PANELIST TESTIMONY: RALEIGH, N.C. FIELD HEARING

MARBLES KIDS MUSEUM
JUNE 12, 2008
8:30 A.M. – 1:40 P.M.

9:15 – 9:35 a.m. **Panel I – Early Life Programs: Family Support and Early Education**

- *The Carolina Abecedarian Project*
  Frances Campbell, Senior Scientist, FPG Child Development Institute
- *Nurse-Family Partnership*
  C. Robin Britt, Executive Director, Guilford Child Development
- *North Carolina Smart Start*
  Stephanie Fanjul, President, The North Carolina Partnership for Children, Inc.
- *FPG Child Development Institute Child Care Program*
  Ricky Hill, Parent of two year-old child enrolled in the FPG Child Care Program

9:35 – 10:05 a.m. **Q&A**

10:05 – 10:25 a.m. **Panel II - Early Life Programs: Family Support and Early Education**

- *The Family Life Project*
  Lynne Vernon-Feagans, William C. Friday Distinguished Professor Child Development and Family Studies, University of North Carolina at Chapel Hill
- *More At Four Pre-Kindergarten*
  John Pruette, Executive Director, North Carolina Office of School Readiness
- *T.E.A.C.H. Early Childhood Project and Child Care WAGE$ Project*
  Sue Russell, President, Child Care Services Association
- *Durham Connects*
  Jeannine Sato, Director, Office of Community Resources, Center for Child and Family Policy, Duke University

10:25 – 10:50 a.m. **Q&A**

11:05 – 11:25 a.m. **Panel III - Meeting Goals and Measuring Progress**

- *Durham City and County Results Based Accountability (RBA) Initiative*
  Marsha Basloe, Executive Director, Durham's Partnership for Children
- *The Early Childhood Research Collaborative*
  Arthur Reynolds, Co-Director, The Early Childhood Research Collaborative and Professor, University of Minnesota
- *Using Sub-State Data to Target Programs and Monitor Progress*
  Barbara Pullen-Smith, Director, North Carolina Office of Minority Health & Health Disparities
- *Lulu's Child Enrichment Center*
  Dan Gauthreaux, Vice President of Human Resources, Mitchell Gold + Bob Williams

Also: N.C. Division of Public Health - School health collaborations between N.C. Department of Public Instruction and the N.C. Division of Public Health

PANEL I

EARLY LIFE PROGRAMS: FAMILY SUPPORT AND EARLY EDUCATION

THE CAROLINA ABECEDARIAN PROJECT

Frances A. Campbell

Senior Scientist, Frank Porter Graham Child Development Institute

University of North Carolina at Chapel Hill

Program

Overall objective and goals: The Carolina Abecedarian Project was a randomized controlled study of the extent to which intensive early childhood educational intervention might prevent mild mental retardation or academic failure in children from high risk backgrounds, that is, from poor families. Research has shown that the "overwhelming majority of children identified as mildly retarded come from poverty circumstances" (Editorial Board, 1996). Lifelong difficulties are associated with mild retardation: lack of education, unemployment, and impaired mental and physical health. It therefore constitutes an "important public health concern" (Martin, Ramey, & Ramey, 1990).

Origin and inception. The Abecedarian Project was based at a federally funded Mental Retardation Research Center. The focus at this site was to study the origins and treatment of so-called cultural familial, or "environmental," retardation. Epidemiological data indicated that 75% of all cases of mild retardation had no identified biological etiology. Logically then, the early environment associated with poverty was implicated in the etiology of the condition. The Mental Retardation/Developmental Disabilities branch of the National Institutes of Health (NIH) funded a Program Project at the Frank Porter Graham Child Development Center (now Institute) with Drs. James Gallagher and Craig Ramey as the Principal Investigators. For the Abecedarian Project specifically, Craig Ramey, a developmental psychologist was the Principal Investigator, Joseph Sparling, an Educational Psychologist, and three pediatricians, Floyd Denney, Albert Collier, and Frank Loda, were the other Investigators. The study had two components: the Abecedarian Project

that concentrated on psychological/cognitive development and a medical component concentrating on the study of infectious diseases among children in group care from an early age.

The NIH continued to fund the Abecedarian Project to track the progress of the study participants into later childhood, elementary school, and adolescence. Supplemental grants from various foundations, the Department of Education, and the State of North Carolina underwrote parts of the effort. The Maternal and Child Health Bureau and the Packard Foundation funded a young adult follow-up when the study participants were 21 years old. Today, both the NIH and the Maternal and Child Health Bureau are funding an age-30 follow-up. The latter will concentrate on the economic circumstances of the sample to learn whether their early childhood experiences can be linked to detectable gains in the world of work.

Community/population served. The Abecedarian project differed from most other early childhood programs of its era in that its intervention began in infancy. The theoretical basis for starting so young was derived from research on stimulus deprivation in very young animals (e.g., Hunt, 1961) and from a famous experiment involving institutionalized infants with and without environmental enrichment (Skeels, 1966). Both lines of research showed dramatic effects of early stimulus deprivation. The developers of the Abecedarian Project therefore intended to optimize the cognitive stimulus value of the very early environment.

The program was located in a North Carolina university town. Eligibility for admission was screened with a High Risk Index (Ramey & Smith, 1977) that contained socioeconomic factors such as parental educational levels, family income, father absent from the home, evidence of academic difficulty in siblings, the family received public welfare funds within the past 3 years, father's work semi-skilled or unskilled, below average scores on intellectual measures of siblings or parents, other indications of need for public assistance, or the family sought counseling or professional help. Potential enrollees were located through social welfare agencies or prenatal clinics where low-income mothers were served. Racial background was not a factor, but given the demography of the study's location in the early 1970s, 98% of those who enrolled were African American.

The protocol called for four cohorts of 28 children each, 14 treated and 14 in a control group, with treatment delivered in a full-time child care setting, extending year round across the first five years of life. One-hundred eleven children born to 109 families were admitted, enrolled between the fall of 1972 and 1977. The children went into public kindergarten in 5 waves between 1977 and 1982. Data were collected annually through age 8, that is, during the preschool years and the first three years in public school. At school entry, the study design changed from 2 groups to 4 groups that varied with respect to the length and timing of treatment. Half the preschool treated group and half the preschool control group had school-age intervention in the form of a Home-School Resource teacher who worked within the family and the school to support the child's progress in the primary grades. Thus, some treated children had eight years of intervention: five in the preschool years and three in primary school; some had five years in preschool alone; some had three years in the primary grades alone, and some had no intervention at all. The latter group reflects what was to be expected from high risk children growing up in the local community during the active treatment period.

Curriculum. The Abecedarian study used a special curriculum developed by Isabel Lewis and Joseph Sparling, entitled Learningames. It consisted of simple interactive routines between infant and adult that could take place in a naturalistic setting and required no highly specialized equipment. Rather, they took advantage of interchanges that could occur throughout the day when the infant w as receptive. Games were grouped into two broad domains: social/emotional and intellectual/creative. The earliest set of games covered the first three years of life (Sparling & Lewis, 1979), with a follow-on set of games for children aged 3 and 4 (Sparling & Lewis, 1984). These activities have been revised and updated and are currently available in versions designed for children from birth to age 5 (Sparling & Lewis, 2008). They are suitable for use at home by parents as well as in group care settings.

Health-related components. The medical study shared the same sample of children as the Abecedarian treatment group. Treated children received primary pediatric care at the Center. A Family Nurse Practitioner and an aide were on site at all times; pediatricians were present much of

the time as well. Medical studies concentrated on upper respiratory illnesses. Periodic nasal washes on everyone showed what bacteria or viruses were present within the children, symptomatic or not. Research staff who had contact with the youngsters were expected to report their own suspected illnesses and to be cultured themselves. The air quality within the Center was monitored. Families were asked to give detailed descriptions of who smoked and how much they smoked within the children's homes. Sick children attended the child care program regardless, except in the case of chicken pox. Prescriptions were provided to families as needed. In extreme cases, the Family Nurse Practitioner made home visits to support parents in giving medicines at home. Where indicated, referrals for specialists, such as orthopedists, were arranged.

Contributions to health and welfare

The Abecedarian study per se contributes to health and welfare through its impact on the cognitive development and school success of the treated children, as described below. However, it impacted the lives of children and their families in important ways throughout the treatment period. Mothers received five years of high quality childcare at no cost, enabling them to make progress in their own lives. Treated children received two meals and a snack at the center, enhancing their early nutrition. To rule out the possibility that cognitive gains seen in the treated children were due to more adequate nutrition during the first year when brain growth is most rapid, control group infants were supplied iron-fortified formula for the first 15 months of their lives. Supportive social work services were available to families in both groups, if needed.

Measures of success

Cognitive and academics. The success of the early educational intervention was measured through comparing trajectories of cognitive development in the preschool treatment and control groups, as assessed using the most reliable and valid standardized developmental/intellectual measures currently available. The evaluation protocol was planned and carried out independently from the treatment. To ensure that caregiver/teachers did not teach specific test items and to keep the testing situation the same for treated and control children, parents were required to accompany children to assessment sessions. For infants, the Bayley Scales of Infant Development (Bayley,

1969) were administered, changing to the Stanford-Binet Intelligence Scale (Terman & Merrill, 1972) at age 24 -48 months, and then the age-appropriate Wechsler scale from age 5 through age 15 and 21 (i.e., Wechsler, 1967; 1979; 1981). After children entered school, standardized instruments to measure academic achievement in reading and mathematics were used fall and spring for each of the first three years in school (Woodcock & Johnson, 1977; 1989). Subsequently, reading and math levels were assessed at age 12, age 15, and age 21.

Long-term outcomes of the Abecedarian project.

Cognitive and academic. During the preschool years, children in the treated group earned significantly higher scores on the developmental tests from the age of 18 months through age five. The effect size for cognitive development was large during the treatment period (d = .74) and moderate after that (d = .37). At the end of three years in public school, academic scores in reading and math were significantly higher among children who had preschool intervention than in those without preschool intervention, and children with the full 8 years of treatment outscored the others, but they did not score significantly higher than those with five years in preschool only. Thus, no clear benefit was apparent related to intervention during the three years in public school alone. In addition, across the first 10 years in school, students who had experienced preschool intervention were less likely to repeat grades and less likely to be placed into special education classes. At age 21, those with preschool treatment still scored better on academic tests than did preschool controls. Overall the effect sizes for reading and math were moderate: d = .45 for reading and d = .37 for math. All effect sizes given here are calculated conservatively, using the standard deviation for the instrument used (SD = 15) (Campbell, Pungello, Miller-Johnson, Burchinal, & Ramey, 2001).

Educational. The young adult follow-up at age 21 showed that those who had the benefit of the preschool treatment attained more years of education and, more important, were more likely to attend a 4-year college or university after high school (Campbell, Ramey, Pungello, Sparling, &Miller-Johnson, 2002). This is due in part to the enhancement of their cognitive growth in early childhood which was, in turn, reflected in better reading skills as they went through school

(Campbell, et al., 2001). We expect that increased education will be reflected in greater economic power in later adulthood, data that we are currently collecting on the sample at age 30.

Social adjustment. Parent ratings of social adjustment as measured by the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1982) were collected at ages 8, 12, and 15. None of the measures of socioemotional functioning completed by parents have shown negative effects of the preschool experience on child adjustment. Unpublished analyses of parent CBCL ratings for Social Competence ratings at age 8, 12, and 15 showed that of the three components of social competence (school, activities, and social relationships), only school competence scores favored the group with preschool treatment, and child IQ mediated the treatment effect on school competence ratings (Campbell, 2008). We also assessed child self-concepts over time, seeking to learn if children's self-perception varied as a function of having the preschool experience or not. At age 8, all children gave themselves very high ratings (Cicerelli, 1972). More variation was seen in the self-ratings made in later years (Harter, 1983), but there were not treatment-related differences in self-rated scholastic competence (Campbell, Pungello, & Miller-Johnson, 2002).

Regarding mental health outcomes, young adults with preschool treatment reported fewer depressive symptoms on the Depression scale of the Brief Symptom Inventory (Derogatis, 1990). The findings indicated that the early home environment interacted with early treatment to predict these ratings such that depressive symptom ratings were inversely related to the quality of the early home environment for the preschool control group, but not for the treated group. It is as if early treatment buffered those who received it against negative effects of the early home environment in predicting to later depressive feelings (McLaughlin, Campbell, Pungello, & Skinner, 2007).

Health. Having prospective data on the medical conditions of the children, in particular the measures of their upper respiratory illnesses during early childhood, and on measures of intellectual development and academic achievement in the primary grades, investigators at the FPG Center were able to examine the links between these factors. For example, one study found that neither the duration nor the frequency of otitis media with effusion (OME) in the first five years of life was related to the level or the pattern of intellectual development over the first 8 years, nor were they

related to academic test performance at age 8. However, children with more OME in the first three years had lower classroom teacher ratings of on-task behavior at age 8 (Roberts, Burchinal, & Campbell, 1993).

Challenges

Equality of groups. The Abecedarian study has been challenged on several points. At its inception, conventional wisdom was that intellectual potential was genetically determined, fixed at birth, and not amenable to environmental influence. Malleability in cognitive/intellectual development was questioned. A controversy erupted in the literature based on claims that any difference between the treated and control groups could not possibly be due to the effects of the preschool treatment because the MDI score difference between treated and control infants was as large at 6 months as was the WISC-R Full Scale IQ difference at 8 years, hence the two groups must have differed to start with. Two arguments refute the claim of initial group differences. First is that the infants were randomly assigned to treatment and control groups, which should have distributed background factors more or less equally across the groups. Second is the fact that the first assessment occasion, when infants were 3 months of age shows absolutely no group difference in Bayley scores. A third argument against this position concerns the measurement of cognitive development during the first and 8th years; there is little overlap between the requirements hence the meaning of a group difference is difficult to interpret in infants within the normal range.

Cost. Another problem concerned the cost of such a program. High quality group care for infants is expensive. Early evaluations of Head Start benefits indicated that the enhancement of cognitive development claimed for Head Start attendees was no longer detectable after about 3 years in public school. Some concluded that investing in the early years, or compensatory intervention, was a failure (e.g., Jensen, 1969). Even in the face of evidence that early childhood programs could show significant benefits, such as the report of the Consortium for Longitudinal Studies (Lazar, Darlington, Murray, Royce, & Snipper (1982), the more intensive and costly form of early childhood education represented by the Abecedarian Project's full-time child care model, even

if it were shown to be effective, was dismissed as too costly for widespread feasibility (Herrnstein & Murray, 1994).

Negative effects of child care. Policy makers were also doubtful that group care for infants was desirable, even if feasible. Unknown harm might result from separating parent and infant for a significant portion of each day. However, in the early 1970s the nation and the local area were both experiencing a growing demand for full time child care for infants. The Abecedarian investigators had no difficulty in finding persons willing to accept such a service for themselves. Nevertheless, the possibility that so much out of home care would be detrimental to the children's socioemotional development was a real concern. One study, based on 3 of the 4 Abecedarian cohorts suggested that the children treated in the preschool program were seen by their primary grade teachers as more physically and verbally aggressive than their peers from the preschool control group (Haksins, 1985), a finding that did not replicate when cohort 4 and the children from a related consecutive study were assessed.

Broader implementation

The Abecedarian child care program provided children with a stable and predictable environment during their earliest years. Educational backgrounds among the staff varied from high school level to Master's degrees in early childhood. Turnover was minimal because salaries and benefits were competitive with public schools. On-site training was provided in the use of the curriculum and one of its developers was on site consulting in the individualization of item assignment as infants were ready. Consultants in speech and language development and behavior management were available. Currently, Joe Sparling and Craig Ramey are searching for a large urban setting in which to apply the Abecedarian principles on a broader scale and in a different setting (Sparling, personal communication, 2008).

The Question of Health

Extensive early childhood medical records exist for children in the treated group, but not for the control group. The plan to have all infants, treated and control alike, receive primary pediatric care at the Child Development Center proved to be infeasible. Control families were urged to enroll

instead at other clinics, such as the County Health Department or the pediatric clinic at the local teaching hospital. The physical growth data collected on all children during the preschool years showed no group differences in height, weight, and head circumference at 3 months or 60 months (Campbell, 2001, unpublished data).

During subsequent follow-up studies at age 12 and 15 years, parents were asked about the general health of their children and any possible hospitalizations. They also completed the Child Behavior Checklist (Achenbach & Edelbrock, 1983) at these ages; this scale contains questions about somatic complaints. At age 21, we asked the young adults themselves about somatic complaints and about having a defined regular doctor and their health insurance. No treatment related differences were found for any of interim health indicators. Parents of treated and control children indicated similar incidences of illness and hospitalizations during the adolescent follow-up studies. There were gender differences. Parents of females listed more somatic complaints at age 15 than did parents of males.

In young adulthood, females were more likely to say they had a regular doctor. The Abecedarian young adult data also contained indications of healthier life styles among the group with preschool treatment. Persons in the treated group were less likely to describe themselves as regular smokers at age 21 – 39% in the treated group compared with 55% in the control group. They were less likely to say they used marijuana within the past month - 18% in the treated group compared with 39% of the control group. They delayed child bearing, the mean age of a first birth was about 1-1/2 years later for the treated group than for the control group. They also had fewer subsequent children before the age of 21 (Campbell, et al., 2002). Finally, those in the treated group were more likely to report having exercised three times within the past week – 43% compared with 33%. (Campbell, et al., in press). These are hopeful indicators that the increased educational attainments within this group are associated with positive changes toward healthier lives.

The bad news is that a smaller subsequent study in which only a third as many high risk children were given a child care educational experience of the same timing and duration as the Abecedarian sample showed no reduction in rates of smoking or in rates of having children before

their early 20s. The better news is that the reduction in the use of marijuana and the increased report of an active life style did appear in individuals treated in both programs. (Campbell, et al., in press). To the extent that healthier life styles are adopted, which may well be a corollary of better economic circumstances, families and communities will naturally benefit.

Policy implications

By comparing outcomes among children treated in preschool and the primary grades, preschool only, primary grades only, and no early treatment, the Abecedarian study demonstrates a clear preference for intervening in the early years of lives of poor children rather than waiting until they enter school. Whereas the preschool program shows life-enhancing differences among young adults who experienced that intervention, the school-age program does not. Thus, the first implication is that resources need to be allocated for early childhood programs. The data do not prove that intervening prior to age three was responsible for the long-term benefits seen in this study because the design confounds duration of treatment with age of treatment. On the other hand, they cannot be used to refute the importance of intervening in the very early years, as some have suggested (Bruer, 1999).

Second, the Abecedarian study shows that positive life style changes are associated with the cognitive and academic benefits accruing to early childhood programs. Although the study's planners did not foresee differences in later life styles, their hope was to increase the chance that individuals would more fully develop their potential eventually leading to increased well-being in later life. This hope has been met. The intellectual and educational gains related to early childhood education are modest, but they are very important. Based on the educational gains, reduced smoking, fewer grade retentions through school, fewer placements into special education, and economic gains made by mothers of treated children, economists Steve Barnett and Leonard Masse have calculated that the Abecedarian program can be expected to save society approximately $2.61 for every dollar spent on the preschool program (Masse and Barnett, 2002).

