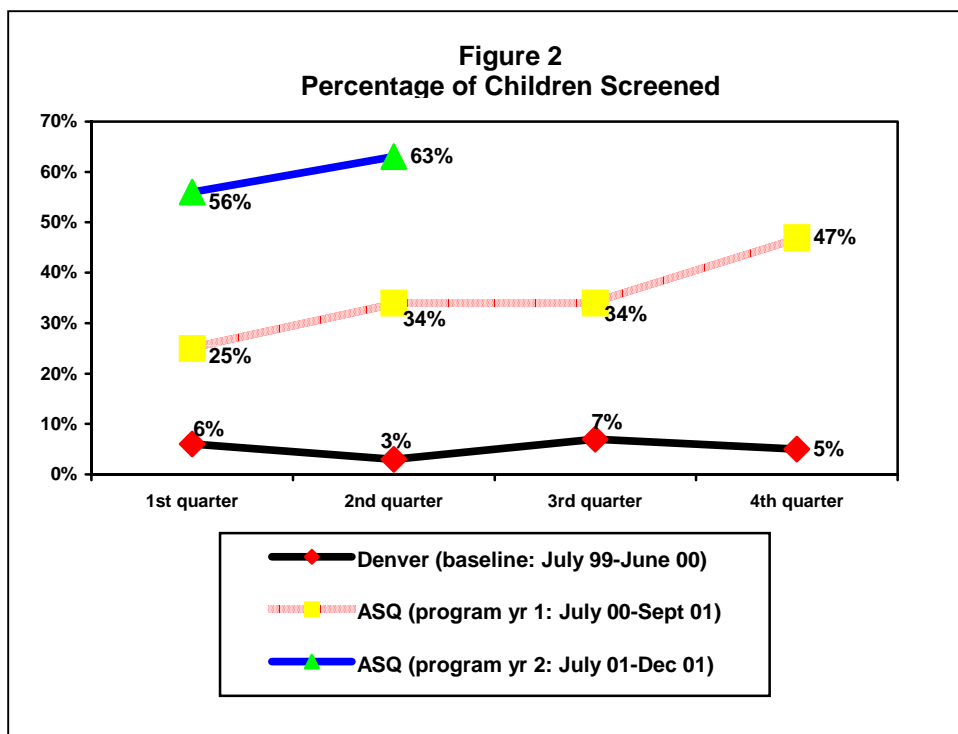
In the first eighteen months of project implementation (July 2000-December 2001), the demonstration sites completed 3,573 Ages and Stages Questionnaires on 3,426 children and referred 241 of them (7 percent) for services. The early intervention specialist also addressed the needs and concerns of parents from another 80 families whose children's score on the ASQ did not identify any disability or delay; however, the parents' responses indicated some concern about their child's development. State officials are excited about the rate of referral as a result of the project as the most recent statewide rate of referral to early intervention is approximately 3.9 percent.¹⁵

Figure 2 shows the percentage of children screened at the six practices during the first 18 months of the project and compares this by quarter with the percentage screened using the Denver Developmental Assessment (DDA) in the previous year. (Prior to adopting the ASQ, the practices used the Denver Developmental Assessment when a practitioner thought a screen necessary. As Figure 2 suggests, the DDA was used sporadically. It was not incorporated in any formal way into the practices.) Nevertheless, the increase in the percentage of children screened during the first year of program implementation is dramatic.

¹³Failed is defined as those children whose total ASQ score in any one developmental area is below the cut-off identified for his or her age group. Children previously referred to the Consortium are not counted in this group.

¹⁴Types of referrals identified include speech, language, Consortium, and Developmental Evaluation Centers.

¹⁵Early Intervention in North Carolina, 2000 Annual Report to the Governor, North Carolina State Interagency Coordinating Committee.



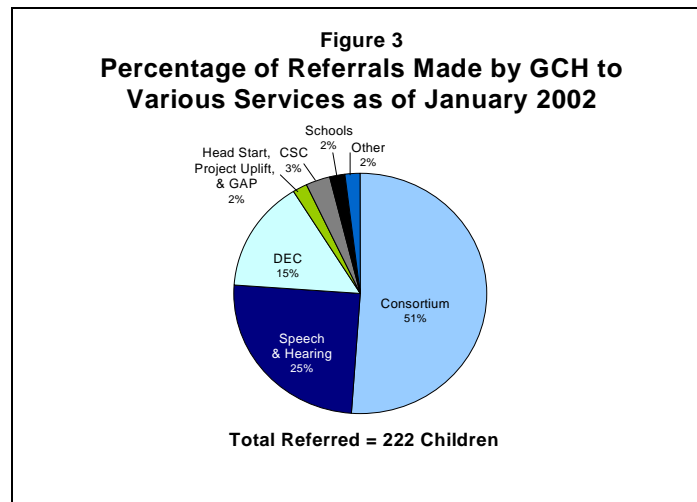
The percentage of children screened by Guilford Child Health practices differed considerably at each of its three sites in the fourth quarter of 2000-2001, from a high of 72 percent at Devon (a small clinic within a housing project) to 38 percent at Wendover (with ten physicians and nurse practitioners). However, the total percentage of children screened by GCH grew to 47 percent in the final quarter of 2000-2001, from 5 percent the previous year, and it has continued to rise, to 63 percent in the second quarter of 2001-2002.

