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# Home Visiting: Recent Program Evaluations—Analysis and Recommendations

*“Results shown are the only test.”*

—Florence Nightingale (1894) on demonstrating the effectiveness of home visiting programs<sup>1</sup>

The winter 1993 issue of *The Future of Children* examined the practice, policy, and research underlying home visiting programs for families with young children. At that time, we estimated that as many as 200,000 children and families were enrolled in home visiting programs whose primary goals were preventive in nature (for example, to prevent preterm or low birth weight births, to promote healthy child development or school readiness, or to prevent child abuse). We cautioned that the research on home visiting programs was limited in scope and findings were mixed, but concluded that results were promising enough to suggest that the expansion of home visiting was warranted.

Since 1993, home visiting programs have blossomed, watered by a flow of millions of public and private dollars from sources as varied as the federal Office of Juvenile Justice and Delinquency Prevention, Maternal and Child Health Bureau, Early Head Start, Title I, and Temporary Assistance to Needy Families; state Children’s Trust Funds; and foundations. Buoyed by research about the importance of the earliest years of children’s lives,<sup>2</sup> by a recognition that home visiting can offer unique benefits as a service strategy,<sup>3</sup> and by preliminary positive research findings for some home visiting program models,<sup>4</sup> home visiting programs now number in the thousands. Counting only the six program models profiled in this journal issue, as many as 550,000 children may be enrolled in home visiting programs for pregnant women and families with young children.

The programs have diverse goals, but they share a focus on the importance of children’s early years and on the pivotal role parents play in

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shaping children's lives, and by the sense that one of the best ways to reach families with young children is by bringing services to them, rather than expecting them to seek assistance in their communities. Home visitors can see the environments in which families live, gain a better understanding of the families' needs, and therefore tailor services to meet those needs. The relationships forged between home visitors and parents can break through loneliness and isolation and serve as the first step in linking families to their communities.

Since 1993, research regarding home visiting programs has blossomed as well. Several demonstration projects have been conducted during the past half-decade, which have shed increased light on the strengths and weaknesses of home visiting programs. This journal issue provides a summary of some of the key studies. Specifically, it summarizes the results of evaluations of six home visiting models that are being, or have been, implemented nationally:

- The Nurse Home Visitation Program (NHVP), developed as a university-based demonstration program in Elmira, New York, studied again in Memphis, Tennessee, and Denver, Colorado, and now being replicated nationally;
- Hawaii's Healthy Start, a home visiting program that serves families identified through screening at birth as highly stressed and/or at risk for child abuse;
- Parents as Teachers (PAT), a program that began in Missouri and now operates at more than 2,000 sites across the country to promote the development of children from birth to age three;
- The Home Instruction Program for Preschool Youngsters (HIPPPY), which seeks to prepare three- to five-year-olds for kindergarten and first grade;
- The Comprehensive Child Development Program (CCDP), a five-year federal demonstration program that worked with poor families in 24 sites to promote children's development, parents' ability to parent, and family self-sufficiency; and
- Healthy Families America (HFA), a child abuse prevention program that evolved from Hawaii's Healthy Start and is now the subject of a pioneering, multisite research network.

These model programs fairly represent the home visiting programs across the country that seek to help parents provide children with the best

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start in life.<sup>5</sup> Four of these programs have national headquarters to help new programs begin, to train new home visitors, to hone curricula, to maintain the quality of the programs across the nation, and to conduct research. (See Appendices A through D in this journal issue for descriptions of the HFA, PAT, NHVP, and HIPPY programs and the activities of their national headquarters.)

These six home visiting programs are among the best studied, and they are among the relatively few that have been evaluated in rigorous randomized trials. In many cases, the evaluations summarized in this journal issue are not the only ones that have been conducted of these programs, and the articles have reported the highlights but not all of the findings derived from these evaluations. For the reader's convenience, therefore, this journal issue includes tables that report detailed results of relevant studies of these programs. (See Appendix B, Appendix E, and the article by Daro and Harding in this journal issue.)

This analysis relies primarily upon the findings of the evaluations included in the main articles in this journal issue. These findings are sobering. In most of the studies described, programs struggled to enroll, engage, and retain families. When program benefits were demonstrated, they usually accrued only to a subset of the families originally enrolled in the programs, they rarely occurred for all of a program's goals, and the benefits were often quite modest in magnitude.

This analysis begins with a discussion of home visiting programs generally and a description of the program models reviewed in this journal issue. Then, results of the studies that are presented in this journal issue are summarized for each of the key domains identified as areas of change for home visiting programs: parents' attitudes, knowledge, and behavior as parents; children's health and development; child abuse and neglect; and mothers' life course (for example, deferral of subsequent pregnancies and maternal education, employment, and income).

The analysis then explores the meaning of these findings. Many links in a fairly long chain must be in place before positive results can be observed, including a well-implemented program and accurate assessment in a well-designed study. This analysis discusses which links in that long chain seem particularly strong or weak. We recommend that any new expansion of home visiting programs be reassessed in light of the findings presented in this journal issue. We further urge that existing programs focus on program improvement, that practitioners and policymakers recognize the inherent limitations in home visiting programs and embrace more modest expectations for their success, and that home visiting services are best funded as part of a broad set of services for families and young children.

### **Common Characteristics and Variation in Home Visiting Programs**

Home visiting is not a single, uniform intervention but rather a strategy for service deliv-

ery. It has a long history, extending back to Elizabethan times in England, endorsed by nurse Florence Nightingale, and existing in the United States since at least the 1880s.<sup>6,7</sup> Many home visiting programs have been initiated over the years to accomplish a variety

of goals, but the programs reviewed in this journal issue share some common elements. They all send individuals into the homes of families with young children and seek to improve the lives of the children by encouraging changes in the attitudes, knowledge, and/or behavior of the parents.

Most of the programs seek to create that change by providing parents with social support; practical assistance, often in the form of case management that links families with other community services; and education about parenting and/or child development.<sup>8</sup> The social support and practical assistance help to engage families and to build relationships of trust between home visitors and parents. Those strong relationships, in turn, are expected to help reassure parents as they undertake the difficult work of acting upon the information and education provided by the programs. Some researchers and practitioners also believe that for some parents, creating trusting relationships with the home visitors can be a first step in developing the parents' ability to form and sustain secure relationships with others, including their own children.<sup>9,10</sup>

Beyond those common characteristics, programs differ in their specific goals, in the level of services they offer, in their staffing, and in whom they serve, as listed in Table 1. All of the program models included in this journal issue focus on improving parenting skills to promote healthy child development. In addition, most seek to prevent child abuse and neglect, and two explicitly seek to improve the lives of parents by encouraging mothers to return to school, find jobs, or defer subsequent pregnancies.

Programs also differ in the onset, duration, and intensity of services. Some programs begin during pregnancy, while others begin at birth or later. Programs last from two to five years, and scheduled visits range from weekly to monthly.

The experience and training requirements for home visitors also vary. The HIPPY and CCDP programs primarily employed paraprofessionals, typically individuals from the communities being served who had little formal education or training beyond that provided by the program. The PAT, HFA, and Healthy Start programs evaluated in this

journal issue employed a mix of home visitors, including some paraprofessionals and others who had bachelor's or master's degrees. NHVP required that home visitors have degrees in nursing.<sup>11</sup>

Programs also vary in terms of the populations that they serve. Some programs, such as HFA and Hawaii's Healthy Start Program, screen a wide number of families at their children's births but invite for services only those families identified as at risk of child abuse or high stress; others, such as the PAT program, invite a wide range of families that live in the geographic catchment area to enroll in the program.

## Common Characteristics and Variation in the Evaluations

The evaluations reported in this journal issue varied in their methods and design, in the number of sites studied, and in the length of the studies. (See Table 2.)

Most of the studies reported in the major articles employed rigorous experimental designs in which families were randomly assigned either to receive home visiting services or to be in control groups that received other services or no services beyond periodic screenings for the purposes of the evaluations. This type of design is generally agreed to be the best way to test the causal connection between a service program and outcomes. (See the article by Gomby on pages 27–43 in this journal issue.) Each program model was assessed in 2 to 21 program sites, allowing examination of patterns of results across multiple sites.

