I now have a regular bedtime for Sadie, and she’s less fussy and I don’t get so frustrated,” said Heather, a young participant in the Nurse–Family Partnership (NFP), to Maria, a “nurse home visitor.” Replied Maria: “It sounds like you’re doing what’s best for Sadie and yourself by setting up a routine.” Heather beamed. (This case is a composite based on our experience.)

The NFP is an evidence-based program that aims to improve the lives of at-risk, first-time mothers and their infants. The program pairs these women with specially trained nurses, who conduct home visits for roughly two and a half years, beginning before the birth of the infant. The NFP has been implemented in 23 states; studies of the program’s interventions have shown reductions in rates of abuse, neglect, and injury in children, as well as in the numbers of pregnancies in mothers. The authors describe the NFP’s history, results, and costs, and the support systems that sustain nurses in this challenging but rewarding work.
After the birth, nurses monitor the infants’ early development and work with the mothers on developing parenting skills. Helping women set goals for their lives and plan for economic self-sufficiency is also a focus.

The NFP concept was developed in 1977 by psychologist David L. Olds, who worked with nurses in Elmira, New York, to test the idea of home visitation with disadvantaged mothers who had at least one of the following risk factors: being a teenager, unmarried, or of low socioeconomic status. It was tested further in randomized trials in Memphis, Tennessee, beginning in 1988, and in Denver, beginning in 1994. Today, according to the NFP’s National Service Office in Denver, there are 23 states delivering the intervention to approximately 13,000 at-risk, first-time mothers. England, the Netherlands, and Germany are field testing the model.

Outcomes data for all three U.S. trials showed reductions in childhood injuries and in the number of subsequent pregnancies, improved school readiness, and increased maternal employment. Reductions have also been seen in welfare dependence. Mothers who participated in the NFP measured higher than controls on health indicators, including longer intervals between pregnancies. A longer-term study of the original Elmira cohort showed a trend among teenage children of NFP participants to be less involved in substance abuse and crime than teens whose mothers did not receive the intervention.

PROGRAM OVERVIEW

The idea behind the NFP is to introduce a new relationship into the often stressful home of an at-risk, first-time mother so that she is nurtured by the nurse. The nurse’s support provides a model for the new mother as she bonds with her infant and also augments the mother’s sense of competence and self-worth—a foundation for good parenting.

The program involves extensive training and support of nurses so that they’re prepared for the
job’s many challenges. Training begins with a self-study curriculum that covers, among other things, the program’s theoretical underpinnings and the building of therapeutic relationships. That is followed by two educational sessions in Denver, taught by nurses from the NFP National Service Office. Other coursework takes place at community agencies that sponsor the NFP and through self-study. Visit-by-visit guidelines are provided, covering pregnancy, infancy, and toddlerhood.

A typical caseload is 25 families per nurse, with hour-long visits scheduled from before the 29th week of pregnancy to the child’s second birthday. Visits take place every two weeks, except during the first month of the intervention and the first postpartum month, when nurses visit weekly. Each nurse has a mix of clients, including some considered very high risk: homeless mothers living at shelters, for example, or mothers with mental health problems. The mother’s participation in the two-and-a-half year program is voluntary. The nurses focus on six domains: personal health, environmental health, friends and family, the maternal role, use of health care and human services, and “maternal life course development” (which encompasses planning for future pregnancies, education, and employment). During pregnancy, the focus is on fetal growth; attachment; changes in the mother’s body and life; changes in relationships with her partner, family, and friends; and questions about her labor and delivery and how to integrate motherhood into responsibilities with school and work. After the birth, the focus broadens to encompass infant growth and development, educational play, bonding and communicating with her child, and the mother’s life-course planning. The nurses use principles of reflective practice, discussed later in this article.

HISTORY

Olds got the idea for the NFP partly from his work at a day-care center, his first job after graduating from college in 1970. In a 2006 Robert Wood Johnson Foundation report, Olds recounted his insights into the correlation between a young child’s development and home life. Particularly harmful, he believed, were impoverished, chaotic environments in which parents abused drugs and alcohol and parents were hostile, rejecting, or neglectful. He recalled his attempt one day to quiet a disruptive four-year-old boy during nap time, only to have the boy become more agitated and refuse to go to sleep. The boy eventually confided that he regularly wet his bed at home and was beaten for doing so. Olds theorized that the disruptive behavior at nap time was self-protection, a way of preventing bedwetting, thereby escaping ridicule and physical abuse. Olds concluded that an earlier intervention than could be accomplished by day-care workers would be required to change the course of such a child’s development.