While impressive, these numbers are not optimal, and project and practice staff continue to focus on increasing the overall screening rate. Among other initiatives, the project has surveyed the practices to obtain feedback from the staff and to identify and address breakdowns in office processes. The project has also worked to increase awareness of the initiative within each practice by recognizing the efforts of staff, posting data results, acknowledging successes and accomplishments, and incorporating information about the initiative into new staff training.

Of the children screened with the ASQ who were referred to additional services in 2000-2001 (7 percent of the total number screened), the majority were referred to the local consortium, the county-wide, multi-disciplinary team of professionals who represent various service providers and agencies. (See Figure 3).¹⁶ This referral rate is significantly

¹⁶ Nationally, about 12 to 16 percent of children in the general population have behavioral or developmental problems, but only about half are detected prior to school entrance. Rosemarie B. Hakim and Barry V. Bye Effectiveness of Compliance With Pediatric Preventive Care Guidelines Among Medicaid Beneficiaries *Pediatrics* 2001 108: 90-97.

higher than the state average; referrals to early intervention services have averaged between two to four percent in North Carolina.¹⁷



Consortium: Local consortium of child service providers. Established to address the requirements of the federal Individuals with Disabilities Education Act (IDEA) and includes representation from the public health department, social services, mental health services, the Department of Public Instruction, the Infant and Toddler program, and the Developmental Evaluation Center (DEC).

Speech & Hearing: Evaluation and therapeutic services

DEC: Developmental Evaluation Center

Head Start: Federally funded child development program

Project Uplift: Child development program (0-3)

GAP: Case management through Guilford Access Partnership

CSC: Child service coordinator, local health department

From March to May 2001, the demonstration project surveyed parents to learn what parents want and find most useful in terms of early childhood development services. Among the survey's findings:

- Parents feel that knowing about child development helps them in raising their children, and they want information from their provider on child development.
- Parents cited discipline and nutrition as topics on which they would like more information.
- Parents want information either in written form or via workshops.
- Parents read the information and find it helpful.
- Some parents felt they would need assistance with babysitting and/or transportation in order to take advantage of a workshop. The time of day a workshop is scheduled would also determine whether or not they could attend.

The survey also found that 38 percent of parents who had completed an ASQ did not realize that they had done so or were unsure if they had. In response, the project has

¹⁷Early Intervention in North Carolina, 2000 Annual Report to the Governor, North Carolina State Interagency Coordinating Committee.

developed information about the ASQ and attached it to the copies parents are asked to complete. Also in response to the survey findings, the project has developed a series of age-appropriate parent education materials on discipline, development, and other topics (in both English and Spanish). (See Appendix B.) And it has started offering parenting classes on nutrition, job skills, and discipline.

A written survey was mailed in September 2001 to physicians, nurses, and other office staff who were involved in the process for at least six months. Among the survey findings:

- Staff agree that the ASQ is an effective assessment tool and would recommend it to other providers;
- Staff generally use the ASQ as a guide for discussing developmental issues with parents; and
- Parents appreciate the additional time staff spend assessing their child's development.

THE STATE AND COUNTY CONTEXT

The State Context: North Carolina's Community Care Program

The ABCD project is a quality improvement effort that is part of a broader initiative within North Carolina to better manage the care of Medicaid beneficiaries at the local level. North Carolina's Community Care Program builds on the successes of the state's primary care case management program (Carolina ACCESS) and is a community-based health care system for Medicaid recipients, one organized and operated by community providers. Known as Carolina ACCESS II/III, the Community Care Program consists of eleven provider-led networks and operates in approximately one-quarter of the State's 100 counties. The ACCESS II/III sites unite public and private providers in systems of care that focus on addressing the health care needs of Medicaid recipients and other low-income individuals. In all, the ACCESS II/III sites provide care to approximately 228,614 of the state's 1.2 million Medicaid recipients. (See Appendix C for more information on ACCESS II/III.)

The community care program corporations receive \$2.50 per Medicaid member per month to develop the staff and programs needed to improve the management of enrollee care. These dollars may not be used to make direct payments to clinical providers but are meant to support the development of ACCESS II/III plans and initiatives. The annual cost to the State in supporting the development of ACCESS II/III plans is approximately \$1.5 million. These initial costs have been offset by the cost savings generated by the program. For a specific example of cost savings through an ACCESS II/III initiative, see Figure 4.

