

RIGHT FROM THE START

*The story of
Durham Connects*






DURHAM
CONNECTS
NURSE HOME VISITS

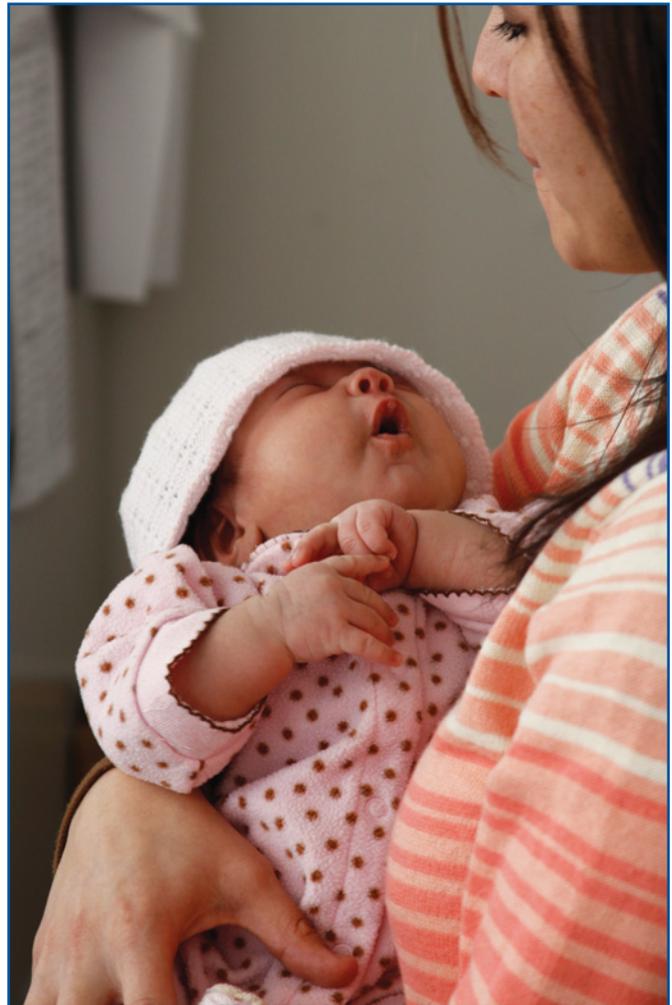
How It Began

Durham Connects is a community-wide collaboration that has served more than 6,000 families since opening its doors in 2008.

The seeds of the program date back to a conversation in 2001 when representatives of The Duke Endowment approached Kenneth Dodge, director of the Duke Center for Child and Family Policy. They challenged Dodge to improve child outcomes in Durham and, more specifically, to reduce and prevent child abuse and neglect.

That request launched a broad conversation among representatives of many local organizations that serve families. Duke University, Duke University Health System, the Durham County Health Department, Durham County Board of Commissioners, Durham County Department of Social Services and the Center for Child & Family Health were all represented at the table.

The team considered many approaches for helping Durham families and piloted some promising efforts under the auspices of the Durham Family Initiative. Members were particularly intrigued by the strong research base supporting the concept of home visiting for families with newborns. Many studies have documented home visiting's positive effects in reducing teen birth rates, reducing child abuse, improving cognitive outcomes for children, and more.



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A Community-Wide Approach

No existing model quite fit the group's goals, though. For starters, despite some very strong results for subgroups, no home visiting program had been shown to change an entire community's rate on an important child outcome such as child maltreatment or infant mortality.

Most home visiting programs also have high per-family costs, because the programs emphasize intensive work with families over many years. High costs can make it difficult to bring such programs to scale and to fund them over the long term.

Finally, the vast majority of home visiting programs serve specific subgroups. Many serve only low-income families. Others limit enrollment to first-time parents.

Yet, as the planners knew, socioeconomic factors alone don't always predict which new parents will need help. Similarly, child abuse doesn't follow strict demographic patterns.

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It can be fueled by depression, economic insecurity, and a host of other problems that can confront new parents from a wide range of backgrounds.