Most of the studies reported on results for families at the end of program services or shortly thereafter. NHVP was the only program that had a long-term follow-up; families at one program site were assessed when children were 15 years of age, about 13 years after the end of program services.

## Results of the Home Visiting Evaluations

As has been mentioned, millions of dollars flow to home visiting programs to accomplish a variety of goals, and the evaluations have largely assessed outcomes

Table 1

Descriptions of the Home Visiting Program Models Included in the Evaluations Reported in This Journal Issue <sup>a</sup>					
Program	Program Goals	Scheduled Onset, Duration, and Frequency of Home Visits	Population Served	Background of Home Visitors	Training Requirements for Home Visitors
The Comprehensive Child Development Program (CCDP)	<ul style="list-style-type: none"> <li>Enhance the physical, social, emotional, and intellectual development of children</li> <li>Provide support to parents and other family members</li> <li>Assist families in becoming economically self-sufficient</li> </ul>	<p>Birth to one year old through fifth birthday</p> <p>Biweekly</p>	Low-income families, all ethnicities, at 24 sites in the United States	Paraprofessionals and those with associate's degrees or other forms of post-high school training	Extensive in-service training
Hawaii Healthy Start	<ul style="list-style-type: none"> <li>Advance optimal child development</li> <li>Promote positive parenting</li> <li>Enhance parent-child interaction and parenting skills</li> <li>Assure a regular physician and "medical home"</li> <li>Prevent child abuse and neglect</li> </ul>	<p>Birth through fifth birthday</p> <p>Weekly, fading to quarterly</p>	All parents of newborns in Hawaii, all income levels and ethnicities, who were identified at the time of children's birth as at risk for abuse and neglect	Paraprofessionals and those with bachelor's degrees	One week of preservice training plus 30 additional hours of in-service training
Healthy Families America (HFA)	<ul style="list-style-type: none"> <li>Promote positive parenting</li> <li>Prevent child abuse and neglect</li> </ul>	<p>Birth through fifth birthday</p> <p>Weekly, fading to quarterly</p>	Parents in the mainland United States and Canada, all income levels and ethnicities, who were identified at the time of children's birth as at risk for abuse	Paraprofessionals and those with bachelor's degrees	One week of preservice training; one day of continuing training quarterly; and 80 hours of additional training in the first 6 months of service are recommended by Prevent Child Abuse America.
The Home Instruction Program for Preschool Youngsters (HIPPY)	<ul style="list-style-type: none"> <li>Empower parents as primary educators of their children</li> <li>Foster parent involvement in school and community life</li> <li>Maximize children's chances for successful early school experiences</li> </ul>	<p>Academic year, or two years before, through the end of kindergarten</p> <p>Biweekly, that is, at least 15 times over 30 weeks during the school year</p>	Families in the United States and Guam, all income levels and ethnicities	Paraprofessionals; most work part time (20 to 25 hours per week)	Intensive preservice training in the HIPPY program model plus weekly ongoing training

Table 1 (continued)

<b>Descriptions of the Home Visiting Program Models Included in the Evaluations Reported in This Journal Issue<sup>a</sup></b>					
<b>Program</b>	<b>Program Goals</b>	<b>Scheduled Onset, Duration, and Frequency of Home Visits</b>	<b>Population Served</b>	<b>Background of Home Visitors</b>	<b>Training Requirements for Home Visitors</b>
Nurse Home Visitation Program	<ul style="list-style-type: none"> <li>• Improve pregnancy outcomes</li> <li>• Improve child health and development</li> <li>• Improve families' economic self-sufficiency</li> </ul>	<p>Prenatal through second birthday</p> <p>Weekly, fading to monthly</p>	Low-income, first-time mothers, all ethnicities	Public health nurses	Two weeks of training in the program model over the first year of service. Forty-six hours of continuing education in assessing parent-infant interaction, plus additional continuing education as needed.
Parents as Teachers (PAT)	<ul style="list-style-type: none"> <li>• Empower parents to give their children the best possible start in life</li> <li>• Give children a solid foundation for school success</li> <li>• Prevent and reduce child abuse</li> <li>• Increase parents' feelings of competence and confidence</li> <li>• Develop home-school-community partnerships on behalf of children</li> </ul>	<p>Prenatal through third birthday</p> <p>Monthly, biweekly, or weekly, depending upon family needs and funding levels</p>	Families in the United States and six other countries, all income levels and ethnicities	Paraprofessionals and those with associate's, bachelor's, and advanced degrees	One week of preservice training plus one additional day in first six months; 20 hours of in-service training required in the first year; additional in-service hours required annually for credentialing by the Parents as Teachers National Center; specialized PATNC trainings strongly recommended.

<sup>a</sup> The program descriptions in this table reflect the home visiting models as of December 1998. The program evaluations reported in this journal issue were undertaken in earlier years and therefore may contain program descriptions different from those presented in this table.

that map onto those ambitious goals, which include:

- Promotion of enhanced parent knowledge, attitudes, or behavior related to child rearing;
- Promotion of children's health;
- Promotion of children's development;
- Prevention of child abuse and neglect; and
- Enhancement of maternal life course (for example, decreases in rates of subsequent births and tenure on welfare rolls, and increases in employment and education).

Table 1 in the article by Gomby on pages 32–38 in this journal issue describes selected measures that were used to assess these goals in greater detail.

Results are mixed and, where positive, often modest in magnitude. Studies have revealed some benefits in parenting practices, attitudes, and knowledge, but the benefits for children in the areas of health, development, and abuse and neglect rates that are supposed to derive from these changes have been more elusive. Only one program model revealed marked benefits in maternal life course. When benefits were achieved in any area, they were often concentrated among particular subgroups of families, but there was little consistency in these subgroups across program models or, in some cases, across sites that implemented the same program model, making it difficult to predict who will benefit most in the future. Results are listed in detail in Appendix E in this journal issue.

### Parenting and Home Environment

Many home visiting programs seek to change parents' knowledge of child development, their attitudes toward parenting, or their view of themselves as parents—all assumed to be necessary first steps toward enhancing the parent-child relationship or children's health and development, or toward reducing rates of child abuse and neglect. Based on a wide range of child development literature, the underlying assumptions of many home visiting program models can be summarized as follows: Parents who have an accurate understand-

ing of children's development will react with understanding and good humor rather than frustration and abuse if their young children cannot accomplish what older children might. Parents who feel confident in their ability to be parents, who are less stressed, and who know a variety of ways to discipline their children will be warmer and more responsive to their children and less likely to resort to physical violence. Children will develop better when there are more books and developmentally stimulating toys in their homes and when parents talk with their children more and respond more quickly to their bids for attention.

Programs often assume a cascading set of reactions: Once parents begin to respond with warmth and nurturance to their children, the children begin to respond differently to their parents. They may become more attached, and that new close bond can become so rewarding to parents that they spend more time nurturing their children, which should continue to make the interactions between parents and children more beneficial for both. Those close bonds, and the hoped-for decreases in abuse and greater successes in school, might all lead children to avoid delinquent or other maladaptive behavior later in life.

Evaluators employed many techniques to assess these notions, including standardized tests administered by impartial observers of the mother-child relationship or of the home environment, as well as mothers' reports of their own behavior or attitudes. Several programs demonstrated benefits on one or more of these measures, more often finding differences on self-report scales designed to assess parental attitudes or behavior than on measures of the home environment or observed mother-child interactions. For example, parents in Hawaii's Healthy Start Program reported experiencing less stress than members of the control group, more frequent use of non-violent discipline, and a greater sense of efficacy as parents, but independent observers saw no differences in the mother-child relationships or in the home environments. Other programs saw a similar mix of results.