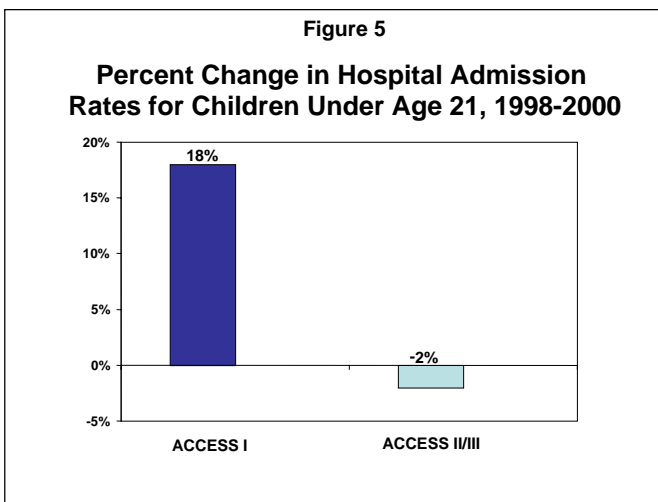
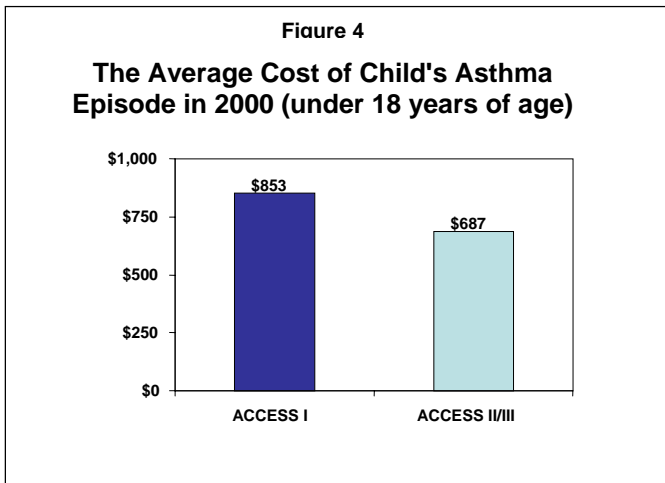
In addition, each physician who participates in Carolina ACCESS (North Carolina's statewide PCCM program; all ACCESS II/III programs are part of Carolina ACCESS) receives \$2.00 per member per month to coordinate care for his or her enrolled population. Total enrollment in Carolina ACCESS is approximately 671,191, roughly three times that of the ACCESS II/III population. Medicaid's annual costs for these management fees (both Carolina ACCESS and ACCESS II/III) is approximately \$22.9 million.

In spite of serious financial shortfalls in the state budget, the North Carolina Legislature recently mandated expansion of the ACCESS II/III program, recognizing the value of enhanced case management services and the potential for continued cost savings to the state. Plans are to finance the expansion through the costs savings realized from the local initiatives.

Under their contracts with the state, the community care corporations are accountable for improving the health status of individuals in their care as well as for improvements that have a positive impact on access, quality, and cost. To that end, ACCESS II/III providers are expected to provide preventive services and to develop processes by which at-risk patients can be identified and their care managed before high cost interventions become necessary. When the Community Care Program was initiated in 1998, participating sites

focused their quality improvement efforts on managing enrollees with chronic illness, most especially asthma, and on managing the use of the emergency department. More recently, sites have tackled topics of local interest that have included dental varnishing and otitis media.

As Figures 4 and 5 illustrate, the Community Care Program is having a significant positive impact on both cost and quality. (See Figures 4 and 5).



The County Context: Guilford ACCESS Partnership

The ABCD demonstration was pilot-tested in Guilford County's ACCESS II/III network, Guilford Access Partnership (GAP). As is true of the other ACCESS II/III sites, GAP has significant resources in place to implement quality improvement efforts, including:

- A medical director and physician champion;
- A quality improvement team and team leader;
- Dedicated case managers;
- Active participation from each provider site;
- Collaboration with the local health department and department of social services;
- Disease management goals and improved performance targets; and
- Responsibility for community health status and outcomes (as described in the previous section).

As a member of the Guilford ACCESS Partnership, Guilford Child Health (GCH) provides services to some 9,000 Medicaid children in its three clinics, located in Greensboro (Wendover and Devon) and High Point. Under the direction of Dr. Marian Earls, GCH has been involved in a number of quality improvement efforts in addition to the ABCD project. The group has taken the lead on an initiative focused on otitis media and has established treatment protocols for possible replication to other ACCESS II/III sites. It has also been involved in the quality improvement effort focused on asthma management.

Formed as a public/private partnership between Guilford County Public Health, Moses H. Cone Health System, Wesley Long Hospital, and High Point Regional Health System, Guilford Child Health works closely with community child health service providers that include child services coordination, early intervention, public health services (such as social work, speech and hearing, and WIC), and the area mental health program. Many of the agencies that provide these services have staff or offices actually located within or across the street from the GCH Wendover clinic.

GCH's staff of close to 50 includes physicians, nurse practitioners, social workers, care liaison managers, registered nurses, licensed practical nurses, and certified nursing assistants. While GCH is now a private pediatric practice, it continues to receive \$1.2 million a year in public maternal and child health (MCH) funding, as it did when it was a Title V clinic. The MCH funding amounts to about 20 percent of GCH's annual budget; the remainder is derived chiefly from Medicaid and SCHIP reimbursement.

NEXT STEPS: SUSTAINABILITY, REPLICATION, AUGMENTATION

Sustainability

The Commonwealth Fund's support of the North Carolina ABCD project will conclude in April 2003. Components of the delivery model – among them the screening and surveillance and the parent education materials – have been well integrated into the existing practices, adding little or negligible burden in terms of time to the participating providers. The component of the project that is most costly and challenging to sustain is the position of early intervention specialist, a position currently being funded through the ABCD grant from The Commonwealth Fund. As an indication of its commitment to the project, the Guilford ACCESS Partnership (GAP) agreed in May 2002 to continue to support the specialist through the administrative support that Medicaid provides to GAP through the ACCESS II/III programs.

