



## Review

## Home visitation programs: Critical Issues and Future Directions

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## ARTICLE INFO

## Article history:

Received 28 May 2010

Received in revised form 14 March 2011

Accepted 25 March 2011

## Keywords:

Home visitation

Family support

Early Head Start

Nurse Family Partnership

Program evaluation

Home visiting

## ABSTRACT

As support for intervening early in the lives of vulnerable children has risen in the United States in recent years, so has interest in home-visitation programs. Home visitation is increasingly recognized for its potential to foster early child development and competent parenting, as well as to reduce risk for child abuse and neglect and other poor outcomes for vulnerable families.

This paper provides a discussion of several aspects of home-visitation programs that warrant further development and evaluation, including the powerful role of context in determining program outcomes, as well as the impact of other factors, including service dosage, levels of family engagement, and characteristics of home visitors. The importance of more accurately understanding and measuring risk and engaging family members beyond the mother–child dyad is also discussed. Recommendations are made for making improvements in all of these areas, in order to strengthen home-visitation programs and produce better outcomes for the children and families they serve. Aspects of Nurse Family Partnership and Early Head Start, two widely replicated and rigorously evaluated programs, are highlighted to demonstrate how the issues discussed here are likely to affect service delivery and program outcomes. The multiple challenges inherent in replicating and evaluating home-visitation programs that are truly responsive to the needs of a wide array of families with young children are examined. This discussion concludes with a call to expand and improve methods for evaluating these programs, and to view home visitation as a component of a comprehensive system of child and family supports, rather than as a stand-alone model of intervention.

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Providing services to families in their own homes is an approach that has long been utilized in a number of social service systems, including child protective services, services for children with serious emotional disturbance and very young children with disabilities (Powell, 1993; Roberts, Wasik, Casto, & Ramey, 1991). Advantages to home visitation include the capacity to provide services in a familiar and comfortable environment, opportunities to observe family members' behavior and interactions in their homes, and sparing already-stressed families the difficulties of traveling to a different location. It is also expected that families receiving services in their homes will miss fewer appointments and therefore, receive more service (Brooks-Gunn, Berlin, & Fuligni, 2000; Gomby, Larson, Lewit, & Behrman, 1993; Johnson, 2009).

Although the provision of home-visitation services for young children and their families who may be at-risk for poor outcomes has been underway for more than 30 years, these programs are now receiving unprecedented levels of attention and support. This is partly due to wide dissemination of research findings that demonstrate that much of the development of the human brain, including the capacity for learning, occurs during the prenatal period through the earliest years of life (Shonkoff & Phillips, 2000). Policymakers have become increasingly aware of the first five years of life as a critical time in the development of children's cognitive, social, and emotional capabilities (Cannon & Karoly, 2007; National Center for Children in Poverty, 2008; Shonkoff & Phillips, 2000). As a result, they are increasingly turning to well-recognized models of home visitation as critical components of efforts to promote school readiness, improve parents' capacities to care for their children, and prevent child abuse and neglect and other harmful outcomes for vulnerable children and families (Karoly et al., 1998).

Attention to disparities in school readiness between children being raised in poverty and their non-poor peers is also at an all-time high (Haskins & Rouse, 2005; Pianta, Cox, & Snow, 2007). These disparities are of grave concern not only because they too often lead to undesirable outcomes for vulnerable children; but also because they threaten the United States' prospects for an adequate, well-educated workforce, something critical to the nation's ability to compete in a global economy. A number of prominent economists have joined state and local policymakers and philanthropic leaders in calling for large-scale expansion of early childhood programs, including home visitation, to address gaps in school readiness, as well as other risk factors for disadvantaged, young children and their families (Kilburn & Karoly, 2008; Rand Corporation, 2008; Rolnick & Grunewald, 2003). As a result, funding for home-visitation programs has steadily grown and is poised to increase with planned infusions of substantial federal funds, in addition to continuing investments by states and private philanthropic organizations (Johnson, 2009; National Center for Children in Poverty, 2010). These programs are garnering additional attention, as additional federal funds to support expansion of home visitation were allocated in the Patient Protection and Affordable Care Act of 2010 (Children's Defense Fund, 2010).

Although there are a variety of home-visitation initiatives operating in various communities and states, six well-known programs are often singled out for being delivered through multiple sites across the country and serving children from birth, or from the prenatal stage, to age three or five. These programs are Healthy Families America (HFA), Nurse-Family Partnership (NFP), Early Head Start (EHS), Parents as Teachers (PAT), Home Instruction for Parents of Preschool Youngsters (HIPPY) and the Parent-Child Home Program (PCHP) (Astuto & Allen, 2009; Gomby, 2005; Weiss & Klein, 2006). Each of these national models and many other localized home-visitation initiatives have their own program goals, and most have some goals in common. These include promoting early learning and optimal development in young children and improving parents' competence in caring for their child and stimulating his/her learning and development (Johnson, 2009).

Some home-visitation programs also strive to reduce families' risk for child abuse and neglect, and/or to improve family self-sufficiency. Most programs provide parents with social support as well as education regarding children's development and training in effective parenting behaviors and skills. Home-visitation programs typically link families with other resources in their communities, such as health and mental-health care and assistance with housing, child care, and other basic needs (Gomby, 2005; Gomby et al., 1993; Roberts et al., 1991; Weiss & Klein, 2006).

Several comprehensive reviews that discuss program outcomes from evaluations of prominent models of home visitation have been published in recent years (Daro, 2006; Gomby, 2005; Kahn & Moore, 2010; Olds, Sadler, & Kitzman, 2007; Sweet & Appelbaum, 2004). The authors of these reviews conclude that while home-visitation programs appear to have positive effects on a number of areas of child development and family and child wellbeing, these effects are relatively small. This has raised important questions about whether home visitation, at least as a stand-alone intervention, is a strategy worth the considerable investment that is being made in these programs (Astuto & Allen, 2009; Chaffin, 2004; Daro, 2006).

Reviews of outcome information from home-visitation programs have identified a number of programmatic issues that require further attention in order for home-visitation programs to achieve optimal benefits for the families they serve. This paper examines several of these key aspects of these programs, including the role of service context, service dosage, and family engagement; characteristics, supervision, and training of home visitors; engagement of family members beyond mother-child dyads; and defining and measuring levels of family risk. Recommendations are made in each of these areas to improve the quality and effectiveness of home-visitation programs and ensure that families facing multiple challenges are well served. Issues related to the replication and evaluation of home-visitation programs are also discussed. This paper concludes with a call to integrate these programs within a comprehensive system for serving families with young children.