Mild mental retardation is a significant public health problem. A dramatic success in the "prevention" of mental retardation should not be claimed for this program. However, if one assumes

the simple definition of mild retardation as scoring at 70 or below on a standardized intellectual measure, and assumes further that roughly 3% of the population would fall within that range, then the control group for the Abecedarian study comes close: 2 of 51 individuals tested at age 21 scored below 70, or 3.9%, fall within that range. In contrast, none of the young adults who had early childhood intervention scored below 70. Admittedly, there is a wide range of scores within both groups. Within the treated group, 7 of 53 young adults, or 13%, scored below 80. This contrasts with 15 of 51, or 29%, in the control group. These data do demonstrate a boost in cognitive functioning that lasts into adulthood. More importantly, that boost is accompanied by increases in educational levels. These in turn imply the possibility of improvements in economic circumstances during the lifetime. Poverty is multi-determined, and early childhood education is only one of the ways society needs to provide supports for families trying to escape. The long-term outcomes from the Abecedarian study show that early childhood education is one method whereby that problem can be attacked and, to some extent, ameliorated.

The study's findings should be considered a conservative estimate of its impact for two reasons. First, the long-term outcomes are based on an intent-to-treat model, so that those cases originally assigned to the treatment group are considered as treated, even though some left the area before the infant was a year old. Second, the untreated control group was by no means totally lacking in resources. Many children in the control group had some form of out-of-home care during their early years. This varied from being cared for by other family members, attending informal kinds of day-care homes, to enrollment in state-licensed child care centers or preschools. Social services funds were used to pay for preschool experiences for children of mothers enrolled in self-help programs or educational institutions. The Abecedarian staff itself referred children in the control group for community program, such as other preschools or Head Start, if they appeared to be falling behind in development. Thus, the Abecedarian findings are a conservative estimate of what this kind of intensive preschool experience can do for high risk children.

References

Achenbach, T. M., & Edelbrock, C. (1983). Manual for the Child Behavior Checklist and Revised Behavior Profile. Burlington, VT: Department of Psychiatry, University of Vermont.

Bayley, N. (1969). *Bayley Scales of Infant Development*. New York: The Psychological Corporation.

Bruer, J. T. (1999). *The myth of the first three years.* New York: Free Press.

Campbell, F. A. (2008). Unpublished analyses of CBCL data.

Campbell, F. A., Pungello, E. P., & Miller-Johnson, S. (2002). The development of perceived scholastic competence and global self-worth in African American adolescents from low-income families: The roles of family factors, early educational intervention, and academic experience. *Journal of Adolescent Research, 17,* 277-302.

Campbell, F. A., Ramey, C. T., Pungello, E. P., Sparling, J.J, & Miller-Johnson, S. (2002). Early childhood education: Young adult outcomes from the Abecedarian Project. *Applied Developmental Science, 6,* 42-57.

Campbell, F. A., Pungello, E. P., & Miller-Johnson, S. (2002). The development of perceived scholastic competence and global self-worth in African American adolescents from low-income families: The roles of family factors, early educational intervention, and academic experience. *Journal of Adolescent Research, 17,* 277-302.

Campbell, F. A., Pungello, E. P; Miller-Johnson, S., Burchinal, M., & Ramey, C. T. (2001). The development of cognitive and academic abilities: growth curves from an early childhood educational experiment. *Developmental Psychology, 37*, 231-242.

Campbell, F. A., Wasik, B. H., Pungello, E. P., Burchinal, M. R., Kainz, K., Barbarin, O., Sparling, J. J., & Ramey, C. T. (In press). Young Adult Outcomes from the

Abecedarian and CARE Early Childhood Educational Interventions. *Early Childhood Research Quarterly*.

Cicirelli, V. (1972). *Construction of the Purdue Self-Concept Scale for Young Children* (Report of Contract #CG-5072). Washington, D.C.: Office of Economic Opportunity.

Derogatis, L. R. (1990). *Brief Symptom Inventory (BSI).* Minneapolis: National Computer Systems Assessments.

Editorial Board (1996). Definition of mental retardation. In J. W. Jacobson & J. A. Mulick (Eds.). *Manual of diagnosis and professional practice in mental retardation* (pp. 13-54). Washington, DC: American Psychological Association.

Harter, S. (1983). Developmental perspectives on the self-system. In P. H. Mussen (Series Ed.) & E. M. Heatherington (Vol. Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality, and social development* (4th. ed., pp. 275-385). New York: Wiley.

Herrnstein, R. J., & Murray, C. (1994). *The Bell curve: Intelligence and class structure in American life.* New York: Free Press.

Hunt, J. McV. (1961). *Intelligence and experience*. New York: Ronald Press Company.

Lazar, I., Darlington, Murray, H., Royce, J., & Snipper, A. (1982). Lasting effects of early education: A report from the Consortium for Longitudinal Studies. *Monographs of the Society for Research in Child Development, 47*, Serial No. 195.

Jensen, A. R. (1969). How much can we boost IQ and scholastic Achievement?. *Environment, Heredity, and Intelligence: Harvard Educational Review (*pp. 1-124) . Cambridge, MA: Harvard College.

Masse. L. N., & Barnett. W. S. (2002). A benefit-cost analysis of the Abecedarian early childhood intervention. In H. Lewin & P. McEwan (Eds.). *Cost effectiveness and educational policy: 2002 Year Book of the American Educational Finance Association* (pp. 157-176). Larchmont, NY: Eye on Education.

McLaughlin, A. E., Campbell, F. C., Pungello, E. P., & Skinner, M. (2007) Depressive symptoms in young adults: The influences of the early home environment and early educational childcare. *Child Development, 78*, 746-756.

Ramey, C. T., & Smith, B. (1977). Assessing the intellectual consequences of early intervention with high-risk infants. American Journal of Mental Deficiency, 81, 318-324.

Roberts, J. E., Burchinal, M. R., & Campbell, F. A. (1993). Otitis media in early childhood and patterns of intellectual development and later academic performance. *Journal of Pediatric Psychology. 19.* 347-267.

Skeels, H. M. (1966). Adult status of children with contrasting early life experience. Monographs of the Society for Research in Child Development, 31,(No. 3, Serial No. 105).

Sparling, J., & Lewis, I. (1979). *Learningames for the first three years: A guide to parent-child play*. New York: Walker.

Sparling, J., & Lewis, I. (1984). *Learningames for threes and fours: A guide to adult and child play*. New York: Walker.

Sparling, J., &Lewis, I. (2008). *LearninGames: The Abecedarian curriculum.* Bethesda, MD: Teaching Strategies:

Terman, L. M., & Merrill, M. A. (1972). *Stanford-Binet Intelligence Scale: Manual for the third revision Form L-M 1972 Norms Edition*. Boston: Houghton Mifflin.

Wechsler, D. (1967). *Wechsler Preschool and Primary Scale of Intelligence*. New York: The Psychological Corporation.

Wechsler, D. (1978). *Wechsler Intelligence Scale for Children-Revised.* New York: The Psychological Corporation.

Wechsler, D. (1981). *Wechsler Adult Intelligence Test-Revised.* Allen, TX: Psychological Corporation.

Woodcock, R. W., & Johnson, M. B. (1977). Woodcock-Johnson Psychoeducational Battery. Boston: Teaching Resources Corporation. (Now Allen, TX: DLM.)

Woodcock, R. W., & Johnson, M. B. (1989). Woodcock-Johnson Psycho-Educational Battery- Revised. Allen, TX: DLM.

NURSE-FAMILY PARTNERSHIP

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In a recent report entitled "New Directions for North Carolina" the NC Institute of Medicine referred to the Nurse-Family Partnership (NFP) as "a nationally recognized, cost effective model that has been scientifically proven to reduce child maltreatment, delay second pregnancies, improve child and maternal health, decrease juvenile delinquency and increase family economic self-sufficiency in high risk populations". This potent set of outcomes says volumes about the strategic design and efficacy of NFP's program in providing support to expectant mothers and families with infants and young children.

NFP is an intensive, evidence-based home visitation program that provides services to first time, high risk mothers and their children beginning early in pregnancy and continuing until the child reaches age two. The three program goals are to improve pregnancy outcomes, improve child health and development, and improve parents' economic self sufficiency.

NFP interventions are based on three theories: Self-Efficacy Theory (Albert Bandura 1977); Human Ecology Theory (Urie Bronfenbrener 1979); and Attachment Theory (John Bowlby and Mary Ainsworth 1991). The Self-Efficacy Theory is basically the mother's ability to change certain behaviors by learning to draw upon her own strengths and successes. The Human Ecology Theory recognizes that the mother's and child's social context are profound influences on the mother's life. The Attachment Theory stipulates that sensitive parental caregiving is a major influence on the child's growing sense of security in the world.

NFP is sometimes referred to as the "gold standard" for evidence based programs due to the striking outcomes from its three randomized controlled trials. The first trial in Elmira, NY in 1977 served predominantly Caucasian mothers in a rural setting; the second in Memphis, TN in 1987 served predominantly African-American mothers in an urban setting; and the third trial in Denver, CO in 1996 served predominantly Latina mothers.

Nurse-Family Partnership has consistent evidence, based upon replicated randomized controlled trials with different populations living in different contexts, that it:

- improves prenatal health;
- reduces childhood injuries;
- reduces the rates of subsequent pregnancies and births;
- increases the intervals between first and second pregnancies and births;
- increases maternal employment;
- reduces women's use of welfare;
- reduces children's mental health problems;
- increases children's school readiness and academic achievement;
- reduces costs to government and society; and
- is most effective for those most susceptible to the problems examined.

Relative to each of the three Nurse-Family Partnership program goals, the following outcomes have been observed among trial participants in at least one randomized, controlled trial of the program:

Improved pregnancy outcomes

- Reductions in high-risk pregnancies as a result of greater intervals between first and subsequent births, including a 28-month greater interval between the birth of first and second child (among low-income, unmarried group), 31% fewer closely spaced (<6 months) subsequent pregnancies, and a 23% reduction in subsequent pregnancies by child age two, and 32% reduction in subsequent pregnancies for the mother at child age 15 (among low-income, unmarried group)
- 79% reduction in preterm delivery among women who smoked
- 35% fewer hypertensive disorders during pregnancy

Improved child health and development

- 39% fewer injuries among children (among low-resource group)
- 56% reduction in emergency room visits for accidents and poisonings
- 48% reduction in child abuse and neglect
- 50% reduction in language delays of child age 21 months
- 67% reduction in behavioral and intellectual problems at child age 6
- 26% improvement in math and reading achievement test scores for grades 1-3 (among low-resource group)
- 59% reduction in arrests at child age 15
- 90% reduction in adjudication as PINS (person in need of supervision) for incorrigible behavior*

*Based upon family-court records of 116 children who remained in study-community for 13-year period following end of program.

Increased self-sufficiency of the family

- 61% fewer arrests of mothers at child age 15; and 69% fewer arrests (among low-income, unmarried group)
- 72% fewer convictions of mothers at child age 15
- 20% reduction in welfare use
- 46% increase in father presence in household

Given these extraordinary outcomes, if taken to scale, Nurse Family Partnership has the potential to have the following impact on our country. Extrapolating from the trial data, we estimate that for every 100,000 high-risk families- the number NFP expects to be serving per year by 2017- there would be nearly immediate benefits of:

- 14,000 fewer days children are hospitalized for injuries in their first two years of life;
- 300 fewer infant deaths i.e. during first year of life;
- 11,000 fewer children who will develop language delays by age 2;
- 23,000 fewer cases of abuse and neglect in children's first 15 years of life;

AND there will be lasting benefits. The studies further allow us to estimate that there will be:

- 22,000 fewer arrests among those children through their 15th birthdays;
- Substantially higher rates of school readiness.

In addition, nurse-visited mothers themselves will have improved health, pregnancy planning, and economic self-sufficiency.

The research shows that NFP works. The question is why? What is it about NFP that distinguishes it from other programs? Why is NFP able not only to attain remarkable research outcomes but to maintain strong outcomes in its replication efforts?

One key lies in the fact that NFP's founder, David Olds, based NFP's program design on strong theory as described above. NFP's strategic approach likewise is reflected in targeting high risk, first time mothers and choosing the nurse, a historically trusted figure in the community, as the home

visitor. In her first pregnancy a woman's body is changing, she doesn't know what to expect in the delivery room – in short she's fearful. Who better than a nurse to answer her questions and provide the support and reassurance needed.

The first pregnancy is also a very "teachable moment". David Olds recently has reemphasized the mother's powerful yearnings for good things for her first-born as a key to her positive response to the nurse's encouragement and helpful instruction.

The detailed NFP protocol developed over thirty years is another key. The nurse doesn't just drop in for a cup of coffee. The protocol is a "living" document tied to the stages of pregnancy of the mother and the progression of child development for the child, and is regularly revisited and updated. While nurses are provided with this detailed curriculum that ensures content-rich visits, they are also guided to "meet the mother where she is," using their professional judgment to deliver the curriculum in a way that places a priority on first addressing those issues that are of immediate concern to the woman.

The third NFP goal of self-sufficiency mentioned above also differentiates the program (especially from other maternal and child health programs). The protocol incorporates "life course" learnings reflecting the realities faced by a high risk mother, including education as a paramount issue. A second pregnancy soon after the birth of the first child can be a death knell for the family's future. The future for a 20 year old unmarried woman with two children and no high school diploma is bleak. Increased spacings between the first and second pregnancies, a specific measurable outcome for NFP, gives the mother the opportunity to finish school, find a job and stabilize her life. The seeds for self sufficiency are laid during pregnancy in discussions about family spacing and issues such as access to needed services including medical services, quality child care, transportation, etc.

The smaller caseload size, the intensity and duration of home visits and the centralized monitoring of training also are key strategic elements. The maximum active caseload for each nurse is 25. Nurses visit every 2 weeks with four weekly visits upon enrollment and six weekly visits after the birth of a child. (Visits taper off to once a month for the last three months for transition purposes.) Currently all training (including refresher training) for nurses and nurse supervisors is conducted in Denver, CO, where NFP's national headquarters is located. This provides consistently uniform training of high quality on an ongoing basis.

From the beginning, David Olds incorporated another essential element to program quality – a national database that monitors program implementation (Clinical Information System – CIS). All NFP nurses feed information from their visits into the CIS system. Local sites receive quarterly reports and an annual evaluation allowing them to compare outcomes and program metrics to the national norm for NFP. For example, local sites know how they are doing in specific program outcomes such as reduction of low birthweight, family spacing, cessation of smoking – compared to the national norm. Similarly, program metrics such as the average number of home visits per nurse, average caseloads, etc., are compared to the national norm. The result? Accountability and feed back on program implementation on a site by site basis. The number of national programs other than NFP with this capability is small indeed.

The combined influence of good community and organizational planning, intensive nurse education, visit-by-visit guidelines, the web-based Clinical Information System, standardized evaluations and reports, and quality improvement processes led by the National NFP office in Denver, CO translate

into a predictable and replicable service model. It would be hard to imagine a program more committed to maintaining fidelity to model than NFP- from its national Board of Directors to the nurses on the front lines delivering services.

What about cost? NFP costs vary nationally but average about $4500 per family per year. The RAND Corporation estimates a cost benefit ratio of $5.70 for each dollar invested in NFP and a recovery of the investment by the time the child reaches four years old. RAND attributes savings to "increased tax revenues from employed mothers; decreased welfare outlays; reduced expenditures for education; health, and other services, and lower criminal justice system costs." The Washington State Institute for Public Policy in a 2004 study found a net return of $17,180 for each NFP family served and more than double that amount for very high risk mothers.

The effect on teen mothers, perhaps the most at risk families of all, is striking. The presence of the NFP nurse during this critical period for a highly vulnerable teen mother, who is a child herself, holds a significance that cannot be valued. (Statistics show that 50% of girls born to teen mothers become teen mothers).

All of the strategic elements discussed above contribute to the fabric that makes NFP work. But there is one overarching element that ties them all together. Trust. Underlying every program that works for families in need is the element of trust. The trust that grows between the nurse and the first time mother grows into a powerful relationship that takes on a new dimension upon the birth of the child. Apparently the same question is in every mother's mind when her first child is born: "What do I do now?" The NFP nurse is there with six weekly visits after the baby is born and biweekly visits thereafter (until the child nears age two) to answer that question-and to be the most trusted resource a mother could ask for.

One final observation about NFP. The charge of the Commission to Build a Healthier America is to investigate how factors such as education, environment, income and housing shape and affect personal behavioral choice. This field hearing in Raleigh is to focus on programs that support families with infants and young children. These are issues of tremendous importance to the health and well being of children and families and ultimately to our society. Faced with the breadth and scope of this undertaking, the goal, appropriately so, is to formulate actionable policy recommendations.

Where does the action start? Where is there an opening that can be grasped, an initiative which, while it cannot address all problems, can demonstrably change the landscape for the better?

Let me play out a scenario. What would happen if a community were to implement NFP, achieving a high rate of penetration? Assume that 70% of all first time high risk moms in the community received the NFP intervention. Also assume 5,000 live births in the community annually. If a 70% penetration rate were reached, only 700 first time, high risk mothers would need to be served. This number is derived as follows. Only 40% of women giving birth are first time mothers (2,000 of the 5,000). Assuming half of those first time mothers are high risk, the number is reduced to 1,000. A 70% penetration rate ration serves 700 first time, high risk mothers – a manageable number. But here is the strategic implication of this scenario. **At some point 70% of all high risk mothers in the community will have been served! Every mother is a first time mother once.**

Consider the implications of such a broad based intervention for the community. Thousands of resources would be placed in the neighborhood which are home to these families (who suffer from

poorer health and self-sufficiency issues) in the form of the mothers who had participated in the NFP program. The public health effect of having sisters, cousins, friends and neighbors who know what a mother should do when she's pregnant and who know how to nurture a child could be dramatic as could the "life course" learnings relating to self sufficiency. A high level federal official recently visited an NFP site in Philadelphia. One of the nurses mentioned to him a conversation with one of her mothers who indicated that when the nurse left the mother's home, other mothers in the neighborhood would come to her house and ask "What did you learn today?" A teen mother in New York City recently described how her cousins in Virginia, who are also pregnant and parenting teens, called her to get information about what they should do with their babies. When the NYC teenager knew the answers to her cousins' questions, she passed along what she had learned. When she didn't, she was proud to be able to call her nurse.

If this worked for a community, could it work for a nation? The Brookings Institution thinks so. In a recent paper entitled "Cost-Effective Investments in Children" (January, 2007) Brookings identified four areas of investment that "merit expanded federal funding even in a time of fiscal austerity." One of those four areas was nurse home visiting programs where Brookings referred favorably to the NFP as follows: "The strong evidence of effectiveness of the Nurse-Family Partnership, combined with its replication in 150 sites across 21 states, makes it a leading candidate for a prudent investment in children and the country... One advantage of the nurse home-visiting program is that pregnant women will be encouraged to access health care for themselves and their infants." Brookings proposed a federal investment in NFP over five years of $14 billion dollars to serve all high risk, first time mothers.

SMART START

Stephanie Fanjul

President, The North Carolina Partnership for Children, Inc.

Briefly describe your program or work. What are your overall goals and objectives?

Smart Start is North Carolina's early childhood leadership network that works to advance a high quality, comprehensive, accountable system of care and education for every child beginning with a healthy birth. **Our vision is that every child reaches his or her potential and is prepared for success in a global community and that every family will be strong and supported.**

Smart Start serves as a model across the state and country for the way it identifies and serves the needs of children at both the local and statewide level. Smart Start has 78 partnerships that serve children in all 100 North Carolina counties. The North Carolina Partnership for Children, Inc. (NCPC), leads Smart Start to help shape public policies relating to children and in conducting research to ensure that Smart Start effectively meets our state's needs.