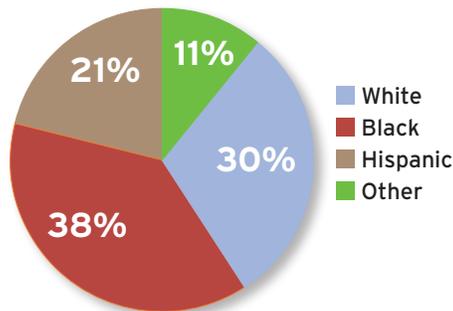
The best way to prevent child maltreatment and help children get a good start, the planners felt, would be to support families from the very beginning. They envisioned a nurse home visiting program that would help reduce the stresses on all new families by linking them to services that could help them meet their challenges, whatever those were. That universal approach, they felt, was most likely to create community-wide changes in children's well-being.

Rather than following families for years at a time, however, the new program's nurses would play a different role, as a gateway to sources of help. Nurses would connect families that needed help with appropriate community agencies and service providers. Community ownership of the program would be nurtured from the start, as a central element of the program's sustainability. The creators also agreed to measure the program's effects from the beginning through rigorous clinical trials. Finally, they set a goal of creating a replicable program that could be a model for other communities.

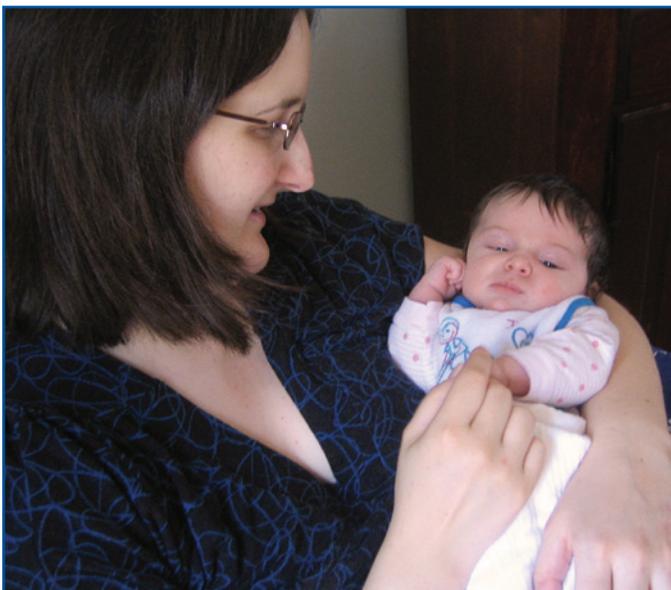
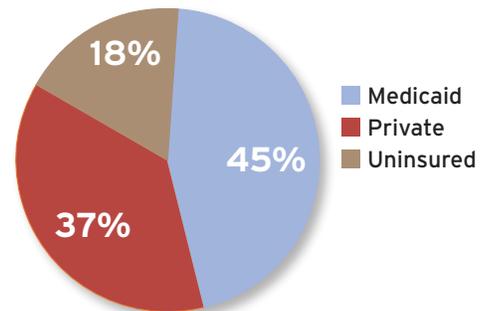
With the goals of universality, sustainability, replicability and rigorous evaluation in mind, piloting began in 2006 for a new home visiting program to serve parents of Durham newborns called Durham Connects.