In sum, the results suggest that these programs may lead parents to change some of the precursor attitudes, though not neces-

Table 2

<b>Descriptions of the Evaluation Studies Reported in This Journal Issue</b>				
<b>Program</b>	<b>Study Design and Number of Participants per Group</b>	<b>Number of Evaluation Sites</b>	<b>Age of Children at Last Follow-Up</b>	<b>Population Served</b>
The Comprehensive Child Development Program (CCDP)	Randomized trial: E: (n=2,213) C: (n=2,197)	21 sites throughout the United States	Five years old	Low-income families, all ethnicities
Hawaii Healthy Start	Randomized trial: E: (n=373) C1: (n=270) C2: Testing control group (n=41)	Six sites on island of Oahu. Programs operated by three administering community-based agencies.	Two years old  (Three-year follow-up is in progress)	All parents of newborns, all income levels and ethnicities, who are identified at time of children's birth as at risk for abuse and neglect
Healthy Families America (HFA)	Research network that includes 16 pre-post, 11 quasi-experimental, and 8 randomized trials	35 evaluation studies in the HFA network with multiple sites included in some studies	Varied	Parents of varied ethnicity and income levels who were identified at time of children's birth as at risk for abuse and neglect
The Home Instruction Program for Preschool Youngsters (HIPPY)	Quasi-experimental: E: (n=121) C: (n=105) Randomized trial: E: Preschool and HIPPY (n=84) C: (n=98)	Arkansas  Yonkers, NY	End of first grade	Primarily African-American families  African-American, Latino, and white families
Nurse Home Visitation Program	Randomized trial: E1: Screening, transportation, prenatal home visits (n=100) E2: Screening, transportation, prenatal and postnatal home visits (n=116) C1: Screening (n=90) C2: Screening, transportation (n=94) Randomized trial: E1: Screening, transportation, prenatal and two postnatal home visits (n=230) E2: Screening, transportation, prenatal and postnatal home visits (n=228) C1: Screening (n=166) C2: Screening, transportation (n=515)	Elmira, NY  Memphis, TN	15 years old  Two years old	Primarily white first-time mothers  Low-income, primarily African-American, first-time mothers
Parents as Teachers (PAT)	Randomized trial: E: (n=298) C: (n=199) Randomized trial: E1: Case management and PAT (n=175) E2: Case management (n=174) E3: PAT (n=177) C: (n=178)	Salinas Valley, CA  Four sites in Southern California	Three years old  Two years old	Low-income, primarily Latina mothers  Low-income teen mothers (15 to 18 years old), 50% Latina

sarily the behaviors, that are related to the prevention of abuse and neglect or later benefits in children's development.

### Health-Related Outcomes for Children

Home visiting programs seek to ensure children's good health by promoting the use of preventive health services such as prenatal care, immunizations, or well-baby checkups. Improved birth outcomes and good child health are important in their own right, and also because good health is an essential building block for children's general development.

### Utilization of Preventive Health Services

None of the major evaluations reported in this journal issue found that home visiting produced benefits in immunization rates or in the number of well-child visits, or, for CCDDP, the number of medical or dental visits in comparison with a control group. (Such outcomes were not assessed in the evaluation of HIPPI.) Among the programs profiled in this journal issue, only NHVP assessed utilization of prenatal care, and no differences were found.

The Hawaii Healthy Start Program, which seeks to ensure that each child has a medical home, demonstrated that more home-visited than control group families reported having regular medical providers who knew their children's needs. But, as with the other programs, there were no differences in rates of immunization or well-child visits.

### Birth Outcomes

Preventing preterm births and low birth weight babies is very difficult, no matter what service strategy is employed.<sup>12</sup> Among the studies of home visiting programs in this journal issue, only the evaluation of NHVP measured preterm births and birth weights, in large part because it was the only program that began services prenatally for all enrolled families. As Olds and Kitzman reported in 1993, only very young teens and smokers in Elmira, New York, demonstrated reductions in preterm births and in the percentage of low birth weight babies.<sup>4</sup> Olds and colleagues report in this journal issue that these findings were not replicated in Memphis.

The major relevant difference between the two settings may have been their initial

rates of cigarette smoking; while 55% of mothers in Elmira smoked at enrollment, only 9% of those in Memphis did. To the extent that benefits were derived because the program led to decreases in smoking, these differences in initial smoking rates may have meant that it was not possible to generate similar effects in Memphis, because not enough mothers had the problem behavior to begin with.

In sum, these studies revealed few health-related benefits for children from home visiting programs.

### Child Development, Achievement, and Behavior

The mixed effects of home visiting on parenting and the home environment, and the lack of consistent benefits in children's health-related outcomes, suggest that changes in children's development and behavior may be mixed as well—and results indicate that they are. These studies primarily assessed children's cognitive development, though some also considered children's motor, social, and linguistic/communicative development, and a few assessed their behavior.

### Children's Development and Achievement

All of the major evaluations in this journal issue assessed children's development using standardized tests, and some employed multiple measures or reported the results of multiple subscales of a single test. None found significant effects on all or even a majority of the measures employed, and many revealed no positive effects at all.

A few statistically significant findings did occur for the two programs in which children's development was a primary focus—HIPPI and PAT—but results were quite mixed and relatively small in size, and did not pertain to all families in the study. In the HIPPI evaluation, for example, children's cognitive development, school achievement, and classroom adaptation were assessed for two cohorts of children at each of two program sites and at two points in time. No clear pattern of results emerged; children in the first cohort benefitted on some measures at one site but not at the other, or at one point in time but not at the other, and children in the second cohort did not benefit at either

site. Researchers could not determine why the different results occurred.

Similarly, in their article on the results of two randomized trials of PAT, Wagner and Clayton report in this journal issue that at one site, three standardized measures of children's development and achievement were used, but children in PAT outscored their control group counterparts only on one subscale of one of the three measures. Additional analyses indicated that children born to Latina mothers did benefit from the program, outperforming their control group counterparts on measures of cognitive, linguistic, and social development and self-help behavior. In the second PAT study, which focused on teen mothers, only children whose mothers received case management services (either alone or in combination with PAT home visiting services) showed benefits in development, and then only on measures of cognitive development.

The magnitude of the differences generated in these PAT studies was fairly small.<sup>13</sup> In the Northern California (Salinas Valley) PAT program, for example, the Latino children who benefitted were between one and three months more developmentally advanced than their counterparts in the control group after three years of intervention but were still below the national norms for their age groups.

Several quasi-experimental studies of PAT (reported in Appendix B) indicated broader positive results for cognitive, social, and linguistic development, but these studies are open to the criticism that the families that enrolled in PAT were different in some significant ways from those that never participated (the comparison group). For that reason, it is wise to rely more heavily on studies that randomly assign families to home-visited and comparison groups and then follow them over time, as did the studies reported in the primary articles in this journal issue.

### **Children's Behavior**

As Olds and colleagues discuss in their article in this journal issue, research indicates that children who are exposed to abusive parenting, who do not do well in school, and who suffer health problems may be at greater risk of displaying aggressive and maladaptive

behavior as they grow older. If home visiting programs successfully alter parents' behavior and promote children's healthy development, then long-term benefits might be expected in children's behavior.

Only the Elmira NHVP and CCDP assessed children's behavior, and only the Elmira NHVP assessed behavior more than a few years after the end of program services. Families in Elmira were contacted when the children were 15 years of age, some 13 years after program services ended. Teens who had been born to poor unmarried women who had been home visited showed no differences from the control group in areas such as acting out in school, suspensions, initiation of sexual intercourse, parents' or children's reports of major acts of delinquency, minor antisocial acts, or other behavior problems. However, they did show benefits over the control group in several other important ways: There were fewer instances of running away, fewer arrests and convictions, fewer cigarettes smoked per day, fewer days having consumed alcohol in the last six months, and less lifetime promiscuity. Parents also reported that their children had fewer problems related to drug or alcohol use. In contrast, no benefits were found in children's behavior as rated by parents in CCDP.

In sum, benefits in children's development have not been demonstrated reliably in randomized trials of home visiting programs, although methodologically weaker studies have reported more favorable outcomes. When benefits have occurred in randomized trials, they have usually accrued to only some of the participating children, and they have been fairly small in magnitude. Of the two programs in this journal issue that assessed changes in children's behavior, only NHVP demonstrated benefits.