Replication

As the project enters its third year, North Carolina state and local staff plan to replicate the model in at least two other counties between June 2002 and April 2003. The identified replication sites—Forsyth and Gaston counties—will provide a useful testing ground for both the resource materials and the replication process. Both participate in the ACCESS II/III program. During at least the first year of operation, both counties will receive support from The Commonwealth Fund grant to set up their local system. Initial discussions with the two replication counties indicate that—in order to meet the needs of the local community—the model they adopt will vary somewhat from the one implemented in Guilford County. In particular, in order to ensure the long-term sustainability of the model, the replication counties will be charged with determining how to incorporate the roles and responsibilities of the early intervention specialist into the work of existing case management personnel (such as child service coordinators).

To facilitate replication, the ABCD project has designed a resource guide for other ACCESS II/III sites interested in adopting the program. In addition to the materials contained in the office guide (mentioned above), the resource guide will include a worksheet designed to assist sites in building the infrastructure necessary to support the initiative, marketing materials aimed at both parents and providers, and a detailed list of community resources. (A draft of this resource guide, the North Carolina Medicaid Toolkit, is available at www.nashp.org.)

At the state level, the state advisory group is working with the ABCD project director and Dr. Earls to identify policy and reimbursement issues that may impede or strengthen the program's efforts. The group—which includes senior representation from a variety of state agencies as well as advocacy groups and the North Carolina Pediatric Society—is likely to explore incentives for improving service delivery, reimbursement issues, and

ways to facilitate the replication of the model to all ACCESS II/III sites and beyond.¹⁸ In particular, the advisory group is exploring options for how to finance the early intervention specialist in future years and in additional sites. State officials involved in the demonstration believe that some of the services provided by the specialist may be able to be absorbed into the case management services currently being provided in ACCESS II/III sites. In addition, some of the services provided by the early intervention specialist are covered by Medicaid and are reimbursable.

Finally, to facilitate replication to all practices statewide—not just those affiliated with the ACCESS II/III program—Dr. Earls has teamed up with the North Carolina Pediatrics Society, the Academy of Family Physicians, Medicaid, Early Intervention, and the Office of Rural Health to develop a curriculum for providers on how to integrate screening tools into practices and develop a community system for screening and referral. The group expects that physicians participating in the training will receive credit toward their continuing medical education (CME) requirements and will have the opportunity to network and learn from their colleagues and from community liaisons involved in various aspects of early childhood development.

Augmenting the evaluation

The North Carolina project is designed to achieve four principal goals:

- To help parents understand developmental milestones/behavior and ways to facilitate healthy development;
- To increase the number of children screened for developmental delays;
- To increase the number of children referred for appropriate services; and
- To identify and respond to parental developmental concerns.

To ensure that the project achieves these benchmarks, it is augmenting its evaluation to include intermediate outcome measures and comparison counties. In addition to collecting information about the percentage of children screened and referred in the intervention counties, additional measures will be added to verify that referred children actually received the services, the duration of service (number of visits), and the type of service they received. In addition, agency staff at the Office of Rural Health and Demonstrations will continue to work with analysts at the Institute of Health Science and Society at the University of North Carolina Greensboro to identify outcome measures, such as detection of certain conditions (autism, cerebral palsy, attention deficit disorder); emergency room utilization; and pre-school testing scores. Finally, to assess the impact of the ABCD initiative in North Carolina, comparison counties will be added to the

¹⁸ The state advisory group includes representation from: North Carolina Division of Medical Assistance; Office of Research, Demonstrations and Rural Health; Division of Child Development/North Carolina Interagency Coordinating Council; North Carolina Pediatric Society; Early Intervention Branch; Mental Health, Developmental Disabilities and Substance Abuse Services; Exceptional Children Division, Department of Public Instruction; Intervention Services Unit; Brody School of Medicine; Department of Public Health; North Carolina SmartStart.

evaluation design to measure differences in screening and referral rates between intervention and non-intervention counties.

CONCLUSION: LESSONS FOR OTHER STATES

As the North Carolina model makes clear, state Medicaid programs have the potential to provide coordinated developmental services as part of a comprehensive health care delivery system for young children.

The North Carolina ABCD demonstration project represents a promising community-based approach to providing comprehensive child development services to young children through Medicaid. The model was carefully designed to provide a template for replication throughout the state. Its materials and lessons should also prove useful to other states interested in pro-actively and effectively identifying and managing developmental problems in young children, efforts that could save money for the state in the long-run.