WHO WE SERVE

MOTHER'S ETHNICITY



MOTHER'S INSURANCE COVERAGE

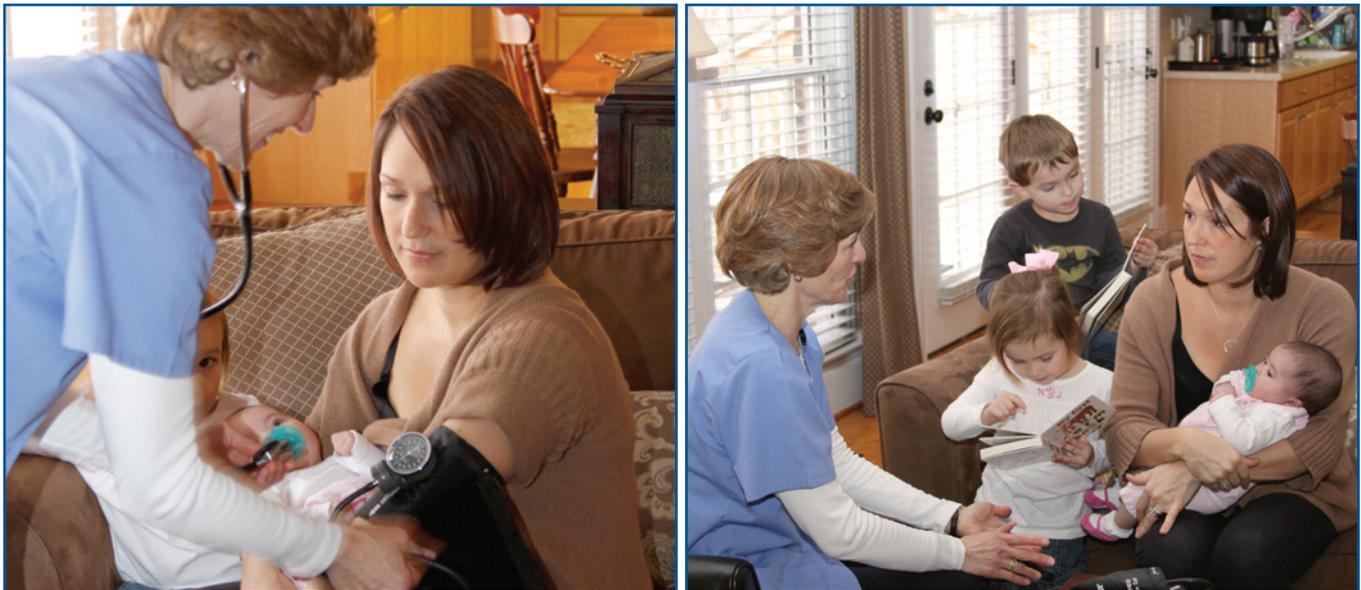


How It Works

Durham Connects offers in-home nurse visits to parents of every newborn in Durham County, N.C., free of charge. The program takes a unique approach to nurse home visiting through a brief, large-scale program designed to support parents' strengths, identify parent and infant needs, and connect new parents with matched community resources that can offer assistance over the long term.

The heart of the program is the home visit. A registered nurse visits new parents soon after their newborn comes home from the hospital, checks the baby's health and weight, and makes sure the mother is recovering well from childbirth.

Physical health is just one part of the visit, however. Nurses are also on hand to ensure the new family is coping well with the social and financial aspects of the transition to parenthood.



To that end, Durham Connects nurse home visits includes extensive conversations between nurses and parents. The topics covered depend largely on a particular family's needs. Many new mothers need breastfeeding assistance or help selecting childcare or finding a pediatrician. Others need help identifying and coping with postpartum depression or the social isolation that can follow childbirth. Some parents are interested in parenting classes or advice on managing the return to work. Still others are facing immediate, pressing challenges, including housing needs, financial stress and more.

Durham Connects nurses receive thorough training on how to interact with new parents and assess their needs. They are not caseworkers, however. Nurses typically work with families over the course of one to three home visits. During those visits, nurses link families who need help with appropriate community services. By connecting families with the specific supports they need, the nurses promote healthy family functioning and child well-being over the long term.

Launched by the Duke University Center for Child and Family Policy in cooperation with the Durham County Health Department and the Center for Child & Family Health, Durham Connects is now operated by the nonprofit Center for Child & Family Health.

Durham Connects nurse home visits include health checks for mother and child and conversation about the family's needs and concerns.

ONE MOTHER'S STORY

Pam Dardess has been a new mom twice in her life. The two experiences couldn't have been more different, she says.

Dardess, a researcher who studies health care services, has lived in Durham, N.C., since 2006. When her first daughter was born in 2004, Dardess struggled with postpartum depression. She didn't fully understand what was going on, though, until she received a doctor's diagnosis more than six months after her baby's birth.

Dardess was determined not to repeat her earlier experience with her second child. During pregnancy, she did everything she could think of to plan for her baby's arrival and prevent the cloud of postpartum depression from descending again.