Olds continued to ponder this problem while studying developmental psychology under Urie Bronfenbrenner at the College of Human Ecology at Cornell University in Ithaca, New York, where he looked for an opportunity to experiment with early intervention in the lives of impoverished mothers and their children. A part-time job at an Elmira social service agency, Comprehensive Interdisciplinary Developmental Services, whose purpose was to prevent health and developmental problems in young children, gave him an opening. With the support of his employer and funding from the U.S. Department of Health, Education and Welfare, Olds launched the first large-scale randomized, controlled trial of the visiting nurse intervention.

The Elmira trial of what would become the NFP had three goals, which remain the program’s objectives today.  

- Improve fetal outcomes by encouraging pregnant women to follow a healthful diet; avoid tobacco, alcohol, and drugs; and get regular prenatal care.
- Support children’s health and development by helping parents hone nurturing skills and become responsible parents.
- Encourage parents to improve their lives by planning future pregnancies and setting education and employment goals.

The NFP enrolls at-risk women during pregnancy to foster supportive relationships with their nurses before postpartum stresses begin and to encourage healthful behaviors that improve fetal outcomes. Regular postpartum visits continue until the child’s second birthday. Nurses work with the mothers to form good parenting habits before dysfunctional ones are developed and link families with health and social services as needed.

In a December 19, 2006, interview, Olds told one of us (IB) that he designed the intervention around nurses because they were educated in the basics of pregnancy, early childhood development, and therapeutic communication, and mothers were likely to trust them. At the time, there were no visit-to-visit guidelines, only a broad outline of discussion topics and weekly staff meetings at which Olds and the nurses discussed specifics of the visits and applicable theory. Olds said he relied on the nurses’ clinical experience and their basic training in maternal–child health. Indeed, these early collaborators suggested many of the NFP’s current components, including the six domains of intervention. Through this process, Olds said, he and the nurses shared the “ownership” of the model.

Besides cataloging the needs of clients and field testing interventions, the Elmira team identified a need for structured support of nurses to sustain them in work that was isolating and often emotionally draining. Nurses’ comments, such as “I’m not sure I’m effective” or “I’m taking two steps forward and three steps back,” suggested that the nurses
The NFP Model: The Evidence of the Evidence

Parsing the findings of recent literature reviews.

Setting public policy on social issues is a balancing act. Because interventions compete for limited funds, policymakers believe that even those targeting the complexities of human behavior must be assessed scientifically. And when the intervention involves childrearing—surely a controversial topic—quantifiable results provide political cover for policymakers who dare to fund these programs.

Katherine Boo’s remarkable “Swamp Nurse,” published in the New Yorker last year, reported on one such intervention, the Nurse–Family Partnership (NFP) model.1 The article brought welcome attention to home visitation programs for high-risk women and their firstborns. Such programs have been evaluated by the Cochrane Collaboration, which conducts systematic literature reviews on interventions with the goal of improving health care. It has published two relevant reviews, one of studies involving only teenage mothers2 and the other of mothers older than age 18.3 The Center on the Developing Child at Harvard University, dedicated to “leveraging science to enhance child well-being,” weighed in with its own analysis in August.4

But policymakers who study those documents along with this article in AJN might be unsure whether the findings support the widespread use of this model.

The problem is the paucity of standardized studies that allow direct comparison of programs. The Cochrane reviews deal only with studies that met their criteria (randomized, controlled trials); that left only 11 studies of mothers over age 18 and five of teen mothers. And not all of those evaluated the NFP model; interventions range from “a psychologist and a black teenager” making home visits to one staffed by NFP nurses. Also, the interventions studied were started at various times before the birth of the infant, had different numbers of visits over different periods, and used different instruments to measure outcomes.

The strongest systematic reviews compare studies that use consistent methods and instruments to analyze comparable populations. In recognition of that fact, the Cochrane reviewers charitably conclude that it should be determined what problems home visits can be expected to address, as well as what improvements can be made to the design of studies of outcomes, before recommending the use of any one model.2,3

In contrast, the Harvard review provides a good deal of support for the NFP model, calling it “the home visiting program with the strongest evidence of success.”4 It even cites a summary study by Olds (who developed the NFP) that reports on effects achieved with nurse-staffed home-visiting programs versus those not involving nurses; that study is not referenced in either of the Cochrane reviews.5 It also includes other references—such as book chapters and NFP literature—that Cochrane’s periodicals-only restriction excludes.

It’s important to remember that the Harvard review was produced by an advocacy center that gathers the literature that will support allocating more resources for childhood development efforts. The Cochrane Collaboration has only scientific improvement as its goal. But its criteria may not be suitable for studies in some areas, especially those—like behavior—in which the work is complex and subtle and has few methodologic rules to standardize interventions, to say nothing of the outcomes.