### **Child Abuse and Neglect**

One of the reasons that home visiting has flourished in recent years is its promise, based on earlier research,<sup>4,14,15</sup> to prevent child abuse and neglect. As has been mentioned, home visiting is hypothesized to help decrease parental stress and to help parents learn new child-rearing techniques, both of which should lead to reductions in abuse and neglect. In addition, home visitors may help parents childproof their homes and eliminate household hazards that could

injure children. Finally, home visitors may serve a monitoring function; their very presence may decrease the likelihood that parents will abuse or neglect their children.

However, accurately measuring rates of abuse and neglect is very difficult for two reasons. First, reports to child protective services (CPS) may not reflect true rates of abuse and neglect. Generally, child abuse and neglect are probably underreported; but because home visitors, like teachers and doctors, are mandated to report abuse and neglect, it is possible that visited families will be reported more often than families in the control groups just because someone has the opportunity to observe them more often. In addition, reports to CPS may be exaggerated or inaccurate, and so some evaluations rely upon rates of substantiated abuse and neglect instead—the reports that the local CPS agency has investigated and confirmed as real—but these rates may vary depending on local CPS practices.

Second, abuse is a relatively rare event in the population (affecting 41.9 children per 1,000),<sup>14</sup> and large numbers of participants are therefore needed to demonstrate significant changes in its rate of occurrence. Some of these studies may have had too few participants to detect a difference even if it was present. (See the articles by Daro and Harding, by Duggan and colleagues, and by Gomby on pages 27–43 in this journal issue for additional discussions of these issues.)

Evaluators therefore have assessed a variety of measures related to child maltreatment, including but not limited to CPS reports, to determine whether programs have prevented abuse and neglect. These measures include changes in parents' views of parenting or disciplinary practices, and rates of hospitalization or emergency room visits resulting from injuries and ingestions of poisonous substances, which may be proxies for physical abuse or neglect.

### **Rates of Abuse and Neglect**

Four evaluations (PAT, Hawaii Healthy Start, NHVP, and HFA) used CPS reports in their studies. The clearest evidence for the potential of home visiting to prevent child abuse and neglect comes from the Elmira study of NHVP, in which long-term follow-up of families indicated that participating families had

fewer substantiated reports over the course of the first 15 years of their children's lives than did families in the control group (an average of 0.29 versus 0.54 incidents per program participant). The families that showed the most benefit were those that had the least sense of control over their lives at enrollment.

In the Teen PAT program, fewer child abuse and neglect cases were opened among the group that received both PAT home visiting and comprehensive case management services, although the group that only received PAT home visiting services did not benefit. Randomized trials of the Hawaii Healthy Start Program and HFA yielded no differences in child abuse and neglect report rates.

### **Other Measures of Child Maltreatment**

Of the two evaluations (Hawaii Healthy Start and NHVP) that assessed the utilization of health care services for injuries or ingestions, one, NHVP, demonstrated differences. In that study, children in the home visiting group in Elmira had fewer hospital visits for injuries and fewer hospital visits overall during the first four years of their lives; and in Memphis, the home visiting group had fewer health encounters for injuries and ingestions during the first two years of their lives. Again, benefits were concentrated among those families that had the fewest coping abilities initially.

Three programs (HFA, Hawaii Healthy Start, and NHVP) produced differences in maternal attitudes related to abuse and neglect, in mothers' self-reported use of harsh discipline, or in mothers' scores on scales associated with risk for abuse and neglect. Mothers in the Hawaii Healthy Start Program also reported fewer maternal injuries resulting from violence in the home (for example, from spouses or boyfriends), a factor which is often correlated with child abuse.<sup>15</sup>

In sum, several programs suggest that home visiting may be beneficial in decreasing child maltreatment, although the evidence for programs other than NHVP derives primarily from measures that relied on maternal self-reports. Few randomized trials that have relied upon CPS reports or reports of hospitalizations have demon-

strated short-term decreases in child maltreatment, although the 15-year follow-up in NHVP suggested that both short- and long-term benefits may occur.

### Maternal Life Course

Although altering maternal life course was not an explicit goal for most of these programs, all of the evaluations except HIPPOY's nevertheless measured outcomes such as maternal employment, completion of school, or deferral of subsequent births. Such outcomes are important for mothers, of course, but they may also be important for children. For example, as Olds and colleagues explain in their article in this journal issue, if a woman is able to defer the birth of a second child, then she may be better able to leave welfare and find employment. She may be able to move out of poverty, and she may be better able to focus attention on her child—both of which are related to better outcomes for children.

Among the home visiting programs reviewed in this journal issue, only NHVP found benefits in this area, and only for poor unmarried (largely teen) women, but the benefits were large in magnitude. In the Elmira program site, for example, over the course of 15 years after the births of their children, poor unmarried women who had been home visited had fewer subsequent pregnancies and births, were more likely to defer their second births, spent fewer months on welfare or receiving food stamps, and had fewer problems resulting from substance abuse and fewer arrests than their counterparts in the control group. These were large differences: 60 versus 90 months on welfare, for example, and 65 versus 37 months between first and second births. A 1998 RAND Corporation study indicated that these changes in maternal life course among high-risk mothers were primarily responsible for the program's \$18,611 in net savings to government.<sup>16</sup>

In NHVP, the linchpin finding for this domain appears to be the reduction in the rate of subsequent births, which the authors believe led to positive changes for parents and children later. In Memphis, the second NHVP site, subsequent pregnancies were also deferred, although not as much as they had been in Elmira at the same time (a 67% reduction in Elmira versus 23% in Memphis

at the end of program services), and there were no differences in employment or receipt of Aid to Families with Dependent Children. Follow-up is continuing, however, to determine whether increased benefits will be observed in Memphis over time as they were in Elmira.

In sum, creating improvements in this area has not been a primary goal for many of these programs. Of the studies presented in this journal issue, only two had a stated goal of enhancing maternal life course, although several measured how mothers fared. Among the randomized trials, only NHVP demonstrated success in altering maternal life course.

### Weighing the Results

The results summarized above are a tale of improvements as exceptions rather than the rule, but before drawing conclusions from what are, after all, only a few studies, it is important to consider the studies and programs that were evaluated. Were the programs implemented well enough that the studies were fair tests of the home visiting models? Were the studies designed well enough that positive results could have been detected? How applicable are the results to programs in other communities or to other models of home visiting?

The next section addresses these questions. We conclude that there were some weaknesses in program implementation but that the programs were implemented about as well as most home visiting programs, and that the evaluations were relatively rigorous. Therefore, we believe that the results are a fairly accurate reflection of what can be expected from the home visiting programs that were assessed. This suggests two main implications: (1) existing home visiting programs should focus on efforts to enhance implementation and the quality of their services, and (2) even if those improvements are made, more modest expectations of programs are needed, and therefore home visiting should not be relied upon as the sole service strategy for families with young children.

### Program Implementation Challenges

If the programs were not implemented well enough, it is possible that the evaluations

would not have been able to detect benefits. Perhaps better-implemented programs would have produced the intended effects. The key aspects of program implementation concern family engagement, the delivery of the curriculum, and the skills and abilities of the home visitors in forging relationships with the families.

The studies in this journal issue and others indicate that home visiting programs struggle to attract and maintain family involvement and to ensure that their curricula are delivered with fidelity to their original models. The evidence suggests, however, that these are not so much problems with the implementation of particular models or the delivery of services at particular sites but rather are accurate reflections of the state of the home visiting field.

### Family Engagement

All of the home visiting programs in this journal issue struggled to enroll, involve, and retain families in home visiting services. Based on data from the Hawaii Healthy Start Program study and the NHVP study, for example, it can be estimated that 10% to 25% of families that are invited to enroll in these programs choose not to participate.