Dardess also had some new allies, however, including Durham Connects. The program sent a representative to visit Dardess in the hospital and to offer a nurse home visit. Dardess seized the opportunity and scheduled a home visit for four weeks after her daughter's birth.

The visit took place in Dardess' home and lasted about an hour and a half. The nurse had time enough to check the health of mother and child and to have a wide-ranging conversation with the new mother about her concerns.

The consultation was invaluable, she says. Among other topics, Dardess worried about breastfeeding her baby once she returned to work. The Durham Connects nurse recommended a free workshop on the subject, plus a postpartum fitness class to help keep her spirits high.

"A doctor's office visit is often 10 to 15 minutes long, if that," Dardess said. "In that short amount of time, you don't have the chance to really have a conversation."

Dardess had some strikes against her when she gave birth the second time around. She had a history of postpartum depression, and her baby, as a premie, faced heightened risk for certain health problems. As it turned out, the child thrived, and Dardess avoided a second bout of depression. Having more support made a huge difference, she says. She cites Durham Connects as a key component of that support.

"I wondered if Durham Connects would benefit me as a second-time mom," Dardess says. "But in the end, it was really helpful. Now, I think if I had had someone coming in to check on me earlier in my first pregnancy, maybe someone would have diagnosed postpartum depression earlier instead of when my daughter was six months old."

Durham Connects nurses are uniquely positioned to spot problems early, before they balloon into something bigger, Dardess notes. That's one of many reasons she recently referred a pregnant friend to the program. After two very different experiences of parenting a newborn, she believes in the Durham Connects approach.

"For me, it was really comforting to know that there would be someone there to check up on me and the baby and make sure things were going okay," Dardess said. "It was another support in place."



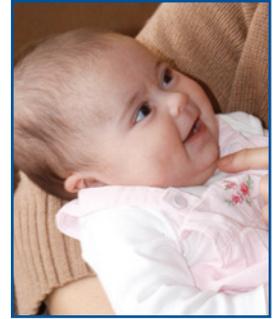
"I wondered if Durham Connects would benefit me as a second-time mom. But in the end, it was really helpful." – Pam Dardess

Then her second daughter arrived four weeks early, to the great surprise of Dardess and her doctors. Suddenly Dardess was the mother of a premature baby, and she had new and different worries than those she had faced with her first child. Her daughter suffered from jaundice, had difficulty regulating her body temperature, and was at risk for other health problems common to preemies.

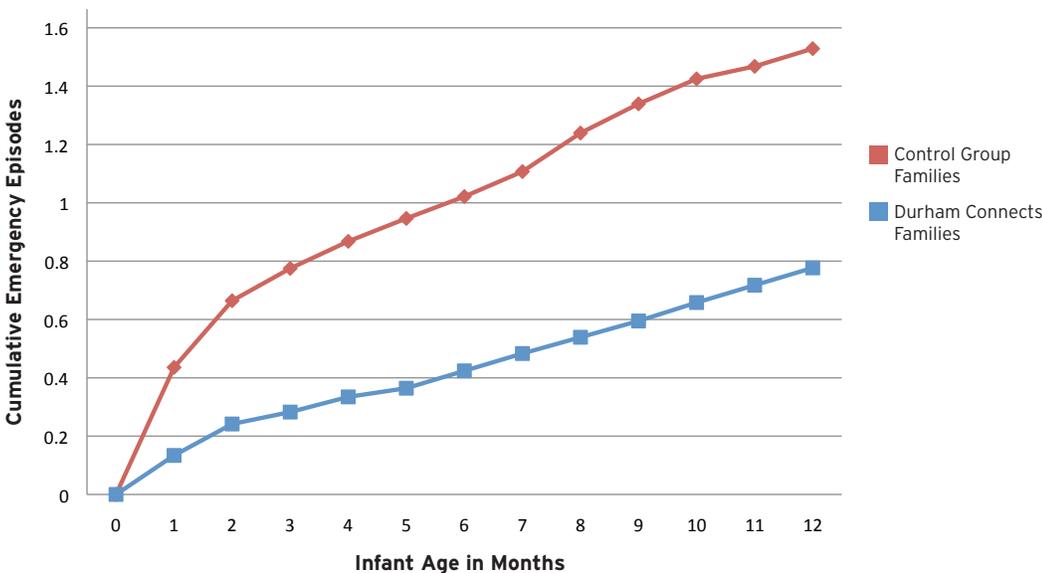
What the Research Shows

Durham Connects, a relatively young program, is already producing striking results. The program leads to sharp declines in emergency care use and significant health care cost savings, research shows. Findings published in *Pediatrics* and the *American Journal of Public Health* suggest Durham Connects participants experience reduced rates of maternal clinical anxiety, safer, more child-friendly home environments, and other benefits.