The architects of the North Carolina model suggest that the following lessons may prove helpful for other states:

- **Collaborate.** Although Medicaid is the lead agency for the North Carolina ABCD project, the partnership between the state agencies (Medicaid, Office of Rural Health and Demonstrations, Early Intervention) and between the state and local providers (physicians, hospitals, health departments, social service agencies, and state pediatric society) is critical to the successful implementation of a community-wide initiative to promote children's health and development.
- **Identify local leadership.** Identifying strong leadership at the physician practice level is critical to initiating a quality improvement effort and to encouraging other physicians to assess and change their delivery of care.
- **Start small.** Pilot-testing the project in one site before replicating it widely enables project staff to work out the details of the model. Rolling out replication slowly provides an opportunity to test replication processes and resource materials.
- **Think big.** If replication of the project is central to the effort, be clear about that goal from the start. In North Carolina, the model was intended from its inception to be broadly replicated. Because Medicaid, the Office of Rural Health, and the physician champion all shared this vision, the following elements, important to the project's longterm success, were possible:
 - ✓ the creation of the state advisory group to identify and monitor policy issues,
 - ✓ the development of the various resource guides (at the office and county level),
 - ✓ the project's commitment to an evaluation, and
 - ✓ an expectation that presenting findings that convey the achievements and challenges of the effort is an important part of project dissemination.

- **Maximize resources.** Integrate new projects with existing initiatives to maximize dollars and avoid duplication. The North Carolina ABCD project was initially considered feasible due to the existing infrastructure of the ACCESS II/III sites. As the project enters its third year, methods for adopting the model in non-ACCESS II/III sites are being explored.

- **Set up systems to stimulate quality improvement initiatives led by the provider community.** State Medicaid agencies can stimulate changes that are designed to ensure that they are purchasing better value and offering higher-quality care for their Medicaid and SCHIP beneficiaries. In North Carolina, these quality improvement efforts are locally driven, focused on 1) developing and supporting community-based systems that look at all Medicaid recipients, not just those who present for care, and 2) proactively managing their care before costly interventions become necessary. Financial incentives offered through the ACCESS II/III program (see *The State Context*) have enabled the North Carolina Division of Medical Assistance to foster the necessary collaboration between providers and to improve the quality of care for the state's Medicaid and SCHIP enrollees.

RESOURCES

Many of the resources referenced in this report are available on the NASHP website at www.nashp.org. The site includes extensive information on The Commonwealth Fund's Assuring Better Child Health and Development (ABCD) initiative and the ABCD Consortium (comprised of North Carolina, Utah, Vermont, and Washington). It also includes the ABCD Toolbox, a compendium of resources designed to assist states seeking to strengthen their early childhood development services. The toolbox's resources from North Carolina include:

- The Office Resource Guide
(See Appendix A for the guide's table of contents)
- The Medicaid Toolkit/County Resource Guide
- Parent Resources
- Provider Resources
- Evaluation Design and Findings

APPENDICES

APPENDIX A

NORTH CAROLINA ABCD PROJECT

An Office Resource Guide

The Office Resource Guide has been prepared to assist practice staff with integrating developmental screening and referral into office policies and procedures. Many of the components of the resource guide listed here are available on the web at www.nashp.org.

- ❑ **Setting the Stage** - An introduction to early intervention (EI) and an overview of two child development demonstration projects within North Carolina.
- ❑ **Research** - Review the American Academy of Pediatrics statement on developmental surveillance and screening, the North Carolina Pediatric Society's letter of support for enhancing screening and referral in the office and A discussion of Developmental and Behavioral Screening tools for Primary Care Practices. A comparison of the tools is included.
- ❑ **Screening Tools** - An introduction to the Ages and Stages Questionnaire (ASQ) and the Parents Evaluations of Developmental Status (PEDS). Samples of the ASQ and PEDS are included.
- ❑ **Practice Workflow** - Integrating screening into the practice workflow is essential to long term sustainability. A worksheet to guide you in outlining your workflow and samples from two practices are included.
- ❑ **Referral Forms** - Children who need evaluating should be referred to your local consortium. Check with your local consortium to see if a form is available or develop your own. A sample referral form is included.
- ❑ **Member Materials** - Information to promote healthy development, parent incentives, and questionnaires for eliciting more information about the family are contained in this section. Incentives include magnets, growth charts, and calendars. Items are available on disk.
- ❑ **Provider Materials** - Items to help a provider when discussing screening and referral with a parent are contained in this section. Items are available on disk.
- ❑ **Community Resources** - Contact your local interagency council for a directory of early intervention services for children ages 0-5. A sample list from Guilford County and a worksheet for customizing your own list are included.
- ❑ **Helpdesk** - Have questions or need support? Look here for someone to call.

APPENDIX B

NORTH CAROLINA ABCD PROJECT

Parenting Materials

The following parent resource materials have been developed by the North Carolina ABCD project and are available at www.nashp.org.

- [Anticipatory guidance: 2 weeks](#)
- [Anticipatory guidance: 2 months](#)
- [Anticipatory guidance: 4 months](#)
- [Anticipatory guidance: 6 months](#)
- [Anticipatory guidance: 9 months](#)
- [Anticipatory guidance: 12 months](#)
- [Anticipatory guidance: 15 months](#)
- [Anticipatory guidance: 18 months](#)
- [Anticipatory guidance: 2 years](#)
- [Anticipatory guidance: 3 years](#)
- [Anticipatory guidance: 4 years](#)
- [Anticipatory guidance: 5 years](#)

Behavior materials:

- [Use of time out](#)
- [Shopping with your child](#)
- [Ten guidelines for living with children](#)
- [Managing normal tantrums: 10 tips for parents](#)

APPENDIX C

ACCESS II/III Frequently Asked Questions

NORTH CAROLINA'S COMMUNITY CARE PROGRAM (Access II and III)

FREQUENTLY ASKED QUESTIONS

What is North Carolina's Community Care Program?