Aspects of the two most-prominent models of home visitation, Nurse-Family Partnership and Early Head Start, are utilized to illustrate the issues discussed in this paper. Nurse-Family Part-

nership (NFP), which is currently operating in more than 200 sites, was selected as it is the best-known model of home-visitation (Gomby, 2005; Howard & Brooks-Gunn, 2009; Johnson, 2009) and has been rigorously evaluated in three carefully designed studies using experimental design (Olds et al., 1999, 2002; Olds, Henderson, Tatelbaum, & Chamberlin, 1988; Olds & Kitzman, 1993). Promising results from these studies were highly influential in efforts to include substantial, new funding for home visitation in the federal healthcare reform bill, the *Patient Protection and Affordable Care Act of 2010*. In fact, initial drafts of the home-visitation provision in this bill would have allocated most or all of these funds to NFP; however, the scope of the funding was eventually broadened to include funding for other rigorously evaluated models of home visitation (Haskins, Paxson, & Brooks-Gunn, 2009).

Early Head Start (EHS), which is operating at more than 700 sites, was selected as it is the most comprehensive of the six well-known home-visitation programs and has the most expansive evaluation. A wide variety of program impacts have been rigorously evaluated using experimental design at 17 different EHS sites across the United States (Lombardi & Bogle, 2004). EHS is also unique among prominent models of home visitation, as it was developed by the federal government, based on recommendations of nationally recognized experts in early childhood and family support (Lombardi, 2004; US Department of Health and Human Services, 1994). Evaluations of both NFP and EHS have included follow-up studies to assess the degree to which positive effects have been sustained (Administration for Children & Families, 2006; Bradley, Chazan-Cohen, & Raikes, 2009; Chazan-Cohen et al., 2007; Kitzman et al., 2010; Olds et al., 2010). Moreover, both programs are experiencing significant expansion due to increased allocations of federal funding (Children's Defense Fund, 2010; US Department of Health and Human Services, 2009).

## 1. Results of NFP and EHS evaluations

### 1.1. Nurse-Family Partnership

This program utilizes carefully trained, registered nurses to provide support and education to low-income, first-time mothers, from the prenatal period through the child's second birthday (Olds & Kitzman, 1993; Olds et al., 1999). Although NFP has been evaluated in three studies using rigorous, experimental design, the findings of the initial study, conducted in Elmira, New York, in the late 1970s continue to receive the greatest amount of attention from policymakers, economists, and advocates of home-visitation programs.

The results from the initial, Elmira study were compelling. Babies born to mothers participating in NFP who had been smokers were less likely to be born prematurely and babies born to mothers under 17 years old attained a higher birth weight than those in the control group. Participating mothers delayed having a second child and used welfare benefits for substantially shorter periods than did mothers in the control group. By age 15, children of low-income, unmarried women who had participated in NFP were less likely to have been abused and participate in high-risk behaviors involving drugs and/or alcohol (Olds et al., 1999). However, a recently published follow-up study indicates that some of these impacts were not sustained, especially for males, by the time children participating in the Elmira study were 18 years of age (Eckenrode et al., 2010).

Results from the initial study of NFP have provided a great deal of encouragement to advocates of early childhood intervention, given that these results were obtained through a rigorous program evaluation that utilized experimental design in randomly assigning eligible mothers to participate in NFP or to a control group.

Receiving less attention were the results of two subsequent studies of NFP in Memphis, Tennessee in the early to mid 1990s and in Denver, Colorado a few years later.

The sample sizes for these two studies were substantially larger than the sample used in the Elmira study and included a much higher percentage of families of color. The Memphis families were largely African-American, and those in the Denver study were African-American, Latino, and Caucasian; most of the families participating in the Elmira study were Caucasian (Olds et al., 1999). While the families participating in NFP in the two, later studies appeared to benefit from the program, these benefits were far less substantial than those seen in the initial study. For instance, there were no differences in the health at birth or rate of premature births for babies in the experimental and control groups and no significant differences in the cognitive development or incidence of behavior problems between the two groups. Moreover, although NFP mothers in Elmira were on welfare an average 30 months less than their control group peers, this difference shrank to just a few weeks in the Memphis and Denver studies; and there were no significant differences in employment or welfare dependence between mothers participating in NFP and those in the control group in Memphis (Olds et al., 1999, 2002).

A follow-up study of children whose families participated in the Memphis study showed that at age 12, NFP-participating children were less likely to report having emotional problems. Children born to NFP-participating mothers identified as having "low psychological resources" demonstrated improved performance on standardized tests of math and reading over their control-group counterparts (Kitzman et al., 2010).

### 1.2. Early Head Start

Early Head Start (EHS) is designed to serve low-income families with children under the age of three. Like NFP, EHS has the capacity to enroll pregnant women, so that services can get underway during the prenatal period (Mann, Bogle, & Parlakian, 2004). Of the original 143 EHS programs funded in 1995 and 1996, 17 were selected to participate in a rigorous, longitudinal program evaluation that began in 1995. A mix of urban and rural programs across the country, serving a diverse array of low-income families, were selected for participation in the Early Head Start Research and Evaluation (EHSRE) study, which followed 3001 children and their families participating at the 17 sites (Administration for Children and Families, 2002, 2006; Bradley et al., 2009; Mann et al., 2004). Families at each site were selected for participation in Early Head Start or a control group through the use of random assignment.

The 17 sites participating in the EHSRE study were a mix of center-based, home-based, and combination home and center-based programs. At age three, positive impacts were strongest for children and families participating in the combination home and center-based programs. When participating children were age five, however, this pattern changed, with home-based EHS programs producing stronger impacts for both children and parents (Administration for Children and Families, 2006).

At age three, children participating in Early Head Start demonstrated gains in language, cognitive, and social development, displayed higher emotional engagement with parents and less aggressive behavior than their control-group counterparts. Positive impacts were also demonstrated for EHS-participating parents, who were more emotionally supportive, provided more stimulation of their children's learning and language development, and spanked less than parents in the control groups. Most of these effects were modest. However, children and families participating in programs that were fully implemented and adhered to EHS program standards experienced more-significant benefits, as did families who enrolled during pregnancy and African-American

families in general (Administration for Children and Families, 2002; Mann et al., 2004).

