

Implementation of Evidence-Based Early Childhood Home Visiting

RESULTS FROM
THE MOTHER AND
INFANT HOME
VISITING PROGRAM
EVALUATION

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Implementation of Evidence-Based Early Childhood Home Visiting: Results from the Mother and Infant Home Visiting Program Evaluation

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Overview

Introduction

Children develop fastest in their earliest years, and the skills and abilities they develop in those years help lay the foundation for their future success. Similarly, early negative experiences can contribute to poor social, emotional, cognitive, behavioral, and health outcomes both in early childhood and in later life. Children growing up in poverty tend to be at greater risk of encountering adverse experiences that negatively affect their development. One service strategy that has improved these outcomes is early childhood home visiting, which provides information, resources, and support to expectant parents and families with young children, typically infants and toddlers, in their home environments.

A substantial literature has provided evidence of home visiting impacts on family functioning, parenting, and child outcomes. However, there are many gaps in knowledge about home visiting programs, including a lack of information on program implementation. Evaluations of home visiting have rarely collected detailed information on the services provided to families, so it is difficult to know whether impacts on particular outcomes of interest are associated with implementation or features of the home visiting model.

This implementation research report describes the local programs, home visiting staff, and families who participated in the Mother and Infant Home Visiting Program Evaluation (MIHOPE), a national evaluation of the federal Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program launched in 2011. This national evaluation is systematically examining how program features and implementation systems are associated with services delivered and impacts across four of the home visiting models designated as evidence-based by the U.S. Department of Health and Human Services: Early Head Start – Home-based option, Healthy Families America, Nurse-Family Partnership, and Parents as Teachers.

Primary Research Questions

1. What services did families receive in home visiting programs?
2. How are characteristics of families, home visitors, local programs, other home visiting stakeholders (such as the federal MIECHV program and evidence-based models), and communities associated with differences in the services that families received?

Purpose

The purpose of this research is to provide detailed information on the actual services provided to families and how those services vary depending on the characteristics of families, home visitors, local programs, other home visiting stakeholders, and communities. Further analyses that will be published in a subsequent report will build on this analysis to learn about how implementation features are associated with program impacts. Together, these publications will inform current and future efforts to strengthen home visiting services and their benefits for families.

Key Findings and Highlights

- **The MIECHV-funded local programs served families in disadvantaged communities with high levels of risk.** Mothers participating in MIHOPE tended to be young and economically disadvantaged and exhibited a variety of risks that could affect their children's development.
- **Similar to prior research, families in MIHOPE participated in home visiting for eight months on average, which is less than expected by the four evidence-based models in the study.** More disadvantaged families tended to participate for a shorter time than other families.
- **Local programs focused on improving parenting and child development outcomes, areas historically emphasized by all four of the evidence-based models.** A majority of visits discussed these topics. Home visitors attended more training and felt most well supported and effective in improving parenting and child development, compared with other areas.
- **Services related to sensitive topics were tailored to family needs.** Home visitors addressed sensitive topics, such as substance use, mental health, or intimate partner violence, more often with families who were more likely to need help in these areas, compared with other families. Home visitors who attended training on these topics addressed them more often with families.

Methods

MIHOPE was designed to study home visiting effectiveness in local programs as they operated under the auspices of the MIECHV program and includes 88 local programs that use one of four evidence-based home visiting models: Early Head Start – Home-based option, Healthy Families America, Nurse-Family Partnership, and Parents as Teachers.

Since it can be difficult to compare many outcomes across a broad range of children's ages, MIHOPE included only families in which the mother was age 15 years or older and was pregnant or her focal child was less than 6 months old. The MIHOPE research team chose this age range for children because the majority of MIECHV-funded local programs aimed to enroll women during pregnancy or shortly after childbirth. To provide reliable estimates of the effects of home visiting programs, the MIHOPE team randomly assigned families who were interested in and eligible for a MIECHV-funded local program participating in MIHOPE, and who consented to be in the study, to either the MIECHV-funded local program or a control group that was referred to other appropriate services in the community. From October 2012 to October 2015, a total of 4,229 families entered the study. Over the course of MIHOPE, 11 families withdrew from the study for a final analytical sample of 4,218 families (2,104 in the program group; 2,114 in the control group).