But take a step back. When we’re trying to help first-time mothers who are young and poor not only to be good mothers but also to improve their own futures, statistical significance may not be all that important. That’s what the authors of the Cochrane reviews concluded.

Neither the Cochrane reviews nor the Harvard review addressed what policymakers really need to know: which initiative will produce the best outcomes for the scarce dollars we are able to invest? For the sake of high-risk mothers and their children, who need the support home visitation provides, the answer must be found, regardless of scientific “proof.”—Donna Diers, PhD, RN, FAAN, Annie W. Goodrich Professor Emerita, Yale University School of Nursing and AJN editorial board member.

Editor’s note: David L. Olds and his colleagues from the NFP program have written a rebuttal to the Cochrane Collaboration pointing out the errors in that group’s systematic reviews of home visitation programs for at-risk adolescent and adult pregnant women. It includes methodological flaws in the Cochrane reviews. Olds has requested that the Cochrane Collaboration withdraw or redo these reviews. The Cochrane Collaboration has agreed to publish his critique. At press time, the citation is as follows:


REFERENCES
needed an outlet, so that their frustrations wouldn’t undermine relationships with clients. In response, Jackie Roberts, nursing supervisor during the Elmira trial, built reflective practice and clinical supervision into the program. As Olds told us, the sessions helped nurses gain insight, find new ways to solve problems, and replenish themselves emotionally. Reflective practice, at the time, was a well-established tool in social work.

Olds and colleagues continued to refine the NFP model in Elmira, which served mostly white mothers in that part of Appalachia. Seeking to test its effectiveness with more diverse populations, they launched a second trial in Memphis in 1988 among predominantly black families, and a third one in Denver in 1994 among a population of whites, blacks, and Hispanics. Harriet Kitzman, a researcher from the University of Rochester School of Nursing, worked with program supervisors and nurse home visitors in Memphis to enhance the model and develop the NFP’s visit-to-visit guidelines—an important and continually evolving element of the program today.

THE THEORETICAL BASIS OF NFP

The NFP model is grounded in three theories of human development: Bronfenbrenner’s theory of human ecology, Bandura’s theory of self-efficacy, and Bowlby’s theory of human attachment. Bronfenbrenner’s human ecology theory holds that environmental conditions affect child development from birth to adulthood. Likewise, the developing child influences the environment. Bronfenbrenner identified “ecological transition” points, when changes in role or environment create opportunities for development. The NFP takes advantage of the transitions inherent in a first pregnancy and new parenthood by guiding women to involve friends and family in their children’s lives in positive ways. An example is how NFP nurse Mary Lou Hartzler in Philadelphia replied when a client discussed a conversation with her mother: “Your mom must really appreciate your phone calls to her about how you and the baby are doing; it helps her know how she can be helpful to you.”

Bandura’s self-efficacy theory holds that people who believe in their ability to manage challenges are more likely to achieve their goals and that each success enhances self-efficacy. Interventions based on this theory encourage people to engage in new activities that they believe they can perform. NFP nurses employ this theory in several ways. One is simply to ask clients to recall past successes and then to engage them in problem solving. Kelli Dunham, a nurse home visitor in Philadelphia, reports using this technique after one of her clients talked about wanting to improve a difficult relationship: “I think it’s amazing that you’re thinking about what you want and need from this relationship,” Dunham told her. “Lots of people never get that far.”

Bowlby’s attachment theory holds that infants have a biologic drive to bond with others, one reinforced by responsive parents. The mother–child bond is a fundamental one in human development; Bowlby described it as a “blueprint” for future relationships. NFP nurses foster this bonding in expectant mothers by discussing intrauterine growth and the fact that the fetus can hear the mother’s voice and will recognize it after birth. Hartzler recalls a case in which she reinforced this lesson when a mother interacted well with her baby three months after the birth: “Look how your baby smiles and reaches for you. She is really learning to trust you to meet her needs.” Attachment theory also informs the clients’ relationships with nurses; many NFP mothers have had few trusting relationships with adults. Dunham said she works to promote trust by “calling to check in with women who are having a particularly difficult week” or by calling women “who are especially isolated” on holidays and birthdays.