Infants in the Durham Connects program used 59 percent less emergency care in the first six months of life and 50 percent less emergency care through one year of age, compared with other Durham newborns. The reductions held true for all subgroups studied, including single- and two-parent families, families receiving Medicaid and privately insured families. For every \$1 spent on Durham Connects, \$3 were saved in health care costs.



DURHAM CONNECTS FAMILIES USE LESS EMERGENCY CARE*



*Source: "Randomized Controlled Trial of Universal Postnatal Nurse Home Visiting: Impact on Emergency Care," *Pediatrics* 2013, http://pediatrics.aappublications.org/content/132/Supplement_2/S140.full.pdf.

Durham Connects home visits take place about three weeks after a baby is born.

"Everyone is concerned about health care costs," said Kenneth Dodge, lead author on both studies. "Nurse home visiting programs can prevent inappropriate use of emergency medical care for infants. They represent a cost-effective ways to help young families get off to a good start."

The results are from a randomized controlled trial, one of many tools that grounds Durham Connects in rigorous science.

Durham Connects nurses follow protocols based in child development research. Independent observers regularly rate the nurses' adherence to the program model to ensure high-quality implementation.

Durham Connects has also gathered participants' feedback. In follow-up phone calls, almost every mother contacted (99 percent) said she would recommend the visit to another new mother.

“For a relatively small investment, the reward is significant.”



The most thorough measures of Durham Connects’ effectiveness, though, come from randomized controlled trials. To gauge program effects, a Duke University research team led by Kenneth Dodge and Benjamin Goodman designed a study that divided into two groups all 4,777 babies born in Durham County between July 1, 2009, and Dec. 31, 2010. Those born on even dates were offered the program, while those born on odd dates were not. The authors then analyzed medical records for a random subsample of families. Interviews with those 549 families helped further measure the program’s impact.

An examination of medical records revealed that Durham Connects participants used far less infant emergency care up to a year after their child’s birth. By reducing emergency care episodes, Durham Connects saved thousands of health care dollars, the *American Journal of Public Health* study states. Recent research estimates a cost of \$423 per emergency outpatient visit and \$3,722 per hospital night, while the Durham Connects program costs \$700 per family. Based on the findings, the authors estimate that for cities of similar size averaging 3,187 births per year, an annual investment of approximately \$2.2 million in nurse home visiting would yield community health care cost savings of about \$6.7 million in the first six months of life, or \$3 saved for every \$1 spent.

While the numbers are dramatic, the fact that Durham Connects families are using less emergency care makes sense. A key goal of Durham Connects is to encourage new parents to find a medical home for their young children, rather than relying on emergency departments for medical care.

Researchers also looked beyond medical statistics through direct observation and interviews. Observers reported that more Durham Connects families had home environments that were safe, clean and free of hazards and included more age-appropriate resources for children, such as books and toys. Durham Connects mothers also showed more positive parenting behaviors, such as comforting or reading to their child. Durham Connects mothers had lower rates of clinical anxiety. Also, when Durham Connects parents chose out-of-home child care, they chose higher-quality care.

Dodge, Goodman and their team of Duke researchers will continue to monitor Durham Connects families’ outcomes until their babies are five years old. The research has been supported by The Duke Endowment, the Pew Center on the States, the Durham County Board of Commissioners and the Eunice Kennedy Shriver National Institute of Child Health and Human Development.

Durham Connects is the first program to evaluate the application of a nurse home visiting model to an entire community, and its story is still being written. Coming months will reveal more about the scope of the program’s impact. But already, evidence suggests that this new public health model can help young families at the very start of their parenting journey at a relatively low per-family cost, while bringing about health care cost savings that benefit the entire community.