The local partnerships assess the needs in their communities and provide services specific to the populations they serve. While the services each Smart Start partnership offers may vary, all programs are based on the core principles of improving child care quality, increasing access to quality child care, connecting families to consistent health services and building strong families.

In addition, the partnerships make great strides in improving the quality of services families receive. Smart Start creates and funds professional development and quality enhancement opportunities that address many issues including nutrition and physical activity practices. In doing so, Smart Start helps build a more professional child care workforce that helps provide children the best start in elementary school and life.

Smart Start has deep and expansive knowledge of the state's children and their needs. Smart Start is community-based, state supported and receives private-sector funds. Because of this

make up, Smart Start has been a strong and effective link between policy, services, and families since its inception in 1993.

What community/population is served?

Smart Start serves young children and families in all 100 North Carolina counties. Our outreach serves families of all incomes and backgrounds. Whether urban or rural, African American, Native American, or Latino, Smart Start partnerships work to be culturally competent to best serve the communities.

What are the program origins and who was involved at its inception?

In the late 1980s and early 1990s, North Carolina had some of the worst child care standards in the country. In 1991, the North Carolina Day Care Association, representing more than 1,500 early childhood professionals and advocates, requested $80 million from the state legislature. They didn't get the money, but they did get a Study Commission, which helped call attention to the needs of young children and families in the state.

Gov. Jim Hunt, who had served two terms but was out of office, took an interest in the issues facing young children. Gov. Hunt had previously initiated and fully implemented public kindergarten across the state. In 1992, he convened a small group of experts to create an early childhood white paper. Those who came to the table during the initial phases included: community colleges, nonprofits, community foundations, health departments, schools, Head Start, Department of Social Services, private child care providers, Mental Health Department, business representatives and more. This initiative, created in collaboration with public and private sector experts and leaders, became Smart Start.

After Gov. Hunt's re-election, the group reconvened and recommended that Smart Start receive full state appropriation, involve all providers, and that counties make local decisions. They also recommended the creation of the Division of Child Development to coordinate services.

The Smart Start legislation was ratified in 1993 and The North Carolina Partnership for Children, Inc. was created to lead Smart Start. That same year, Gov. Jim Hunt announced the 12 "pioneer" Smart Start partnerships that would serve 18 counties.

How is it funded?

Smart Start receives funding from the legislature while also raising private dollars at the state and local level. Smart Start has a funding formula that is calculated annually using the most recent data available to determine how its funds will be distributed among the 78 partnerships.

What are the health-related features or components of your program?

Over the years, the services and health-related programs have changed depending on the needs and the results of our work. For instance, in the beginning, many North Carolina children were failing to receive immunizations. Smart Start made a concerted effort to partner with civic and faith-based organizations to help make immunizations accessible. This large-scale vision with grassroots connections and support proved to be successful. Over time, in part due to our work and the awareness we raised surrounding the need for screenings and immunizations, the state picture changed. Our services have evolved to meet more current needs.

Today, we know that more children would have better health if they had a medical home—a physician, clinic, or other facility where the health providers know the child and the child's medical history. To address this, Smart Start launched the *Assuring Better Child Health and Development* (ABCD) pilot program to connect medical practices and families.

Childhood obesity has become an epidemic in our country and has certainly compromised the health of young children in our state. Knowing that our children are learning eating and exercise habits that may shape their health for the rest of their lives, we have launched a pilot program called the *Nutrition and Physical Activity Self-Assessment for Child Care* (NAP SACC) program in some partnerships. This evidence-based program is an intervention in child care centers with the goal of improving nutrition and physical activity practices and policies that impact children ages 2 to 5.

Among other strategies, NAP SACC encourages child care providers to consider what and how they provide meals to children in their care. The results of Smart Start's two-year effort are being studied and reported to ensure we are making the progress and addressing the issues effectively.

How do you see your work as contributing to the health of the children and families that you serve? How do you see your work as contributing to the health of the greater community?

Smart Start is the platform for all services for children 0-5. Smart Start raises awareness about the health issues critical to young children and helps link families to the services they need. Whether it's promoting regular check-ups, healthy eating, or providing early intervention for children, Smart Start aims to help children become healthier. The sooner we can identify a child's needs, the better their chance for reaching their potential.

Smart Start knows the value of early intervention and services in the area of children's mental health and development. Our partnerships help link families with children with developmental delays like autism and attachment disorders or social and behavioral concerns. Programs such as *Incredible Years* (another pilot program initiated this year) give parents and child care providers tools and the ability to promote healthy emotional development in young children.

Smart Start's work contributes to the health of the greater community by ensuring that all children receive the services and support they need to be healthy and excel in school. Our hope is that one of the many ways this will affect the community at large is that early intervention and quality care will reduce high school dropout rates down the road, which is a large societal problem in North Carolina.

How do you measure the success of your work?

<u>Performance measures</u>

Each year, NCPC collects data that offers a picture of the quality of health, early care and education, and family support in each county. The Smart Start partnerships work to improve these numbers each year. Rather than being evaluated on what they have done programmatically,

success is measured by how their communities have improved or maintained Smart Start standards in these categories.

For instance, we know that consistent health care is critical to ensuring the ongoing well-being of young children. Children with a consistent health care provider are more likely to receive appropriate immunizations, participate in well child visits, and have their health and developmental issues diagnosed early in life.

Smart Start partnerships have a goal that a high percentage of children through age 5 enrolled in Health Check received well child preventative health care. With this goal as a target, Smart Start activities connect families to consistent medical care, increase access to medical care, and expand the reach of health and mental health systems to diagnose developmental delays. Using our performance measure, NCPC looks at county and statewide results. In the year ending June 30, 2007, 73% of all North Carolina children through age 5 who were enrolled in Health Check received well-child preventative health care. While, of course, we cannot make a direct correlation between positive results and our work, we are confident that Smart Start is contributing to the improvements in these categories.

Pilot Project Evaluation Reports

We have also launched four pilot programs that target four critical issues facing young children and their families: *Nutrition and Physical Activity Self-Assessment for Child Care* (NAP SACC), which reduces childhood obesity; *Assuring Better Child Health and Development* (ABCD), which identifies children with developmental delays or concerns; *Raising a Reader*, which improves children's pre-reading skills; and *The Incredible Years: BASIC Parent Training–Early Childhood*, addressing parenting skills and children's challenging behaviors.

To address these issues, Smart Start is piloting evidence-based programs in a diverse range of communities and is regularly tracking and reporting on results to measure changes in awareness and behavior.

What are some of the greatest challenges in your program or work?

One of the greatest challenges is the ability to serve all of our many diverse populations. In North Carolina, we have a rich array of cultures and communities. We try to tailor our efforts at the local level to most effectively reach out to these groups, which include rural and urban populations, and Native American, African American, and Latino groups. We know there are health disparities and vulnerable populations that we would like to serve better.

We struggle with finding adequate funding as the needs continue to grow. In addition, we lack funding to properly evaluate our programs. In 2003, we conducted a long-term study of children who had received services. The study proved the value and success our work. Unfortunately, when we cannot produce such reports, we miss out on the opportunity to show policymakers, leaders, and sponsors how credible and effective Smart Start is.

How might your work be implemented more broadly? What steps would need to be taken? Who would need to be involved?

Smart Start realizes there is a need to address the increasing prevalence of obesity in young children. In response to the issue, NCPC convened the Healthy Lifestyles in Early Childhood Workgroup (HLECW) comprised of state experts from a variety of organizations and agencies that focus on issues related to childhood overweight and obesity. The workgroup focuses its efforts on strategies that address the nutrition and physical activity standards for child care, including classroom assessments, model outdoor learning environments and nutrition education for teachers and parents. The needs of infants and toddlers have been at the center of many discussions, resulting in a proposal to the North Carolina Health and Wellness Trust Fund to fund the development of a nutrition and physical activity assessment tool for classrooms serving children

birth to two. The proposal also includes conducting a survey for child care center directors and employers across the state to address relevant issues related to supporting breastfeeding in mothers that utilize child care. Workgroup members also collaborated on a project to develop model outdoor learning environment sites in several areas in the state and provide critical training to teachers on implementing effective practices learned through experiences at the model sites.

NCPC, in collaboration with the Office of School Readiness, has also developed the Outdoor Learning Environments Alliance (OLE) to bring together a variety of stakeholders with a common vision to improve outdoor learning experiences for young children in the state.

Smart Start's role as a convener and collaborator will make it possible to expand the shared vision of multiple stakeholders to develop and implement strategies that promote healthy lifestyles. Both HLECW and OLE have developed goals and strategies that could be expanded to every county, with additional resources. We must also work to assure that all strategies address the needs of our diverse population and target the documented health disparities faced by these vulnerable populations. All of these efforts will also benefit from strong evaluation plans that can be provided by our strong university system.

What is the history of decisions in state leadership that made Smart Start a priority?

Education has been a high priority among North Carolina's political leadership for many decades. Governor Jim Hunt was one of those strong advocates for a strong public education system. During his first two terms as governor, 1976 – 1984, he instituted universal kindergarten (among other education initiatives) and was known nationally as the "education governor."

After eight years in the private sector, he ran again for governor in 1992 on an education platform that included the development of an early education system for North Carolina – Smart Start. He campaigned on this agenda and, when he won by a landslide, he used this "mandate" to launch Smart Start. Not only did he campaign on an early childhood agenda though, he integrated it into every aspect of his administration. The legislature and the public understood that funding and statewide expansion of Smart Start was his top priority. Every member of his cabinet (transportation,

labor, commerce, etc.) was told to make Smart Start a top priority and they did so. For eight years, every aspect of state government worked to think strategically about how to make the lives of young children their top priority.

This same strategy was undertaken at the local level as well through the local Smart Start partnerships. By the time Governor Hunt's terms in office ended in 2000, early childhood education was institutionalized into the fabric of North Carolina at the state and local level in a way that it could not be eliminated. A poll undertaken in 2005 (5 years after Hunt left office) proved that the public (81%) continued to see investment in Smart Start as a top priority and state legislators campaigned on a pro Smart Start platform. Now Governor Easley has continued this emphasis by establishing a pre-k program.

Are there any specific guidelines for Smart Start programs in terms of nutrition and physical activity?

Smart Start has always been focused on the health needs of young children and has a vested interest in nutrition and physical activity standards for children birth to 5 years of age. Smart Start has placed a heavy emphasis on improving the quality of child care across the state, which incorporates the importance of good nutrition and physical activity. An example of specific guidelines is the NAP SACC pilot project, which has activity requirements as well as standard outcomes regarding nutrition and physical activity. The projected outcomes are:

- Increase the number of early care and education environments implementing healthy nutrition and physical activity practices.
- 75% of child care centers that participate will complete their Action Plan to incorporate improved nutritional and physical activity practices.
- 75% of child care centers that complete their Action Plan will demonstrate improvement in nutrition and physical activity practices as measured by pre- and post-assessment score.

FPG Child Development Institute Child Care Program

Ricky Hill
Parent of a Toddler Enrolled at FPG Child Care Center

Frank Porter Graham child care center has been a very enlightening experience for my son, his mother and myself. My son's mother and I learned about FPG child care center by reviewing the local early childhood education programs that were connected and available through the local orange county early headstart program. After looking at the list of programs available in early headstart and considering that FPG was associated with the University of North Carolina Chapel Hill. It appeared that Frank Porter Graham would be a great place to enroll our son into pre-school and have him receive a five star education.

My son's mother and I enrolled our son at Frank Porter Graham at an infant age of around six to seven weeks old. The process began with us looking at local resources that could provide financial assistance to a lower income family. After identifying early headstart as a source and enrolling in it. The early headstart program provided a list of local child care providers that my son could possibly be enrolled in. My son's mother and I researched the different programs and then informed early headstart which programs we were interested in. Early headstart then provided us with a list of the possible providers from our list that may have an open slot for infants once my son became old enough to be eligible to enroll in a program. On that list FPG and two other programs caught our attention. We had a chance to visit all three programs and after visiting them all FPG appealed to us as the best program for our child.

What is special about FPG is the class ratio is very small. There are only two or three kids for each child care provider in the infants group, and over the four year span the classes slowly transition into a larger size to prepare the child for elementary school. The program also has very educated staff that continues to stay up to date on the new information in early child hood development and education.

Frank Porter Graham is also special because it gives you a chance to contribute to improving early childhood education by allowing you child and sometimes your family to participate in studies and research. Also by being involved in some of the research and studies if not detected by the staff some studies can help identify delays or concerns early on in a child's development. This is beneficial because it can help a child obtain assistance possibly earlier than a program that doesn't have those studies or research.

There were also challenges that we found as we searched for child care for our son. One challenge that we found very quickly was from early child care to age four it was more expensive than we could have imagined to have your child in a program. That quickly made us realize that if we wanted the best possible early childhood education for our son we would need to find local resources that could help provide financial assistance.

The other challenge that we found while searching for child care was that at many programs there were only a limited amount of spaces available for infants. We even found that some programs did not even have infant programs because of the high needs that an infant has.

At Frank Porter Graham a large number of parents also appear from my perspective to be very active and involved in FPG. Some parents do a great job at developing ideas that work great for the FPG child care program. One example is something as simple as making cards for each child and their parents to give to there child care providers for teacher appreciation week. Also around different holidays throughout the year I have seen a father put on a type of small concert for all the kids in the program. Parents and other family members also do a great job of making donations to the program without any pressure or coercion. Plus parents are always welcome to be in the classroom with their kids so you may often see a parent participating as a volunteer in the class.

In terms of my interactions with parents and staff, I think that interact very well with both staff and parents. There does not seem to be any staff or parent in the program that I would not happen to say hello to or give a smile while around the daycare. Parents and staff almost always

give me the same courtesy. I have even on occasions made friends in the community from just happening to see them at FPG.

I also interact often with parents and staff by being a member of the child care management team. The childcare management team usually meets once a month and at least one parent from every class and multiple staff members attend this meeting. During this monthly meeting we all typically collaborate and have a chance to be involved in almost everything that may affect the children of the child care program.

Another topic that FPG offers some assistance with is health-related services. My son's mother and I have not utilized the health related services much except for when the dentist comes for the occasional checkups and lets you know if they have any concerns. The program also has specialist that can visit classes on occasions and can let the parent know if they have any concerns.

Another important aspect of the FPG child care program is the impact that the program has had on my son and my family. The program has had a great impact. It helps keep my son's mother and me active in our son's daily life. Also the program keeps us well informed about everything going on in my son's life such as his milestones and any concerns.The program has also had a great impact on my son because my son had been behind in his speech. However over the last six months the speech and language specialists have done an excellent job improving his speech and language skills.

There are three things that I see as the greatest value of Andre participating in the the FPG child care program. One is the program provides an excellent head start on developing the skills he will need when entering elementary school. The second value is the program provides inclusion and a strong belief in diversity. This value allows my son to interact with children of different cultures. The value also provides my son the chance to interact and accept children that may be different from him and not be able to do the same things that he can. The last great value from Andre participating at FPG is my son is provided the chance to participate in research that could possibly be the next important study that could further improve the early childhood development field.

PANEL II

EARLY LIFE PROGRAMS: FAMILY SUPPORT AND EARLY EDUCATION

THE FAMILY LIFE PROJECT:

Phase I

Lynne Vernon-Feagans and Martha Cox

Phase II

Lynne Vernon-Feagans and Mark Greenberg

(Ten Year 29 million program project from NICHD)

Low income, rural communities present a challenging context for the development of young children. These communities have undergone substantial economic and social shifts in the past few decades including the loss of quality jobs, migration of young talented adults toward urban areas, and geographic isolation as jobs and schools become further from their homes (O'Hare & Johnson, 2004). This economic context has led to greater poverty in rural areas than urban ones and a growing gap between poverty levels in rural versus urban areas of this country. Although substantial attention has been paid to the poverty of children in urban contexts, children in rural America face even higher rates of poverty; over half of children in rural areas live below 200% of poverty, compared to 37% in urban areas (Rivers, 2005). These high rates of poverty suggest that many children in rural areas are at risk for poor developmental outcomes, yet there is little research that comprehensively examines the nature of these risk and protective factors at multiple levels of analysis early in life. A recent report commissioned by the US Department of HHS concludes that there is a dearth of information about rural children and their families. This report notes that the small sample sizes and lack of rigor in measurement substantially limit our current knowledge; the report calls for a specific focus on understanding child welfare and well-being, family work opportunities, and the role of substance abuse and mental health issues and services in rural America (Department of Health and Human Services, 2005.)

Examining families below 200% poverty in rural and urban areas provides a fairly devastating picture of family economics. More than half (51%) of rural children live below 200% poverty, compared with only 37% of urban children (NCES, 2004). This is the case, even though 80% of the families have an adult who is working full-time. Summers (1997) reported that two thirds

of rural poor families who had at least one family member with a full-time job were still poor. In addition, one quarter of rural poor families had two or more household members with jobs and still the family was living in poverty. These data suggest that the jobs that are available in rural areas are low wage jobs that put families and children at risk for the future (Lichter, 2003).

Linked with economics is the lower level of education of parents in rural areas, especially in the rural South where 27% of children are living with a parent without a high school education compared to 21% in urban areas (NCES. 2004). Education has long been linked to economic well being; a recent welfare experiment has established a causal link between maternal increases in education and children's academic school readiness (Magnuson & Mc Groder, 2002). These data mask large racial differences in rural areas, where African American children are much more likely to live in a female-headed household and be poor (Graefe & Lichter, 2002). The data from the Family Life Project support these findings, with 59% of the African American families being headed by a single mother versus 15% for the non-African American families. The poverty rates for African American children in rural areas parallel the finding of single mother homes, with rates more than double that of non-African American rural children. The Family Life Project has found that the rates of poverty for African American families in our counties are actually three times that found for non-African American families (57% versus 19%). Although African American women with children are much less likely to be married in comparison to their non-African American counterparts, even black, childless women have much lower marriage rates than non-African American women (Graefe & Lichter, 2002). Graefe and Lichter speculate that the low marriage rates for African American women are in large part due to "factors such as cultural attitudes and values or the shortage of economically attractive men". Nevertheless, this may often provide children with a smaller economic base and less access to social capital that two parents can provide.

These family level data suggest that children in low wealth rural areas may be at particular risk for early development. Recent analyses of the ECLS-K data have concluded that children in rural areas begin school at lower skill levels with teachers who are not as well educated (Lee & Burkham, 2003). Recent reviews of the literature also suggest that that the geographic isolation of

rural families from current jobs and schools can lead to problems with childcare, after school care, as well as longer bus rides to school and back home (Vernon-Feagans et al, in press).

The Family Life Project

The Family Project was conceived to fill the gap in knowledge about the development of non-urban rural children, using a developmental contextual and transactional model of development to guide the research. Our model focuses on pathways to competence for young children living in nonurban poor communities. We are also interested in whether and how the patterns of association of interest are similar or different for African American and non-African American families. Our initial analyses indicate that ethnicity may moderate effects, with certain predictors being more powerful among the African American families. Our initial analysis of risk suggests that African American children in our rural communities have much greater accumulation of risks than our non-African American children. Poverty and rurality (geographic isolation) are seen as risky contextual conditions that increase the likelihood that parents will work in mediocre jobs (low-income, unstable, and unfulfilling), select less than optimal child care arrangements, have poorer nutrition, lack access to community resources and technology, and experience higher rates depression, marital/partner conflict, and single parenthood. These adverse conditions are likely to lead to lower levels of child competence, especially if they occur in a micro-family context which includes harsh, insensitive, and less linguistically/cognitively engaged parenting. On the other hand, our initial findings suggest that rurality is a buffer against some of these risks when parents are sensitive and engaged with their children. We specifically focus on understanding how micro-processes and child attributes may mediate and moderate the link between poverty to child competence. For instance, family process measures of parent/child interactions as well as teacher/ child interactions, are hypothesized to directly influence child competence. These mechanisms are critically important to identify as they can further direct proximal prevention efforts to reduce poor outcomes for low income rural children.