Although families determined to be at highest levels of risk appeared not to benefit from EHS by the time the children reached age three, some favorable impacts on parenting and home environment emerged as the children in these families approached kindergarten (Administration for Children and Families, 2006). Also noteworthy is EHS' favorable impact on maternal depression, a serious risk factor, that emerged when participating children were age five (Chazen-Cohen et al., 2007). Significant favorable impacts on children's behavior problems and approaches to learning were sustained two years after completing EHS, as the children prepared to enter kindergarten (Administration for Children and Families, 2006; Bradley et al., 2009).

## 2. Critical Issues for home-visitation programs

The results of rigorous evaluation of NFP, EHS and other home-visitation programs provide important information about the future potential of these programs and areas that should be further developed and evaluated. The findings point to a number of aspects of home-visitation programs that must be improved if these programs are to become truly responsive to the needs of a broad array of disadvantaged families with young children; and in turn, produce stronger, more consistent, and sustainable outcomes (Astuto & Allen, 2009; Chaffin, 2004; Daro, 2006; Love et al., 2005; Olds et al., 2007; Sweet & Appelbaum, 2004; Weiss & Klein, 2006). Several of these factors are discussed below.

### 2.1. Recognizing the powerful role of context

Home-visitation services are not delivered in a vacuum; instead, they interact with and are affected by the context in which the families they serve live. The laws and public policies that are in effect, the quality and availability of critical resources, and the characteristics of the communities in which families reside, affect the delivery of home-visitation services and are likely to play a significant role in the outcomes achieved by these programs (Bradley et al., 2009; Daro, 2006; Halpern, 1993; McGuigan, Katzev, & Pratt, 2003; Weiss, 1993). Most programs work to link families with resources such as health and mental health care, childcare, and assistance with basic needs such as food and housing. Programs that provide a high number of linkages, in communities with an adequate supply of these resources, are likely to achieve better outcomes than similar programs in communities where critical resources are scarce and/or of poor quality (Johnson, 2009). Unfortunately, families with the lowest incomes and at highest levels of risk typically reside in communities that fit the latter description, making it more difficult for home visitors to assist these families in meeting their complex needs (Halpern, 1993; Halpern, 2000; Klebanov, Brooks-Gunn, & Duncan, 1994; McGuigan et al., 2003).

#### 2.1.1. Effects of welfare reform

Changes in the context in which home-visitation services are provided may help to account for the difference in outcomes between the first study of NFP and the two later studies (Olds et al., 1999). For instance, although most of the families participating in the initial study in Elmira, New York in the late 1970s were low-income, welfare benefits were more accessible and continued for longer periods of time than during the 1990s, when the safety net for poor families began to shrink (Greenberg et al., 2002). It is possible that the services provided by NFP were more responsive to the needs of families in a rural community with a secure safety net than they were to families living in the inner cities of Memphis and Denver 15 years later, when benefits to poor families were severely reduced as part of welfare reform. Some of the effects of

welfare reform include decreased economic security for many families, higher numbers of poor mothers participating in the work force, and an increase in the participation of their children in early care and education settings (Chow, Johnson, & Austin, 2004; Shields & Behrman, 2002). These changes may have altered the needs and increased the challenges faced by families in the later trials of NFP and, along with other contextual changes, may have contributed to the reduced effectiveness of NFP in the later studies.

#### 2.1.2. Community characteristics

Another contextual factor contributing to the substantial differences in outcomes in these studies may have been differences in the types of communities in which NFP was tested. Because the families in the Elmira study lived in rural areas, they may not have had ready access to resources such as subsidized health care and food assistance, which are often concentrated in urban areas (Amato & Zuo, 1992; Levey, Curry, & Levey, 1988; Tickamyer & Duncan, 1990). Connecting rural, NFP-participating families to such critical resources may have made a significant difference in several aspects of the wellbeing of these families. More recently, a study of pregnancy outcomes for NFP programs in Pennsylvania found program effects stronger for families living in rural areas than for those in urban settings (Rubin et al., 2011).

NFP-participating families in urban Memphis and Denver may have already had access to whatever resources were available in those communities; therefore, the effects of linking families to resources may not have been as dramatic in these two cities as they were in Elmira. Moreover, significant stressors, such as high rates of violence and other crimes that are routinely encountered by families in impoverished, urban communities often have deleterious effects on these families' abilities to care for their children (Chow et al., 2004; Hastings, Taylor, & Austin, 2004; Klebanov et al., 1994; McGuigan et al., 2003). The presence of such stressors in the lives of families participating in the Memphis and Denver studies may have, in some cases, outstripped some of the capacities of NFP, leading to diminished outcomes for these families (Collins et al., 1998; Olds et al., 1999).

#### 2.1.3. Effects of public awareness

Public awareness is another contextual factor that may affect program outcomes. For instance, while 55% of the expectant mothers in the Elmira study smoked cigarettes and 30% were moderate-to-heavy smokers; only 9% of those enrolled in the Memphis study were smokers and only 2% smoked a moderate-to-heavy amount (Olds et al., 1999). This difference may be due, in large part, to public health campaigns during the 12–15 years that separate these two studies. These initiatives increased general awareness of the harmful effects of prenatal smoking on the developing fetus (Pollack, 2001; Ventura, Hamilton, Mathews, & Chandra, 2003).

Infants born to Elmira mothers identified as moderate-to-heavy smokers who were assisted by nurse home visitors to curtail their smoking during pregnancy showed significant gains over infants in the control group, on measures of cognitive development. No such cognitive gains were identified for infants born to non-smoking mothers who participated in NFP (Howard & Brooks-Gunn, 2009; Olds, Henderson, & Tatlebaum, 1994; Olds et al., 1999). These results reflect research findings indicating that prenatal smoking may have harmful effects on children's cognitive development and other aspects of child wellbeing (Martin, Dombrowski, Mullis, Wisenbaker, & Huttunen, 2006; Olds et al., 1994). The incidence of smoking among pregnant women in the Memphis study, however, was too low for home visitation to make a difference in these and other, related outcomes (Olds et al., 1999). Cultural differences also likely contributed to these disparate outcomes, given the high proportion of African-American mothers participating in the Memphis study and relatively low rates of cigarette smoking among African-



American women during the era in which these studies occurred (Dole et al., 2004; Olds et al., 1999).