■ *Intensity of Visits.* Once families were enrolled, they received on average about half the scheduled number of home visits, no matter what the intended frequency of visits was.<sup>17</sup> For example, through the first year of the Hawaii Healthy Start Program, in which families were intended to receive visits every week, families that were still enrolled at the end of the year had received an average of 22 visits (42% of the intended number). The two PAT programs that were studied in this journal issue assumed monthly home visits, but families averaged 38% and 56% of the expected number of visits. In NHVP, in which visits varied in frequency beginning with weekly visits and then relaxing to quarterly, families received an average of 32 and 33 visits at the two program sites (53% and 55% of the intended number), rather than the expected average of 60 visits.

Nor did families regularly attend group meetings in those programs (HIPPI and PAT) that offered them. For example, only 15% of families attended any group meet-

ings for the Northern California (Salinas Valley) PAT program.

The low levels of involvement may reflect a lack of interest on the part of families, the chaotic nature of some families' lives, or their inability to juggle time commitments between their home visiting programs and their responsibilities to work, extended family, and children. Whatever the cause, once an appointment is missed, home visitors with tight caseloads may find that they are unable to reschedule a visit until the next regular appointment time rolls around, with the consequence that families receive less intensive services than planned.

The consistency with which this occurs across the models suggests that this is a real phenomenon in the implementation of home visiting programs, not just the result of poor implementation of particular program models or specific program sites. Families are either not willing or not able to take as much of the service as is intended by program designers.<sup>10</sup>

Although no studies have been conducted to demonstrate the minimum number of home visits necessary before change can occur, it seems intuitively reasonable that some threshold number of visits must be crossed before change can occur, and that too few visits will hamper the formation of the relationship between home visitor and parent and result in spotty coverage of the program's curriculum. There is some support from the PAT and NHVP studies in this journal issue to suggest that families that receive more contacts do indeed benefit more.<sup>18</sup> While a precise minimum threshold is unknown, researchers have speculated that four visits<sup>4</sup> or three to six months of services<sup>8</sup> may be required before change can occur. For programs in which the intended service intensity is fairly low (for example, monthly), this may be a particular problem because it may mean that the threshold minimum number of visits is never crossed.

■ *Attrition.* Between 20% and 67% of those families enrolled in the home visiting programs studied in this journal issue left the programs before the programs were scheduled to end. The reasons for leaving included moving out of the community and

returning to work, as well as lack of interest, so some of this attrition is clearly out of the control of the home visiting programs. If a mother has an opportunity to move to another community to take a job, it is unlikely that she will stay put (and jobless) to remain enrolled in a home visiting program.

In other cases, the design of the home visiting program or the decisions of the program staff affected attrition. For example, the HIPPY study suggested that the program's design of operating only during the academic year may have increased attrition because some families lost interest during the quiet summer months. The study of the Hawaii Healthy Start Program revealed that programs operated by three administering agencies had dramatically different attrition rates, ranging from 38% to 64% for one year, which reflected differences in their policies about holding onto hard-to-reach families. The researchers will continue to explore which approach leads to the best outcomes, but in the meantime, the Hawaii Healthy Start Program has launched a quality-improvement program and is working with evaluators to build a system to monitor implementation and outcomes on an ongoing basis.

The consistency of the attrition findings suggests that they cannot be dismissed out of hand as the product of poorly implemented programs. Indeed, these relatively low rates of engagement have been observed in studies of home visiting for years.<sup>19,20</sup> Programs need to recognize that these high attrition rates may reflect how families feel about what is, in our society, a most unusual approach to service delivery. There are very few occasions in America in which a non-family member regularly visits the home to persuade someone to change his or her behavior. The closest examples might be piano teachers or personal trainers, but they provide services that families pay for and control and that they have affirmatively engaged because they want to change the target behavior. Unless parents believe that the home visiting services will help them accomplish some goals that they have set for themselves, and that their time is more valuably spent in home visiting than in some other activity, it is unclear why they should continue participation.

■ *Activities Undertaken by Families.* When program success is predicated upon change in parent behavior, lack of parental involvement can undermine program effectiveness. In the HIPPY program, for example, parents were given books and activity sheets to use with their children, but Baker, Piotrkowski, and Brooks-Gunn report in this journal issue that many families did not work with their children the intended 15 to 20 minutes each day, perhaps accounting for the varying outcomes across families and sites.

The HIPPY program is different from the others in this journal issue, with its focus on “homework” activities that parents undertake with their children, but all of the programs rely to some extent upon changes in parental behavior to generate changes in children’s health and development. If parent involvement flags between visits, then changes in children’s behavior will be much harder to achieve.

#### **Curriculum Delivery and Staffing**

Home visiting programs rely on staff to forge relationships with families and to convey the program’s content to them. If the content is not delivered as intended, then the program’s effectiveness will be limited.

■ *Curriculum Delivery.* The studies in this journal issue suggest that the programs’ curricula are not always delivered with fidelity to the models. Wagner and Clayton report on the results of videotapes of several home visits in the Northern California (Salinas Valley) PAT program, which indicated that some home visitors were staying only 28 to 50 minutes, rather than the intended 45 to 60 minutes, suggesting that the content of the visits probably differed among visitors. Baker, Piotrkowski, and Brooks-Gunn also report that home visitors may have had problems in delivering the intended content in the HIPPY program.

These examples imply that the curricula probably are not delivered with fidelity to all families. Indeed, such deviations from the model may be encouraged as home visitors individualize services to meet families’ needs.<sup>21</sup> For example, a home visitor may set aside the day’s curriculum to help a mother deal with an immediate crisis caused by an abusive spouse, an impending eviction, or the loss of a job. Not all programs track the

actual content of what is delivered to families, and if they do, they may not include those findings as part of their evaluation reports, so it is impossible to know whether these programs delivered the intended curricula better or worse than most programs in the field. The findings suggest, however, that practitioners should monitor these aspects of service delivery when they implement home visiting programs.

■ *Staffing.* The home visitor's role is critical. Home visitors are the embodiment of the program for families; they draw families to the program, and they are the vehicle through which the curriculum is delivered. Home visitors must have the personal skills to establish rapport with families, the organizational skills to deliver the home visiting curriculum while still responding to family crises that may arise, the problem-solving skills to address issues that families present in the moment when they are presented, and the cognitive skills to do the paperwork that is required. These are not minimal skills, and there is no substitute for them if programs are to be successful.

The debate about home visitors has usually been framed as a debate about professional versus paraprofessional workers, or about visitors from one profession, such as nursing, versus another.<sup>4,6</sup> Such debate has important implications for program operations because labor accounts for most of program costs, and home visitors' backgrounds and training drive labor costs. Staffing varied widely within the programs presented in this journal issue, but the studies provided no direct comparisons of the effectiveness of professional versus paraprofessional visitors, or of one type of professional versus another.

Most researchers believe it is not possible at this time to conclude that individuals from a particular professional or educational discipline are better home visitors than others,<sup>6,22</sup> but it seems likely that extremely well-trained visitors are needed to serve families that face multiple complex issues.<sup>4,22</sup> This probably means that the workers need something beyond a high school diploma. No matter what their skill level, close supervision is needed to help home visitors deal with the emotional stresses of the job and maintain objectivity, prevent drift from program protocols, and provide an

opportunity for reflection and professional growth.<sup>6</sup>

Because the connection between home visitors and families is the route through which change is hypothesized to occur, turnover among home visitors may be a serious problem for programs. Several of the programs had significant turnover among home visitors,<sup>23</sup> but the effect of such turnover is unknown. In NHVP in Memphis, for example, turnover among nurses was 50% because of a communitywide nursing shortage that led to increased competition for labor, and Olds and colleagues suggest in their article in this journal issue that this may be at least part of the reason that results were more limited in Memphis than in Elmira.

Again, because turnover appears to have been a problem in several of these programs, the results achieved in these studies may well represent what can be expected from most home visiting programs. However, the consistency with which turnover is reported as a problem also suggests that programs should pay attention to this issue.