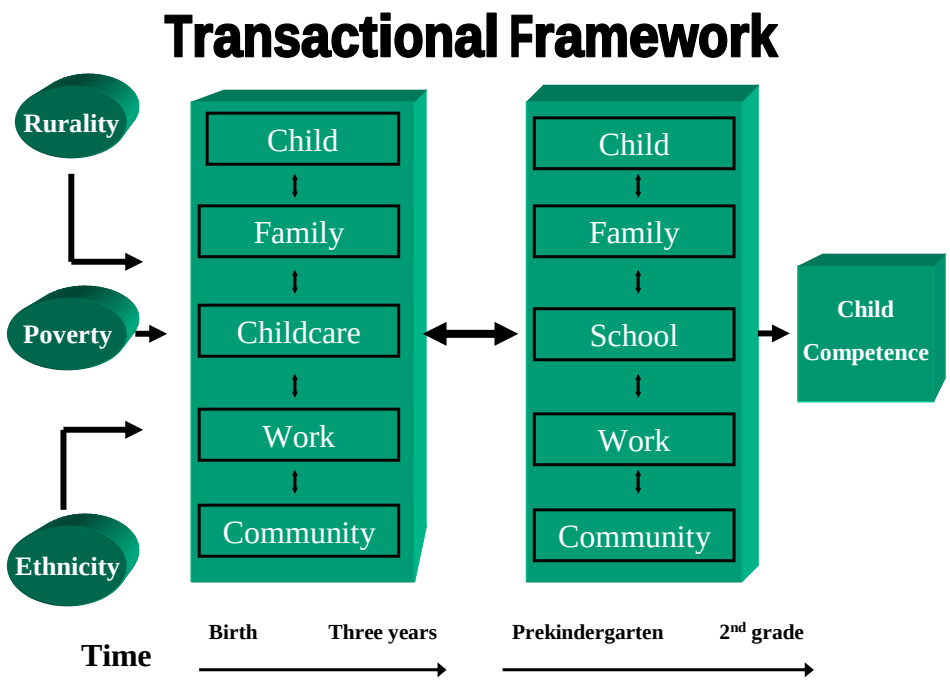
We are also interested in the role of possible protective factors—warm family relationships, social support from extended family, friends, churches, and co-workers, high quality childcare and schools--that might buffer parents and children from the negative repercussions of living in remote

and/or impoverished conditions. For instance, poor families who are well functioning and live in isolated areas may actually be protected from the negative influences of discrimination, poor neighborhoods, and peers, while families who live in the more populated towns may be more influenced by risky neighborhoods and peers.

The influences of individual child characteristics are central to our conceptualization. We have measured both biological and behavioral attributes of children since birth. These include such physiological factors as stress reactivity in the HPA axis (as measured by cortisol), child temperament and child health, as well as emergent emotion regulation, executive functioning and language use at the behavioral level. These child factors have and will be measured carefully to understand how they change over time and influence development in combination with contextual factors discussed above. Specific hypotheses are discussed in each project description.

The longitudinal nature of this study is another important dimension of this program of research. Across the next five years of data collection, we expect families' lives to be dynamic. Some families will move in and out of poverty. Some will move to new residential locations with more or less rural isolation. Other changes such as marriage, divorce, remarriage, unemployment, new jobs, and births of additional children will be common. Our challenge will be to map these dynamic circumstances and to examine how they impinge on children's developing competence as they make the transition to formal schooling.

Figure 1 displays the simplified version of this model with the major constructs of interest. The transactional nature of our model suggests that child, family, childcare/school, work, and community processes and mechanisms will mediate and/or moderate the relationship between our major constructs of rurality, poverty, and ethnicity, and child competence. The dynamic nature of the interplay of these mechanisms over time should provide a more in depth understanding of the processes that lead to child competence at school age.



The central goal of this proposed interdisciplinary program project is to understand the ways in which community, family economic and health resources, family employment, family contexts, parent/child relationships, childcare/preschool experiences, and individual differences in the children themselves interact over time to shape the developmental trajectories of competence during children's transition to school and early years of formal schooling. Unique to this program project is the focus on the possible causal mechanisms (mediators) that underlie such constructs as poverty, schooling, family employment, and the quality of the home environment. In addition, the multidisciplinary and multilevel measurement of these constructs better captures the dynamic and complex interplay of influences that lead to child outcomes.

<u>The Family Life Project Phase I: Early Developmental Processes of Children</u>

From the outset, FLP was designed with a specific focus on young children in low income rural communities and to examine commonalities and differences in the influences and outcomes of

non-African American and African American families and their children. FLP was conceived by a cross-disciplinary group of senior investigators from The University of North Carolina (UNC) and the Pennsylvania State University (PSU) who sought to create an exciting and innovative model of scholarship in which a comprehensive multi-disciplinary model would lead to integrated conceptualization, data collection, and analysis of an important but very understudied group of children.

The quantitative study was planned to include a large and carefully sampled population in order to allow epidemiological analyses from a representative population of rural children and to utilize GIS models to explicate the spatial issues that are relevant to rural settings. From the outset, FLP planned an innovative model of scholarship in which an ongoing qualitative project on community and family ethnography would catalyze the development of original questions in the quantitative study, as well as aid in the interpretation of the quantitative results, thus improving the quantitative study and capturing the depth of understanding necessary to characterize the nature of child and family life in rural settings.

As planned, FLP consists of a representative birth cohort of 1292 children drawn from two areas east of the Mississippi with the most rural/non-urban poverty (Dill, 2000; Harris & Zimmerman, 2003). Our definition of rural/non-urban includes counties that are not urban or suburban and contain a town no greater than 50,000 people. We selected three contiguous non-urban counties in the rural South (North Carolina) and three contiguous non-urban counties in Appalachia (Pennsylvania). These counties have seen tremendous job loss over the last 20 to 30 years, leaving families primarily with low-wage jobs. By oversampling for poverty and ethnicity the project is positioned to better understand the different processes and pathways in African American and non-African American and in poor and non-poor families that lead to differential outcomes for children. To date we have 2% attrition in the sample.

Data collection was done almost exclusively using computer assisted personal interviews in which all interview and questionnaire data were entered into data bases as they were collected and child assessments in language, executive functioning, and cognition were also entered directly into

the computer. In addition cortisol, cheek swabs were collected from families as well as videotaped mother/father play and mother/father book reading sessions at each time point. We have now seen the children through four years of age with 10 extensive home visits and 4 childcare visits. We plan in the next phase of the project we will collect extensive data from the home and the preschool and school setting from pre-K through second grade.

The initial phase of this program project grant has allowed us to develop a descriptive base of the developmental levels, physiological status, the psychological status and stressors experienced by young parents and their extended families in rural areas; and to describe both the spatial and cultural contexts in which family life, parenting, and the community care of infants and young children occur. Early results from the projects and the interrelated analyses across projects are many so we will highlight a few from the children's early life.

First, as we had hypothesized, maternal sensitivity to her child in the first year of life serves both as a important proximal predictor of child outcomes that mediates and protects children from the negative impact of social risk factors such as poverty , even at 15 months of age. In addition, geographic isolation using GIS measures, served as buffer for good parenting as early as 15 months of age (Burchinal, Vernon-Feagans & Cox, 2008). The negative association between poverty and parenting was reduced when mothers lived in safer, less chaotic neighborhoods and when the parents experienced more intimacy and less verbal and physical violence in their relationship. For families in poverty, the effect of maternal sensitivity on child cortisol reactivity(stress) and regulation was greatest in more geographically isolated areas (Blair et al, in press). This was not true for non-poor families where the effect of maternal sensitivity was most pronounced in less isolated areas. As expected, quality of the home and child care environments served as protective factors for cognitive development at 15 month-old for infants growing up in low-income families.

Further, even before children acquired language and other cognitive skills, cumulative family risk predicts differences in child outcomes. We are now further investigating nuances in these findings that result from poverty, ethnicity, and rurality (degree of social and geographic isolation).

Second, we have published a paper that examines the predictors of maternal language input when her infant is 6 months old, one of the mediators of child outcomes (Vernon-Feagans et al, 2008). We found that the major predictors of maternal language input were the expected predictors such as maternal education; but in addition we found that maternal sense of mastery, maternal knowledge of child development, and the child's temperament all predicted maternal language vocabulary and complexity during a picture book task with her child at 6 months of age. The quality of the home (HOME) was a partial mediator of these effects, suggesting that sensitive parenting is also associated with early parental language to the children.

In a final study (under review) the construct of household chaos was operationalized in a developmental way to examine changes in two different dimensions of chaos over the children's first two years of life: disorganization and instability and their relationship to early language and regulatory behavior. Disorganization includes such constructs as home organization, noise, and cleanliness while instability includes such constructs as the number of physical household moves, the number of people moving in and out of the household, changes in the primary caregiver over the first 2 years of life. The results of this study underscore the importance of recognizing both household chaos and observed parenting as more proximal and dynamic processes that contribute to children's early development beyond household income. In fact, these chaos measures appear to have more predictive power than income (a more distal measure) in understanding the important emerging skills of behavioral regulation and language. When controlling for the significant child covariates that others have used (Li-Grining, 2007) and poverty (Evans et al., 2005), our two dimensions of chaos (instability and disorganization) still contributed significantly to the prediction of both language development and behavioral regulation. Even though observed parenting partially mediated associations with outcomes, chaos, and especially household disorganization, remained a powerful predictor of child outcomes at 24 months of age.

Findings from the community and family ethnography have been essential in assisting the quantitative study to capture in more depth a number of constructs. For instance the ethnography investigators have conducted in-depth interviews on maternal depression that suggest that for some

of our mothers, anger is an expression of depression while in other mothers dealing with depressive symptoms is seen as normative and not out of the ordinary. The complexity of family systems has also been explored in the ethnography, with findings suggesting that many of our mothers have stress from the large and varied kin system that puts demands on them, making friends and family sometimes more of a stress than a support. These findings have led to adjustments in the quantitative data collection at all data collection periods (6, 15, 24, and 36 months) to further explore these issues. In addition, findings from the quantitative study have also been added to the qualitative study. For instance, questions on attitudes about child care and breastfeeding have been integrated with the interview data in two papers that are in review.

The Family Life Project Phase II: The Transition to School

The period of the first phase of the Family Life Project was critical for the acquisition of important cognitive, language, emotional, and social skills that lay the foundation for later development (Starting Points, 1994; Schonkoff & Phillips 2000). However, it is clear that the early years of formal schooling set a trajectory of success or failure that is fairly impervious to change (Vernon-Feagans, 1996), and which has been characterized as a "critical period" for academic development (Entwisle & Alexander, 1989).

There are a variety of critical issues that require understanding the transition to school in non-urban, low-income communities. Non-urban pre-K programs and elementary schools face significant challenges and reduced resources (Digest for Education Statistics, 1998). Rural schools serve more poor children and yet have 25% lower per pupil expenditure than urban schools. Further, there are factors in the school context itself that may increase risk for children's outcomes. For example, rural schools have fewer qualified teachers, less access to professional development for teachers, and poorer physical facilities (Beach, 1997, Lee & Burkham, 2003). To counterbalance these challenges are possible strengths that might buffer children's outcomes, including smaller schools and more stable teachers (Beach, 1997; Loveless, 2003).

Children in poverty come to school with lower levels of academic and social skills. Yet, poor children gain as much as other children do during the school year, profiting from the schooling

experience but not closing the gap between high and low SES children. Given the finding that schools and classrooms can make a difference in children's academic success, especially for children living in poverty (Kainz & Vernon-Feagans, under review; LaParo & Pianta, 2001), understanding the role of classroom-level and school resources in rural communities is critical. Recent studies have documented that both instructional quality and the quality of the teacher/child relationship are related to children's learning and success in school (Morrison, 2005; Rimm-Kaufman et al., 2005; Pianta & Stuhlman, 2004). It should be noted that much of our understanding of the role of family and school resources that impact children's academic outcomes is drawn from urban research. There is little understanding of what factors in low-income rural settings impact children's outcomes, especially in ethnic minority children.

We conceptualize school adaptation and success as a process or trajectory that includes the intersection of person, process, and context from birth through the early elementary school years (Bronfenbrenner, 1979; Snow, 2006; Vernon-Feagans, Odom, Pancsofar, & Kainz, 2007). In this competing continuation, we will focus on understanding the transactional processes that lead to trajectories of child academic and social competence and are a function of child, family, childcare, classroom, school, parental work, and community factors over time.

MORE AT FOUR PRE-KINDERGARTEN PROGRAM

John Pruette
Executive Director, NC Office of School Readiness

North Carolina is investing in the educational success of at-risk children through the More at Four Pre-Kindergarten Program. Pre-kindergarten is a proven strategy for school readiness. More at Four began in 2001 under the leadership of Governor Michael Easley, with the support of the North Carolina General Assembly. Our goal is to provide a high-quality pre-kindergarten educational opportunity for all four-years-olds in North Carolina who are at risk of poor school performance. Governor Easley has championed More at Four throughout his tenure as a strategy to eliminate the achievement gap in education and give every child in North Carolina every opportunity to succeed, regardless of geographic location or economic condition.

More at Four has grown every year over the past seven years to reach those four-year-olds across the state that most need a high-quality pre-kindergarten experience. More at Four is funded by the North Carolina Education Lottery and general revenues, with current state appropriations providing $140.6 million in funding. More at Four is successfully implemented at the local level through the support and hard work of the early childhood care and education community in every county across the state, including public school systems, local Smart Start partnerships, private child care providers and Head Start programs. More at Four classrooms are located in public schools, licensed child care centers and Head Start programs. Local communities contribute additional resources to help support the cost of serving children in these settings.

More at Four is available to children who are four years old by August 31, will be entering kindergarten the following year, and are at risk for poor school outcomes. Factors that put children at risk for poor school outcomes include low income, limited English proficiency, identified disability, chronic health condition and developmental or educational need. Children of Active Duty military

families are also eligible. Priority is given to eligible children who have not been served in any other preschool or child care program.

Children attend a full school day, full school year program that meets high-quality state standards. In fact, North Carolina is among the top two states nationally for state pre-kindergarten quality standards, according to the National Institute for Early Education Research.
Children's experiences in More at Four are rooted in North Carolina's early learning standards for preschoolers, called *Foundations*. These standards incorporate the five domains of development and learning fundamental to school readiness:

- approaches to learning
- emotional and social development
- health and physical development
- language development and communication
- cognitive development

More at Four teachers engage children in active learning with a focus on each domain. Staff value the diversity of children and their families and are responsive to the needs of individual children.

More at Four promotes the health and physical development of children through this comprehensive approach to development and learning. All five domains are equally important in children's development and for children's success later in school. Every day, More at Four teachers provide experiences for children that allow them to develop the competencies defined by the early learning standards related to their health and physical development, such as activities for fine motor and gross motor development. More at Four teachers also use a comprehensive curriculum that addresses health and physical development. Children in More at Four should have daily opportunities for physical activity and outdoor play, as well as attention to self-care skills, adequate rest, and good nutrition.

More at Four also ensures that children receive a physical examination, vision, hearing and dental screenings, and have updated immunizations when they start the program. If a child enters a More at Four program without these critical health assessments, the program must work with the child's family and with local community resources to ensure that the child receives them within a short timeframe. More at Four programs also provide each child with a developmental screening to identify children with concerns in one or more developmental domains who may need to be referred for further evaluation to determine eligibility for special education and related services. Programs must also provide children with breakfast or snack and lunch meeting USDA requirements.

An independent statewide evaluation of More at Four has been in place since the program's inception to examine program quality and child outcomes. Our independent evaluation shows every year that More at Four effectively prepares at-risk children for school, setting them on a positive trajectory for school success. The evaluation, conducted by researchers with FPG Child Development Institute at the University of North Carolina at Chapel Hill, measures child progress from the beginning of the pre-k year to the end of the pre-k and kindergarten years. The evaluation confirms that children served by More at Four make substantial gains during both the pre-k and kindergarten years, across all domains examined, including language and literacy skills, math skills, general knowledge, and behavioral skills. The evaluation also confirms that children progress at a greater rate than expected for normal developmental growth and that the program is especially beneficial for children who are most at risk.

T.E.A.C.H. EARLY CHILDHOOD PROJECT AND CHILD CARE WAGE$ PROJECT

Sue Russell

President, Child Care Services Association

As more and more young children began to spend the bulk of their waking hours in child care settings, evidence began to mount about the importance of well-qualified teachers in producing healthy, developmentally appropriate and effective learning environments. However, examinations of the staffing in child care programs found this predominantly female workforce to be poorly educated, inadequately compensated and leaving their programs and field at very high rates. Using data from North Carolina's first workforce study, we realized that if we wanted our workforce…mostly low income women with children of their own…to increase their education we needed to create a strategy that addressed their needs. In 1990 Child Care Services Association set out on a modest course to test a scholarship model that would focus on the issues of low education, poor compensation and high turnover. We began as a small pilot program with 21 comprehensive scholarships designed to help teachers take community college courses leading to an associate degree in early childhood education. The pilot was successful, and T.E.A.C.H. Early Childhood® was born, rapidly expanding in North Carolina and gradually throughout the nation.

What makes T.E.A.C.H. different from traditional scholarships?

1. T.E.A.C.H. scholarships provide substantial help for tuition, books and travel costs. Associate and Bachelor degree scholarships require and partially offset the cost of the provision of paid release time to help teachers and family child care providers balance the extra load of going to school. And once they complete their required number of credit hours in their contract, they receive a compensation incentive in the form of a bonus or raise.
2. A partnership between the individual, their employer and T.E.A.C.H. is required, with each entity contributing to the cost of the program.

3. Once given their compensation, the individual must agree to stay in their program or the field depending on what the contract requires. Thus, the scholarship addresses retention.
4. A scholarship counselor helps the individual maneuver the challenges of balancing school, work, family and scholarship responsibilities.

In most T.E.A.C.H. states teachers, directors and family child care providers working in licensed child care, Head Start or pre-k settings are eligible for scholarships. In a few states scholarships are universally available. But typically they are limited due to lack of funding. The most common scholarship, offered in all 21 states, is the associate degree scholarship. This scholarship typically requires individuals to complete 9-15 credit hours per contract. Other scholarships include those designed to help individuals earn state or national credentials or certificates, as well as scholarships to take coursework leading to bachelor's degrees or teacher licensure.

How long does it take to earn an associate degree on a T.E.A.C.H. scholarship? There is great variability between individuals, as some recipients may have already taken some courses before receiving the scholarship, others haven't taken a single college course. But typically it takes a teacher who is starting from the beginning about 5 years to finish her degree, working full-time and going to college part-time. If she decides she wants to go on to earn her bachelor's degree, it might be another 4-5 years.

Margaret Shelton Foushee, a family child care provider in North Carolina started out with no college coursework and earned her associate and bachelor's degree in about 9 years. She talks about the transformation that education has had on her life and her teaching practice. My favorite quote of hers is, "You don't know what you don't know." She has expanded her home into a small center, has become nationally accredited and has a 5 star license, North Carolina's highest rating.