#### 2.1.4. Addressing service context

These proposed explanations for diminishing outcomes in NFP across the three studies are speculative; however, they illustrate the strong influence that the context in which families live is likely to have on the outcomes of home-visitation services. It is important that future evaluations of home-visitation programs examine the roles that context plays in program success (Bradley et al., 2009; McGuigan et al., 2003); doing so will provide a clearer picture of what it really takes to achieve desired outcomes for low-income children and their families in the current context of family stressors and supports, community resources, and economic conditions.

Documenting and assessing levels of collaboration among various service providers in communities in which home-visitation services are delivered are likely to yield important information about the role that service-coordination plays in achieving these outcomes (Smith & Mogro-Wilson, 2008). Moreover, assessment of the resources available to families with young children in a given community is important to the planning as well as to the evaluation of home-visitation programs (Halpern, 1993; Johnson, 2009; McCall & Green, 2004; Weiss, 1993).

Home visitors are likely to be more effective in serving families with multiple needs when they have strong partnerships with those who are providing other vital services in the communities they serve (Daro, 2006; Daro & Cohn-Donnelly, 2001; Schumacher, Hamm, Goldstein, & Lombardi, 2006). Program leaders should identify gaps in critical resources and collaborate with other service providers to fill these gaps. It may be necessary for home-visitation programs to enhance and expand the range of services they provide in order to address unmet needs, especially when serving high-risk families in resource-starved communities (Daro, 2006; Halpern, 2000; McGuigan et al., 2003). This may mean adding professionals with extensive training and expertise in areas such as substance abuse and domestic violence, to a program's roster of home visitors, and ensuring that all home-visitation staff have the capacity to assess for these and other serious risk factors (Gomby, 2005; Johnson, 2009). The addition of highly trained and credentialed staff members would increase the cost of home-visitation programs; however, this cost may be worthwhile if programs are able to achieve improved outcomes for families at higher levels of risk.

These aspects of program context are addressed, to some extent, in Early Head Start's focus on community development as one of its four programmatic "building blocks" (Mann et al., 2004). Corresponding program standards call for comprehensive community needs assessment to be conducted by entities planning and operating EHS programs as well as for close collaboration with other service providers (Raikes & Love, 2002). Moreover, the Early Head Start evaluation, which took place at 17 sites including rural, urban, and suburban communities, provides opportunities for examining differences in program effects across various types of communities (Raikes, Love, Kisker, Chazan-Cohen, & Brooks-Gunn, 2004). However, little information has been published regarding the degree to which levels of community resources and collaboration among local service providers affected EHS program outcomes. Collecting and disseminating this type of information could be valuable in understanding the interplay between collaboration, service linkage, and home visitation in meeting families' needs.

#### 2.2. Service dosage and family engagement

Additional information is needed about the frequency, duration, and intensity of services necessary for program success with various types of families and with families at various levels of

risk. Recent program evaluations indicate that providing the full dosage (the planned number and frequency of visits) leads to better outcomes for families participating in home-visitation programs (Raikes et al., 2004). However, it is also apparent that families typically receive fewer and less-frequent home visits than intended and drop-out of home-visitation programs at unacceptably high rates (Ammerman et al., 2006; Gomby, Culross, & Berhman, 1999).

A number of studies indicate that families judged to be at higher levels of risk typically receive fewer and less-frequent home visits than other families, as they incur a greater number of cancelled and missed visits and drop-out at higher rates than do families at lower levels of risk (Josten et al., 2002; McGuigan et al., 2003; Raikes et al., 2006; Roggman, Cook, Peterson, & Raikes, 2008). A few studies, however, indicate that families at higher levels of risk may be more likely to enroll in home-visitation programs (Duggan et al., 2000) and receive more visits (Ammerman et al., 2006; Olds et al., 1999). It is still unclear which specific program characteristics, such as the qualities and training of home visitors and frequency of contact, are likely to improve family engagement, especially for families at higher levels of risk. Comparisons of programs' effectiveness in engaging families at various levels of risk are hampered by the different definitions and criteria used by home-visiting programs to determine levels of family risk, an issue that is discussed in a later section of this paper.

Korfmacher et al. (2008), define engagement as "the emotional quality of interactions with the program, or how family members feel about or consider the services they receive, such as the strength of the relationship between family and program staff or the amount of conflict families have with the information presented" (p. 173). Families are less likely to withdraw from services when home visitors are deliberate in demonstrating both respect for parents and expertise in helping to address problems that are important to each family (Brookes, Summers, Thornburg, Ispa, & Lane, 2006). For low-income families, this often means responding to a number of basic needs, such as housing and income, in addition to implementing the home-visitation program's curriculum (Damashek, Doughty, Ware, & Silovsky, 2011; Korfmacher et al., 2008).

It is important that programs are sufficiently flexible in permitting home visitors to respond to family crises as well as to the more routine concerns of each, individual family served, in addition to delivering the services prescribed by the model of home visitation that is being used (Daro, 2006; Love et al., 2005; Roggman et al., 2008; Tandon, Mercer, Saylor, & Duggan, 2008). Moreover, it is important that home visitors are accountable to the families they serve and follow through on the promises they make (Brookes et al., 2006; Brooks-Gunn et al., 2000; Dunst, Boyd, Trivette, & Hamby, 2002; Wagner, Spiker, Gerlach-Downie, & Hernandez, 2000).

#### 2.2.1. Cultural competence and family engagement

Sensitivity and respect for each family's cultural traditions and values also play a role in family engagement and retention (Huang & Isaacs, 2007; Lynch & Hanson, 2004). Roberts defines cultural competence as "a program's ability to honor and respect those beliefs, interpersonal styles, attitudes, and behaviors both of families who are clients and the multicultural staff who are providing services. In so doing, it incorporates these values at the levels of policy, administration, and practice" (1990, p. 4). This definition emphasizes the importance of cultural competence at all levels of a program's operations, in supporting its implementation at the service-delivery level.

