

Qualitative Evaluation of South Carolina's Postpartum/Infant Home Visit Program

Karen A. Wager, D.B.A.,
Frances Wickham Lee, D.B.A.,
W. David Bradford, Ph.D.,
Walter Jones, Ph.D., and
Anne Osborne Kilpatrick, D.P.A.

Abstract Many states have introduced home visitation programs to improve the health of mothers and newborn infants. In South Carolina, the Postpartum/Infant Home Visit (P/IHV) program seeks to provide all Medicaid-eligible mothers and infants with at least one home visit by a nurse or other qualified health professional. In the summer 2002, the authors conducted a cost-benefit analysis of the P/IHV program using both qualitative and quantitative methods. This article describes the qualitative methods and findings from the larger study. Focus groups were held with nurses who provide P/IHV visits to gain insight into the structure and functioning of the P/IHV program, to hear firsthand the nurses' experiences with the program, and to provide guidance in developing the empiric model for measuring cost-benefit. Analysis of the focus-group data suggests that what actually occurs during a home visit is fairly standardized. Nurses indicated that they were knowledgeable about community resources and services available to the

families they serve. Referral processes were identified as an important factor in determining whether a mother receives a home visit. Overall, the nurses felt that the home visit program has had a positive impact on the health and well-being of the mothers and infants served.

Key words: evaluation study, Medicaid, nurses' perspectives, Postpartum/Infant Home Visit program, qualitative methods.

Karen A. Wager is Associate Professor, Department of Health Administration and Policy, Medical University of South Carolina, Charleston, South Carolina. Frances Wickham Lee is Associate Professor, Department of Health Administration and Policy, Medical University of South Carolina, Charleston, South Carolina. W. David Bradford is Professor, Department of Health Administration and Policy, Medical University of South Carolina, Charleston, South Carolina. Walter Jones is Professor, Department of Health Administration and Policy, Medical University of South Carolina, Charleston, South Carolina. Anne Osborne Kilpatrick is Professor, Department of Health Administration and Policy, Medical University of South Carolina, Charleston, South Carolina.

Address correspondence to Karen A. Wager, Department of Health Administration and Policy, Medical University of South Carolina, 19 Hagood Avenue, Suite 408, Charleston, SC 29425. E-mail: wagerka@musc.edu

During the past decade, many states have introduced home visitation programs as a means to reduce infant and maternal morbidity and mortality and to improve outcomes for at-risk families (Johnson, 2001). State home visitation programs are actually a part of a larger national initiative to strengthen families and improve the health and well-being of poor children, giving them a chance for a better life. In South Carolina, the need to address infant morbidity and mortality has never been greater. South Carolina has the highest infant mortality rate in the nation. In addition, one out of five of the state's children live in homes at or below the poverty level. Infants in South Carolina are more likely to be premature and born to teenage or unmarried women, many of whom receive no or little prenatal care (KIDS COUNT Special Report, The right start: Conditions of babies and their families in America's largest cities, 2002).

In 1989, South Carolina implemented the "Healthy Mothers–Health Futures" program in an effort to reduce infant mortality and improve the health outcomes of at-risk families. Although Healthy Mothers–Health

Futures no longer exists as a designated program, one outcome of the initiative was the development of the Postpartum/Infant Home Visit (P/IHV) program. The primary goal of the P/IHV program is to assess the environmental, social, and medical needs of Medicaid infants and mothers and to ensure that mothers have access to the health care services and education needed to appropriately care for their newborn infants and themselves. The P/IHV program is funded through the state Medicaid program and seeks to provide all Medicaid mothers and their infants with at least one home visit by a nurse or qualified health professional.

In the summer 2002, the state Medicaid program contracted with the Health Economics Research Unit (now known as the Center for Health Economic and Policy Studies) and a team of health services researchers at the Medical University of South Carolina to conduct a comprehensive evaluation study of the P/IHV program. To the authors' knowledge, this project was the first state-wide evaluation study examining the cost-effectiveness of a home visit program for infants and mothers. The evaluation study examined both quantitative and qualitative data to assess specific program outcome measures. Quantitative results from the overall study have been published elsewhere (Bradford, Lee, Jones, Kilpatrick, & Wager, 2002). Qualitative results from the study are presented here.

The purpose of using qualitative methods, and, in particular, focus groups, was to gain insight into the structure and functioning of the P/IHV program and to hear firsthand from nurses making the visits their experiences with the program. Insights gained from the focus groups proved extremely helpful in the design of the cost-effectiveness empiric model. In the sections that follow, this article will describe the qualitative aspects of the P/IHV evaluation study including how the P/IHV program actually works (structure and functioning) and its perceived value to infants and mothers in South Carolina as described firsthand by nurses involved in the program.