Last year almost 20,500 individuals across the country had T.E.A.C.H. Early Childhood® scholarships. They worked at about 10,500 different child care programs and attended over 530 different colleges and universities. About 44% were women of color, typically earning less than $10 per hour. The average cost of a scholarship was $1,348. Nine percent of our participants worked in Head Start programs and about 61% were working with three and four year olds.

States use various sources of public and private dollars to fund T.E.A.C.H. scholarships. Most commonly states use the quality set aside of the Child Care Development Block Grant and TANF. In addition, states like North Carolina allocate state dollars to the program. Many states have used both foundation and corporate dollars to begin and sustain the project.

Do the scholarships work…are we seeing teachers get more education, become better compensated and stay longer? Last year T.E.A.C.H. scholarship recipients completed almost 114,000 credit hours nationally. Those on associate degree scholarships typically completed between 12 and 14 credit hours per contract. Their earnings increased from 8 to 10 percent and they left their classrooms at rates of far less than 10 percent annually.

But are T.E.A.C.H. scholarships enough? They are a start. T.E.A.C.H. scholarships help the early childhood workforce get the education it needs. But it does nothing to address the systemic problem of low wages and lack of basic benefits such as health insurance that is driving our better-educated teachers to seek other employment. Most families cannot afford to pay what it actually costs to provide teachers with degrees the salaries and benefits they deserve. So how can we decouple what parents can afford from decent compensation for the teachers of our young children?

In 1994 Child Care services Association began the Child Care WAGE$ program. This effort provides graduated supplements paid directly to participants and tied to their level of education. Supplements are paid every six months with funding from Smart Start and the Child Development Block Grant, as long as the individual remains in her child care program. Supplement amounts range from $200 to $6,250 annually. Again, results have been impressive. Last year, about 9,300 child care providers participated. Because supplement amounts increase as one gets more education, WAGE$ participants are motivated to go back to school. Almost 1 in 5 WAGE$ participants completed so much coursework that they progressed one level on the scale. And only 18% of participants left their programs last year, a remarkably low percentage given that this is the best educated sector of our workforce with the best employment options. The Child Care WAGE$

and other similar salary supplement programs across the country are trying to cobble together a system of support for the child care workforce.

We also realized that health insurance continues to be an issue, with 30% of the child care teaching workforce without health insurance from any source. So in 1998 we began the T.E.A.C.H. Early Childhood® Health Insurance Program. Funded with funds from the Child Care Development Block Grant and state funds, this initiative reimburses eligible child care programs for about one-third of the cost of their health insurance for their teachers. To be eligible the center or family child care home must have all teachers with two or four year degrees in early childhood education, or must be willing to sponsor some of their staff on T.E.A.C.H. Early Childhood® scholarships to earn degrees. About 3,500 child care teachers, directors and family child care providers benefited from the program last year. After one year on the program, turnover rates dropped by 10 percentage points, again making progress toward the goal of a better educated, compensated and retained workforce.

We have learned a lot in the last 18 years as we have worked on these strategies in North Carolina and across the country. It is clear to us that the early childhood workforce wants and appreciates opportunities to increase its knowledge and skills through our nation's higher education system. The key is accessibility…having the money, the time and the support to make it possible. However, it is also clear that it is both unrealistic and unfair to expect the workforce to go back to school while they are working full time without help and without the promise of better compensation.

We have learned that with sufficient investment in the workforce you can change the education and retention of the system. In 1993 the turnover rate in North Carolina was 42%, now it is 24%. In 2001 22% of our teachers had two or four year degrees; in 2003 that had increased to 28%. It is slow, incremental change. But it is possible and with larger investments we would see even better, more rapid outcomes. We have also learned that with real compensation incentives even teachers with degrees are willing to stay. For the past two years we have examined the characteristics of those WAGE$ recipients who left their programs to see if those who had degrees were leaving at rates that were faster than those who did not. Those with degrees left at a

significantly lower rate than those without. In addition, we have found that when we have increased the supplement amounts, we get better outcomes. Recipients actually take more courses to go up the scale and turn over at significantly lower rates. Money makes the difference. When teachers and family child care providers are living on poverty level wages and barely able to support their families, then leaving the job they love becomes a matter of necessity.

In addition to serving as the President of Child Care Services Association, I am also serving as the President of the Board of the National Association for the Education of Young Children. NAEYC, under a grant from the Buffet Early Childhood Fund and Cornerstones for Kids, is conducting the Early Childhood Workforce Systems Initiative. This project assists states in advancing the policy agenda towards building and sustaining a stable, highly skilled, knowledgeable, diverse, and well compensated professional workforce. The focus of the initiative is to improve public policies at the state level that support an integrated early childhood professional development system by developing a comprehensive system of preparation and ongoing development and support for *all* early childhood education professionals working with and on behalf of young children. Initiative activities include the development of a policy blueprint for state early childhood education professional development systems and an interactive Web interface that provides direct links to states' key professional development public policies and initiatives as outlined by the blueprint. Thirty-one state professional development leadership teams representing decision makers from child care, Head Start, state prekindergarten programs, higher education, early intervention, special education, and other stakeholders just met in New Orleans. This day long meeting provided a unique opportunity to network and connect with both state peers from across the nation and more than 30 national early childhood experts on specific professional development policies and strategies. System-building is critical to meeting the needs of the workforce.

States are struggling to make the right choices, but the resources are not adequate. Waiting lists for scholarships, supplements and/or health insurance support exist in states across the country. Well-resourced, coordinated early childhood professional development systems are lacking in most states. And some states do not have the funds to even begin to address these

issues. With so many families struggling to pay for child care and without the resources to help them, state administrators have to choose between quality and quantity. More resources are necessary--more for subsidies for families for sure--but some of those resources need to be specifically targeted to the needs of the workforce. The issues are the same across our nation…low education, poor compensation and high turnover. It is time to address them with a national strategy and significantly increased investments. We hope that we can count on you to speak up about this critical issue to the health and well-being of so many young children.

Thank you.

DURHAM CONNECTS

Jeannine Sato
Center for Child and Family Policy

Durham Connects is a free, universal newborn home visiting program available to parents and their newborns in the Durham Community. The goal of Durham Connects is to improve child well-being and prevent child maltreatment in the Durham community. The program was developed as a component of an ongoing initiative designed to reduce rates of child maltreatment across the community. The program represents a collaboration of the Durham Family Initiative, itself a collaboration of the Center for Child and Family Policy at Duke University and the Center for Child and Family Health, an academic-community partnership focused on child traumatic stress, along with the Durham County Health Department. The Durham Family Initiative and its Durham Connects component is funded by The Duke Endowment.

History

In 2001, Durham's child abuse rate was greater than the state average, which exceeded the national average. The Duke Endowment began with an unprecedented plan for a 10-year commitment to reduce child maltreatment in Durham by 50%. Since that time, the Center of Child and Family Policy, directed by Dr. Kenneth Dodge, and the Center for Child & Family Health, directed by Dr. Robert Murphy, the Durham Family Initiative has implemented and studied best practices related to primary and secondary prevention of child maltreatment through community based outreach and support to parents in at-risk neighborhoods in Durham. This initiative, along with the development of a regional System of Care and the state's Multiple Response System converged to reduce child maltreatment by more than 40% (evaluated through a reduction in reported cases of child abuse, reduced child abuse related ER visits, and a qualitative survey of child health professionals). The Durham Family Initiative has been able to leverage existing community initiatives, for example, by expanding an existing home visiting program based on the Healthy Families model to transform the intervention into a randomized trial examining different

intervention dosages. This study of the Healthy Families Durham intensive home-visiting model incorporates assessment of primary outcomes related to child and parent functioning and maltreatment incidence, as well as improvements in parent-child attachment among families at risk for child maltreatment. The success of programs like these and the ability to integrate quality, community interventions with rigorous evaluation has led to the creation of a comprehensive preventive system of care in Durham called Durham Connects, modeled as a universal home visiting program for parents of newborns.

Preventive System of Care

Months of focus groups with pediatricians, parents and early childhood agencies determined that visiting parents at four weeks postpartum appeared most beneficial to parents and children in beginning this preventive system of care and coordinating with high levels of clinic-based postnatal pediatric care. Furthermore, this four week timeframe coincides with an oft-noted time when family and community support often declines and parenting problems arise, such as depression and breastfeeding issues. At full implementation, Durham Connects will employ 20 full-time public heath nurses who will provide home visits to each parent of a newborn in Durham County at no cost to participants. The visit encompasses a thorough physical assessment of the mother and baby and a conversational, non-invasive psychosocial interview. Nurses will welcome, congratulate and support parents on the birth of their child and discuss areas of concern such as infant health, maternal health, childcare plans, parenting readiness and financial resources – all of which represent indicators for child abuse and neglect. Should there be any concerns, the nurse can offer on-site support, education and referral to additional services. The Durham Connects model has reduced a typical home visiting nurse caseload in half to 200 families per year, so that nurses have the flexibility to make follow-up visits with parents when necessary. Ideally, the nurse will connect parents with needed resources within 1-3 visits, some of which may include long-term community programs such as Healthy Families Durham or Child Services Coordination through the Department of Social Services.

The program staffing involves 20 full-time nurses, one administrative support person, a six-person Office of Community Resources staff to support nurses and referral agencies, and one part-time interpreter. The Durham County Department of Social Services (child protective services) has funded a full-time benefits coordinator to provide home-visits to parents eligible for social services such as WIC and Medicaid. This person will be able to sign-up families on the spot to ensure services are received. The total expenditures of the Durham Connects program exceed two million dollars per year some of which will be offset by Medicaid reimbursement.

Making the Connection

Making the connection to community services is the crux of the Durham Connects model. A unique aspect of the program is the number of resources upon which the public health nurses may draw. A customized electronic database has been created for Durham Connects nurses that will allow them to evaluate the child/parent relationship in 12 key domains and match referrals as appropriate. The database will draw on an extensive directory of programs targeting children ages 0-5 according to family characteristics (e.g., eligibility, transportation, fees, primary Spanish language).

Another important aspect of Durham Connects involves relationship building with community agencies. Two advisory groups provide leadership in working collaboratively with community agencies, government, schools, media and employers in Durham County. Leadership Council members include Durham County Commissioners, the Mayor's office, the Chamber of Commerce, pediatricians, school representatives, media personnel, prenatal health agencies, Latino service agencies, and others. In addition, a Community Advisory Board consisting of agency practitioners meets quarterly to discuss the day-to-day operations of Durham Connects and how it affects other community agencies and initiatives. The Office of Community Resources has been established to act as a liaison between agencies and Durham Connects nurses to ensure positive communication, maximize available services, and identify gaps in the preventive system of care service array.

Measuring Success

As with earlier aspects of the Durham Family Initiative, rigorous evaluation is essential to the implementation of Durham Connects. The program will be launched in phases to allow for a comparative evaluation between those receiving Durham Connects services and those receiving traditional postpartum services. Phase one will include visits to half of Durham County's residents beginning July 2008 with stratification into comparable geographic "neighborhoods" selected at random as phase one or two implementation areas. Phase one areas will receive Durham Connects visits for 18 months, after which Durham Connects will be extended to the entire county. Evaluation will be two fold: First, Durham Connects will examine differential rates of hospital and emergency department admissions for diagnostic codes related to child abuse along with rates of child abuse reports to the county Department of Social Services. Informal results may be measured by access to community agencies and overall parental perception of support. This aggregate data will give us some indication of Durham Connects success, but there is a desire for more individualized data. Therefore, a grant has been submitted to conduct a more rigorous study of individual participants. If funding is secured, this study will evaluate program effects on infant maltreatment among a sample of 500 new mothers. Four specific aims will guide the research:

1. To test the efficacy of the Durham Connects program for preventing infant maltreatment according to observed and self-reported parenting behavior, and for improving toddler outcomes (e.g., behavior problems) that are risk factors for subsequent child and adolescent disorders;
2. To test the efficacy of the Durham Connects program for (a) improving mothers' referral to and receipt of appropriate community-based social services, and (b) reducing maternal mental health and substance abuse disorders;
3. To test the hypothesis that program effects on infant maltreatment and toddler outcomes are mediated by (a) mothers' referral to and receipt of appropriate social services, and (b) reductions in maternal mental health and substance use disorders; and

4. To test the hypothesis that program effects are moderated by family and neighborhood characteristics (e.g., maternal race/ethnicity, family cumulative risk, and neighborhood income and crime rates).

Challenges

The greatest anticipated challenge of the program is locating and successfully attaining 100% family participation among the approximately 4,000 annual births to Durham County residents. Birth records will be gathered from all hospitals delivering babies to Durham residents. While the program is universal and does not target at-risk families, it is recognized that the families that most need early childhood intervention are often the most transient families. A network of volunteers and social agencies will be engaged to help locate families and promote the program as a benefit to Durham residents. Promotions will play a vital role in the acceptance of the program in the public eye. Durham Connects has recruited local media outlets to serve as a conduit for positive public information including The Durham Herald Sun and Que Pasa newspapers. Durham Connects' marketing communications plan includes program promotion from the prenatal stage through delivery. Parents will receive the message about the benefit of Durham Connects through OBGYNs, prenatal clinics, pediatricians, community groups, public health nurses, and hospital labor and delivery departments. A public website and promotional materials will be circulated widely.

Another challenge to providing universal home visits will be the increasing Spanish-speaking population. It has been estimated by health care professionals that as much as 50 percent of Durham's births are to Spanish-speaking families. In anticipation of this, Durham Connects has hired a part-time interpreter who will be available to attend home-visits. A Spanish-speaking support staff member will also be housed in the Office of Community Resources and Durham Connects is seeking to expand the number of bilingual public health nurses beyond the current three. Together, we expect these efforts to address the demand of Spanish-speaking families.

Long-term sustainability

Should Durham Connects produce positive outcomes in terms of reduced child abuse rates in Durham County, there is a goal for long-term sustainability within the community. Sustainability may be achieved through continued partnership and funding by The Duke Endowment and other private philanthropists. Future public funding is another possibility if Durham Connects can achieve a measured improvement in preventing maltreatment and its associated costs. Medicaid, S-CHIP, and health insurance reimbursement is yet another avenue for program cost reimbursement. Durham Connects has already produced one self-sustaining program to meet a gap in services. Cribs for Kids® of Durham was launched in March 2008 with success. Cribs for Kids provides free porta-cribs to parents in need in order to enhance infant safety and avert Sudden Infant Death Syndrome (SIDS) and other injuries associated with unsafe or improper sleeping arrangements. The program is managed by Durham Connects and is completely funded through corporate and private donations and parent co-pays.

Conclusion

In conclusion, Durham Connects represents an unprecedented opportunity in Durham County by developing a preventive system of care and striving to provide every parent of a newborn in Durham County with in-home nurse visit. Through this effort, the Durham Family Initiative hopes to improve child well-being and reduce child maltreatment by connecting parents with existing community resources and ensuring parenting success from the outset of life. Durham Connects will launch phase I in July, 2008 and will subsequently launch phase II in January 2010. An initial evaluation of aggregate data will be completed after the 18 month phase I cycle and a more thorough randomized study will be completed with individuals when the children are approximately one year old.

PANEL III

MEETING GOALS AND MEASURING PROGRESS

DURHAM'S RESULTS BASED ACCOUNTABILITY INITIATIVE; CHILDREN'S COMMITTEE

Marsha Basloe

Executive Director, Durham's Partnership for Children

My name is Marsha Basloe, and I am co-chair of the Children's Results Based Accountability (RBA) Initiative Committee along with Dr. Deborah Pitman, Assistant Superintendent of Schools. Many of today's sessions address statewide efforts on behalf of young children. I am pleased to share a local community's efforts on behalf of children with you today.

Our RBA outcome is "Children are Ready for and Succeeding in School." As Executive Director of Durham's Partnership for Children, I lead early childhood efforts with a diverse board of directors. We administer the Smart Start grant for Durham County ($8.2 M) and the Governor's More at Four Pre-K Program for Durham County ($1.6 M). Dr. Pitman, Assistant Superintendent for Support Services, represents public education k – 12. Together, we engage community partners including non-profits, direct service providers and organizations, grassroots organizations, foundations, faith based programs, early care and education, public education, higher education, government, business, parents and community members to work with the Children's RBA Committee.

RBA: Goals, Origins, Funding

Durham's City-County Results Based Accountability Initiative, or RBA, is an initiative to engage our community in making positive, accountable change in our shared priority outcomes. With a vision of improving the quality of life for Durham residents through community engagement, the mission of RBA is to make progress on key issues in the community, to engage the community in making positive, accountable change, and to recognize that not one entity alone can make a measureable difference.

RBA recognizes that no one entity, even one as large as the local government, can produce, on its own, substantial progress to measure and track a meaningful community-wide outcome. Substantial and sustained progress on an array of quality of life outcomes and indicators

requires concerted action among institutions and organizations across our community. Leaders knew that many such conversations about setting priorities and improving outcomes had taken place before in our community. While many of those conversations had produced short-term commitments and some important improvements in services and programs, all of us knew that on many crucial quality of life indicators, we had not made the progress we wanted for our community and ourselves.

Following a year of planning, in 2004, a unified commitment to improving outcomes for children, families, and our larger community in Durham County was launched. The process got off to a great start and most outcome areas developed the foundations of indicators and strategies. The County realized during the process that their ownership over the movement was too large and decided to delay the process to facilitate greater community-wide participation and to invite the City of Durham to co-produce this effort. This is how the RBA initiative started.

The County Commissioners and the City Council agreed upon shared priority outcomes for our community. These outcome areas are:

1. Durham citizens are safe.
2. Durham enjoys a prosperous economy.
3. Durham citizens enjoy a healthy environment.
4. Durham's citizens enjoy a community that is vibrant, rich in aesthetic beauty and embraces and promotes its cultural heritage.
5. Children are ready for and succeeding in school.
6. Every citizen in Durham has access to adequate, safe and affordable housing.
7. Durham citizens are healthy.
8. Durham citizens enjoy sustainable, thriving neighborhoods with efficient and well-maintained infrastructure.
9. Senior adults in Durham will have optimum choices for the highest quality of life.

Four years later, a 9th outcome has been added based on the needs of the community. We have been reporting on these same community identified outcomes for four years.

RBA: Children are ready for and succeeding in school

"Children Ready for and Succeeding in School" means that Durham has identified five broad county indicators to measure this effort; workgroups will work on strategies for successful progress on these indicators. Ideally, every child will have everything he/she needs to be ready for

and successful in school. The five indicators being tracked are: (1) quality child care, (2) school readiness (baseline yet to be defined), (3) 3rd grade reading scores, (4) 8th grade EOG scores, and (5) the dropout rate. Multiple strategies have been developed by each workgroup in an effort to improve these areas.

Indicators 1 & 2 (Children ready for school); A Child's Development

For this testimony focused on Early Life Interventions, I will focus on our work in early care and education, health and family support. The age span of birth to five years are addressed by Durham County in Indicators 1 and 2.

Experts suggest that it might be wiser to compare a young child's brain to early roots in a spring garden. The environment, the human version of sun and rain, will play an important part in how a child's brain actually grows and the unique talents and personality traits a child develops.1 Early childhood quality education experiences facilitate this development. Research on early childhood brain development suggests that there are optimal periods of opportunity—"prime times" during which the brain is particularly efficient at specific types of learning.