It is well established that families' ethnic, religious, and cultural traditions and beliefs play a significant role in child rearing and that attention to this aspect of family identity is critical in engaging parents in services (Huang & Isaacs, 2007; Lynch & Hanson, 2004; Middlemiss & McGuigan, 2005; Roberts, 1990). However, despite early calls for attention to this issue (Slaughter-Defoe, 1993), there

is little information available about the degree to which widely replicated models of home visitation are responsive to cultural differences among the families they serve (Astuto & Allen, 2009). The federal standards for EHS require programs to address cultural competence by recruiting a cadre of home visitors from diverse backgrounds, ensuring that services are available in the languages spoken in a given community, and providing ongoing staff training on culturally competent approaches (Lally & White-Tennant, 2004). These standards provide a good starting point for home-visit programs seeking to improve their success in engaging and retaining families from diverse backgrounds.

Given the widespread difficulty, across home-visit programs, of providing the planned number and/or frequency of visits, additional strategies for engaging and retaining families should be developed and tested (Brookes et al., 2006). Improved strategies for engaging families and retaining their participation should be incorporated into how home visitors are recruited, trained, and supervised (Damashek et al., 2011; Korfmacher et al., 2008; McCurdy & Daro, 2001; Roggman, Boyce, Cook, & Jump, 2001; Wasik & Bryant, 2009).

### 2.2.2. Program flexibility

In addition to improving engagement strategies and cultural competence, increased flexibility is needed across various aspects of home-visit programs, so that the number, frequency, duration, and focus of the visits correspond to the needs of each family served (Daro, 2006; Johnson, 2009; Roggman et al., 2008). While families with relatively minor needs may benefit from monthly home visits, those with multiple needs and at higher levels of risk may require more-frequent visits or visits that last longer than what programs typically provide.

Rigorous evaluation that compares the efficacy of increased flexibility in determining service intensity and duration to that of the standardized dosage of visits currently used by programs, especially with families at higher levels of risk, would help inform efforts to improve outcomes for home-visit programs (Bradley et al., 2009; Korfmacher et al., 2008). It is important to note, however, that increased flexibility in the frequency and duration of home visits is unlikely to result in better outcomes unless it accompanied by improved strategies for engaging vulnerable families, so that these families will take advantage of the availability of additional and/or longer home visits. For this reason, improvements in family engagement strategies should be made simultaneously with program modifications that increase flexibility in the frequency and duration of home visits (Johnson, 2009).

### 2.3. Engagement of other family members

Additional information is needed regarding the impact of home-visit services on family members, especially the siblings of children who are the primary focus of the program. Most of the prominent models of home visitation focus primarily on mothers and a single, young child in each family served. NFP restricts participation to first-time, new mothers and their infants, as one of its goals is to prevent or at least delay subsequent childbearing (Olds et al., 1999; Olds & Kitzman, 1993). Most of the other, well-known, home-visit programs offer services to families with multiple children. For instance, 37% of the families participating in the multisite evaluation of EHS had more than one child (Mann et al., 2004).

Little is known about the “spillover” effects of home-visit programs, meaning the benefits that these programs may provide to children other than the child who is the primary focus of services (Gomby, 2005). It is reasonable to expect that parents who develop and improve skills in nurturing one child would likely utilize some of these same skills in caring for other children in the family. In

NFP, these benefits are expected to accrue to additional children born subsequent to the mother–child dyad’s participation in that program (Olds et al., 1999).

Because EHS often serves families with more than one child and targets “family development” as one of its goals, service providers are encouraged to address the needs of siblings and other family members, in addition to the mother and child officially enrolled in the program (Mann et al., 2004). EHS also works to engage fathers in services, regardless of whether they are married to the child’s mother or reside in the same household (Johnson, 2004). Little information is available regarding whether home visitors in EHS are able to spend sufficient time with each family to address the needs of multiple family members, or on the program’s effects on siblings of the targeted child. However, evaluation results regarding fathers are encouraging: participating fathers demonstrated more responsiveness toward their young children and reported that they were less likely to use physical discipline (Administration for Children and Families, 2002).

Given the importance of fathers’ roles in children’s development, it stands to reason that all home-visit programs should develop strategies to engage fathers, whenever appropriate, in providing nurturance to young children. Other family members, including grandparents, aunts and uncles often play significant roles in supporting parents and/or caring for young children; engaging these extended family members may intensify the positive effects of home-visit programs (Brookes et al., 2006; Slaughter-Defoe, 1993). Moreover, rather than simply hope for spill-over effects, programs such as EHS that serve families with more than one child, should be deliberate in finding ways to extend the benefits of home visitation to all of the children in the families they serve. This is likely to require additional time spent with each family by home visitors, assessing each child’s needs and making linkages to other programs, as appropriate. Evaluation methods should be designed to assess benefits to the siblings of children who are the focus of home-visit programs; positive findings may strengthen the case for home visitation as a cost-effective model of intervention.

### 2.4. Characteristics and capabilities of home visitors

#### 2.4.1. Characteristics of home visitors

Another aspect of home visitation that warrants additional study is the characteristics, i.e. the type and extent of education, life experiences, and personal traits that contribute to home visitors’ effectiveness (Astuto & Allen, 2009; Roggman et al., 2001). Most of the prominent models of home visitation rely heavily on paraprofessionals. Korfmacher et al. define paraprofessionals as “service providers who do not have degrees or formal training in a professional service, such as counseling, social work, nursing, medicine, psychology, or child development”; and notes that “Some programs may use “paraprofessionals” with college education or degrees from a non-social service field” (2008, p. 184).

NFP utilizes only registered nurses to make home visits; EHS utilizes multidisciplinary teams that may include professional social workers, early childhood educators, nurses, and paraprofessionals. Little is known about how home visitors’ educational backgrounds and disciplines affect family participation levels or outcomes, although there is evidence that the needs of high-risk families often outstrip the capacity of paraprofessionals and registered nurses to identify and address serious problems such as maternal depression and domestic violence (Chaffin, 2004; Eckenrode et al., 2000; Tandon et al., 2008).

The Denver study of NFP included a comparison between registered nurses and a one-time-only use of paraprofessionals as home visitors. Most impacts had larger effect sizes for families visited by nurses than for those with a paraprofessional home visitor

(Korfmacher et al., 1999; Olds et al., 2002). Similar comparisons have not been made, however, between outcomes with nurses and those achieved with degreed professionals from other disciplines, such as child development, social work, or psychology, as home visitors (Howard & Brooks-Gunn, 2009).

