

## Happenings

### **Making Evidence-Based Practice a Reality: The National Center for Children, Families and Communities**

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As the quantity and quality of nursing research have evolved, the discipline has been urging staff nurses to systematically apply research findings in their practice. Larger health-care organizations have created positions for nurse researchers in order to provide the expertise necessary to guide clinicians in evaluating the scientific merit and practical value of published studies, and to develop studies that address important clinical issues. While these efforts have been met with varying degrees of success, the challenge to build evidence-based practice remains a daunting one.

In particular, the use of complex, well-tested experimental nursing interventions in clinical practice can be problematic unless the dissemination process is carefully planned and monitored. The National Center for Children, Families and Communities, an interdisciplinary body of the schools of nursing and medicine at the University of Colorado Health Sciences Center, is devoted to research, development, and replication of programs that enhance the lives of children and families in the context of the communities in which they live. The first major initiative undertaken by the Center is replication of the Nurse-Family Partnership program.

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### **The Nurse-Family Partnership**

The Nurse-Family Partnership (NFP) is a highly acclaimed, well-tested model designed to enhance the health and social functioning of low-income first-time mothers and their babies. Current theory suggests that intervention during the prenatal and early childhood periods is critical for achieving long-term results in the life course of at-risk families. Starting in pregnancy, nurse home visitors address women's health behaviours related to substance abuse (tobacco, drugs, alcohol), nutrition, vaginal and urinary tract infections, significant risk factors for preterm delivery, low birth weight, and infant neurodevelopmental impairment. After delivery, the emphasis is on optimizing the quality of family caregiving for infants and toddlers, in order to prevent child maltreatment and injuries (the leading cause of mortality among children aged 1 to 14 years). The program also focuses on preventing unintended subsequent pregnancies, school dropout, failure to find work, and welfare dependence — factors that conspire to enmesh families in poverty and increase the likelihood of poor subsequent pregnancies and sub-optimal child care. In order to maximize outcomes, nurse home visitors seek to improve environmental conditions by enhancing informal support for families and linking families with health and human services when needed.

Evidence for the effectiveness of the program has been established through three randomized clinical trials (Olds et al., 1997; Olds, Henderson, Cole, et al., 1998; Olds, Henderson, Kitzman, et al., 1998). Compared to counterparts in the control group, key findings for the nurse-visited women and their children include:

- 25% reduction in cigarette smoking during pregnancy among women who smoked at program entry
- 56% fewer hospital emergency room visits for injuries
- 79% reduction in rates of child maltreatment among at-risk families from birth through the child's 15th year
- 43% reduction in subsequent pregnancy among low-income unmarried women by the first child's 4th birthday and 31% reduction through age 15, with a 2-year increase in the interval between the birth of the first child and the second pregnancy
- 83% increase in the rates of labour-force participation by the first child's 4th birthday
- 30% reduction in welfare utilization among low-income unmarried women by the first child's 15th birthday

- 69% fewer arrests among low-income unmarried women over the 15 years following enrolment in the program
- 54% fewer arrests and 69% fewer convictions among the 15-year-old children of mothers enrolled in the program.

### **Evolution of the Center**

In 1995, David Olds, Principal Investigator for the trials, and Ruth O'Brien, Co-Principal Investigator, accepted an invitation from the US Department of Justice to disseminate the program to six of its high-crime "Weed and Seed" communities in Florida, Missouri, Oklahoma, and California. Concomitantly, pilot programs were established in Ohio and Wyoming through fee-for-service contracts. As evidence from the trials came to the attention of policy-makers, requests for assistance in replicating the model were received. In early 1997, four additional pilot sites were established in Oklahoma through funding from the state legislature, and by 1998 the program had rapidly expanded statewide. Patricia Moritz serves as Principal Investigator for evaluation of the replication in Oklahoma. In 1998–99, with a grant from the US Department of Health and Human Services, further small-scale dissemination of the model was undertaken with a limited number of communities.

Through our early efforts with replication of the NFP, we recognized the importance of developing an infrastructure that would enable us to work with communities to develop the NFP and sustain it over time. Thus, in collaboration with colleagues at Replication and Program Strategies, Inc. (a not-for-profit organization based in Philadelphia devoted to the wide adoption of evidence-based programs), who had worked with us in our early dissemination efforts, we sought funding from the Robert Wood Johnson Foundation to establish the National Center for Children, Families and Communities.

### **Core Services of the Center**

The Center was officially established in November 1999. Currently its operating costs are covered through grants from the Robert Wood Johnson Foundation, the David and Lucille Packard Foundation, and the Doris Duke Foundation, and through contractual fees from program sites. A business plan is being developed to move the Center towards full self-sustainability.

As noted, the NFP is the first program replication undertaken by the Center. As of July 2001, it has been implemented statewide in Wyoming and Oklahoma and 102 cities or counties in 22 other states. Our ultimate goal is to make the NFP available to every low-income first-time mother in the United States who wishes to participate. If developed on this scale, the program will serve approximately 180,000 pregnant women and their families each year. Based on our current capacity for national support, we estimate that it will take 20 years to develop the NFP on this scale, with the assurance that each site is of sufficient quality to produce results comparable to those achieved in the randomized trials.

The Center has developed a set of core services designed to enable local communities to develop and sustain the NFP. These are: (1) site development and application processes for public health/community agencies interested in replicating the program, (2) design and use of visit-by-visit practice guidelines based on trial protocols with client individualization as needed, (3) training of public health nurses and their supervisors in implementing the intervention, (4) development of clinical data forms and a computerized information system to monitor fidelity of implementation, and (5) agency access to and guidance in use of evaluation data for quality assurance. A brief description of these core services follows.

*Site development specialists* respond to all requests for information about the NFP and queries concerning the process for being accepted as a participant in our dissemination efforts. They work closely with local community and agency leaders to assess fit of the program with the needs of the population and the availability of the financial and personnel resources needed for implementation and evaluation. Initial site preparation generally takes from 6 months to 2 years. Following implementation of the program, they continue to work with key stakeholders in order to expand it with sustainable financing and organizational and community support.

*Trainers* with expertise and clinical experience in the model conduct training sessions for nurse home visitors and their supervisors, instructing them in the intervention itself and in applying the theoretical framework and home visit guidelines in their work with families who enrol in the program. Training is provided in three sessions, spaced over approximately 14 months, allowing nurses to acquire new skills and resources coincident with the needs of the families they are serving. The first session provides orientation to the model and prepares nurses to work with families during pregnancy; the second session prepares

nurses to work with families during the child's infancy; and the third session focuses on work with families during the toddler period. Trainers also are available to local staff for guidance and consultation regarding problems they might encounter in implementing the program, through telephone conference calls, e-mail, and a newly developed listserve.

*The evaluation team*, in collaboration with site development specialists and trainers, work with leaders at each site to monitor the quality of key aspects of the program through data gathered via the Clinical Information System, to identify strengths and weaknesses at each site, and to eventually improve the quality of each program. To facilitate improvements in the quality of implementation of each program, we are developing a national network of sites so that leaders at each site will have the opportunity to regularly talk with their peers, share ideas, and solve problems as they arise.

### **The Future**

Based on lessons learned about what it takes to successfully replicate and sustain the NFP, the Center will undertake initiatives involving the dissemination of other effective community-based programs for families and children. For further information about the Center, visit our Web site at <[www.nccfc.org](http://www.nccfc.org)>.

### **References**

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