In some ways, the staffing issues in this field are similar to those in the child care field. In child care, low-wage workers frequently move to higher-paying jobs. Such turnover has been linked to poor-quality care and poor developmental outcomes for children. Training in child development and higher educational levels have been linked to better-quality care and better outcomes for children.<sup>24</sup> There has been little investigation of this aspect of program implementation within home visiting programs, but if the fields are parallel, then programs might explore enhanced training of workers to increase the quality of services and higher wages for workers to reduce turnover.

### **The Implications of Implementation Challenges**

In sum, these evaluations have identified some of the challenges home visiting programs face in delivering services with fidelity to their models. Some of these difficulties may be inherent in home visiting; these programs may not suit everyone, and they are, by their very nature, individualized interventions, which may mean that the curricula will not be uniformly delivered. Nevertheless,

the experience in Hawaii indicates that program sites do have some degree of control over these variations, and the article by Daro and Harding in this journal issue suggests that a strategy such as a research network that brings researchers together to inform and improve practice may be one mechanism by which these variations can begin to be understood and controlled.

### Adequacy of the Evaluations

The previous section suggests that the home visiting programs that were studied in these evaluations were probably implemented about as well as most home visiting programs. To demonstrate positive impacts, however, the evaluators must measure the right outcomes, employ appropriate measures to detect the program benefits, and design studies sensitive enough to detect the positive effects that are being produced.

### Measures

Measures should reflect the goals of the programs, and that is why most of the researchers in this journal issue included measures that assessed the domains of parenting, child health and development, child abuse and neglect, and maternal life course. These are the outcomes that the programs were designed and funded to address.

Across all these studies, more than 100 measures were used to assess the effects of the NHVP, Hawaii Healthy Start, PAT, HIPPIY, CCDP, and HFA home visiting programs. Many are well-known measures that have been shown to be reliable and valid in other work. What is striking, therefore, is that across the studies and the measures, there were so few positive effects. If the results were large in magnitude, occurred across many domains, affected many families, or were resilient to small differences in program implementation, then one would probably be able to see the differences even if the measures were not perfect. In fact, one does not.

The studies did not assess all outcomes for which benefits might have been generated. For example, few studies assessed outcomes such as social support for parents; parents' involvement in their children's lives; children's social or emotional development; mother-child attachment and bonding; mothers' mental health; the career development of the home visitors them-

selves; or communitywide changes in system delivery—all of which plausibly could be benefits produced by home visiting programs. But it is not clear that policymakers would or should be satisfied if the programs succeeded in producing benefits for those outcomes without demonstrating effectiveness for the primary outcomes that they were funded to change.

### Research Design

The primary studies reported on in this journal issue were typically of average to better-than-average quality in their research designs; all included comparison groups, all but one of which were randomly assigned. Random assignment is generally accepted as the best tool to assess the causal connection between an intervention and an outcome, and these studies demonstrated that random assignment is possible even when investigating community-based interventions such as home visiting programs. (See the article by Gomby on pages 27–43 in this journal issue for an additional discussion of research methods.)

These studies clearly indicate the importance of including a comparison group. In the CCDP study, for example, the group that received program services improved in a number of domains from the baseline, but so did the no-treatment control group—and by an equivalent amount. Without a control group, the program might have appeared effective when it was not.

Simple research designs without comparison groups can provide important operational information to practitioners and preliminary guidance to policymakers. They can imply that a program model may be on the right track, but they should not be relied upon for policy decisions. Where randomized trials and nonexperimental designs produce different outcomes, as they sometimes do in this journal issue,<sup>25</sup> we believe that randomized trials provide stronger evidence.

The randomized trials in this journal issue have limitations, however, particularly resulting from the attrition of families out of the studies, which can quickly negate the benefits of randomization. For example, if families that stayed in the program did so because they were more motivated to improve, that increased motivation might

have yielded positive outcomes even without the programs' services. Thus, a study assessing only those families that remained in a program might overestimate the effects of the program. Or, if families that were the highest functioning left a program soonest because they decided that they did not need it, then attrition might mean that a study would underestimate the program's benefits.

To combat this, most researchers in this journal issue tried to include all families, even those that had left the programs, in the evaluations. Generally, more families remained active in the evaluations than in the programs. For PAT, for example, although 43% of families left the Salinas Valley program before their children's third birthdays, the evaluators were able to assess 73% of the families at the three-year point, when the program ended. Although the 27% missing from the sample is relatively high, a recent review by RAND Corporation of some of the same literature used as an inclusion standard studies in which attrition at follow-up was less than 50%.<sup>26</sup> All of the major studies reported in this journal issue would meet that standard.

In sum, the studies suggest that home visiting programs face a number of implementation issues, but there is nothing to suggest that the programs were more poorly implemented than is typically the case, or that the studies were poorly designed. Results therefore probably reflect the typical experience of home visiting programs. But can they be used to predict the results of future home visiting programs?

### **Generalizability Across Program Models, Program Sites, and Populations**

A key question concerning any study is the extent to which it can predict the results of other programs serving different communities or different populations, or employing different home visiting program models. We believe that the most consistent findings in the literature may concern the implementation issues that were just discussed; and those, we believe, do pertain across many different home visiting program models and sites. Program benefits are so variable, however, that we believe the ability to generalize the benefits is more limited.

### **Variability in Benefits Across Models**

The wide variability in results indicates that benefits cannot be generalized from one program model to another. If they could be generalized, all programs would produce positive maternal life course changes; these changes would not be limited to NHVP for unmarried first-time mothers. And all programs would produce child development benefits; these would not be limited to PAT for the children of Latina mothers.

This variability should not be a surprise. We do not expect different models of cars to have the same gas mileage, or different recipes for chili to produce the same heartburn. Somehow, however, the term "home visiting" has been used as if it were a single entity—as if home visiting programs were like medical prescriptions, with both brand names and generics having the same active ingredients and producing the same desired effects. Home visiting programs do not have the same ingredients, and they will not produce the same effects.

Nor can it be said that one model consistently outshines another. These research studies have not compared one program against another, using the same measures, implemented by the same agencies, in the same communities, with the same families, although research suggests that these types of variations can indeed lead to different outcomes, even for a single program model.

The best approach, therefore, when trying to extrapolate the results of one program model to another, is to examine the programs' underlying theory, goals, and implementation. When the goals are similar, the implementation and staffing are similar, the hypothesized mechanism of change is similar, and reliance on external community agencies is limited, then generalization may be more plausible. The very mixed results in this journal issue suggest, however, that there is little evidence that such generalization across program models should be expected.

### **Variability in Benefits Across Program Sites Implementing the Same Model**

Similarly, the results indicate how difficult it is to produce benefits across multiple sites implementing the same program. In every study reported in this journal issue, results

varied across sites and across families within sites, in some cases so much that programs that produced multiple benefits at one site generated no significant effects at another.

This does not provide a great deal of guidance for program practitioners or policymakers, except to show that sites must implement their programs with as much fidelity to the models as possible if they expect to generate the same results that were produced in initial studies of the programs. Replication is a complex undertaking,<sup>27</sup> and the precise program elements that must be in place for successful replication are unknown. At this point, it seems likely that some of the key elements include funding at the original levels (because funding levels control staffing and caseloads) and employing the same curricula and staffing patterns.

### Variability in Benefits Across Populations

Evaluations in this journal issue reviewed programs that served low-income families and/or families identified as at risk for child maltreatment, a narrower range of families than home visiting programs often serve.<sup>28</sup> Results indicate that even within these narrower groups, programs are better able to retain some subgroups of families, and some families benefit more than others. But there is little consistency across program models and program sites in whom those families are.

This is an important issue because if the groups that benefit most could be predicted, then services could be better targeted. For example, Olds and colleagues in this journal issue recommend targeting services to low-income, unmarried women because research results indicated that such women benefitted most, and indeed, that NHVP only paid off economically when delivered to that group. However, other evaluations identified other groups as benefitting most or engaging more fully in program services (for example, Spanish-speaking children of Latina mothers in PAT, and higher-educated and higher-income mothers in HIPPY), and researchers do not yet have a good understanding of why different programs might benefit some families more than others.