#### 2.4.2. Multidisciplinary teams

Although examining outcomes for home-visitation services provided by professionals from various disciplines may yield helpful insight, further evaluation of the effectiveness of multidisciplinary teams that include professionals from a variety of relevant disciplines along with paraprofessionals, is likely to be more useful. This approach recognizes the uniqueness of each family and the variations in the strengths and needs of families served by home-visitation programs. Some families may be more in need of the health care expertise of a nurse; families dealing with mental illness or substance abuse may best be served by a masters-level social worker. Paraprofessionals, especially those who are parents themselves, may play important roles in providing support and serving as a sounding board for young parents under stress (Korfmacher et al., 1999; Tandon et al., 2008). Improved understanding of how members of multidisciplinary teams can assist families with diverse needs and at various levels of risk would add considerably to the knowledge base in home visitation.

#### 2.4.3. Ongoing training and supervision

More information is also needed regarding the type and amount of in-service training and supervision that home visitors of various backgrounds must have in order to be successful in working with families (Tandon et al., 2008). Training should prepare home visitors to identify, assess, and address a wide array of challenges often faced by vulnerable families, including substance abuse and mental health concerns, social isolation, family violence, and housing needs (Chaffin, 2004). Moreover, training should help home visitors to develop the skills necessary to form productive and respectful relationships with families, particularly those at higher levels of risk and/or those who are difficult to engage. Knowing how to work effectively with families from cultures and/or socio-economic backgrounds different from one's own is an especially important aspect of such a skill-set (Astuto & Allen, 2009; Brooks-Gunn et al., 2000; Johnson, 2009; Lynch & Hanson, 2004). Lastly, home visitors must be well acquainted with the resources that are available to families in the communities they serve and know how to access these resources.

In addition to ongoing training, frequent and consistent, reflective supervision is also necessary in order for home visitors to work effectively with families (McGuigan et al., 2003). Moreover, this type of support is essential for the retention of home visitors, a critical factor in building and maintaining effective relationships with families and ensuring continuity of services (Brookes et al., 2006; Johnson, 2009).

### 2.5. Understanding and measuring family risk

Although most prominent home-visitation programs target services toward low-income families with young children, there is likely to be wide variation in these families' levels of risk for poor outcomes. More information is needed about the degree of risk experienced by families and how risk levels affect participation in and outcomes for home-visitation programs. Several studies have identified maternal depression, substance abuse, and domestic violence as powerful threats to the healthy development and wellbeing of young children in households where these risk factors are present, particularly when they co-occur (Graham-Bermann & Seng, 2005; Hans, Bernstein, & Henson, 1999; Huang & Freed, 2006; Koblinsky, Kuvalanka, & Randolph, 2006; Whitaker, Orzol,

& Kahn, 2006). Moreover, the importance of intervening early in order to ameliorate the effects of these risk factors on young children is widely recognized (Carter, Garrity-Rokous, Chazan-Cohen, Little, & Briggs-Gowan, 2001; Knitzer, 2000; Westbrook & Harden, 2010). It is essential that home-visitation programs serving families affected by these and other significant risk factors have the capacity, including highly trained staff and sufficiently intensive interventions, to identify and address the challenges such families face (Chaffin, 2004; Howard & Brooks-Gunn, 2009; Rafferty & Griffin, 2010; Roggman, Boyce, & Cook, 2009).

#### 2.5.1. The need for common criteria

The lack of common criteria among programs for determining levels of family risk poses a number of problems in understanding the efficacy of various models of home visitation. Published reports on the three rigorous studies of NFP, for instance, define families at highest risk as being those in which the mother was unmarried, poor, and smoked cigarettes in the initial (Elmira) study and as families headed by mothers with "low psychological resources and little belief in their control over their lives" in the Memphis and Denver studies (Olds et al., 1999, p. 61). Early Head Start defines levels of risk by the number of specific factors affecting each participating family. These risk factors include being a teenage mother and/or a single parent, receiving public assistance (welfare), being neither employed nor in school or job training, and not having a high school diploma or GED (Knitzer & Lefkowitz, 2006). Other programs define risk in different ways or fail to define levels of risk at all.

The lack of research-based, universally accepted criteria for measuring family risk in home-visitation programs makes it difficult to determine which programs might best meet the needs of families at various levels of risk (Howard & Brooks-Gunn, 2009). When reading published reports on NFP that conclude that this model was most successful with families at the highest levels of risk, one is not able to determine whether mothers identified as having "low psychological resources and little belief in their control over their lives" were depressed or abused substances, or the degree of poverty in which these families lived. While EHS' criteria are more explicit in their articulation of the factors used to determine levels of risk, they also fail to incorporate serious risk factors related to parents' mental health and family violence. Because neither the risk criteria for NFP nor EHS fully define and reflect these and other serious risk factors, it is impossible to determine the percentage of participating families encountering domestic violence, parental substance abuse, depression, or extreme poverty, or a combination of two or more of these deleterious factors.

#### 2.5.2. Improving program-family fit

Developing common criteria for assessing levels of risk across various home-visitation programs would go a long way toward determining the amount and types of services required by families experiencing various levels of risk. This would enable policy makers to select specific programs based on the levels of risk experienced by families toward whom services are being targeted, potentially improving the fit between what families need and what a given program offers. The critical need for such improvements is demonstrated in recent evaluations of HFA programs, in which families were assessed for serious risk factors including domestic violence, maternal depression, and substance abuse. The studies found that the home visitors often failed to recognize these serious risk factors and to address those they did identify (Duggan et al., 2004; Tandon et al., 2008).

Moreover, common criteria for assessing family risk would improve the usefulness of the information generated by evaluations of home-visitation programs, as program results could be viewed in the context of the levels of need and challenges experienced by



participating families. HFA programs use the *Kempe Family Stress Inventory*, which was developed for use with families at-risk for child abuse and neglect, and assesses some of the more-serious risk factors discussed above (Korfmacher, 2000). Additional research-based instruments for assessing child and family risk that have been created for use in the child-welfare system could serve as a starting point for the development of common criteria and instruments for assessing risk in families participating in various home-visitation programs (Cash, 2001; DePanfilis & Zurvain, 2001; Olsen, Allen, & Azzi-Lessing, 1996).