LITERATURE REVIEW

Infant and child home visiting, as a means to improve child health and social outcomes, is a well-established practice in the United States and it continues to gain popularity. In 1993, close to 200,000 of our nation's children were estimated to be enrolled in home visiting programs. By 1999, the estimated number of children had increased to over 500,000 (Gomby, Culross, & Behrman, 1999; Olds, Hill, Robinson, Song, & Little, 2000). A recent Commonwealth Fund study (Johnson, 2001) found that 37 out of 42 participating states had state-based home visiting programs in place. Much of the

increased enrollment has been attributed to several very visible demonstration projects and other program models that have been replicated throughout the nation.

Six home visiting programs in particular, the Nurse Home Visitation Program (NHVP), Hawaii's Health Start, Parents as Teachers, Home Instruction Program for Preschool Youngsters, Comprehensive Child Development Program, and Health Families America, have been recognized as important models for delivering home visitation and as such have been closely studied (Gomby et al., 1999; Olds et al., 2000; Johnson, 2001). In spite of the scrutiny these programs (and others) have received, the research results are inconsistent and, with the notable exception of the NHVP, which was developed, implemented, and studied by Olds and colleagues (Olds, Henderson, & Kitzman, 1994; Olds, Henderson, Kitzman, & Cole, 1995; Olds, Eckenrode, & Henderson, 1999; Olds et al., 2000), most of the programs have not been shown to have an effect on maternal or child health and social outcomes (Gomby et al., 1999; St. Pierre & Layzer, 1999; Olds et al., 2000; Johnson, 2001). In addition, only a handful of the studies included cost-benefit or cost-effectiveness data, again with inconsistent results. As a whole, the programs reported in the literature were expensive to deliver, with estimated costs ranging from \$1,600 to nearly \$11,000 per family per year (St. Pierre & Layzer, 1999).

There has been a great deal of discussion in the recent literature about the reasons for the inability of home visiting programs to clearly demonstrate a significant effect on maternal child health and social outcomes. Part of the answer may lie in, as one researcher notes, the fact that "home visiting is not a single, uniform intervention, but rather a strategy for service delivery" (Gomby et al., 1999, p. 6). Home visiting programs differ in purpose, target populations, providers of visits, beginning and ending events, and intensity of services. Although researchers have speculated that the number of necessary visits to achieve results is four visits or 3-6 months (Gomby et al., 1999), the actual threshold is not known. Other studies have suggested that having nurses provide the home visits increases the effect on selected social outcomes (Guterman, 1999). But, again, this has not been closely studied for other types of outcomes. Clearly, there is a need for continued research of different home visiting program models.

The South Carolina Medicaid P/IHV differs in design and implementation from the programs that have been scrutinized in the literature. It is a statewide, population-based program available to all Medicaid-eligible mothers and infants. It is a very low-intensity program, with one visit (generally) per birth episode. Unlike many of the

studied programs, all of the home visitors are professional nurses and physicians, with the majority being nurses with specialized training. Evaluations of home visiting programs following this low-intensity, professional home visitor model have not been reported in the literature.

METHODS

Qualitative methods were used to gain a deeper appreciation for and insight into the P/IHV program in South Carolina. Specifically, focus groups were held with nurses from five agencies (four public and one private) throughout the state that make the home visits. The purposes of the focus groups were (1) to gain a deeper understanding of how the P/IHV program actually works, (2) to hear firsthand from nurses who have been working with the program of their experiences, (3) and to provide guidance in developing the empiric model for measuring cost-effectiveness of the P/IHV program.

Participant Selection

The evaluation team felt that the nurses who actually make the P/IHVs and their supervisors would be most knowledgeable about the P/IHV program and therefore identified these two groups of individuals as the participants for the focus groups.

The state Medicaid office provided a list of all public and private agencies that provide P/IHVs to Medicaid recipients. Agencies were selected from different regions of the state that had considerable experience with the program (i.e., provided a substantial number of home visits) and had conducted home visits in 1998, the year that the study data were collected. The list of public agencies selected was provided to the Department of Health and Environmental Control (DHEC) Division Director for Women and Children's Services and a public health nurse consultant, who are responsible for implementing the P/IHV program within the regional and county DHECs statewide. They, in turn, notified the nursing directors from the various DHEC agencies that they would be contacted to schedule focus groups with their nursing staff. The Division Director and the public health nurse consultant were provided with a one-page summary of the project along with the anticipated focus-group questions to distribute to the nursing directors at each of the four DHEC sites. This initial contact provided the two of the evaluators (first and second author) with entry into these sites. In the case of the private agency, the nursing director of the home visit program was contacted directly and given the same information as was provided

to the DHEC nursing directors. All five sites contacted agreed to participate in the study.