Brain scan research has shown that a child's physical brain is changed by experience. The more positive the experiences, the healthier the child's brain develops. Numerous studies have shown that how humans develop and learn depends critically and continually on the interplay between an individual's genetic endowment and the nutrition, surroundings, care, stimulation, and teaching that are provided or withheld.2 The elements of quality early childhood education accelerate the nutritional, educational, and positive situational experiences of the young children. Well designed programs promote healthy cognitive, emotional, and social development; these "advantages" can improve the prospects—and the quality of life—of many children, including their ability to succeed in the traditional K-12 world. Clearly, the efficacy of early intervention has been demonstrated and replicated in diverse communities across the nation. Therefore, Indicator #1 focuses on quality child care.

1 Floyd E Bloom, M Flint Beal, David J Kupfer, *The Dana Guide to Brain Health* (Washington, D.C., Dana Press, 2006)

2 Ibid.

A Child's Educational Success

"Learning and motivation are dynamic, cumulative processes. Skill begets skill; learning begets learning. Early disadvantage, if left untouched, leads to academic and social difficulties later in life. Early advantages accumulate, just as early disadvantages do." James Heckman and Dimitriy Masterov.

James Heckman, Nobel laureate, and economist from the University of Chicago, along with associate researcher Masterov, make the case for the strong association between quality early childhood education and long-term educational success. Research shows that when children start school behind, they stay behind. Quality early education programs give them the social, language and numbers skills they need; they prepare children, especially at-risk children, for school. They make children more likely to start kindergarten ready to learn, and therefore they do better throughout school.

While most parents understand that learning starts long before school does, too many parents, grandparents and caregivers do not know how to support early learning. They need to understand that children are learning during everyday moments—doing everyday activities. The concept of "catch-up" is deeply imbued in the American psyche, however, the facts are that by the time children enter kindergarten, there is a gap between those with quality early learning experiences and those without. That turns into an achievement gap by 3rd grade. Unfortunately, most children never catch up.3

We know from long-term early care and education research that for economically disadvantaged children, intensive high-quality pre-kindergarten has a benefit-cost payoff of $7 for every $1 spent. High quality pre-kindergarten improves elementary school performance, increases high school graduation rates, reduces teen pregnancy and involvement in crime, and increases job acquisition and retention. In fact,

> High-quality pre-kindergarten costs about $10,000 per year per child. If local, state, and federal governments provide the resources for parents of economically deprived children to pay for two years of quality pre-kindergarten, the benefit to these governments in terms of lower criminal justice costs and higher income tax

3 *Early Childhood Development.*(2005) In Ad Council. Retrieved February 2, 2008, from Adcouncil.com: http://www.adcouncil.org/default.aspx?id=32.

> revenues is, in present-value terms, about $150,000. Spend $20,000 over 24 months and get $150,000 at the end.

Robert H. Dugger, Managing Director, Tudor Investment Corporation, October 2007.

Children's RBA Related to Health Areas: Ready Children & Ready Families

Durham's Partnership for Children's mission is to mobilize and unify the Durham community to create and support innovative and successful approaches to serving the needs of children birth to five years of age and their families. As a catalyst and convener, our role has been to ensure that the early years of a child's development is embedded in each of the RBA outcomes to ensure **long range planning** for our community. We also recognize that in order for children to be ready for school, our efforts must include a focus on children's health and family support programs.

Parents of newborns have a need for information, support, and encouragement to help their children develop optimally. There are a total number of 11,325 children 0-3 in Durham in 2006 and 22,308 children birth to age 5.4 Of the 4,194 births in Durham in 2006, 24% were to Hispanic/Latino mothers.5

Many Durham families face multiple risk factors, including: 14,554 children were living in single parent households in 2005, 42.3 Teen Births per 1,0006, 4,950 or 22.5% of children 0-5 live in poverty7,and 428 children were found substantiated for abuse and neglect or in need of services8.

Children often enter kindergarten with limited social-emotional skills which may be a result of harsh or ineffective parenting skills, as well as a lack of parental monitoring or lack of a nurturing relationship with their children. Parents need effective parenting strategies to assist their child in developing strong social and emotional skills.

4 Office of State Budget and Management. (2008). *Population Estimates and Projections*. Retrieved May 1, 2008, from: http:// www.demog.state.nc.us
5 North Carolina State Center for Health Statistics. (2008). *North Carolina Populations & Health Data by Race and Ethnicity*. Retrieved May 1, 2008, from http://www.schs.state.nc.us/SCHS/pdf/NCPopHealthDatabyRaceEth01292008.pdf
6 NC Action for Children. (2004). Retrieved May 1, 2008, from: http://www.ncchild.org
7 U.S. Census Bureau. (2006). *American Community Survey*. Retrieved May 1, 2008, from: http://www.census.gov/acs/www/
8 North Carolina Division of Social Services. (2007). *Child Welfare Central Registry Statistics*. Retrieved May 1, 2008, from http://www.dhhs.state.nc.us/dss/stats/cr.htm

In Durham, there has been a growth in the Hispanic/Latino population and an increased need for parenting supports offered in Spanish for these families whose children are at risk for school failure. Once in school, Latino K-3rd graders have the highest retention rates in the state.9

Research has established the important relationship between early academic learning and social and emotional development; Children who lack social and emotional skills are more likely to be held back in the early years of school. In the 2004-05 school year, 5.8% of Durham kindergartners were not promoted to the next grade. Strategies have been identified and developed to support parents to have the necessary skills to be their child's first teacher.

Recognizing that a child's health is an essential ingredient in the recipe for school readiness and achievement, Durham's Partnership for Children supports several programs aimed at enhancing the health of youngsters birth to age 5 and works closely with agencies serving the health needs of young children. A special Health Improvement Task Force focused on birth to five years of age started meeting two years ago and continues to work collaboratively to ensure that children are receiving well-child care and have a medical home. Durham is in the lower half of all NC counties in children born with low birth weight. 20% of Durham's children are living in poverty, with 50% of school-age children in Durham qualifying for free/reduced school lunch. Durham is ranked in the lower 25% of all NC Counties for percentage of low-income children who are overweight.

In a dental screening performed by Durham County Health Department (DCHD) dentists during the 2002-2003 school year, 22% of Durham kindergarten and fifth grade students had untreated dental decay so advanced that it was causing pain. 67% of children living in Durham do not receive dental services by their first day of kindergarten. According to DCHD Dental Clinic data, the average age of children coming in for dental care is eight years old.

About 16% of children have disabilities including speech and language delays, mental retardation, learning disabilities and emotional/behavioral problems; however only 30% of children with disabilities are detected before school entrance.10

9 University of North Carolina. (2003). *FPG Child Development Institute.*Retrieved May 1, 2008, from http://www.fpg.unc.edu/

Children living in low income families are at higher risk for developmental delays and disabilities, thus placing an already at-risk group of young children in further jeopardy of school failure and lifelong health conditions. The child poverty rate for children birth to age-5 in Durham County is 22%.11

Durham's More at Four program serves primarily low-income and minority children. State More at Four Guidelines require that all families submit a Kindergarten Health Assessment Report. Findings from the "Health Needs of Children Enrolled in Durham's More at Four Program," a study assessing the health needs of children enrolled in More at Four by analyzing the data provided through the Kindergarten Health Assessment Reports (KHAR), reports that only 7% of the forms were complete for all six major health screenings and just over 35% of the KHAR forms were complete for the three assessments most related to school readiness: vision, hearing, and development. In this sample, only 57% of vision screenings and 47% of hearing screenings were completed, thus reflecting a need for more technical assistance and standardized screenings for hearing and vision.

In order to continue to improve outcomes for our children, there are multiple workgroups of the Children's RBA developing strategies that will help all children be healthy and ready for school. Some of these groups include special trainings for professionals, a faith initiative, early literacy skills, family support projects, health initiatives and task forces, after school programming, a strong local interagency council focusing on children with special needs and high quality child care. Strategies are continually reviewed and action plans are updated.

Measuring Outcomes

The Children's RBA Committee's work in early childhood reflects the Performance Based Incentive System (PBIS) criteria that the local Smart Start partnership has selected. There are seven mandatory PBIS Criteria, and each partnership selects an additional four criteria. The majority of criteria (seven) are in the area of early care and education; two are in health/early

10 Frances P. Glascoe and Henry L. Shapiro. (May 2004). Introduction to Developmental and Behavioral Screening. Retrieved May 1, 2008, from http://www.dbpeds.org/articles/detail.cfm?id=5

11 U.S. Census Bureau. (2006). *American Community Survey*. Retrieved May 1, 2008, from: http://www.census.gov/acs/www/

intervention and two are in family support. Although Durham County is held responsible for all 11 criteria as a measure of having children ready for school, the RBA Children's Committee chose two outcomes to measure: 1) quality child care (tracking the average star rating of child placements in regulated care programs) and 2) school readiness. The baseline data for school readiness has not been identified. We do have pieces of data (language), but we do not presently collect sufficient data to develop a baseline for school readiness that includes all of the foundations of early learning. Developing appropriate measurements for baseline data for school readiness is part of the RBA process. Ready children are prepared socially, emotionally, physically and intellectually and are positively inclined to use their capabilities to succeed as learners.

The full Children's RBA Committee meets quarterly to share updates, report out on changes, ask for review and ensure that we are continuing to engage workgroups in this effort to make positive change.

The Community Report Card is published once a year and shared widely. This allows the RBA process to report out to the community, engage new partners and reaffirm commitment to the RBA Initiative.

RBA: Successes and Challenges

As Executive Director of Durham's Partnership for Children, my role is to bring collaboration and a commitment to ensuring that there is not duplication of resources that have been developed, align early childhood efforts with efforts aimed at school age children to provide a continuum of services, and engage community members is this effort.

Many communities think about children's education as beginning with the public education system. Through the RBA process, the Durham community has helped to reframe our thinking to ensuring that we look at our children's needs from birth through education. County and City government have helped to engage partners in the RBA process by providing non-profit funding to agencies that are engaged in one of the RBA Committees. This also ensured that both City and County were supporting these long term efforts. As an additional support to this effort, RBA Co-

Chairs have also had the opportunity to update County Commissioners and government leaders at the Commissioners retreat for the last two years. Our Committee's work is then incorporated in planning for the County budget and programming.

As the RBA initiative developed, City and County government also supported the initiative by hiring an RBA Coordinator who would oversee this project with joint funding. In addition, RBA Mini-grants were provided through an application process. This allowed new strategies that could be developed with a small amount of funds. Grants generally ranged from $1,000 - $10,000. The Children's RBA Committee has received approximately $60,000 in mini-grants over a two year period. Mini-grants funded early literacy capacity building, support for a Docs For Tots initiative, mapping of after-school programs, State of Durham's Children, translator for collaboration for pre-k programs, a continuum of parent support project, dual language training for pre-k and k teachers, and The Incredible Years Parenting Program.

There are challenges to maintaining the RBA initiative. As co-chairs with full time positions, it is challenging to have the time to nurture this project in a way that would allow it to fully flourish. The RBA Health Committee was able to incorporate their outcome work into their efforts for Healthy Carolinians, becoming the Partnership for Healthy Durham and obtain grant funding to hire a full time coordinator. The Children's Committee would benefit greatly by having a full time coordinator to coordinate our efforts and help build the transitions that are so important. This is a goal of the Children's Committee.

Although challenging, Durham's Results Based Accountability initiative is alive and well. There is much work to be done, however, as we continue to make progress on our shared priority outcomes. Not only is it important that we continue to work on our indicators in the Children's group, but it is also important for the RBA groups to begin to intersect. The Children's RBA Committee hosted the co-chair of the Health RBA Committee at its last quarterly meeting to learn about the Community Health Assessment recently completed and how these results will impact our efforts. We also are working with the RBA Prosperous Economy on strategies for the EITC. There are multiple areas of intersection in each RBA Committee, and that work has begun.

Durham's City-County RBA Initiative is an initiative to engage our community in making positive, accountable change in our shared priority outcomes. We believe these efforts will improve the quality of life for Durham residents. I am pleased to be able to share some of the work of the Children's RBA Committee with you today. Thank you.

THE EARLY CHILDHOOD RESEARCH COLLABORATIVE

Advancing Research and Policy in Children's First Decade: The Early Childhood Research Collaborative of the University of Minnesota and the Federal Reserve Bank of Minneapolis

Arthur J. Reynolds, University of Minnesota

A. What is the Early Childhood Research Collaborative?

The Early Childhood Research Collaborative (ECRC) was established in August 2006 to expand the research agenda on early childhood intervention and policy (web site: www.earlychildhoorc.org). ECRC is a joint effort of the University of Minnesota's Center for Early Education & Development and the Federal Reserve Bank of Minneapolis.

Co-directed by Arthur Reynolds, Professor of Child Development at the University of Minnesota and Art Rolnick, Senior Vice-President and Director of Research at the Federal Reserve Bank of Minneapolis, the mission of the ECRC is to conduct and promote multidisciplinary research on early childhood development from birth to age 8. The coverage of topics is broad and includes evaluation and policy analysis of early learning programs, family, school, economic, and community influences as well as biological and psychological foundations of child health and well-being. The ECRC also explores links between early education and economic development, public health, and K-12 education.

The ECRC has a steering committee, faculty affiliates from many disciplines, and a national advisory committee of eminent scholars to help in achieving its goals. Funding for the ECRC is split 50/50 between the Minneapolis FED and university sponsored projects. The ECRC also collaborates with the Consortium on Early Childhood Development. The inaugural conference of the ECRC was held in October 2006.

A national invitation conference entitled "Human Capital Conference Series on Early Childhood Development: Critical Issues in Cost-Effectiveness in Children's First Decade" was held in December 7-8, 2007 at the Minneapolis FED. Twenty conference papers from leading

researchers in the field are available at www.earlychildhoorc.org/events/dec07conference.cfm. The ECRC also runs a discussion paper series (url: www.earlychildhoodrc/papers/catalog.cfm).

B. **What are the Key Areas of Focus that Guide Our Work?**

Four research priorities of the ECRC are described below (the fifth priority on methodology and data analysis is not described).

1. *Benefit-Cost Analyses of Child and Family Programs*. In the past decade, economic analyses of early childhood programs have grown dramatically. Surprisingly, relatively few programs have been assessed for cost-effectiveness. The level of evidence for programs implemented over the first decade of life is sparse. A major contribution of the ECRC will be to more systematically assess the knowledge base in the following areas: prenatal and infant development, family-centered approaches, preschool and prekindergarten, and kindergarten and early school-age programs.

2. *Identifying Principles and Practices of Effective Programs*, the ECRC identifies, through analysis of new data and re-analyses of existing data, key elements of effective early childhood programs. Once identified and better understood, these "active ingredients"can be used as a framework to develop more effective programs and improve existing practices. Among the principles that will be assessed are: timing, duration, comprehensiveness of services, professional training, intensity, group or class sizes, organizational setting, and transitional services.

3. *Longitudinal Analysis in the Consortium on Early Childhood Development*. In collaboration with the University of Chicago and project directors of key longitudinal studies (e.g., Perry, Chicago, NFP), the Consortium on Early Childhood Development was formed to assess unanswered and policy-relevant questions. As a major collaborator in this group, the ECRC will conduct joint projects assessing the causal mechanisms of effects, identifying principles of effective intervention, and identifying early cognitive and noncognitive predictors of adult well-being.

4. *Evaluation Research and Policy Analysis***.**Evaluations of existing state and local early childhood programs are rare. The ECRC plans to collaborate with state and local agencies to provide technical

assistance and research expertise for planning evaluations. On occasion, the ECRC will conduct evaluations of programs having a high level of policy significance.

C. Example Research Projects and Findings

Three completed studies by ECRC investigators are described below along with implications for advancing early childhood policy and practice.

1. Cost-Effective Early Childhood Development Programs from Preschool to Third Grade. We reviewed the evidence on the impacts of early childhood programs in the Annual Review of Clinical Psychology (Reynolds & Temple, 2008). Although the positive effects of early childhood development programs have been widely disseminated, less attention has been given to the accumulated evidence for programs across the entire period of early childhood. This review summarized evidence on the effects and cost-effectiveness of programs and services from ages 3 to 9. The major focus was preschool programs for 3- and 4-year olds, full-day kindergarten, school-age programs including reduced class sizes, and preschool-to-third grade interventions. There is wide variation across states in expenditures for early childhood development programs. Although 38 states fund prekindergarten programs for 4-year-olds, for example, participation rates range from about 2% (Minnesota) to 70% (Oklahoma).

Participation in preschool programs was found to have relatively large and enduring effects on school achievement and child well-being. High-quality programs for children at risk produce strong economic returns ranging from about $4 per dollar invested to over $10 per dollar invested. Recent evaluations of state-funded prekindergarten programs show positive and educationally meaningful effects on school readiness skills for both at-risk and not-at-risk children. Policy analyses from state and national perspectives estimate returns of at least $2 per dollar invested for targeted programs and at least $2 per dollar invested for universal access programs (see Figure 1).

Relative to half-day kindergarten, the positive effects of full-day kindergarten have been found to be relatively small and generally do not last for more than a year. While no formal economic analyses have been conducted, the economic return per dollar invested would be expected to be close to zero, especially if benefits are limited to achievement.

Among school-age programs, preschool plus school-age interventions (PK-3) for children at risk are linked to higher levels of school performance into adolescence. The Child-Parent Center PK-3 Program shows a return of 6 to 9 dollars per dollar invested. Class size reductions show evidence of positive effects with economic returns of roughly 3 dollars per dollar invested. School-based social skills training can yield returns of over 3 dollars per dollar invested while the treatment-focused program Reading Recovery shows only short-term positive effects.

Key principles of effectiveness include the establishment of a coordinated system of services beginning at age 3 and continuing to the early school grades, teaching staff that are well trained and compensated, preferably with earned bachelor's degrees and appropriate certification, comprehensive family services, emphasis on the direct acquisition of school readiness skills and performance, and commitment to on-going evaluation and assessment.

Five policy recommendations include: (1) Establish state-funded prekindergarten programs for 4-year-olds following key principles of effectiveness, (2) Increase state investment in evidence-based school transition programs and practices in the early grades, (3) Use results of cost-benefit analysis to prioritize child investment options, (4) Develop funding mechanisms to support the implementation of programs in a more timely manner, and (5) Increase investments in research and development for evaluating programs.

2. Effects of a School-based, Early Childhood Intervention on Adult Health and Well-being: A 19-Year Follow-up of Low-Income Families. The Chicago Longitudinal Study is one of the largest and most extensive investigations of the life-course effects of the Child-Parent Center (CPC) early

educational intervention. The CPC program is the second oldest (after Head Start) federally funded preschool program in the U.S., and has been successfully implemented in the Chicago Public Schools since 1967.

This study investigated the effects of participation in the CPC program beginning at age 3 on adult health and well-being at age 24 for over 1,400 study participants. The original study sample includes a complete cohort of 989 children born in 1979-1980 who participated in CPC preschool in the highest poverty neighborhoods in Chicago. The comparison group consisted of 550 children of the same age from randomly selected schools implementing full-day kindergarten and other intervention strategies for at-risk children in low-income communities. In addition to full-day kindergarten, 15% of the "treatment as usual" comparison group attended Head Start preschool. for intervention, family socioeconomic status, gender, and race/ethnicity.

As reported in the August 2007 issue of the Archives of Pediatrics & Adolescent Medicine, CPC preschool participants had greater well-being in health and social behavior as well as educational attainment as follows:

Educational attainment/SES. Preschool participants had significantly higher rates of high completion at age 24 than the comparison group (79.4% vs 70.7%) and they had more years of education (11.97 vs 11.65). Rates of attendance in 4-year colleges were similar but slightly favored the preschool group (13.6% vs 10.4%). CPC preschool graduates were more likely than their comparison counterparts to have higher-skilled jobs.

