Durham Connects

OVERVIEW

Durham Connects launched in 2008 as a universal home visiting service. The county health department nurses delivered the program.

The program provided in-home health assessments of mothers and newborns. The nurses followed a standardized protocol, developed through research and intensive piloting. Visits started when the babies were 2 to 12 weeks old. Up to two follow-up visits were part of the protocol. Assessments covered four areas:

- Health care arrangements
- Caring for an infant
- Safe homes—household material needs and safety
- Parental support (well-being and social support)

The assessments were starting points for further conversations. If nurses identified a need and families wanted support, parents were connected with community resources.

Ten nurses provided the service and each one averaged about 200 families per year, or about four new families a week.

Durham Connects underwent a rigorous evaluation. Implementation was monitored to ensure fidelity and to document that families followed up on referrals.

STRATEGY (July 1, 2009 through December 31, 2010)

- Enrollment in the Durham Connects (DC) randomized control trial ended December 31, 2010.
    - Eligible subjects included all live births occurring at either Duke Hospital or Durham Regional Hospital to a family residing in Durham County between July 1, 2009 and December 31, 2010. The births were randomly assigned (even-numbered birth dates to the intervention group and odd-numbered birth dates to the control group).

PROCESS INDICATORS

DC was successful in enrolling eligible families and referring those with needs to services. The following tables capture relevant enrollment and referral data.

Category	Number	Percent of Total
Eligible families for intervention (born on even date)	2,327	100%
Families receiving brief intervention session in the hospital	1,862	80%
Families completing one or more home visits (classified as having completed the program)	1,596	68.6%

Of those families who received the initial hospital session, 85.7% went on to complete the program. Among those families, completion rates were highest for families receiving Medicaid (89.4% versus 79.9% for non-Medicaid families) and Hispanic families (92.2%). The completion rate for white families was 86.4%, and 80.5% for African-American families.

Data on the **1,596 families** completing a home visit are provided below:

Category	Number	Percent of Total
Received only one home visit (indicating low risk)	508	31.8%
Received one to two follow up home visits (indicating higher risk)	1,088	68.2%

In total, home visits resulted in **1,546 referrals** to community providers. Below are data on successful referrals:

Category	Number	Percent of Total
Families reported a successful contact	946	61.2%
Families reporting that services were received within four weeks	600	38.8%

Quality assurance data indicate that adherence or fidelity to the home visit protocol was achieved 85.1% of the time, which is generally accepted to be high.

Final Data Analysis of the Randomized Trial

In summary, random assignment to DC is associated with:

- more family connections to community resources;
- higher quality of childcare placements;
- more positive mother parenting behavior;
- more positive father-infant relationships; and,
- safer home environments.

Further, DC families had fewer visits to the emergency room, overnight hospital stays, and unplanned visits to pediatric offices.

Specific findings for DC families six months after the intervention (when compared to control families) are listed below: [Note: all findings are statistically significant unless noted otherwise.]

<u>Service utilization</u>:

- DC families were 18% more likely to access community resources.
- Children of DC families were 15% more likely to be placed in a high quality child care settings.
- Non-Medicaid DC families were 17% more likely to have back up child care plans.

- DC families were 3% more likely to have recently seen a pediatrician. (This finding, however, is not statistically significant).
- No differences were found between the treatment and control groups on measures of accessing family resources and social provisions. Similarly, no difference was found regarding the use of respite child care.

Parenting and family well being

- DC parents were 18% more likely to report positive parenting practices such as hugging, offering encouragement and providing warmth to their infant.
- DC parents were 50% more likely to report talking to their infant.
- On three separate measures, DC fathers were 10% more likely to be involved with the infant.
- Medicaid-eligible DC parents were 24% more likely to demonstrate knowledge about infant crying.
- In-home interviewers (unaware of whether the family was in the treatment or control group) were 8% more likely to rate DC homes as safe.
- Though there was no difference between the treatment and control groups when measuring the mother's overall mental health, DC mothers were 33% less likely to report clinical depression and 32% less likely to report clinical anxiety. As with the overall mental health measure, there was no reported difference in substance abuse.
- No differences were found on measures of domestic violence in the home.

Healthcare utilization

- DC families experienced 17% fewer emergency medical visits.
- DC families experienced 60% fewer overnight hospital stays.
- On all measures of emergency care, DC families were 30% less likely to use emergent care (either with a physician or in the hospital emergency dept.) and Medicaid-eligible DC families were 39% less likely to do so.

On two measures, the control group outperformed DC families:

- Medicaid-eligible control families were 8% more likely to still be using community services after 6 months; and,
- All control families were 3% more likely to report knowledge of infant development. (This difference, however, is not statistically significant).

SCALING AND SUSTAINING

Obviously, despite the positive findings, Durham Connects will not be considered a complete success unless it is sustained and even replicated. Toward both ends, progress is evident.

Efficiencies in the model are being implemented (mainly by slightly increasing in the RN's caseload), which will bring the costs for implementation at scale - meaning all newborns in

Durham - to roughly $1.6 million annually (or about $500 dollars per family, down from the original cost of $700 per family).

Leaders in the Durham community are actively making the case to support Durham Connects countywide.

The model was written into North Carolina's "Race to the Top for Early Childhood" federal grant application. The grant will provide $70 million (across four years) to enhance North Carolina's early childhood system. Funds are earmarked to expand Durham Connects into as many as six rural counties. Conversations are underway about the expansion.

The National Institute of Health is funding a longitudinal evaluation of the model (approximately $800,000 a year for five years).

Finally, both Wisconsin and Massachusetts have approached Dr. Dodge about replicating the program in their states.