Several researchers have suggested that the most at-risk families may benefit most.<sup>4,22</sup>

If so, this might be because home visiting services help place a supportive floor underneath the neediest families, or because those families feel the strongest need and motivation to change. Or perhaps the area in which home visiting programs' effects can be observed most easily is among the group that is the neediest because that group has the most room for improvement.

Research is not conclusive concerning this issue. However, it is probable that some families will prefer one model of home visiting services over another, in the same way that some families will choose a Ford and others a General Motors automobile, and that some families will benefit more from one model than another. Similarly, it is probable that some families will benefit more from home visiting services and others will benefit more from another model of service delivery, in the same way that some adults learn a new computer software program best by reading the manual and others learn best by taking a class. With few exceptions, existing research does not enable conclusions about which families are best suited to which home visiting models<sup>29</sup> or which are best suited to home visiting versus some other service-delivery strategy. Research does, however, clearly suggest that in-depth home visiting programs will not produce benefits across the whole population of families with young children. Intensive universal home visiting probably will not lead to broad benefits.

In sum, the programs evaluated in this journal issue were implemented fairly well and the studies were conducted fairly well. The evaluation results suggest that home visiting programs are not likely to benefit all families and that the positive results of any one model of home visiting will not apply to other program models. Nevertheless, researchers and practitioners should join together to use these findings to improve services and outcomes for families and children.

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### RECOMMENDATION:

- Existing home visiting programs and their national headquarters should launch efforts to improve the implementation and quality of services. These efforts should

include ongoing assessments of practices concerning the enrollment, engagement, and attrition of families; training requirements and support for staff; and delivery of curricula. National headquarters for key home visiting models should bring together researchers, practitioners, and parents to formulate practice standards and guidelines for their own models, and a dialogue should begin to create learning and quality-improvement efforts for the field as a whole.

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#### RECOMMENDATION:

■ In support of these efforts, research should be crafted primarily to help programs improve quality and implementation: for example, to explore which families are most likely to engage in and to benefit most from the services; to understand which aspects of program service are necessary for replicability; and to determine the threshold levels of intensity and duration of services. Research results should be fed into ongoing quality-improvement efforts of existing home visiting programs, perhaps using mechanisms such as research networks that bring researchers and practitioners together on an ongoing, collaborative basis.

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### Modest Expectations

The wide variability in the results that are presented in this journal issue suggests that practitioners and policymakers should moderate their expectations for the success of home visiting programs. Although disappointing, this should not be surprising. Home visiting programs seek to alter the behavior of individuals as a way of addressing large societal problems such as child abuse and neglect, lack of school readiness, and teen pregnancy. They rely upon perhaps 20 to 40 hours of contact over a few years to encourage that behavioral change, and they struggle with problems of implementation all along the way. In addition, they operate by providing social support, education to parents, and case management, not one of which is sufficient to lead to change by itself.

### Social Support

Several programs (see the articles concerning PAT, HFA, and HIPPI in this journal issue) suggest that all parents need social support and that home visiting programs therefore fulfill a valuable function merely by providing that support. The popularity of parenting books, magazines, videos, and other self-help materials suggests that parents do want support and information, but the relatively low rates of family engagement suggest that they may not want it offered in the way in which it is offered by home visiting programs.

Even if families remain engaged, social support must be supplemented with information or other assistance if families are to change ingrained habits. For example, considerable research indicates that increased social support alone will not prevent poor birth outcomes, so a home visiting program without an explicit focus on the specific behaviors that are linked to improved birth outcomes is not likely to result in lower rates of preterm births.<sup>4</sup> A program's curriculum, therefore, is a key part of its success.

### Education of Parents, Not Children

Most home visiting curricula try to benefit children indirectly through changes in parents' behavior, rather than directly through interventions with the children. Perhaps it is not surprising, then, that the outcomes of home visiting programs for children's general health and development are not as positive as the outcomes for parents.

On the basis of the studies presented here as well as other research, we believe that children's development is better promoted through more child-focused interventions than most of these home visiting programs can be. For example, a North Carolina research project called Project CARE compared the development of children who were exposed to home visits with that of children who received a combination of home visits and center-based group care. Results indicated that the home visits did relatively little but that the group-based services did lead to benefits for child development.<sup>30</sup> Recent reviewers have come to the same conclusion.<sup>31-33</sup>

Some of this may be related to the amount of time that interventions spend focused on children versus parents. Most “two-generation” programs, such as CCDP, that seek to benefit parents and children simultaneously spend much more time on parent-related issues than on services for the children.<sup>3,22</sup> Clearly, a center-based program in which children participate for many hours each week has much more direct contact with children.

At the same time, reviewers have concluded that some of the child-focused programs that produced the most substantial long-term outcomes combined center-based services for children with significant parent involvement through home visiting or some other means.<sup>32,34</sup> It is possible that through such connections, home visiting programs can become more effective in promoting children’s development, but this journal issue did not examine programs in which home visiting was linked with high-quality child-focused service strategies.<sup>35</sup>

### Case Management and Linkage with Other Community Services

Home visiting programs rely upon linkage with other community services, either through a clearly defined case management function, as in CCDP, or through referrals provided by home visitors on an as-needed basis. In either instance, that reliance on community services means that program success depends upon the availability of quality services for children and families in the community. Families cannot be case managed into health services, high-quality child care, or jobs if those opportunities do not exist in their neighborhoods.

Even if families are able to access services, the CCDP study raises concerns that the case management function of home visiting may not assist families very much. In the CCDP study, case-managed families accessed community services sooner than control group families, but the control group families eventually accessed similar amounts of services, and there were essentially no differences in outcomes between the two groups over time.

### The Limits of Home Visiting Programs

Home visiting is a fragile intervention, dependent upon other community agencies for any success in case management, and dependent upon parents for any success with children. Home visiting programs struggle to change individual behavior and have limited success.

Perhaps this is not so surprising. Other human-service programs designed to serve teens or to promote parenting skills, for example, have also met with varied success.<sup>22,36</sup> Changing behavior is difficult; the multibillion-dollar diet industry, the unused exercise bicycles, and the empty car pool lanes on freeways all illustrate the challenge of changing individual behavior—even when the need for those changes has been established through clear and convincing science that is accepted by most individuals.

How much more difficult it is to change those behaviors that individuals may not believe need changing. When mothers see all the children in their neighborhoods at about the same developmental level as their own children, when they see their relatives rearing their children the same way they do, and when they see their neighbors struggling with the same work, husband, boyfriend, and money issues they have, they may not see the need or have the motivation to change.

How much more difficult, too, is change when the problems are societal or communitywide. If families live in communities where poverty is entrenched, programs that focus solely on individual change rather than broader policy solutions may be outmatched.

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#### RECOMMENDATION:

- Policymakers and practitioners should maintain modest and realistic expectations for home visiting services. Because home visiting programs will not and cannot serve the needs of all families, other service strategies should be developed and supported to help families and children. These may include more child-focused services (such as high-quality child care), parent-focused services that are delivered in another way (such as

parenting classes delivered in the community or on the job site), or other policy alternatives designed to increase the connections between parents and children.

and videos suggests that parents are hungry for information and support; the press of research suggests that children's earliest years must not be ignored;<sup>2</sup> and the success of early childhood ballot initiatives such as California's 1998 Proposition 10 suggests that the public is eager for action.

## Conclusions and Implications

In 1993, we cautioned that the research findings concerning home visiting programs were not uniformly positive across outcomes or families, and that the magnitude of benefits was modest, but we nevertheless recommended the expansion of home visiting. The ensuing six years have brought more research, and much more is ongoing,<sup>37</sup> making home visiting one of the most scrutinized human-service strategies. Such scrutiny suggests that no home visiting model produces impressive or consistent benefits in child development or child health. Several models produce some benefits in parenting and perhaps in the prevention of child abuse and neglect, but only on some of the measures used to assess these outcomes. Only two program models included in this journal issue sought to alter maternal life course, and of those, only NHVP produced significant effects at more than one site when assessed with rigorous studies.