The Community Care Program is a community-based health care delivery system for Medicaid recipients that is organized and operated by community providers. It is a program built on the success of North Carolina's Primary Care Case Management Program (Carolina ACCESS). The Program is presently comprised of nine provider-led networks that have assumed responsibility for managing the care of 190,000 Medicaid enrollees. Each network is putting in place the care management programs and processes needed to maximize access to health care and to improve its quality and cost-effectiveness.

Why has it been established?

To achieve real improvement in the access, quality, and cost-effectiveness of care for Medicaid recipients, new approaches have been needed. After considerable study by North Carolina providers and policy-makers, it was determined that the key to improvement was a system that looked at all recipients, not just those who presented for care, and to pro-actively manage their care before costly interventions became necessary.

The Community Care Program has incorporated the key elements that are needed to achieve improved performance — population health management and shared accountability. By taking responsibility for a defined Medicaid population, putting in place the population health management tools, and assuming responsibility for performance, the participating provider networks are putting in place the systems and supports that can deliver improved performance.

What is the underlying philosophy of the Program?

The Program is built on four key concepts:

- *Partnership*

The program is a partnership of essential local providers who are working together (and with the State) to develop programs and processes for meeting the health needs of Medicaid enrollees.

- *Population Health Management*

Rather than look only at those who present for care, the participating networks look at all recipients and put in place the processes to identify at-risk enrollees and to manage their care before costly interventions become necessary.

- *Quality Improvement*

The heart of the program is quality improvement. With the conviction that “quality care is cost-effective care”, program participants are concentrating their efforts on putting in place the programs and processes that can lead to improved quality of care.

- *Accountability*

The participating networks are assuming responsibility for managing the care of 190,000 Medicaid recipients. The networks are working with the State in defining and tracking performance. (The program has contracted with the Codman Group for risk-adjusted profiling software to enable participants to better gauge their performance.)

What is the goal of the Program?

The goal is to create a North Carolina system of care that can consistently deliver improved access, quality, and cost-effective care for Medicaid recipients. This system is community based and led by local physicians and key community leaders, encouraging local ownership and sustainability of the program.

Does the Program have support?

In addition to its sponsorship by the Department of Health and Human Services, the Program has been endorsed and supported by the N.C. Medical Society, N.C. Hospital Association, N.C. Pediatric Society and the N.C. Academy of Family Medicine.

The Program operates under a 1915(b) waiver provided by the Health Care Financing Administration.

Who participates in the Program?

The participating networks include:

- *AccessCare* (102,140 enrollees)
- *Access II Care of Western North Carolina* (13,368 enrollees)
- *Cabarrus Community Care Plan* (9,529 enrollees)
- *CLECO* (Cleveland County – 4,304 enrollees)
- *Community Health Partners* (Gaston County – 10,967 enrollees)
- *Durham Community Health Network* (11,587 enrollees)
- *Guilford Access II Partnership* (13,477 enrollees)
- *Community Care Plan of Pitt County* (21,067 enrollees)
- *Surry County Health System* (3,713 enrollees)

What are the network responsibilities?

Using a population health management approach, each network assumes responsibility for managing the care of a specific Medicaid population and addressing their health status by pro-actively managing their care. By employing such tools as risk assessments, disease management, and case management, the networks are putting in place the processes to identify at-risk enrollees and to manage their care before costly interventions are necessary.

What are the key tools networks employ?

The networks rely on two primary tools to improve the management of care of Medicaid enrollees: case management and disease management. Using their case management staffs, as well as support from participating provider organizations, the networks manage the care of those enrollees with

complex medical and social needs. For enrollees with specific health conditions, such as asthma and diabetes, the participating physicians employ a quality improvement process developed by the Institute for Healthcare Improvement. Under this process, the physicians identify best practices, develop practice guidelines, establish improvement goals, define performance measures, and begin the arduous task of developing the processes and supports within the practice that are so essential to achieving lasting improvement.

What are the benefits to the State?

The State creates a health care system where private and public providers work together to improve the access, quality, and cost-effectiveness of services for Medicaid recipients. By taking responsibility for a defined Medicaid population, putting in place the population health management programs and assuming responsibility for performance, the Access II and III provider networks are putting in place the systems and supports that can deliver improved performance for Medicaid and other community residents.

What is the cost to the State?

The annual costs to the State in supporting the development of Access II and III plans and initiatives is approximately \$1.5 million a year. Each Access II and III project receives \$2.50 per member per month for each Medicaid recipient enrolled in their network. These funds can only be used by the networks to develop the staffs and programs needed to improve the management of enrollee care.

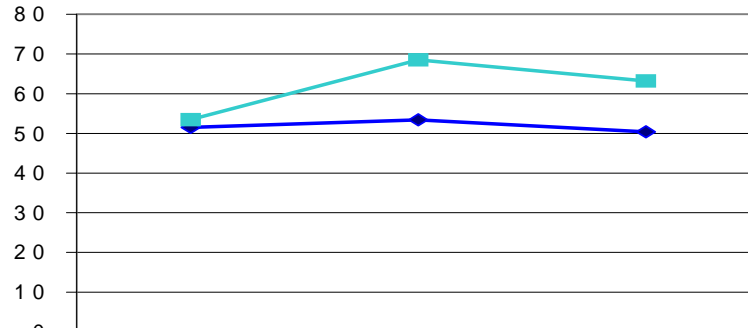
Note: The initial costs to the State have been more than offset by the cost savings generated by the program (see below).