NFP nurses incorporate these theories into interventions, guided by Prochaska’s transtheoretical model of change. The NFP’s adaptation of the model defines five stages of change. During the first, precontemplation, a woman may be aware of a problem but is not ready to change her behavior. During this stage the nurse uses interventions designed to increase the mother’s understanding of her role in the problem. This helps her move into the second stage, contemplation, which is often marked by ambivalence about initiating change; the mother may seem ready to act, then steps back. By discussing the benefits and drawbacks of change, the nurse helps the mother enter the third stage, preparation. Critical during this stage is creating opportunities for a woman to take small steps toward her goal. In the fourth stage, action, the woman commits to adopting new, more effective behaviors. Over three to six months, NFP clients typically move forward, backward, or stall, and then move forward again. When a mother finally adopts a change in lifestyle, she enters the final stage, self-empowerment, during which she takes on a new self-image. The process repeats as women progress through the NFP program, giving them a new template for solving problems.

NFP OUTCOMES

All three randomized trials of the NFP model—in Elmira, Memphis, and Denver—yielded positive results, laying the groundwork for replication. The Elmira trial enrolled 400 nulliparous women and reported on 15 years of follow-up. The Memphis trial enrolled 1,139 nulliparous women and followed 743 of them to report on their children at three and six years of age. The Denver trial enrolled 735 nulliparous women. The trials compared families who participated in the NFP with controls. NFP mothers showed improved health during pregnancy, fewer pregnancies, longer intervals between births, higher rates of maternal employment, and
decreased use of welfare. Their children had fewer injuries and were readier to enter school. A longer-term study of the Elmira control and intervention families showed that at 15 years of age, children of NFP mothers had had 59% fewer arrests, 90% fewer juvenile court judgments for incorrigible behavior, and were in homes with 48% fewer reports of child abuse and neglect.6,14

COST
Overall, the comprehensive two-and-a-half-year intervention program has been shown to be cost-effective, with costs that average $4,500 per client annually, ranging from $2,914 to $6,483, depending on the salary scale for nurses in a particular area (according to unpublished 2007 data from the NFP National Service Office). The Washington State Institute for Public Policy (WSIPP) in 2004 ranked the NFP the most cost-effective program aimed at reducing risky behavior in children and teens, estimating that it saved $2.88 for every $1 spent and produced a $17,180 lifetime savings in public spending for every child whose mother participated in the program.19 Public benefit is calculated on the basis of reductions in crime, child abuse, domestic violence, suicide attempts, substance abuse, teen pregnancy, and early parenting, as well as better educational outcomes. The estimated savings are considered conservative because the WSIPP study did not include savings attributable to other program accomplishments, such as reductions in pregnancies, childhood injuries, premature births, and the rate of welfare dependence. For the higher-risk families now served by the program, a 2005 RAND Corporation analysis found a net benefit (benefits minus costs) to society of $34,148 (in 2003 dollars) per family served, with the bulk of savings accruing to the government. This means as much as $5.70 return per dollar invested in the NFP.20

NATIONAL IMPLEMENTATION
Soon after Olds and his team published results from the randomized trials in Elmira, Memphis, and Denver, they began to receive requests for information from local agencies. Early results were certainly promising, but the researchers didn’t want to disseminate the model until it could be more widely tested and they could ensure that support and supervisory structures were in place. To achieve this, Olds assembled a team of professionals in public health, policy-making, nursing, and education to plan the rollout of the NFP. The National Center for Children, Families, and Communities was established in 1999 to work with state and local organizations on implementing the NFP. In 2004 the NFP National Service Office took over this task. Dissemination strategies to ensure fidelity to the model include the following5:

• preparation and ongoing support for communities and agencies interested in implementing the program

• design and use of visit guidelines based on trial protocols

• education for nurses implementing the NFP

• a Web-based clinical data collection system to monitor outcomes and interventions

• access to evaluation reports for ongoing quality improvement

The NFP currently has more than 800 nurses serving 13,000 families in 23 states. Some states have instituted the program at multiple sites, as a statewide initiative. In Colorado, for example, the program was active in 52 of its 64 counties in September, and Pennsylvania’s program served 40 of 67 counties (see Figure 1, page 61). States and localities must secure their own funding. Sources include Medicaid, Maternal and Child Health Services Title V block grants, Temporary Assistance for Needy Families funds, tobacco settlement money, locally obtained grants, and charitable foundations, according to unpublished 2007 data from the NFP. In 2000 Colorado’s general assembly passed the Colorado Nurse Home Visitor Program Act, which allocates annual funds for the program in Colorado from the state’s tobacco settlement.21