For the implementation research analysis, the samples of interest are the 2,104 families randomly assigned to the MIHOPE program group and the staff at all 88 local programs. The entire period of implementation research data collection lasted from September 2012 to June 2016. Implementation research activities included family surveys and observations of families' home and external environments at baseline, family service logs, observations of home visitor-family interactions, staff surveys, semi-structured qualitative interviews with home visitors, training logs, supervision logs, inventories of community services, surveys and interviews with evidence-based model developers, and reviews of local program and evidence-based model documents.

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The Authors

Executive Summary

Early childhood experiences set the stage for health and development across a person's life span. The home is the main setting for these early experiences. Many children are born into families whose circumstances make it challenging for parents to provide the safe, secure, and supportive environment needed to start children on a trajectory for a successful life. As a result, children from low-income families are more likely to suffer from poor social, emotional, cognitive, health, and behavioral outcomes than children from higher-income families. The critical role of early parenting calls for a service strategy that supports over-burdened families and empowers them to overcome the challenges they face and foster the healthy development of their young children.

One such service strategy is early childhood home visiting, which aims to improve outcomes for expectant families and families with young children, typically infants and toddlers, by supporting them in their home environments. Since the 1970s, many models of home visiting have been developed that each address multiple aspects of parenting and child well-being, though the models often originated in specific service sectors, including health, early education, and child welfare. Concurrently, a substantial literature has provided evidence of home visiting impacts on family functioning, parenting, and child outcomes. The literature also provides evidence of various challenges in designing and implementing services so that home visiting achieves its potential as a part of the early childhood system of care.

In 2010, Congress authorized the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program by enacting section 511 of the Social Security Act, 42 U.S.C. § 711, which also appropriated funding for fiscal years 2010 through 2014.¹ Subsequently enacted laws extended funding for the program through fiscal year 2022.² While home visiting programs were already being implemented across the country, the MIECHV program expanded the availability of evidence-based home visiting.³

¹SEC. 511 [42 U.S.C. 711] (j) (1).

²Funds for subsequent fiscal years were appropriated by section 209 of the Protecting Access to Medicare Act of 2014, Pub. L. 113-93 (fiscal year 2015); section 218 of the Medicare Access and Children's Health Insurance Program Reauthorization Act of 2015, Pub. L. 114-10 (fiscal years 2016-2017); and section 50601 of the Bipartisan Budget Act of 2018, Pub. L. 115-123 (fiscal years 2018-2022).

³Charles Michalopoulos, Helen Lee, Anne Duggan, Erika Lundquist, Ada Tso, Sarah Crowne, Lori Burrell, Jennifer Somers, Jill H. Filene, and Virginia Knox, *The Mother and Infant Home Visiting Program Evaluation: Early Findings on the Maternal, Infant, and Early Childhood Home Visiting Program*, OPRE Report 2015-11 (Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, 2015).

The federal MIECHV program is administered by the Health Resources and Services Administration (HRSA) in collaboration with the Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services (HHS). HRSA distributes funds from the federal MIECHV program to MIECHV state and territory awardees. In 2017, HRSA provided awards to 56 states and territories: 47 state agencies; three nonprofit organizations serving Florida, North Dakota, and Wyoming; the District of Columbia; and five U.S. territories. Awardees distribute funds to local implementing agencies — also commonly referred to as local programs — who work directly with families. Additionally, ACF oversees the Tribal MIECHV program, which, as of 2017, funded 29 Indian tribes, consortia of tribes, tribal organizations, and urban Indian organizations across 16 states. Some tribal grantees directly serve families, while others distribute funds to local programs to serve families.

The authorizing legislation requires awardees to devote the majority of MIECHV funding for home visiting models designated as evidence-based by HHS.⁴ The authorizing legislation also requires that MIECHV-funded early childhood home visiting programs be designed and implemented to work toward demonstrating improvement in the following benchmark outcome areas: (1) prenatal, maternal, and newborn health; (2) child health and development; (3) parenting skills; (4) school readiness and child academic achievement; (5) crime or domestic violence; (6) family economic self-sufficiency; and (7) referrals and service coordination.

The authorizing legislation requires HHS to carry out a rigorous program of research to advance knowledge about the implementation and effectiveness of home visiting programs. Within the resulting program of MIECHV-funded research, the Mother and Infant Home Visiting Program Evaluation (MIHOPE) is a national evaluation to learn about the implementation, effectiveness, and costs of MIECHV-funded evidence-based home visiting programs administered by state awardees (hereafter referred to as “states”). MIHOPE was launched in 2011 by ACF and HRSA, within the U.S. Department of Health and Human Services. MDRC is conducting the evaluation for HHS in partnership with James Bell Associates, Johns Hopkins University, Mathematica Policy Research, the University of Georgia, and Columbia University. The evaluation separately examines program implementation, impacts, and costs.