“For a relatively small investment, the reward is significant,” Dodge said.

LEARN MORE

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“Implementation and Randomized Controlled Trial Evaluation of Universal Postnatal Nurse Home Visiting (special issue),” Kenneth A. Dodge, W. Benjamin Goodman,

Robert A. Murphy, Karen O’Donnell, Jeannine Sato, and Susan Guptill. *American Journal of Public Health*, February 2014, Vol. 104, No. S1, pp. S136-S143. DOI: 10.2105/AJPH.2013.301361.

“Toward Population Impact from Home Visiting,” Kenneth A. Dodge, W. Benjamin Goodman, Robert Murphy, Karen J. O’Donnell, and Jeannine M. Sato, *Zero to Three*, January 2013; 33, 17-23.

“Family risk as a predictor of initial engagement and follow-through in a universal nurse home visiting program to prevent

child maltreatment,” Alonso-Marsden, S., Dodge, K.A., O’Donnell, K.J., Murphy, R.A., Sato, J.M., & Christopoulos, C. *Child Abuse & Neglect*, 2013; 37, 555-565.

“The Durham Family Initiative: A preventive system of care,” Dodge, K.A., Berlin, L.J., Epstein, M., Spitz-Roth, A., O’Donnell, K., Kaufman, M., Christopoulos, C. *Child Welfare*, 2004; 83, 109-128.

“Creating community responsibility for child protection: Possibilities and challenges,” Daro, D. & Dodge, K.A. *The Future of Children*, 2009; 19, 67-97.

MEASURING WHAT WORKS FOR CHILDREN

Durham Connects is a community collaboration led by Kenneth Dodge, director of the Duke Center for Child and Family Policy. Dodge has spent his career researching how problem behaviors such as violence, substance abuse and child abuse develop across the lifespan and how best to prevent those costly problems and their often devastating results.

Everyone wants good outcomes for children, Dodge notes. But not all efforts to help children and families are equally grounded in rigorous science. Creating positive results for children through rigorous, scientifically tested methods lies at the heart of Dodge's work at the Center, which he has led since its founding in 1999.

Dodge, William McDougall Professor of Public Policy at Duke's Sanford School of Public Policy, trained as a clinical and developmental psychologist. He is widely cited for his work on the development of aggressive behavior and chronic violence in children. In prior research, Dodge found that early physical abuse can result in biased patterns of social information processing and subsequent aggressive behavior in children. Those results helped inform the creation of the Fast Track Project, an ambitious, comprehensive intervention for at-risk youths that Dodge and his colleagues conducted for 10 years in four locations across the country. Those youths are now in their 20s, and recent findings link their participation in Fast Track to lower rates of criminal convictions and lower rates of psychopathology as young adults.

Dodge's interest in prevention and his commitment to rigorous scientific standards also informed the creation of Durham Connects. An early step in the program's evolution was to take inventory of existing services for Durham families. Together with colleagues from Duke University, the Durham County Health Department, the Durham County Department of Social Services and the nonprofit Center for Child & Family Health, Dodge helped establish a computer-updated network of more than 400 community

agencies that serve Durham's newborns and their families. That tool has been essential in the work of Durham Connects nurses, who match families with community resources that can meet their particular needs.

Dodge and his colleagues also developed protocols for Durham Connects nurses that reflect research on child abuse and healthy family functioning and led the design of the clinical trials that are monitoring Durham Connects' effects.

In a time of scarce resources, Dodge notes, it's not enough to want good things for children. Policymakers and funders want evidence that programs deliver results. "We are in an era of investing in children using scientific evidence to select programs and rigorous evaluation to determine whether these programs bring a favorable return on investment in terms of children's development," Dodge said.

Dodge was honored with a 2014 Spotlight Award from the Network of Schools of Public Policy, Affairs and Administration (NASPAA) for his work helping to develop Durham Connects.



Dodge discusses child policy with student Chinny Sharma.

Preventing child maltreatment: Community approaches. Dodge, K.A. & Coleman, D.L. (Eds). New York, NY: Guilford Press, 2009.