REFLECTIVE PRACTICE
Like many public health and visiting nurses, NFP nurses work alone with clients in often difficult home environments, in contrast to hospital nurses, who may have the support of on-site peers and supervisors. The NFP tries to remedy stresses inherent in the job by encouraging colleagues and supervisors to act as a safety net by using reflective practice, clinical supervision that reinforces reflective practice, and regular group and one-on-one meetings with supervisors to discuss problems and work on solutions. (For more on nurses’ experiences in working with the intervention, see “Colorado Nurses and the NFP,” page 69.) Reflective practice refers to a nurse’s deliberate examination of her or his own actions and responses to situations, with the goal of improving practice.22 Clinical supervision involves the creation of a supportive framework within which nurses can reflect candidly on their interactions with patients.23 In the NFP, there are one-on-one meetings with supervisors and weekly case conferences attended by nurses, supervisors, and consultants in areas such as mental health, family dynamics, and nutrition. Supervisors also routinely accompany nurses on home visits to observe interactions and provide consultative support—thereby not only helping nurses but also reinforcing adherence to the NFP model. In essence, this structure of support gives NFP nurses regular, positive doses of the behavior modeling and encouragement that they dispense to clients.

In the hour-long weekly individual conferences, supervisors encourage nurses to examine and discuss their interactions with clients and feelings engendered by the work.22 Gibbs’s “reflective cycle”
What Do NFP Nurses Think of Reflective Practice?

Nurse–Family Partnership (NFP) nurses in Wyoming County, Pennsylvania, commented in focus groups on the value of reflective practice. Here is a sampling of their comments.

With reflective practice:
• “Reflective practice gives me different ideas and perspectives.”
• “The informal sharing, as a new nurse [to the NFP], is very helpful. I have received more feedback since November than in my whole three years at the hospital.”
• “As a supervisor with a caseload, I value the team’s input.”
• “I have worked many jobs in nursing, and I never had one where anybody cared about me and how I feel. It’s very refreshing.”
• “I helped one client reflect on the use of a broken crib for her toddler. She was able to find a safer solution for her baby.”

Without reflective practice:
• “We would not be well received by our clients; they wouldn’t want to hear it. We would seem too authoritative.”
• “Teens would be defiant.”
• “We’d all go home feeling like we’re ready to explode! You can’t talk to family or friends—they just wouldn’t understand.”
• “I don’t think we could do this job without it.”
• “We can’t always see our progress [with a client], so it helps to reflect with the team.”
• “We also need to share when something good happens—to celebrate!”

It takes time to learn reflective practice and to build the network of supportive supervisory and peer relationships. But many NFP nurses see it as time well spent. As one nurse said, “This is the hardest job I’ve ever loved.”

REFINING CONTINUES

Competency models for nursing practice became popular in the 1990s as a means of assessing and enhancing the performance of new and experienced nurses. The NFP Competency Model aims to improve job satisfaction and NFP nursing practice. According to the 2003 NFP progress report, the tools for self-evaluation shift the assessment of competence from tests of classroom-acquired knowledge to observation of performance in the clinical setting. The NFP tested and revised its competency model for three years before executing it programwide. Nurses use it to assess their professional development and set performance goals for the coming year. Supervisors are not allowed to use this process to evaluate job performance or penalize staff. For more information on the Competency Model, contact the NFP National Service Office at (303) 327-4240.

The model lists five competencies for NFP home visitors and four for supervisors, each with indicators that allow for self-evaluation on a continuum from novice to expert and documentation of competence in NFP interventions. According to the competencies, the home visitor
• applies theories and principles integral to the NFP program.
• uses evidence from the randomized trials and computer information system to guide practice.
• delivers individualized client care across six domains.
• establishes therapeutic relationships.
• uses reflective practice to improve the work.

According to the competencies, the supervisor
• provides administrative leadership to the NFP site.
• applies principles of supervision that promote the development of all team members.
• promotes the home visitors’ competence in the intervention.
• maintains fidelity to the NFP’s original model.

While the NFP competencies provide specific criteria for measuring the performance of nurses and supervisors in their NFP roles, a degree of reflection and introspection is required for professional growth to occur. Nurse home visitors complete the self-assessment and share it with their supervisors. After discussion, nurses set their annual goals. Said Ellie Fenner, an NFP nurse in Bethlehem, Pennsylvania: “It was a challenge to decide for myself what I needed to work on. It’s different from the hospital where there are black-and-white expectations.”

Nevertheless, nurses surveyed in focus groups conducted by the NFP have responded favorably.

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Portions of this article were reviewed and revised before publication by several people, including David L. Olds, creator of the NFP model, and others at the Prevention Research Center for Family and Child Health and at the NFP National Service Office, both in Denver.

REFERENCES


is used to guide this process for both nurses and parents so that the analysis of past actions and emotions can inform more effective action in the future. It takes time to learn reflective practice and to build the network of supportive supervisory and peer relationships. But many NFP nurses see it as time well spent. As one nurse said, “This is the hardest job I’ve ever loved.”

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