### 3. Looking ahead

#### 3.1. Additional challenges for program evaluation

##### 3.1.1. Limitations of experimental design

The promotion and replication of prominent models of home visitation have been strongly influenced by the elevation of experimental design as the “gold standard” for evaluating a broad spectrum of social-service programs, including home visitation. In their calls for replication of evidence-based, scientifically proven approaches, foundation leaders and policymakers are increasingly demanding that the programs they fund are based on models that have been “proven” through the use of rigorous experimental design (McCall, Groark, & Nelkin, 2004; Smyth & Schorr, 2009). Although the use of experimental design can bolster the credibility of the findings of home-visitation program evaluation; it, like any other single tool, falls short of capturing the complexity of these programs and the lives of the families they target (Astuto & Allen, 2009; Gomby, 1999).

##### 3.1.2. Multifaceted approaches

The simpler and more prescribed an intervention is, the easier it is to evaluate, especially if all participants receive the same set of services. Interventions that are multifaceted and readily customized based on each family's needs and circumstances are more complex and challenging to evaluate (McCall & Green, 2004; Silverstein & Maher, 2008; Smyth & Schorr, 2009). This is largely because the latter approach relies on difficult to quantify, idiosyncratic variables such as home visitor characteristics and judgment, responsiveness to a wide range of family needs, and the quality of home visitor-family relationships; in addition to program standards and curricula.

McCall and Green (2004) propose a number of ways to supplement the use of experimental design in order to obtain a more complete and holistic picture of what works and how and why it works, especially when evaluating comprehensive and customized approaches. They note that program evaluation research that “reflects the complexities of programs as they are delivered in the field is of utmost importance to understanding and improving service programs” (p. 10). These authors' recommendations include conducting within-treatment analysis of variations in levels of program participation and service delivery, placing greater emphasis on studying various aspects of program implementation, and studying the process of individualizing the services that are delivered.

McCall and Green call for the augmentation of experimental design with other quantitative methods and with qualitative methods that have the potential to get inside the “black box” of what really makes a program work. They cite, for example, the multisite evaluation of EHS that measures levels of program implementation and assesses various configurations of service delivery (home-based, center-based, a combination of the two, or a locally designed approach), in addition to using experimental design with random assignment of families into EHS or control groups (Bradley et al.,

2009; Robinson et al., 2009). All of these approaches have a home-visiting component, which ranges from a minimum of two home visits a year for center-based programs to weekly home visits for programs that are home-based. An important finding of the EHS evaluation is that although children and families participating in programs that offered a combination of home-based and center-based services had a broader pattern of larger impacts when the children were age three, home-based programs produced more and stronger impacts at age five (Administration for Children and Families, 2006). This information is very helpful in understanding how service configuration affects program impacts for both children and families over time.

Qualitative evaluation methods should be employed to capture the experiences and responses of families served by home-visitation programs. The voices of participants can provide valuable information regarding how these programs affect families and areas where improvements should be made (Brookes et al., 2006; Green & McAllister, 1998; Roggman et al., 2001; Smyth & Schorr, 2009), including the degree to which programs deliver services in a culturally competent manner. Moreover, evaluations of home-visitation programs should include an examination of the role that a range of contextual factors play in the success of these programs. This would entail taking into account the resources and supports available as well as the stressors, such as violence and other forms of crime, that occur within communities served by home-visitation programs (McCall & Green, 2004; Smyth & Schorr, 2009). As Astuto and Allen (2009) point out, “Knowing what works under what conditions is a challenge for every program, as well as a concern for policymakers who have limited funds to support home visitation” (p. 13).

The resources available in participating families' communities as well as the capacity of home visitors to collaborate with other service providers to deliver well-coordinated, comprehensive services should also be examined to assess the “ecological validity” of program outcomes; that is, how well a program operates within a specific community (McCall & Groark, 2000). Moreover, program evaluation should include an assessment of the effects that home visitors' characteristics, such as background, education, and personality traits, have on family engagement and program outcomes (Roggman et al., 2001), and whether multidisciplinary teams deliver better results than the use of home visitors from a single discipline. While such multifaceted approaches to program evaluation are more expensive, time-consuming, and complex than using experimental design alone, they have the potential to provide a more accurate and complete picture of program effectiveness. This approach can also yield valuable information about how programs should be modified to meet various types and levels of family need (McCall & Green, 2004; Smyth & Schorr, 2009).

#### 3.2. Challenges for program replication

##### 3.2.1. Flexibility versus ease of replication

An issue of critical importance is the apparent mismatch between what it typically takes to help vulnerable children and families and what is necessary for a model of intervention to be easily replicable in a wide array of settings (McCall & Green, 2004). Schorr (2003), Knitzer and Lefkowitz (2006), and others who have completed extensive reviews of individual, model programs with demonstrated success in serving highly vulnerable families, note that successful programs have a number of characteristics in common. Such programs allow for extensive customization of services to meet each family's unique needs, have multiple service components for addressing health, social, economic, and educational needs, are responsive to the needs and cultures of the community in which services are delivered, and place an emphasis on long-term relationships between service providers and families. These char-



acteristics are consistent with those of a broad spectrum of effective preventive programs (Borkowski, Smith, & Akai, 2007; Nation et al., 2003; Weissberg, Kumpfer, & Seligman, 2003).

Mass replication, however, is far more feasible for programs that rely on a single approach, use highly prescribed and well-defined interventions, and are tightly controlled. This creates an unfortunate paradox in which program approaches that appear to hold the greatest promise for substantially benefiting vulnerable children and families are much more challenging to replicate on a large scale than less promising, 'one size fits all' approaches (Howard & Brooks-Gunn, 2009; McCall & Green, 2004; Schorr, 2003; Smyth & Schorr, 2009).

### 3.2.2. Model fidelity or program standards?

An initial step toward addressing this paradox is to examine the respective roles of fidelity to a specific model of intervention, and adherence to a set of program standards. Given the evidence that home-visitation programs are most effective when fully implemented, i.e. with the appropriate personnel and at sufficiently high dosage levels (Astuto & Allen, 2009; Duggan et al., 2004; Weiss & Klein, 2006), attention to the degree to which a program is implemented according to its design is warranted. However, there are different ways to address the need for full and complete implementation.