This report presents findings from the mixed-methods implementation research analysis embedded within MIHOPE. Building on initial findings from the 2015 MIHOPE report to Congress,⁵ this report describes the process for selecting states and local programs for the study; the characteristics of the states, local programs, home visiting staff, and families who participat-

⁴See U.S. Department of Health and Human Services, “Home Visiting Evidence of Effectiveness,” (Washington, DC: Administration for Children and Families, U.S. Department of Health and Human Services, 2017a), website: homvee.acf.hhs.gov.

⁵Michalopoulos et al. (2015).

ed in the implementation research analysis from September 2012 to June 2016; the services received by families; and the features of local programs — as well as characteristics of home visitors and families that are associated with how home visitors deliver services.

As explained below, the MIHOPE implementation research analysis includes a large number of local programs and home visitors, focuses on four different evidence-based models, and uses standardized methods for measuring services delivered to families and factors believed to influence the services received by families. This study design makes it possible to identify features of home visiting, not just of a specific model, that are associated with how services are delivered. In a separate impact report presenting findings about the effects of home visiting on certain outcomes, MIHOPE will address whether and how these implementation features influence the impacts of home visiting on family outcomes. Additionally, a separate report will present estimates of costs for local evidence-based home visiting programs.

MIHOPE Study Design

MIHOPE was designed to study home visiting effectiveness in local programs as they operated under the auspices of the MIECHV program. To receive MIECHV funds, awardees were required to create initial plans that indicated the communities where the funds would be used and the home visiting models that would be supported with those funds. MIHOPE focused on the evidence-based models that were chosen by 10 or more states in their initial plans for MIECHV funding. Of the seven models designated as evidence-based at the start of the MIECHV program, the four models that were chosen by 10 or more states in their initial plans, and therefore met the criteria for inclusion in MIHOPE, were Early Head Start – Home-based option (EHS); Healthy Families America (HFA); Nurse-Family Partnership (NFP); and Parents as Teachers (PAT).

The MIHOPE implementation research analysis goals are:

1. To describe the services that families received in home visiting programs;
and
2. To understand how characteristics of families, home visitors, local programs, other home visiting stakeholders (such as the federal MIECHV program and evidence-based models), and communities are associated with differences in the services that families received.

MIHOPE selected 88 local programs from the following 12 states: California, Georgia, Illinois, Iowa, Kansas, Michigan, Nevada, New Jersey, Pennsylvania, South Carolina, Washington, and Wisconsin. There were slightly more HFA local programs (26) and slightly fewer EHS local programs (19) than NFP (22) and PAT local programs (21).

Local home visiting programs entered the study between September 2012 and December 2014. While families were eligible for home visiting if they met the usual eligibility criteria for the local program, not all families eligible for home visiting were eligible to participate in MIHOPE. Since it can be difficult to compare many outcomes across a broad range of children's ages, MIHOPE included only families in which the mother was age 15 years or older and was pregnant or her focal child was less than 6 months old. This child age range was chosen because the majority of MIECHV-funded local programs aimed to enroll women during pregnancy or shortly after childbirth.

To provide reliable estimates of the effects of home visiting programs, the MIHOPE team randomly assigned families who were interested in and eligible for a MIECHV-funded local program participating in MIHOPE, and who consented to be in the study, to either the MIECHV-funded local program or a control group that local program staff referred to other appropriate services in the community. From October 2012 to October 2015, 4,229 families entered the study. Over the course of the study, 11 families withdrew from the study for a final analytical sample of 4,218 families (2,104 in the program group; 2,114 in the control group).

Home Visiting Models Studied in MIHOPE

Home visitors devote the majority of visit time to providing education and support to families. They also provide referrals to and coordination with needed community services. Home visitors gather information from families informally and through formal screening and assessment to identify family strengths, needs, concerns, and interests that they should address directly through education and support during visits or through referral and coordination.