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"Care to Cradle," *Durham Herald-Sun*, January 11, 2014.

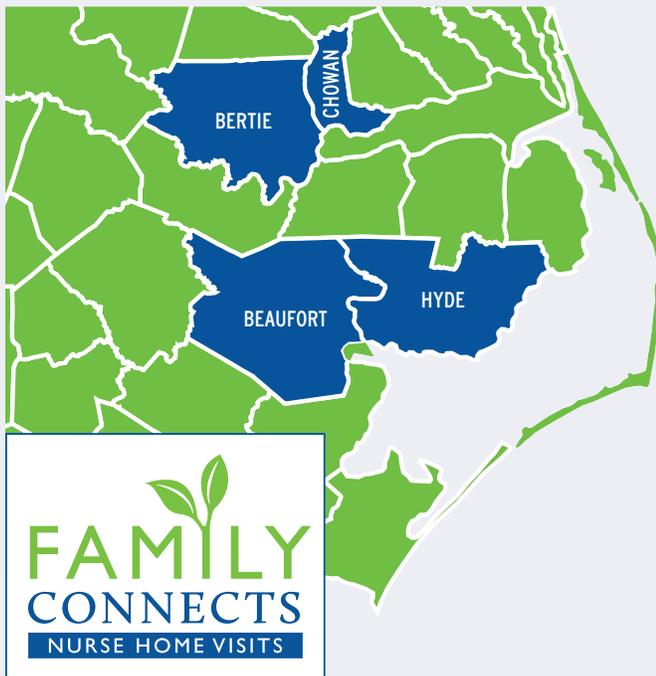
"Investing in Kids," Nicholas Kristof. *The New York Times*, February 22, 2014.

A MODEL FOR OTHER COMMUNITIES

From the start, planners hoped the Durham Connects model would be embraced by other communities. Now the Durham Connects approach is spreading with the launch of replication efforts in Minnesota and two regions of North Carolina.

An ambitious effort is underway to bring the Durham Connects nurse home visiting approach to a large rural area in northeastern N.C. The new program, called Family Connects, opened its doors in August 2014 with a staff of six nurses. It has since served more than 80 families from its base in Plymouth, N.C.

In keeping with the Durham Connects model, Family Connects offers nurse home visits to all newborns in its service region and their parents. Nurses conduct health checks, answer questions and connect families with pediatricians, child care centers and other service providers.



Family Connects faces different challenges from its parent program, including some dictated by geography. Durham Connects serves a single county where the population and medical resources are concentrated in one municipality. The new program, by contrast, serves a four-county region stretching from Washington, N.C. to Ocracoke Island. Together, Hyde, Bertie, Beaufort and Chowan counties comprise a wide expanse of territory that is one of the state's poorest regions.



“It’s not unusual for folks in that region to drive hours to see a doctor,” said Durham Connects director Jeannine Sato. “This will help us test the model in a different environment. It’s no small test, because this area lacks a lot of resources.”

The Family Connects launch was funded by a federal Race to the Top Early Learning Challenge grant to the state of North Carolina. Headquartered in Plymouth, N.C., the program is managed by the Albemarle Regional Health Services and other local health departments.

Two more regions are also adopting the Durham Connects approach. Guilford County, N.C. is leveraging an existing home visiting effort by infusing it with Durham Connects’ evidence-based home visiting protocol. This new addition to the Family Connects network will be managed by the Guilford County Health Department.

Finally, the newest Durham Connects replication effort is taking place in Cook County, Minnesota. Plans are being finalized for the new program, which will serve a large swath of land bordering Lake Superior. Many other localities are also considering the model, including communities in Iowa and Oregon.

“It’s not unusual for folks in that region to drive hours to see a doctor.”
–Jeannine Sato, director, Durham Connects

FAQ

What problems does Durham Connects address?

Durham Connects nurses address all areas that contribute to child and family well-being and family stability. Nurses regularly discuss breastfeeding, infant and maternal health concerns, and depression and mental health issues. Housing, substance use, domestic violence and relationship issues are also common topics, as are child care, education, family planning and financial concerns.

What is unique about Durham Connects?