Crime. The preschool group had lower rates criminal behavior ranging from lower felony arrests and incarceration. Whereas 16.5% of the preschool group had a felony arrest by age 24, 21.1% of the comparison group did, a reduction in arrest of 21 percent. For rates of incarceration or jail, the reduction associated with program participation was 20% (20.6% vs 25.6%). No program-group differences were found for nonfelony arrests.

Health. Most importantly, preschool participants had higher rates of health insurance coverage (71.9% vs 61.0%) and lower rates of out-of-home placement in the child welfare system

(4.5% vs 8.4%). Most of the differences in health insurance were due to preschool participants having higher private health insurance than the comparison group.

Mental health. The main finding was that preschool participants had a significantly lower rate of one or more depressive symptoms (12.8% vs 17.4%), a 26 percent reduction over the comparison group. Depression symptoms were assessed on the adult survey at ages 22-24.

Findings continue to demonstrate that established, publicly funded early childhood programs can positively impact life-course development into adulthood.

3. *Mechanisms of Influence from Preschool to Educational Attainment: A Three-Study Analysis.* While there is now a critical mass of evidence in support of long-term effects of high-quality preschool programs on educational attainment, the causal mechanisms that account for these findings are not well understood. Among the studies that have found significant increases in educational attainment, comprehensive models have been rarely been tested.

This report examines similar paths of effects from preschool participation to years of education at age 21 for the Chicago Parent-Child Centers, the Abecedarian Project, and the Perry Preschool Study. Five hypothesized paths were examined: cognitive advantage, family support, social adjustment, motivational advantage, and school support.

Findings indicated that five paths of influence from preschool to years of education were consistently significant and of relatively large size across all three studies. The first was the immediate effect of preschool on cognitive skills at age 5. The standardized coefficients for CPC, ABC, and Perry were, respectively, 0.37, 0.44, and 0.58. Two others also involved early cognitive skills: cognitive advantage to parent involvement (0.17, 0.29, 0.28) and to academic motivation (0.40, 0.54, 0.47). These findings indicate that the short-term effects of intervention on social and emotional development are through cognitive skills.

The remaining common and strong paths across studies were from motivation to retention/special education and then retention/special education to reading achievement at age

14/15. These findings indicate that the process of effects begins with the enhancement of cognitive skills but continues to later achievement and school performance through, at least in part, motivation. As a measure of school support, mobility was predicted by teacher ratings of parent involvement in both Perry and CPC studies. A key difference between the paths of influence in CPC versus the other two studies was the greater role of measured school quality in CPC.

The findings of the study support the value of the 5-hypothesis model of long-term effects. As the most comprehensive perspective for understanding long-term effects, the model has not been previously tested in the Perry or Abecedarian Projects. Not only did most of the hypotheses contribute to the explanation of main effects in the percentage-reduction approach, but the fit of the process models was good only when indicators of all five hypotheses were included. This fit also is reinforced by the significant and substantial indirect effects of preschool found across the three studies. Given the substantial differences among the programs in services, context, and time period, these findings are encouraging for the applicability of the model to other programs.

OFFICE OF MINORITY HEALTH AND HEALTH DISPARITIES

Testimony: Meeting Goals and Measuring Progress
"Using Sub-State Data to Target Programs and Monitor Progress"

Barbara Pullen-Smith, Director
Office of Minority Health and Health Disparities
North Carolina Department of Health and Human Services

Historically, in North Carolina, health status data for racial/ethnic minority populations have shaped policy and program decisions in the Department of Health and Human Services. The first Minority Health Report was published by the North Carolina State Center for Health Statistics in 1987 to document the gaps in health status between racial and ethnic minority populations as compared to the white population. That report convinced the State Health Director to mobilize support to establish the Office of Minority Health.

The Office of Minority Health (later named Office of Minority Health and Health Disparities -OMHHD) and the Minority Health Advisory Council were established in 1992 by the North Carolina General Assembly. The OMHHD vision is that "All North Carolinians will enjoy good health regardless of their race and ethnicity, disability or socioeconomic status."

The OMHHD plays an important leadership role to address and eliminate health disparities in North Carolina by working at the federal, state and local levels to:

- Articulate the vision for minority health.
- Document and disseminate data to describe the disproportionate burden of disease among specific population groups.
- Challenge policies, programs, services and systems that perpetuate the health disparities.
- Build the capacity of state and local agencies and organizations to address health disparity issues.

- Use health data to advocate for increased investments, (financial, training and other resources), in populations and communities experiencing the disparities.
- Identify and share "promising models" to improve health status and access to services for racial/ethnic minority populations.

The work of the OMHHD is guided by a mission to promote and advocate for the elimination of health disparities among all racial and ethnic minorities and other underserved populations. The OMHHD receives federal, state and private funds to support its work.

The OMHHD believes state and community approaches to eliminating health disparities should be a unified effort aimed at increasing the capacity of DHHS state and local programs and communities to develop effective strategies and collaborative networks between community-based organizations and other local public and private agencies. The OMHHD staff team engages state and local agencies, organizations, and non-profits to reduce barriers to healthcare and health disparities. Local level partners include faith-based organizations, community based organizations, tribes and local health departments.

To equip these organizations and individuals, OMHHD provides a range of capacity building services, including: training; leadership and skills development; resource development; financial assistance, infrastructure development; consultation and technical assistance. This approach has helped community-based organizations implement sound business practices, ensure fiscal accountability, write successful grants, influence local and state policies and legislation, and mobilize coalitions around health challenges in their communities. Community leaders are informed about health issues affecting their community, program strategies, existing services and how to access needed resources.

At the state level, OMHHD leads the Department of Health and Human Services in implementing an integrated, comprehensive and coordinated approach to identify and reduce disparities in services, access, and health. The department's plan, "From Disparity to Parity in Health: Eliminating Health

Disparities Call to Action," guides the work of the Divisions and Offices. Each action plan is tailored to specific services and programs.

In addition to building capacity at the community and state levels, OMHHD has three other essential functions: (1) Conduct research and produce reports that present the data about health disparities in terms that a lay person can understand. These reports are used to educate a wide audience on the realities and specifics of health disparities. (2) Provide culture and interpreter trainings to ensure that culturally appropriate communication, outreach, services and materials are provided to our state's diverse population. (3) Promote legislation and policies to improve access to health services for racial/ethnic minorities.

The OMHHD works with community leaders to reach and serve families around health strategies to promote healthy lifestyles. With the creation of the Community Focused Eliminating Health Disparities Initiative (CFEHDI), the OMHHD has expanded its capacity to implement a community grants program. Eligible organizations compete through a Request for Applications (RFA) process. Three year awards are made with an average award of about $60,000/year.

The CFEHDI was established in 2005 by the NC General Assembly to build the capacity of faith based, community based, American Indian tribal organizations and local health departments to reduce disparities and improve the health of African American, Hispanic/Latino and American Indian populations in the state. CFEHDI focus areas are based on the health data in the 2003 Racial and Ethnic Health Disparities in North Carolina Report Card and include: infant mortality, HIV/AIDS and other sexually transmitted infections, cancer, diabetes, homicides and motor vehicle deaths.

Health status data are used by a variety of advocacy groups and agencies to influence policies and change systems. The following are a few examples of state level activities in North Carolina:

- MHAC uses health disparities data to establish priorities for its annual legislative agenda for funding and policy recommendations.

- Members of the North Carolina General Assembly used health disparities data to establish a community grants program, "Community Focused Eliminating Health Disparities Initiative".
- North Carolina's Healthy Carolinians Plan for 2010 includes eliminating health disparities as one of its goal area.
- Governor's Task Force on Healthy Carolinians requires local task forces to include a focus on eliminating health disparities in their plans and request for certification
- OMHHD uses health status data to establish priority focus areas for grantees based on the greatest disparities for African Americans, American Indians, and Hispanic/Latino populations.
- OMHHD develops data tools to inform administrators, policy makers, and the general public about health disparity issues, including report cards, fact sheet, county level profiles, etc.

As noted, state level health status data are valuable tools for raising awareness, establishing funding priorities, influencing policies and informing administrators, policy makers, general public, etc. However, having access to sub-state data is essential when implementing programs and services. It is important that the organizations have a solid understanding about which populations are experiencing the health disparities and where they are located so that outreach efforts are tailored and limited resources are maximized. Local and state leaders use sub-state data in key ways to inform program and policy decisions:

- Community leaders working on health issues frequently request data about their county by race/ethnicity in order to document and tailor their plans to the specific populations they serve. OMHHD works to make available, county level profiles, census tract data, GIS mapping, etc. to support local efforts to document health challenges and guide their work. With 100 counties in our state, we sometimes have to generate multi-year reports for counties with smaller populations.

- County level data are used to position community organizations to compete for public and private funds at the federal, state and local levels.
- Legislators and other elected officials request health status data and fact sheets for their district to inform constituents and to advocate for resources.
- County level data are used to influence local funding decisions to meet documented needs.
- Counties with large populations use census tract data to target their work and set priorities for distributing limited resources.
- OMHHD uses county level data to guide funding decisions for distributing limited resources.

Having accurate health data by race/ethnicity is a priority for the OMHHD for two key reasons, 1) It is one way to facilitate community involvement and buy-in, and 2) It communicates an important message to program managers and administrators. The message is that it is important to tailor programs and services to address the cultural and language differences of the service population.

In order to make the health status data accessible to a broader audience, the State Center for Health Statistics (SCHS) has a minority health section on its website. In addition, OMHHD partners with the SCHS to present complex health data in formats that are user-friendly, including health status fact sheets by race/ethnicity and the health disparities report card.

The Racial and Ethnic Health Disparities in North Carolina Report Card 2006 is a tool that:

- measures the health disparity gap and helps monitor the state's progress towards eliminating health status gaps between racial and ethnic minorities and the White population.
- provides current data that can be used to guide programs, services and outreach efforts.
- can be used to inform key decision makers, influence policies and promote systems change.

The Report Card measures the gaps in health status for 37 health indicators. This Report Card uses disparity ratios to compare the health status of racial and ethnic groups to the White population

in North Carolina. The ratios show areas with the greatest health disparities, areas with growing disparities and disparity areas that are improving. Letter grades ranging from "A" for very good to "F" for failing are given to each racial/ ethnic minority group. Health disparities data are used by community based organizations, faith based organizations, tribal governments and communities, local health departments, state agencies and organizations, clans, legislators, and local businesses.

The OMHHD capacity to measure the health of sub-state populations has increased over the years. For example, in 2003 OMHHD published its first Racial and Ethnic Health Disparities Report Card documenting a baseline of data to measure the health of minority populations in the state. The Report Card was updated in 2006. The update tracks health data over a 7 year period. This measurement tool will continue to be updated every 3 to report the state's progress in addressing the health disparity gaps.

In addition to the Report Card, OMHHD focuses on specific minority population groups through our Minority Health Fact Sheets (African American, American Indian, Hispanic /Latino). This is another tool used to monitor and measure the health status of subpopulations continuously over time.

Some key indicators for success for OMHHD include, but are not limited to, the following areas:

- Building a network of informed community leaders has been a key strategy for increasing resources because they can advocate for state and private funds in ways that state agencies can not.
- Expanding the network of informed state legislators around health disparity issues has been instrumental in accessing state resources to invest in community based and community owned strategies. Leadership of the Black legislators has been instrumental as they have used their position of influence to mobilize others around these issues.
- Demonstrating positive health outcomes for people served through community-led promising models.

- Documenting performance measures annually for the office in the following areas:
  - increase in the overall number of linkages and partnerships by a minimum of 10%.
  - increase in the number of consultation, technical assistance, and training services by at least 10%.
  - increase in the number of organizations that focus on the use of preventive measures to support healthy lifestyles at a minimum of 10%.
  - Monitor and report activities of DHHS Divisions/Offices on their efforts to address access, service and health disparities.
  - periodically update the health disparities report card and other resource tools.

The Office of Minority Health and Health Disparities continues to address challenges.

- Documenting the health status data does not always translate into action for the groups and organizations we are trying to reach. Commitments from the top and leadership have been key to moving the issues forward! It was important for the Secretary of the NC Department of Health and Human Services and the State Health Director to make eliminating health disparities a priority. This enabled the Office to build on past efforts and gain more support across the Divisions and Offices in the Department. However, until we reach the point where systems change has occurred in areas of integration, investment and accountability throughout all levels of the organizations, leadership will be critical for making eliminating health disparities a priority.
- Questions and concerns about accurate reporting of race/ethnicity data continue to be a challenge. Leaders from the American Indian and Hispanic/Latino populations constantly raise concerns that their populations are under-represented in the current health status data, because of the way race information is collected and reported.
- Budget shortfalls at the state level means that expansion funds are not available to address health disparities.

- Resources are limited to address health disparities. Projects receive small grant awards, are limited in scope and reach a small population and therefore can not impact county level health status data.

The work of the Office of Minority Health and Health Disparities might be implemented more broadly through a unified approach. One strategy includes the development of local Offices of Minority Health and Health Disparities based in the 86 local health departments across the state. Another strategy would be to expand capacity building programs to equip local organizations to better partner with community leaders and their local OMHHD. An increase in local investment and broad based partnerships are needed.

MITCHELL GOLD + BOB WILLIAMS: LULU'S CHILD ENRICHMENT CENTER

Dan Gauthreaux
Vice President of Human Resources, Mitchell Gold + Bob Williams

Who we are….

Mitchell Gold + Bob Williams is the leading home furnishings brand, located in Taylorsville NC. For a brief background on the company itself, it was founded by both Mitchell Gold and Bob Williams in 1989 as an upholstery manufacturer with approximately 35 employees. To date, we generate 100M in sales, have 750+ employees and sell to the best home retailers across America…including owning and operating company branded stores.

From the very beginning "comfort" was the cornerstone to how Mitchell and Bob wanted to run their business. Whether it was in the product we made, the way we work with our customers…or how we treat our employees. It's often written and/or cited that "Mitchell Gold + Bob Williams is trying to make the world a more comfortable place, for everyone." I think that's key in how and why we decided to open an on-site daycare for our employees and local community.

People often ask, "why start an on-site daycare"?

One day Mitchell was having a meeting with a few key employees and it was getting later in the day…closer to 5:00pm. At one point Mitchell noticed a particular employee consistently looking at her watch. Later, he found out that the employee was totally distracted because she was wondering if she was going to be able to pick up her child at daycare, across town, on-time or be faced with having to pay some sort of late pick up fee! Needless to say, that was one of the watershed moments for the origins of LuLu's Child Enrichment Center (LCEC). From that moment, we began to survey employees in an effort to determine if there was a need/desire to have on-site childcare. Based on their response, and a tremendous amount of hard work, we're proud to be the

first upholstery manufacturer in the state of North Carolina to have on-site daycare. (And by the way, we don't charge for late pick-ups!)

Since LCEC's inception, we have discovered that in addition to benefiting our employees, LCEC has brought numerous benefits to our company…whether its in attracting the best workforce, creating employee loyalty or simply sending a message that we are committed to ensuring our little-ones are receiving the absolute best start they possibly can have…above and beyond their loving parents. LCEC is core to our company culture. We also feel that the productivity and attendance of our working parents has increased. They can feel more comfortable throughout the day knowing their children are on-site and just a few steps away. Attendance has also improved due to parents not having to rely on family members or other sitters availability…if the company is open, then LCEC is open.

From the beginning it was determined that our center was going to be education based vs. activity based. Both Mitchell and Bob realized that LCEC was our opportunity to provide our employees' children a much needed foundation toward their early childhood education and schooling. Finding ourselves in a relatively smaller town in western North Carolina, we knew there were a few other quality centers, but the options were limited for our employees. We also learned that many other daycares in the area were just activity based with little or no emphasis on education.

Another key goal/objective in running LCEC is to fiscally "breakeven". We have qualified for some of the various available grants and revenue resources for childcare centers; however, a majority of our operating expenses are offset by the weekly/monthly tuition monies collected from parents of those children who are enrolled. We do have a published rate for the few non-employee enrolled children and our employees receive a significant discount off of our published rate…very much an employee benefit.

In the mid 1990's, Mitchell Gold + Bob Williams started making plans to construct a new manufacturing facility that would house all of our operations…including giving us an opportunity to have LCEC constructed within our corporate offices. The construction of LCEC was part of our

overall construction budget. In building a multi-million dollar production facility, we included the $250K worth of additional construction costs in our overall mortgage.

That said, making the idea of LCEC a reality wasn't as easy as it may sound. We struggled finding consistent answers and guidance from various agencies and organizations on how best to proceed. As we reached out to various folks, we seemed to repeatedly receive conflicting information. Even when we asked our insurance broker what we needed to do, we were advised against having on-site childcare. It's safe to say that we now have a new broker and have truly learned the importance of "compassionate determination", as Mitchell would say.

In the year 2008, and with resources such as the internet, Smart-Start, etc…we feel that other industries and/or businesses considering such a project would have much better, timely information at their disposal. Whether it's at a state or local level, there are many organizations that are willing and available to help. Also, in thinking about our current space and needs, as odd as it may sound, there is one downside and/or challenge that we didn't plan for….storage space. Our advice to any other centers and/or organizations considering opening an on-site daycare would be to overstate the needs for storage re: equipment, toys, supplies, etc. when planning. Odd…but true.

What's happened since February 1999 when LCEC opened?

Providing on-site childcare hasn't necessarily been measured on an R.O.I. basis (meaning dollars and cents); however, there have been numerous benchmarks that reinforce we were and are on the right track. The most obvious is our five-star rating, which is the highest in the state of NC. When we opened the center in 1999 we had an "A" license. Then we moved up the scale to "AA"…then to the star ratings…four stars eventually led to five stars. Currently, we have six classrooms ranging from infants to 4 & 5 year olds. And while we are licensed for 77 children, many of the classrooms have waiting lists.

In addition to parental testimonials, we've also received positive feedback from local Kindergarten teachers commenting on the preparedness of the children who have graduated from LCEC.

At LCEC we teach and guide all of our children in best practices. For instance we regularly have an RN teach and promote the benefits of proper hand washing techniques, proper oral hygiene, etc. Another advantage we have is our ability to rely on the education and guidance of our on-site Executive Chef in following the USDA Nutrition Guidelines, which are incorporated in all of our food that's served to the children. Nutrition is really important to the Daycare Staff, as well as our Senior Management. Having our children learn at an early age the importance of proper diet is, we feel, is key to long-term health and wellness. Additionally, we regularly provide the children with a variety of outdoor learning experiences…both physical and tactile in nature. Outside of the regularly scheduled programs for the children, our employees are able to participate and have some fun with the children thru programs such as: Story Time, Halloween, Santa Day, etc.

Sometimes it's not always fun and games…but other times it is. Personally, as an employee who hasn't had children in LCEC, I am touched by being able to watch all the young children grow and develop over the years. Believe it or not, if you're having a bad day…just walking over to the daycare and watching the children play certainly can put things back into perspective.

Additional Thoughts…

No matter what stage of development a business may find themselves regarding on-site child care, it's critical toward the success of the program to have the principles of the company involved…whether it's the owner, shareholders, BOD, etc…the commitment toward providing such programs must come from "the top".

Sometimes when both Mitchell and Bob are asked about what words of wisdom they would give other businesses who are considering on-site childcare they say: "It's the best thing we've ever done both personally and professionally. The daycare gives us such enormous joy and its core to the spirit of our company. If I could give advice to other business owners, I would tell every one of them to do the same."