Data Collection and Verification Procedures

The nursing directors at each site were asked to identify and invite all nurses who routinely make the P/IHVs to participate in the focus-group sessions. Nurse managers were welcome to participate as well. Focus-group sessions were scheduled at a time convenient for the nurses. The lead and second authors conducted four of the focus groups onsite at the individual health departments. Due to scheduling difficulties, the lead author conducted the fifth focus group with the nurses from the private agency via telephone conference call. All participating nurses had received a copy of the focus-group questions in advance. With permission from the participating nurses, all of the focus-group sessions were audio-taped. During each session, one evaluator took the lead in asking the questions, while the other evaluator recorded notes on a flip chart.

The questions asked of the nurses participating in the focus groups were developed by the evaluation team and distributed to DHEC's Division Director for Women and Children's Services and a public health nurse consultant for review and modification prior to administration. Most of the questions were open-ended and were intended to provide the evaluation team with insight into the P/IHV referral process, a "typical" P/IHV visit, and the factors that may lead to a mother receiving a second home visit. Nurses were asked to describe the mothers they were unable to reach or who may receive care elsewhere. They also shared their overall impressions of the program, including what aspects they liked and what aspects they felt could be improved. Nurses were encouraged to share stories or any experiences that they had in making the home visits.

Within one week of each focus-group session, a written summary was mailed to each individual participating nurse. Guba (1981) refers to this as member checking. The intent is to verify that the researchers have accurately conveyed the information that was presented to them and have drawn reasonable conclusions. The nurses were asked to review the summary carefully and suggest changes or corrections. Four nurses contacted the evaluators with minor corrections.

Data Analysis Procedures

Following the focus-group sessions, the interviewers examined their notes, listened to the audiotapes, reviewed the summary reports, and identified individually what they felt were key observations and common themes. They then discussed these observations with each other

and found that their impressions and interpretations were remarkably similar.

RESULTS

Nurses from four public DHEC agencies and one private hospital-affiliated home health agency participated in the focus groups. Four of the agencies were located in urban areas, one in a rural community. A total of 22 nurses participated in the focus-group sessions.

The Referral Process

The referral process varies among the five agencies studied, both in terms of whom they serve and how the referrals are received. For example, at the private home health agency, all of their referrals come from the affiliated hospital. The affiliated hospital provides a postpartum/infant visit to every mother who delivers in the facility, regardless of payment source. Mothers here are given the option of receiving the visit from either the private home health agency or the local DHEC. Similarly, DHEC 1 receives the vast majority of their referrals from one hospital, although they do receive a smaller number of referrals from two other local hospitals. In contrast, the three other DHEC agencies studied receive referrals from several hospitals (five to seven).

There were also differences among the agencies as to whether a physician referral was required for the postpartum home visit. For example, nurses at some of the DHEC agencies commented that they must have a physician's order before initiating the home visit. Some had preprinted order forms to expedite the referral process. Nurses in at least one of the DHEC agencies felt that physicians in several of the surrounding hospitals were less knowledgeable about the postpartum home visit program, and therefore, the agency received fewer referrals for mothers who delivered in these facilities. Another agency had a memorandum of understanding with local hospitals, which enabled them to schedule the home visit without a physician's order. Clearly, however, the various agencies rely heavily upon the physicians and/or the hospital staff to complete the referral. At times, the staff members completing the referrals do not have an adequate clinical background, and therefore, the medical information on the referral is not as complete as the home visit nurses need.

The "Typical" Postpartum/Infant Home Visit

There are remarkable similarities among the various agencies in what actually occurs during the postpartum home visit. All agencies use standard assessment forms

for documenting health history and physical findings on the mothers and infants. They also all provide family planning information and educate the mothers about feeding/breastfeeding, safety procedures, and what conditions warrant immediate attention versus those that can be expected. On average, the nurses report that the visits generally take between one and two hours. Factors that contribute to the length of the visit include things such as the experience of the nurse, the needs of the mother and infant, and whether language barriers exist. The nurses also reported that they spend a considerable amount of time discussing other community resources available and making referrals for follow-up services (e.g., scheduling doctor visits, referring to Family Support Services, etc.).

Although Medicaid program rules mandate that all of the visits are to take place within 14 days of delivery, the agencies do vary in terms of when the first visit takes place and their views on the optimal time to make the visit. At DHEC 1, the nurses try to make the visit within 2–3 days of discharge. Nurses from other agencies felt that 3–5 days after discharge is the optimal time for the visit. Reasons for the differences in perception varied. Some nurses felt that making the visit before 3 days was "too soon" and they needed to wait until the mothers were out of the "blissful" stage.