We believe that any new expansion of home visiting programs should be reassessed in light of these findings. We recommend a dedicated effort, led by the field, to improve the quality and implementation of existing home visiting services, and a more modest view of the potential of the broad array of home visiting programs.

We must not, however, give up on services for families with young children. The popularity of parenting books, magazines,

The research findings in this journal issue do not alter these facts. They do, however, suggest that change is necessary to improve the home visiting services that are currently in place, to adapt existing home visiting models, and to try new service strategies. Indeed, the push for new service models may be inevitable. The home visiting models evaluated here have changed since their inception and, in some cases, since the studies included in this journal issue were launched.<sup>38</sup> Welfare reform will create a need for additional change as more women enter the workforce and fewer are at home for home visits.

If we are to hearken to Florence Nightingale's admonition, "Results shown are the only test," then we must face squarely the results produced in these evaluations of home visiting programs. The field's willingness to undertake rigorous evaluation research demonstrates its courage to do just that. The findings indicate that home visiting services are not a silver bullet for all that ails families and children,<sup>3</sup> but then no single program or service strategy can be. These research results should not dissuade us from action. Children continue to grow, and their families continue to want and need support and services. It is up to us to strengthen existing services and craft new approaches to meet the needs of families and children.

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11. As reported in the article by Olds and colleagues in this journal issue, an ongoing randomized trial in Denver, Colorado, will compare the effectiveness of nurses and paraprofessionals in delivering the same model program. Results will be available in late 1999.
12. Shiono, P.H., and Behrman, R.E., eds. Low birth weight. *The Future of Children* (Spring 1995) 5,1:4–231.
13. In the social sciences, researchers calculate an effect size to translate results of different studies into a common metric (the standard deviation). Generally, in the social sciences, an effect size of 0.2 standard deviations is defined as small, 0.5 as moderate, and 0.8 or greater as large. See Cohen, J. *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum, 1983; as cited in Yoshikawa, H. Long-term effects of early childhood programs on social outcomes and delinquency. *The Future of Children* (Winter 1995) 5,3:51–75. In the Northern California (Salinas Valley) PAT program, effect sizes ranged from about 0.25 to 0.36 standard deviations.
14. Chalk, R., and King, P.A., eds. *Violence in families: Assessing prevention and treatment programs*. Washington, DC: National Academy Press, 1998.
15. Straus, M.A., and Gelles, R.J. *Physical violence in American families: Risk factors and adaptations to violence in 8,145 families*. New Brunswick, NJ: Transaction, 1990. As cited in note no. 14, Chalk and King.
16. Fully 57% of the cost savings were due to decreases in welfare costs, 23% to taxes paid on increased maternal income, and 20% to decreases in criminal-justice costs. See Karoly, L.A., Greenwood, P.W., Everingham, S.S., et al. *Investing in our children: What we know and don't know about the costs and benefits of early childhood interventions*. Santa Monica, CA: RAND Corporation, 1998.
17. Studies did not always report separately the number of visits received by those who completed the program and those who left it early. The latter group, of course, would have had fewer visits, and would have lowered the group average.
18. In NHVP, families that received the most home visits—and benefitted the most on particular caregiving outcomes—were those with the lowest levels of psychological resources. In the Teen PAT study, teens in the combined case management and home visiting services group had the most contacts with program services and benefitted more than the groups that received either PAT home visiting services or case management services alone.
19. Halpern, R. Parent support and education programs. *Children and Youth Services Review* (1990) 23:285–308.
20. Gray, S.W., and Wandersman, L.P. The methodology of home-based intervention studies: Problems and promising strategies. *Child Development* (1980) 51:993–1009.
21. Berlin, L.J., O'Neal, C.R., and Brooks-Gunn, J. What makes early intervention programs work? The program, its participants, and their interaction. *Zero to Three* (February/March 1998) 18:4–15.
22. Cowan, P.A., Powell, D., and Cowan, C.P. Parenting interventions: A family systems perspective. In *Handbook of child psychology. Vol. 4: Child psychology in practice*. Fifth ed. I.E. Sigel and K.A. Renninger, eds. New York: John Wiley and Sons, 1996, pp. 3–72.
23. See, for example, Wagner, M., Clayton, S., Gerlach-Downie, S., and McElroy, M. *An evaluation of the Northern California Parents as Teachers demonstration*. Menlo Park, CA: SRI International, 1997.
24. Helburn, S.W., and Howes, C. Child care cost and quality. *The Future of Children* (Summer/Fall 1996) 6,2:62–82; Whitebook, M., Howes, C., and Phillips, D. *Who cares? Child care teachers and the quality of care in America*. Oakland, CA: Child Care Employee Project, 1990; Whitebook, M., Phillips, D., and Howes, C. *National Child Care Staffing Study revisited: Four years in the life of center-based child care*. Oakland, CA: Child Care Employee Project, 1993.

25. Compare, for example, the results of studies of Healthy Families America as reviewed in the Daro and Harding article in this journal issue, or results concerning the PAT and HIPPY programs as reported in the articles by Wagner and Clayton and by Baker, Piotrkowski, and Brooks-Gunn, and in Appendices B and D, respectively.
26. See note no. 16, Karoly, Greenwood, Everingham, et al.
27. Racine, D.P. *Replicating programs in social markets*. Philadelphia: Replication and Program Strategies, 1998.
28. For example, Parents as Teachers is offered universally in many geographic areas. Olds and Kitzman (see note no. 4) reviewed randomized trials of home visiting programs that served families with preterm and low birth weight infants and, interestingly, found somewhat more positive results than in these studies.
29. To test whether a program model benefits a particular group of families more than another group, multiple studies should be conducted to make sure that the same group benefits across multiple settings. An example of this approach is seen in NHVP, in which researchers have shown benefits across two settings for low-income unmarried mothers, and for some outcomes, enhanced benefits for mothers with low psychological resources. Other program models have not yet taken that approach.
30. Wasik, B.H., Ramey, C.T., Bryant, D.M., and Sparling, J.J. A longitudinal study of two early intervention strategies: Project CARE. *Child Development* (1990) 61:1682–96.
31. Barnett, W.S. Long-term effects of early childhood programs on cognitive and school outcomes. *The Future of Children* (Winter 1995) 5,3:25–50.
32. See note no. 13, Yoshikawa.
33. St.Pierre, R.G., Layzer, J.I., and Barnes, H.V. Two-generation programs: Design, cost, and short-term effectiveness. *The Future of Children* (Winter 1995) 5,3:76–93.
34. Frede, E.C. The role of program quality in producing early childhood program benefits. *The Future of Children* (Winter 1995) 5,3:115–32.
35. Gomby, D., and Larner, M., eds. Long-term outcomes of early childhood programs. *The Future of Children* (Winter 1995) 5,3:4–221.
36. See, for example, the following reviews of programs for adolescent parents: Kisker, E.E., Maynard, R.A., Rangarajan, A., and Boller, K. *Moving teenage parents into self sufficiency*. Princeton, NJ: Mathematica Policy Research, 1998; and Granger, R.C., and Cytron, R. *Teenage parent programs: A synthesis of the long-term effects of the New Chance Demonstration; Ohio's Learning, Earning, and Parenting (LEAP) program; and the Teenage Parent Demonstration (TPD)*. New York: Manpower Demonstration Research Corporation, June 1998. On the limitations of parent education, see Clarke-Stewart, K.A. Exploring the assumptions of parent education. In *Parent education and public policy*. R. Haskins and D. Adams, eds. Norwood, NJ: Ablex Publishing Corporation, 1983, pp. 257–76.
37. For example, studies are ongoing of the PAT, HIPPY, NHVP, HFA, and Hawaii Healthy Start home visiting program models, and of Early Head Start, in which many sites employ home visiting.
38. The PAT program has instituted a new curriculum for teens since the Teen PAT evaluation reported in the Wagner and Clayton article in this journal issue was launched. The HIPPY program now serves three- to five-year-olds, rather than four- to five-year-olds, as it did when the evaluations reported in this journal issue were launched. It is unclear how many program sites employ the new rather than the old curriculum.