A large part of LuLu's success lies in the hands of our Providers and Director. The commitment, love and encouragement that each one gives to our young children is nothing short of

extraordinary. In our local community, our Director is involved in a number of local groups and organizations. One particular organization is the School Readiness Task Force. This group works toward bridging a child's development from a pre-kindergarten environment to kindergarten and up. Our Director and many of the providers have been with us since we opened LCED. This helps provide a lot of stability and continuity for our program.

North Carolina Department of Health and Human Services
Division of Public Health • Office of the State Health Director
1931 Mail Service Center • Raleigh, North Carolina 27699-1931

Michael F. Easley, Governor
Dempsey Benton, Secretary

Leah Devlin, DDS, MPH
State Health Director

June 18, 2008

Robert Wood Johnson Foundation
Commission to Build a Healthier America
Mark B. McClellan, Co-Chair
Alice M. Rivlin, Co-Chair
2021 K Street, NW, Suite 800
Washington, DC 20006

Dear Mr. McClellan and Ms. Rivlin:

Congratulations on a successful "Field Forum" in Raleigh on June 12, 2008 addressing early childhood interventions to improve health. The presentations and discussions from many exemplar programs and national experts was very enlightening. However we know there was not time to cover all the good work being done in this area. In conversations prior to the field hearing, Wilhelmine Miller, the Commission's Associate Director, requested that we share the NC experiences around school health in the form of written testimony. Enclosed is a summary of the important and successful collaborations between the N.C. Department of Public Instruction and the N.C. Division of Public Health. I hope this is helpful as the Commission continues its work to provide better opportunities for Americans in every community to grow up and stay healthy.

Please don't hesitate to contact me if you have questions or if we can be of assistance.

Sincerely,

Leah Devlin, DDS, MPH
N.C. State Health Director

cc: Dr. James Marks, Senior VP, Director Health Group, RWJ
Dr. Risa Lavizzo-Mourey, President & CEO, RWJ
Dr. Steve Cline, Deputy State Health Director
June Atkinson, State Superintendent of Public Instruction
Howard Lee, Chairman, State Board of Education

Written Testimony

to

The Robert Wood Johnson Commission to Build a Healthier America

Follow Up to the June 12, 2008 Regional Meeting and Field Forum on Early Childhood Interventions in Raleigh, NC

from

The North Carolina Division of Public Health

June 2008

Overview

> ***"We call upon professionals in the fields of education and health and concerned citizens across the state to join with us in a renewed effort and a reaffirmation of our mutual responsibility to our state's children."***

This joint statement released in January of 2007 by North Carolina State Superintendent of Schools, June Atkinson and Carmen Hooker Odom, Secretary Department of Health and Human Services (DHHS), demonstrates the continuation of a long, and productive collaboration. 'Healthy children, ready to learn' is a goal common to the North Carolina DHHS Division of Public Health (DPH) and the North Carolina Department of Public Instruction (DPI), and for many years these agencies have worked collaboratively to achieve this common goal. This collaborative partnership has taken many forms over the years, and by the present day a long record of collaborative accomplishments can be identified.

DPH and DPI share the responsibility to ensure that children begin school healthy and ready to learn, are supported for optimal academic achievement throughout their school career, and leave school healthy and ready to compete in our global economy. The North Carolina State Board of Education has as one of its five priorities "North Carolina public school students will be healthy and responsible". DPH has also made school health a top priority.

While the two agencies' primary missions may differ, academic achievement and good health are integrally related. Teachers and school nurses see students with health problems each day and those health problems contribute to the educational achievement gap and the education achievement gap further contributes to health disparities. Students may come to class chemically impaired, pregnant, depressed, HIV positive, suicidal, asthmatic, overweight, or tired because they worked late in the local fast food restaurant. For students to succeed in school, they cannot be tired, hungry, using illegal drugs, or be concerned about the violence that may occur at any time around them. Anyone interested in closing the achievement gap and helping all students achieve their potential must implement a coordinated approach and address the needs of the whole child.

Within the Division of Public Health, the Chronic Disease and Injury (CDI) Section and the Women's and Children's Health (WCH) Section play leadership roles with respect to collaborative efforts with the Department of Public Instruction (DPI). Housed within CDI is the North Carolina Healthy Schools Initiative, a Centers for Disease Control and Prevention (CDC) Division of Adolescent and School Health (DASH) funded collaborative agreement that actively supports a wide range of collaborative efforts between DPH and DPI. Important additional stakeholders within DPH include the Oral Health Section and the Epidemiology Section. Program descriptions, goals and activities of key stakeholders in promoting the collaborative goal of 'healthy children, ready to learn' will be detailed below.

Program Description: North Carolina Healthy Schools Initiative

The purpose of the North Carolina Healthy Schools Initiative is to improve the health and well-being of NC children and youth and to prepare them to be healthy adults. Proposed goals, objectives and work plan enable state partners in NC to help school districts and schools implement a coordinated school health approach and, through this approach, to

increase the effectiveness of policies and practices to promote physical activity, improve nutrition, and reduce tobacco use among NC students. Healthy Schools also places a strong emphasis on the role of the coordinated school health approach in the elimination of education and health disparities.

Over the past nine and a half years DPI and the DPH have together made great strides in building a statewide system to improve the health and academic achievement of NC youth through a coordinated approach to school health. This joint initiative named, Healthy Schools, has worked to coordinate all components of school health, with special emphasis on increasing physical activity, improving eating behaviors, reducing tobacco use, preventing HIV, reducing cancer risk by reducing sun exposure and reducing sexual risk behaviors by promoting abstinence. Both the State Superintendent of DPI and the Secretary of the Department of Health and Human Services have signed a formal collaborative agreement. Unified surveillance surveys have been developed and implemented, and staff and resources have been shared across agencies. Shared trainings have been conducted, and communication streams have been combined. The cultural competence of public health and human service personnel to engage state and local school staff has been enhanced.

Healthy Schools has been funded through two $3.1 million, 5 year cooperative agreement with the CDC and was recently awarded a third five year $3.9 million agreement. This specific school health initiative addresses all school health issues including school nursing, nutrition, physical activity/education, mental health, health education, HIV/STD prevention, staff wellness and family & community involvement. Since its beginning in 1997, Healthy Schools continues to build and maintain strong collaborations and communication between the Department of Public Instruction and the Department of Health and Human Services Division of Public Health. These efforts to build and maintain a state level infrastructure are matched by efforts to strengthen the communication and collaboration of public health and public education at the local level.

The current NC Healthy Schools proposed five-year goals include: Strengthening the state system that promotes the collaboration of DPI and DPH/DHHS and other key state partners in continued policy and program development to improve the health and academic achievement; Strengthening the state level support for local school districts and individual schools to build and sustain capacity to assess needs and to implement and evaluate evidence-based programs and strategies; Increasing and maintain the state and local level capacity to decrease educational and health disparities and increase academic achievement and graduation rates for all students; and Implementing evaluation and surveillance plans that provide the North Carolina evidence base to connect the coordinated school health approach and positive student health and improved academic achievement in North Carolina and disseminating those results.

NC Healthy Schools implements systematic procedures to monitor critical health related behaviors among high school and middle school students within North Carolina (NC) through the implementation of the CDC Youth Risk Behavior Survey (YRBS) and the CDC School Health Profiles Survey (Profiles). The YRBS is the only survey in NC that collectively evaluates the six leading causes of morbidity and mortality among middle and high school youth and includes assessment of personal safety, violence and bullying, tobacco use, alcohol and other drug use, physical activity and inactivity, nutrition and malnutrition, mental health and disability, and sexual risk behaviors (high school only). DPI has administered the biannual YRBS since 1993 in partnership with DPH/DHHS. Profiles surveys school level

programs, practices and policies in the eight components of coordinated school health. NC conducted the biannual Profiles in 2004, 2006 and 2008. Results from both surveys are made available on the NC Healthy Schools website, and via publications and presentations.

Program Description: School Health Unit (WCH)

Programs located in the Children and Youth Branch of the Women's and Children's Health Section of DPH are centered around school nursing, school health centers, school nurse/social worker teams, behavioral health issues, nutrition, access to care (insurance coverage), transition of youth from school to adult self-sufficiency, children with special health care needs, school readiness, family involvement, child health consultation and management of funding contracts for community efforts with school age children.

Program Goals: Healthy Schools

1. The improvement of the health and academic performance of students by strengthening the systems of collaboration and communication between public education and public health.
2. Promote the CDC's eight component model of Coordinated School Health.
3. Bring together statewide school health partners for unified planning and coordination.
4. Develop district and school level models of Coordinated School Health Programs.
5. Work with Institutions of Higher Education to enhance teacher and administrator in-service training.
6. Improve HIV/STD/pregnancy prevention strategies within the NC public school system.

Program Goals: School Health Unit

1. Improvement of the school nurse to student ratio to the nationally recommended 1:750.
2. To provide case management services to students at risk of dropping out of school or experiencing out-of-home placements through the Child and Family Support Team Initiative.
3. To provide technical assistance and support for school based health centers across the state.
4. To increase the insurance coverage of school age children through enrollment outreach efforts for Medicaid (N.C. Health Check and SCHIP, the N.C. Health Choice Program).

Examples of Collaborative Activities

<u>Broad DPH/DPI Collaborative Policy Activities</u>

- 2003 State Board of Education Healthy Active Children Policy (HSP-S-000)

  - Created 115 LEA level School Health Advisory Councils (SHACs), with required membership from the eight component areas of the coordinated school health approach plus local health department and school administration representatives
  - 30 minutes of physical activity per day K-8
- 2004 Child Nutrition Reauthorization Act, federally mandated Local Wellness Policy
  - 86% of LEAs used SHAC as mandated Wellness Committee
  - Worked to create Successful Students. Successful Students Eat Smart and Move More is a social marketing intervention intended to create a buzz around school wellness policies, so that policies are implemented, monitored, evaluated, discussed regularly and modified as needed to meet the changing needs of schools, staff and students. This intervention is being modeled after the California Project LEAN Successful Students project. http://www.eatsmartmovemorenc.com/programs_tools/school/successful_students.html
- 2007 Senate Bill 1086 Mandates Tobacco Free Schools by August 2008. Healthy Schools collaborated with the DPH Tobacco Control and Prevention Branch to offer seven trainings across the state to equip local school systems to successfully implement the policy
- Cross collaboration efforts with the DPI Raising Achievement Closing Gaps Section and the NC Office of Minority Health & Health disparities.
- Immunization policy providing model materials developed jointly with Immunization Branch of WCH to comply with NC General Assembly mandated parent notification of the availability of HPV vaccine, and new mandate for middle school Tdap booster.
- Joint pandemic flu planning & statewide exercises, including school closure and continuous operations plans

Healthy Schools Collaborative Activities

- Successful CDC DASH Proposal for Healthy Schools funding 2008-2013.
  - Coordinated School Health Programs/Physical Activity, Nutrition & Tobacco (CSHP/PANT) One of 22 funded states from 43 applicants.
  - HIV Policy and Prevention. Supports the Appalachian State University's NC School Health Training Center Cadre, which provides professional development events on HIV/STD and teen pregnancy prevention.
  - Biannual Youth Risk Behavior Survey (YRBS) and Profiles
- Interagency Healthy Schools Forum, Meets Quarterly
  - DPI members appointed by State Superintendent
  - DPH members appointed by Secretary of HHS
  - Includes representation from State Health Plan, PTA, School Boards Association, Association of Local Boards of Health and other key stakeholders.
- School Health Leadership Assembly, Meets Biannually
  - Teams of Local Education Agency (LEA) Superintendents & Local Health Directors (LHD) meet together to address issues of mutual interest.
  - Recognized as a 2008 CDC DASH Success Story
  - Three Assemblies have reached 43% of local superintendents, and 59% of local health directors who collectively represent 860,000 students (63% of NC Student Population).

- The Healthy Schools Institute, an annual four-day, state-wide SHAC training, is planned and implemented by DPI, DPH and other partners. A total of 30 scholarships were awarded for 2008 to Healthy Carolinians members, PTA members or local health department representatives.

School Health Unit Collaborative Activities

- SESAMM (Students Eating Smart and Moving More): four grants awarded to school based centers as part of DPH obesity prevention efforts. Unique in the involvement of students in planning and carrying out activities.
- School Health Nutritionists Network: created by state school nutritionist as a forum for connecting nutritionists working in schools across the state through regular meetings, conference calls, and activities.
- DPH Regional & State School Nurse Consultants plan and provide the bulk of training for school nurses across the state including new school nurse orientation and an annual school nurse statewide conference that draws approximately 800 schools nurses.
- Kindergarten Health Assessment workgroup: a collaboration between DPI and DPH as well as other professional organizations and agencies across the state to update, market, evaluate, and gather data from the kindergarten health assessment.
- State School Nurse Consultant collaborates with the N.C.Wise (state school data system) providing input into necessary and desired revisions to the system.
- State School Nurse Consultant meets regularly with the DPI Health Education Consultant to plan, share information, and work together on issues.
- The Regional and State School Nurse Consultants provide technical assistance for school nurses across the state.
- DPH funds 211 school nurse positions, many of whom are DPI/LEA employees, through annual recurring contracts across the state. ($10.55 million)
- Regional School Nurse Consultants assist with negotiating memoranda of understanding between local LEAs and local health departments.
- DPH provides some funding through contracts for school health clinics across the state and provides technical assistance to them on clinical quality improvement issues, billing issues, and administrative issues.
- State School Nurse Consultant collaborates with the DPI Exceptional Children policy director on policies and dissemination of policy information.
- The DPH School Health Matrix Team meets monthly and is made up of DPH staff who work with school age children or programs in the Division. This provides an efficient forum for DPI to communicate quickly across DPH for presentations to the group, or information/input collaboration.
- The School Health Behavioral Coordinator collaborates with DPI on issues related to school behavioral health and works across state agencies and organizations on school behavioral health issues.
- DPH provides the link between the Early Childhood Vision Care Commission and schools providing vision screening. The ECVC is charged with creating vision screening guidelines and also provides some funding for eligible children needing assistance with eye examinations and the purchase of glasses when prescribed.
- DPH manages the Early Childhood Comprehensive System Grant Program and collaborates with DPI, Smart Start, N.C. Ready Schools, and others.

Physical Activity and Nutrition Branch Collaborative Activities

- PAN Partnered with WCH, DPI and NC Cooperative Extension Service as SNAC (School Nutrition Action Committee) to develop a series of white papers on child nutrition and obesity. http://www.eatsmartmovemorenc.com/programs_tools/school/TrendsEffectsSolutions.html
- Partnered with DPI, East Carolina University and other to develop elementary and middle school *Energizers* for use by classroom teachers.
- Move More School Standards: Standards to guide policies for physical activity and physical education in schools. Serve as a call to action and a tool to create school environments that support physical activity and quality physical education. http://www.eatsmartmovemorenc.com/programs_tools/school/docs/pa_standards/MMPAStandards.pdf
- Eat Smart School Standards: Standards to guide policies for the foods sold in schools Serves as a call to action and a tool to create school environments that support healthy eating. http://www.eatsmartmovemorenc.com/programs_tools/school/docs/food_standards/SchoolFoodsStandards.pdf
- The Eat Smart Move More University Collaborative is made up of representatives from multiple NC universities with specific research and evaluation interests in child and adult obesity.
- In 2006 the Eat Smart Move More Leadership Team was created, comprised of more than 50 organizations that promote policies, communication and advocacy related to child obesity.
- In 2008 DPI, PAN Branch & DPH/WCH NET Program created Successful Students
    - Social marketing campaign targeting parents, community leaders and policy makers so that local wellness polices are implemented, monitored, evaluated, discussed regularly and modified as needed to meet the changing needs of schools, staff and students.
    - Tools and Community Relations/Media Kit, Advocacy Kit and more http://www.eatsmartmovemorenc.com/programs_tools/school/successful_students.html
    - DPH & DPI have collaborated on regional trainings for LEAs to support implementation
- PAN and WCH Nutrition Services collaborate with the DPI Child Nutrition Program to implement the US Department of Agriculture (USDA) Fresh Fruit & Vegetable Program (FFVP). The program provides free fresh fruit and vegetable snacks and nutrition education to over 11,000 students each year (outside of the school lunch or breakfast programs).
- PAN conducts an annual USDA FFVP Nutrition Education survey each year to identify school successes and needs. PAN conducts training using two tools developed by the team: *Fruit and Veggie Nutrition Education Resources for Grades K-5* and the *Fruit and Veggie Lesson Plans for Grades K-5.*

- PAN, WCH Nutrition Services and Healthy Schools collaborate as steering committee members of NC's Action For Healthy Kids Coalition, which is the grass roots advocacy channel for physical activity and nutrition efforts

Child and Family Support Teams

- In 2006 the NC General Assembly, at Governor Easley's request, funded 100 teams of one school nurse and one social worker in 100 schools in 21 school districts across the state. These teams are known as Child and Family Support Teams, and the purpose of the Initiative is to provide school-based professionals to screen, identify, and provide case management to children who are potentially at risk of academic failure or out-of-home placement due to physical, social, legal, emotional, or developmental factors. The local School Health Advisory Councils work with, and in some cases serve as, the local Child and Family Support Team Advisory Group.

Additional Collaborative Activities in Local Schools and Communities

- NC Healthy Schools SHAC Manual is recognized as national model by CDC DASH and The Alliance for a Healthier Generation
- In 2007 Guilford County Schools' SHAC participated in a pilot of the Healthy Schools web based Great 8 Online Assessment, of school health policies and practices in 30 local schools.
- School nurses serve on the School Health Advisory Committees across the state.
- DPH collaborates with the State Board of Education, the State Health Plan, the NC Association of School Administrators and Pfizer for implementation of the STAR (Staff Together Achieving Results), the wellness program for local school staff across the state.
- Dental hygienists from the DPH Oral Health Section screened more than 210,000 children state wide in 2007, helped about 14,500 children access dental care and provided about 15,000 dental sealants to school children. In 2007, the school-based fluoride mouth rinse program resumed.
- From 2006-08 the DPH CDI Asthma Program collaborated with NC State University in an Environmental Protection Agency Tools for Schools asthma trigger detection pilot in 12 LEA's.

The health needs of students have changed dramatically in the past ten years creating increased demands for multi agency efforts at the state and local levels. In addition to the growing numbers of children with complex health problems, the prevalence of high risk behaviors in schools continue to be elevated. The new "social morbidities" include substance abuse, homicide, suicide, child abuse and neglect, and developmental problems. Preventive health programs have become a greater focus in schools as the obesity epidemic is affecting children and youth at earlier and earlier ages, and the academic achievement gap remains unclosed. As State Superintendent June St. Clair Atkinson has stated "A coordinated school health approach supports schools, teachers, parents and communities working together to develop and implement programs that target the most prevalent behaviors that put youth at-risk for negative health outcomes, which impact academic performance."

Future challenges include funding during a time of economic stress throughout the communities across N.C. Much effort is being put into collecting meaningful outcome data to show effectiveness of various programs and initiatives. Regardless of the initiative, the intervention, or the communities involved, collaboration appears to be the key to accomplishing our goals. Local

collaboration as well as state level collaboration pays off in planning and implementing effective and efficient programs and initiatives.

"School Health is a public health priority in North Carolina," states State Health Director, Dr. Leah Devlin, "as is increasing our high school graduation rates. We know that there is a closely linked and strong relationship between academic achievement and the adolescent health-risk behaviors measured by the YRBS. We are committed to working with our education partners to promote health and eliminate disparities in health and in academic achievement."

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