Is the Access II and III Program cost-effective?

While the program is still early in its development, preliminary results are positive. In the two areas of health care utilization, inpatient hospital and emergency room, which were targeted during the first two years of operation, the program has achieved impressive results.

Hospital Admission Rate For Under 21

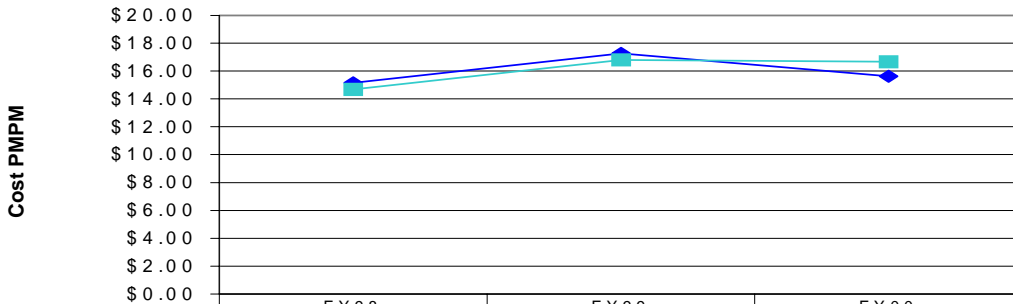
Rate per 1000 member months per yr.