There also seemed to be slight differences within and among the agencies in terms of whether or not a second visit is made. The South Carolina Medicaid program rules permit a second visit if deemed "medically necessary." Second visits did not seem to be common in most areas. However, the reasons for the second visits were fairly consistent. Infant weight checks and blood pressure checks for mothers were the two most common stated reasons.

Primary Reasons Why Visit is Not Made

The nurses indicated that there are several reasons why a home visit might not be made. First, the mother may have delivered in a hospital that does not routinely make referrals or that has no formal referral mechanism in place. Nurses felt that mothers who delivered in hospitals without a formal referral mechanism in place (such as a designated person in house or well-established referral process) were far less likely to receive a home visit. They indicated that each DHEC agency has a different working relationship with each hospital, depending upon staff, availability of resources, etc. In cases where the DHEC agency has a strong working relationship with the hospital, they had good success at getting the majority of the referrals on a timely basis. That is, the nurses felt that the quality of the working relationship between DHEC and

the hospital was a primary factor in determining whether a mother is referred for a postpartum home visit.

Second, the nurses reported that the mother who delivers on the weekend or outside the area in which she lives might “fall through the cracks” and not receive a visit. Third, the mother might feel that she does not need the visit. She may have other children or have family support within the home. She may come from a higher socioeconomic level and may also not feel the need for the visit. Other reported reasons why a home visit is not made include the possibilities that the mother might have fear of the system or be a known substance abuser, may have language barriers, or may not be at the address given. However, the nurses felt strongly that once they arrive at the home, the mothers are generally very receptive to the visit and appreciate the nurse’s time and information. The nurses also make a real effort to contact the mothers. Most nurses reported making at least two attempts to contact the mother, including leaving phone messages, sending letters, and stopping by the home.

Other Community Support Services

The nurses identified a number of community services available to mothers and infants in their service area. These included programs/services offered through DHEC, Medicaid, the Department of Social Services, the state education system, and a variety of religiously affiliated community organizations. The nurses seemed very knowledgeable about the community resources and programs available and readily refer mothers and infants. They also often provide mothers with written materials about the various programs and how to sign up for them.

Nurses’ Overall Impressions of the P/IHV Program

All of the agencies reported that they feel that the P/IHV program is excellent. The nurses feel that they make a real difference in the lives of the mothers and infants they serve. Several shared stories of how they have been able to intervene, identify health problems missed at the hospital, and detect problems early. They describe the program as a “wonderful” service and feel that it is “a shame that it is not available to every mom.” The timing and place of the home visit enables the mother to be in her “own setting,” “more relaxed,” and “receive education that is not provided elsewhere to the same degree.” Mothers are often overwhelmed with the information that is presented to them at the hospital, and the nurse’s home visit enables mothers to ask questions and obtain additional information. Following the visits, many of the agencies provide evaluation forms for the mothers to

complete. All report that the feedback they receive from mothers about the program is very positive.

Several nurses told stories of the ways in which the P/IHV program has made a positive difference in the lives of the mothers and infants they serve. One nurse told of an infant that was sent home from the hospital with a severe feeding problem. When the nurse arrived for the visit, she discovered that the infant had a cleft palate, a condition “not picked up” at the hospital. The nurse immediately called the pediatrician, who saw the infant the next day. Another nurse told of a mother who was feeding her infant “concentrated formula because she did not know it was supposed to be diluted.” Still another nurse spoke of the many times she has entered homes and found infants severely jaundiced or not sleeping in the recommended position.

When asked about ways in which the program could be improved, the responses from the nurses varied somewhat. Several nurses identified the “paperwork” as cumbersome and very time-consuming. Others felt that the referral process could be improved with certain hospitals, so that referrals would be received on a timely basis with the needed information available (e.g., correct address and phone number, relevant clinical information on mom and baby). For those nurses who relied heavily on physician referrals, they felt that they needed to educate physicians in the community about what they do. The nurse managers spoke of the need to increase the reimbursement rates for the postpartum home visit. Several of the DHEC agencies stated that the private agencies are “getting out of the business of providing postpartum home visits” because of low reimbursement rates.

DISCUSSION

The focus groups were extremely helpful in accomplishing the stated qualitative evaluation component goals. The evaluation team not only gained a better understanding of how the P/IHV program actually works and heard firsthand from nurses throughout the state who make the home visits, but their findings contributed significantly to the empiric models used to accurately evaluate the cost-effectiveness of the program.