Durham Connects is the first U.S. newborn nurse home visiting program to combine a universal, community-wide approach with thorough scientific evaluation based on randomized controlled trials. We support all families in our community at the time of birth regardless of income, status or number of children. We treat all families equally and address parents' priorities. Nurses use motivational interviewing skills to enable families to connect with community resources and to help mothers and fathers become the best parents they can be.

Why does the program take a community-wide approach, rather than focusing solely on at-risk families?

Durham Connects' universal approach allows the program to offer help wherever help is needed, and to help ensure that all of Durham's newborns get off to a good start. Our data show that when it comes to the needs of new families, demographics don't tell the whole story. When families are classified by socioeconomic characteristics alone, it's easy to miss factors that put them at risk of instability and even abuse. Also, because Durham Connects supports all families, there is no stigma attached to participation.

Is Durham Connects considered "evidence-based?"

Yes. Durham Connects shows positive results in carefully designed randomized controlled trials. The Durham Connects program is one of a small set of nurse home visiting models nationwide that meets the criteria for evidence of effectiveness set by the federal Department of Health and Human Services.

What does the research show?

In a randomized controlled trial, families that participated in Durham Connects showed better results than control group families. By the time of their child's six-month birthday, Durham Connects families had experienced 18 percent fewer infant emergency room visits and 80 percent fewer infant hospital overnights than control group families. Durham Connects parents also had lower rates of maternal anxiety and safer home environments and showed more positive parenting behaviors, such as comforting or reading to their children.

Is the Durham Connects model used anywhere else?

Yes. Replication efforts are underway in northeastern North Carolina, Guilford County, N.C. and Cook County, Minnesota. The Connects model is also under consideration by many other localities, including communities in Iowa and Oregon.

Is Durham Connects equipped to meet the needs of a diverse population?

Yes. Durham Connects nurses have high cultural competency skills. Also, Durham Connects has been able to serve families in their preferred language by attracting and hiring Spanish-speaking nurses and support staff.

For every dollar invested, the community saves \$3.02

MEASURES OF SUCCESS

Durham Connects families:

- Have safer, more child-friendly home environments*
- Have lower rates of maternal clinical anxiety
- Have 16% more community connections
- Show more positive parenting behaviors
- Make better child care choices**

*Homes have higher safety ratings and more age-appropriate child resources, such as books and toys. **Parents choose higher-quality child care when choosing center care. Source: *American Journal of Public Health*, February 2014.

What are the program's costs and benefits?

Durham Connects saves health care dollars by preventing costly emergency care. Durham Connects costs roughly \$700 per family. By contrast, a single episode of outpatient emergency care averages \$423, and overnight hospital stays are more expensive still, averaging \$3,722 per night. A study in the *American Journal of Public Health* estimates that in a community such as Durham, which sees approximately 3,187 births each year, an investment of \$2.2 million in the Durham Connects program would yield emergency health care cost savings of \$6.7 million in the first six months of life.

Who are our partners?

Durham Connects is a community collaboration. The program is operated by the nonprofit Center for Child & Family Health in cooperation with the Duke Center for Child and Policy, the Durham County Health Department, Durham County Social Services and Duke University Health System. Durham Connects also collaborates with area physicians and with hundreds of local service agencies that serve parents and families.

How is Durham Connects funded?

Durham Connects is funded by The Duke Endowment, Durham County and community grants.



Durham Connects provides in-home nurse visits free of charge to all parents of newborns in Durham County, North Carolina. The program was founded by Kenneth Dodge, director of the Duke Center for Child and Family Policy, in collaboration with community leaders. It is now operated by the nonprofit Center for Child & Family Health in partnership with the Duke Center for Child and Family Policy, the Durham County Department of Social Services and the Durham County Health Department. Funding is provided by The Duke Endowment and by Durham County.



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The Duke Center for Child and Family Policy pursues science-based solutions to important problems affecting children and families. The Center emphasizes the bridge from basic research to policy and practice through an integrated system of research, teaching, service and policy engagement. Established at Duke University on July 1, 1999, the Center has helped launch many projects aimed at improving child well-being, including Durham Connects.

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