For NFP, this is done by requiring a high degree of fidelity to its original, tested model. Fidelity is defined in the Encarta Dictionary as "precision of reproduction" and those operating a NFP program are required to do so in a way that is very similar to how services were delivered in the initial, Elmira study (Weiss & Klein, 2006). Home visitors must be nurses and a schedule that prescribes the frequency of visits according to the child's age is followed, as are "visit-by-visit program protocols" (Olds et al., 1999, p. 49) that specify the focus of each home visit. Although the prescriptive nature of NFP helps ensure that programs will be replicated with a high level of adherence to program standards, it also precludes much customization of services to meet individual communities' and families' needs. Early Head Start, on the other hand, emphasizes adherence to its performance standards to ensure the quality of individual programs, while allowing for considerable variability within and across programs (Administration for Children and Families, 2002). Home visitors may be nurses, social workers, early childhood educators, or paraprofessionals; curricula used by programs vary, and the focus of home visits also varies according to individual family needs. By emphasizing adherence to performance standards rather than fidelity to a single approach, EHS provides a model for how home-visitation programs can be customized to address the unique needs of the communities and families they serve, while remaining accountable for delivering those services with a high level of quality and adherence to a program's theoretical framework (Lombardi & Bogle, 2004). It should be understood, however, that careful and consistent monitoring is critical to ensure that programs closely adhere to program standards, and that this is especially challenging in programs that allow for a high degree of customization.

### 3.3. Home visitation as a component of a comprehensive system

Language that accompanies expanded funding for home-visitation programs in the 2010 health care reform act places a great deal of emphasis on evidence-based models (Children's Defense Fund, 2010; Haskins et al., 2009). Improvements, in recent years, in the rigor and scope of methods used for evaluating home-visitation programs have yielded useful information about how these programs work, the benefits they provide, and, to a limited extent, the durability of these benefits (Eckenrode et al., 2010; Gomby & Culross, 1999; Love et al., 2005; Sweet & Appelbaum,

2004). These evaluations also provide important information about aspects of home-visitation programs that warrant further attention and improvement. Efforts to improve family retention and participation, the expertise of home visitors, and the capacity of programs to address significant risk factors, are underway in a number of home-visitation programs (Johnson, 2009; Roggman et al., 2009; Weiss & Klein, 2006).

It is unfortunate that intense focus on evaluation methodology distracts from what the results of rigorous evaluation of home-visitation programs reveal. That is, that home visitation is not the long sought-after, silver bullet than can, by itself, ameliorate multiple developmental and social risk factors (Astuto & Allen, 2009; Chaffin, 2004; Daro, 2006; Gomby, 2005; Howard & Brooks-Gunn, 2009). This will come as no surprise to anyone who has observed how social conditions, poverty, and family history conspire to hamper prospects for vulnerable children to enjoy a happy and successful life.

The appeal of simple, easily replicable approaches cannot be denied; however, it stands to reason that the complex etiology of serious social problems requires more intensive, multi-faceted, and customized interventions. The research to date tells us that home visitation should be one of those facets, along with high-quality, center-based early care and education, parent support and education groups, and services aimed toward improving parents' mental health and self-sufficiency (Austin et al., 2004; Brooks-Gunn, 2003; Delpeche, Jabbar-Bey, Sherif-Trask, Taliaferro, & Wilder, 2003; Weiss & Klein, 2006).

The recent commitment of substantial federal funding to expand home-visitation programs increases the urgency of ensuring that these programs are as effective as they can be. In an Ounce of Prevention Fund/Chapin Hall publication, Deborah Daro, a pioneer in the development and evaluation of home-visitation programs, eloquently summed up the challenges ahead:

Home visitation is not the singular solution for preventing child abuse, improving a child's developmental trajectory or establishing a strong and nurturing parent-child relationship. However, the empirical evidence so far does support the efficacy of the model and its growing capacity to achieve its stated objectives with an increasing proportion of new parents. Maintaining this upward trend will require continued vigilance to issues of quality, including staff training, supervision, and content development. It also requires that home visitation be augmented by other interventions that provide deeper, more focused support for young children and foster the type of contextual change necessary to provide parents adequate support (p. 14, 2006).

Conveying this nuanced message to policymakers in the government and philanthropy sectors will be challenging (Chaffin, 2004; Schorr, 2003). Many of these leaders have been inundated with claims that various models of home visitation have been scientifically proven to prevent child abuse and neglect, ensure that vulnerable children reach school prepared to learn and succeed, and substantially improve family self-sufficiency (Sprinkle, 2009). Shifting this message to reflect Daro's realistic assessment of what is needed to achieve these outcomes will not be without risk to the credibility of those who have been championing home visitation as a stand-alone antidote to much of what plagues disadvantaged, young children and their families. However, such a shift is critical to ensuring that the increased funding available for early childhood intervention is invested in programs and services that hold the greatest promise in addressing the challenges that these children and families face.

Activities in a number of states indicate growing awareness of the need for improved coordination of services and for programs that address the needs of vulnerable, young children and families.

New York, Louisiana, and Virginia have recently created statewide entities to coordinate various programs that offer support to parents of young children. These new networks seek to improve the effectiveness of home visitation and other parenting programs by improving the organization of activities such as provider training, curriculum development, and program planning, as well as promoting best practices in various programs across these states (Higgins, Stagman, & Smith, 2010). Leaders in other states, including Michigan, Vermont, and Illinois, are looking across a wider range of state agencies, funding streams, and programs that touch vulnerable, young children and their families, in an effort to improve the coordination and effectiveness of the services these families receive. These states are among at least 38 that are working to make similar improvements under the federally initiated Early Childhood Comprehensive Systems project (Johnson & Theberge, 2007; National Center for Children in Poverty, 2007).

Although these efforts are encouraging, it is important to keep in mind that they are only the beginning steps toward building a system that encompasses and effectively engages a wide range of programs and services from both the child-serving and the adult-serving arenas. These programs include early care and education and early intervention, as well as adult mental health, substance abuse, and family self-sufficiency programs, among many others. Such a comprehensive system would enable home visitors to link vulnerable families with the resources, services, and supports necessary to significantly improve the life chances of the young children in these families (Austin et al., 2004; Knitzer & Lefkowitz, 2006; Perry, Kaufman, & Knitzer, 2007; Weiss & Klein, 2006). As discussed in this paper, there is much that can be done to improve the effectiveness of home-visitation programs and continue to build the knowledge base regarding what types of programs work best for which families. However, only when comprehensive service systems are built and become fully functional, is home visitation likely to realize its full potential as a service strategy.

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