	FY98	FY99	FY00
ACCESS II/III	51.5	53.4	50.4
Non ACCESS II/III	53.5	68.5	63.2

Percent Change FY98-FY00
 Access II/III -2%
 Non Access II/III 18%

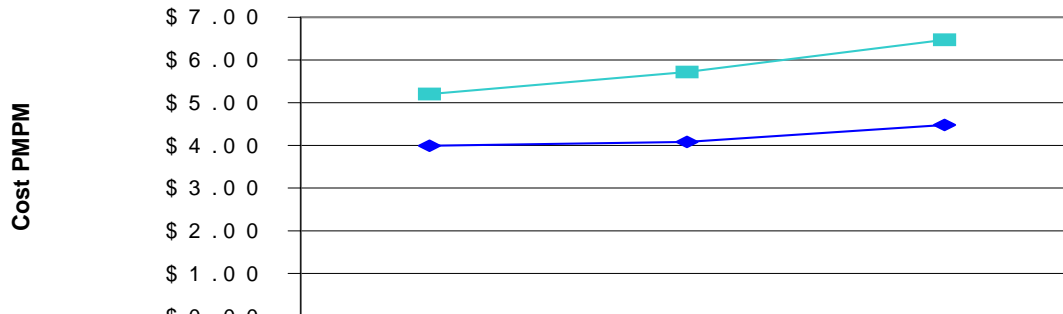
Hospital Admission Costs for Under 21



	FY98	FY99	FY00
ACCESS II/III	\$15.17	\$17.28	\$15.64
Non ACCESS II/III	\$14.69	\$16.81	\$16.67

Percent Change FY98-FY00
 Access II/III 3%
 Non Access II/III 13%

Cost of ER Visits for All Ages

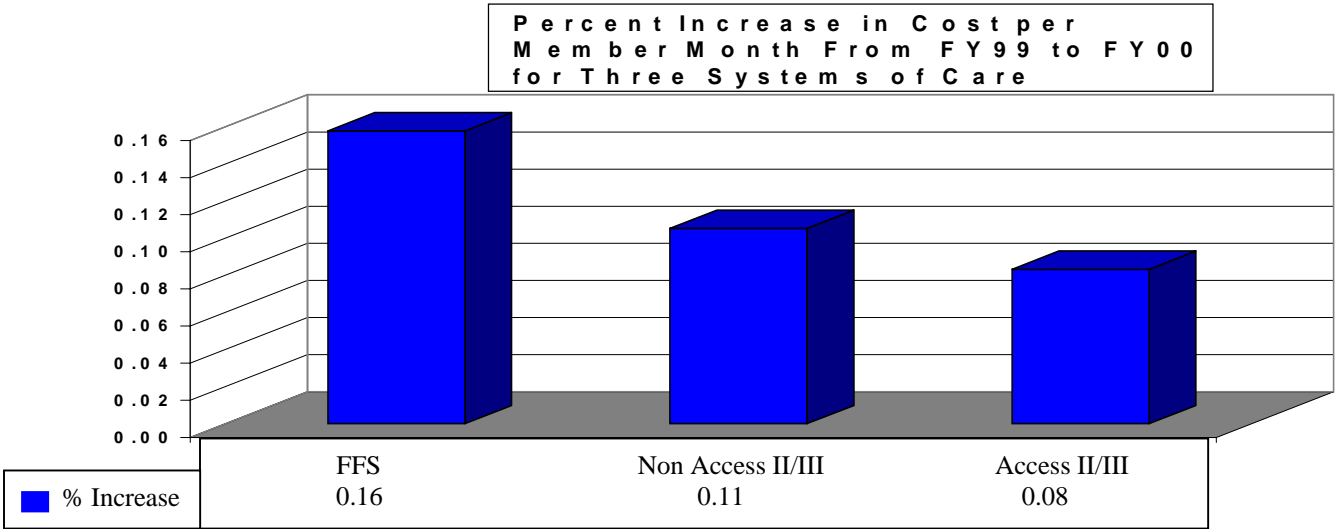


	Fy98	FY99	FY00
ACCESS II/III	\$3.99	\$4.08	\$4.48
Non ACCESS II/III	\$5.20	\$5.72	\$6.47

Percent Change FY98-FY00
 Access II/III 12%
 Non Access II/III 24%

When the two year experience of Access II and III enrollees is compared with non-Access II and III enrollees, the percentage increase in both hospital and emergency room for Access II and III enrollees is 50% lower. According to the Center for Health Informatics and Statistics, the net-savings from reducing just hospital admissions for enrollees under 21 was approximately \$2.5 million a year.

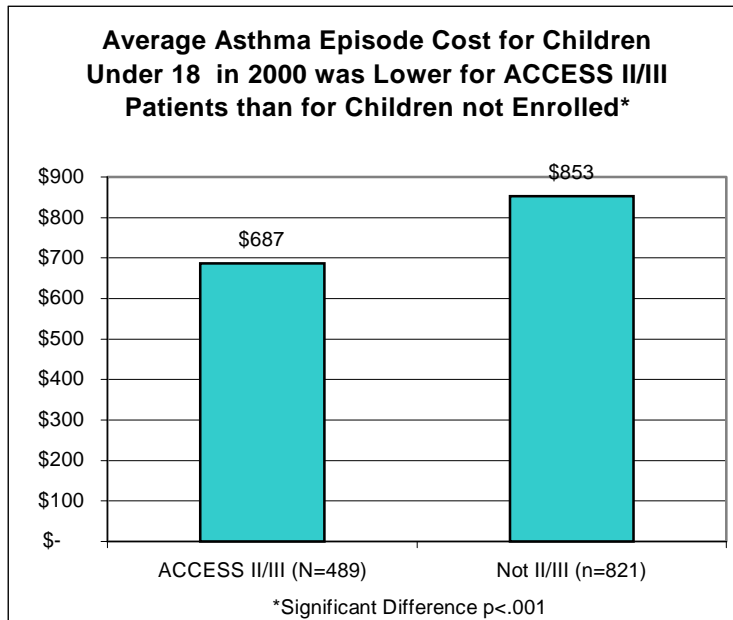
When looking at percent increase in total costs for Medicaid across the three systems of care, the Access II and III Program had the lowest percentage increase over a one-year period of time.



What has been the impact of the quality improvement effort?

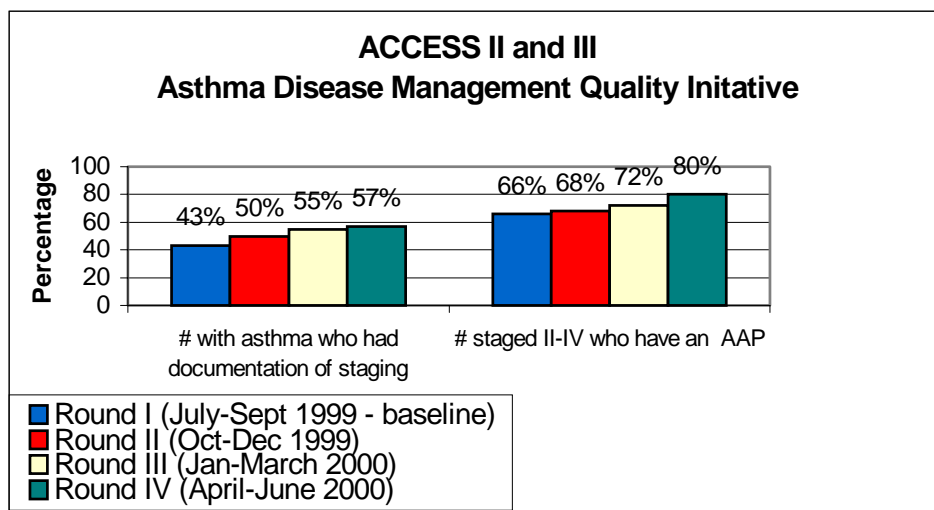
The emphasis on quality improvement is changing how care is being organized and delivered to Medicaid recipients. Participating physicians have come together to carry out a quality improvement process at the practice site and community level.

When analyzing the average asthma episode cost for children in 2000, the children enrolled in Access II and III cost 24% less as demonstrated below:



Quarterly chart audits, carried out under the direction of the Program office, confirm that there has been substantial improvement in how care is being delivered in the targeted areas. When looking at the improvement in our program from the baseline chart reviews from July – September 1999 to the most recent results obtained for April-June 2000, the following improvements were made:

- The number of patients with asthma who had documentation of staging increased from 43% to 57%; and
- The number of patients staged II-IV who have an Asthma Action Pan (AAP) increased from 66% to 80%.



APPENDIX D

NORTH CAROLINA ABCD PROJECT

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