Although there is remarkable consistency among all of the agencies in terms of what occurs during a “typical” home visit, there are differences in how the referral process works and how effective it is perceived to be. The working relationship between the agency and the hospital emerged as a potential factor in whether or not referrals are received and are received on a timely basis. Those that have a strong working relationship with referring hospitals feel that they are more likely to receive referrals

routinely and with all the necessary information. The evaluators also discovered that there are different practices among the agencies in their interpretation of whether a physician order is required for the referral. One agency found the lack of physician referrals in certain hospitals to be a barrier to receiving referrals for the program. Another agency relied on its memoranda of understanding with the hospitals to address this issue. These findings led to the inclusion of the hospital of delivery as a variable in the regression models used to evaluate effectiveness. Without the qualitative analysis, the program evaluators would not have recognized this important factor in determining who received postpartum visits and who did not.

Second, the evaluation team discovered that the nurses all seemed to be extremely knowledgeable about the services available to mothers and infants within their community. In some counties, they seemed to have a particular emphasis on continuity of care. They were less concerned about which program was providing the service than the fact that the service got provided. Many of the nurses reported that they routinely followed-up with mothers to make sure that the mothers and infants got the services needed.

Finally, the evaluators learned that there are a number of very experienced, dedicated nurses who are conducting these home visits. The nurses believe that they are truly making a positive difference in the lives of mothers and infants in this state. The evaluators heard stories of ways in which the nurses have helped mothers avoid the emergency room, referred mothers or infants with serious health conditions to physicians, helped mothers find physicians, and helped educate a host of mothers about effectively caring for their infants. The nurses who participated in the focus groups seemed genuinely committed to the P/IHV program and the families they serve.

During the qualitative analysis phase of the program evaluation, the team met regularly to discuss findings and to suggest possible impacts on the empiric models that would be used during the quantitative analysis. When the evaluation was completed, the positive outcomes perceived by the nurses conducting the home visits were, for the most part, supported by the quantitative analysis. Since then, the team has committed to continuing to use a qualitative analysis component in each of its future program evaluation studies. The insights gained from the focus groups were essential element to the evaluation process.

ACKNOWLEDGMENTS

This evaluation project was funded by the South Carolina Department of Health and Human Services, Medicaid Program. We thank the following individuals for their contributions to this project: Mary Barnett, Sarah Cooper, Angie Olawsky, Jenny Commins, and Rachel Turner.

REFERENCES

- Bradford, W. D., Lee, F. W., Jones, W., Kilpatrick, A. O., & Wager, K. A. (2002). South Carolina Medicaid postpartum/infant home visit program outcome evaluation. Report to the South Carolina Department of Health and Human Services.
- Gomby, D. S., Culross, P. L., & Behrman, R. E. (1999). Home visiting: Recent program evaluations – analysis and recommendations. *The Future of Children*, 9, 4–26.
- Guba, E. (1981). ERIC/ECTJ annual review paper: Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Communication Technology*, 29, 79–92.
- Guterman, N. B. (1999). Enrollment strategies in early home visitation to prevent physical child abuse and neglect and the ‘universal versus targeted’ debate: A meta-analysis of population-based and screening-based programs. *Child Abuse & Neglect*, 23(9), 863–890.
- Johnson, K. A. (2001). *No place like home: State home visiting policies and procedures (452)*: The Commonwealth Fund.
- KIDS COUNT Special Report, The right start: Conditions of babies and their families in America’s largest cities. (2002). The Annie E. Casey Foundation.
- Olds, D., Eckenrode, J., & Henderson, C. R. (1999). *Long term effects of home visitation on maternal life course, child abuse and neglect, and children’s antisocial and adaptive behavior: 15-year follow-up of a randomized trial*. Denver, CO: National Institute on Mental Health.
- Olds, D., Henderson, C. R., & Kitzman, H. (1994). Does prenatal and infancy home visitation have enduring effects on qualities of parental giving and child health at 25–50 months of life? *Pediatrics*, 93(1), 89–98.
- Olds, D., Henderson, C. R., Kitzman, H., & Cole, R. (1995). Effects of prenatal and infancy nurse home visitation on surveillance of child maltreatment. *Pediatrics*, 95(3), 365–372.
- Olds, D., Hill, P., Robinson, J., Song, N., & Little, C. (2000). Update on home visiting for pregnant women and parents of young children. *Current Problems in Pediatrics*, 30, 109–141.
- St. Pierre, R. G., & Layzer, J. I. (1999). Using home visits for multiple purposes: The comprehensive child development program. *The Future of Children*, 9(1), 134–151.