The four evidence-based models in MIHOPE shared the goal of improving outcomes for families throughout their children's early years and beyond. They also follow the basic home visiting framework of gathering information, educating and supporting families, and helping families access other community services designed to improve family health and functioning. The models also differed in the following important ways:

- **Program goals.** While all of the models broadly aimed to help parents improve their children's health and development, the programs' specific goals differed. For example, EHS provided comprehensive services that focused on the development of infants and toddlers, supporting parents in their roles as caregivers and teachers of their children, and promoting school readiness. In addition to the goals of strengthening nurturing parent-child relationships, promoting healthy child growth and development, and enhancing family functioning, HFA had a particular emphasis on preventing child maltreatment and other adverse childhood experiences. NFP had a strong emphasis on prevention and on the social determinants of health. NFP's three goals

were to improve prenatal health and birth outcomes, improve child health and development, and improve families' economic self-sufficiency and maternal life course development. PAT's focus was on supporting families to enhance parents' knowledge of early childhood development, improve parenting practices, help detect early signs of developmental delays and health issues, prevent child maltreatment, and promote children's school readiness and success.

- **Target population and children's ages at enrollment.** The models aimed to serve families who were at heightened risk of poor child outcomes, such as those with low incomes. However, each model's eligibility criteria targeted families with somewhat different types of risk. NFP targeted first-time, low-income mothers. HFA focused on families at risk of child maltreatment or with behavioral health issues, such as challenges with mental health or substance use. EHS sought to serve a broad group of low-income families. PAT had no specific eligibility requirements mandated at the national level. NFP only enrolled women who were pregnant, while the other three models could enroll women when they were pregnant or when they had infants. EHS and PAT also enrolled families whose youngest children were toddlers. (Although as described above, these families were not included in MIHOPE.)
- **Home visitor qualifications.** The four models required different qualifications of their home visitors. NFP required home visitors to be baccalaureate-prepared nurses, EHS required home visitors to have knowledge and experience in child development, PAT required home visitors to have at least a high school credential and a minimum of two years of supervised work experience with young children or parents, and HFA required home visitors to have at least a high school credential and required local programs to look for relevant community-based experience and interpersonal characteristics.

Characteristics of MIHOPE Participants

The MIHOPE implementation research analyzed information for the 2,104 families randomly assigned to the MIHOPE program group and for the staff at all 88 local programs. The entire period of implementation research data collection lasted from September 2012 to June 2016.

Consistent with the MIECHV program's goal of targeting at-risk communities, the local programs served eligible families in disadvantaged communities with high levels of socioeconomic risk. Mothers participating in MIHOPE tended to be young and economically disadvantaged, and exhibited a variety of risks that could affect their children's development. Over a third of mothers in MIHOPE were under 21 years of age. Almost half did

not have schooling beyond high school. Thirty-one percent reported illegal use of drugs or drinking heavily before becoming pregnant. Over a third reported symptoms of depression and about one-fifth reported symptoms of anxiety. About one-fourth of mothers had experienced or perpetrated intimate partner violence in the past year. More than half of households reported they had run out of food or worried about running out of food in the past year. Close to 90 percent of households received public assistance. Finally, families in MIHOPE lived in communities with greater socioeconomic disadvantages than the national average.

Local programs participating in MIHOPE tended to be in metropolitan areas, to have several years of operating experience, and to be relatively large. Close to 80 percent of local programs in MIHOPE served families in metropolitan counties. In comparison, in 2016 approximately 50 percent of the counties with MIECHV-funded local programs were metropolitan. About three-fourths of participating local programs had been operating for six years or more when they joined the study, reflecting both initial MIECHV state plans to expand existing local programs and MIHOPE's focus on local programs that had been in operation for at least two years. Additionally, the majority of local programs reported enrollment capacity of more than 100 families, and about 80 percent reported having at least five home visitors currently on staff. While MIHOPE aimed to represent the diversity of local programs funded by the MIECHV program, it was not a nationally representative sample of the MIECHV program since resource constraints led the study to focus on states with numerous MIECHV-funded local programs and on relatively large local programs.

Most home visitors had at least a bachelor's degree, which is more education than most of the models required. Half had more than three years of experience, while the other half were relatively inexperienced in providing home visiting services when they entered MIHOPE. Three-fourths of home visitors and nearly all supervisors had a bachelor's degree or higher and had studied relevant fields such as social work, child development, psychology, or nursing. Half of home visitors had at least three years of experience providing home visiting services at the time of the staff survey. One-fifth had been in their current position less than one year and had no experience in home visiting.

Most home visitors reported positive attitudes toward their jobs and organizations, though some reported psychosocial risks and some expressed intent to leave their current position within the next year. Home visitors and supervisors reported higher than average scores of job satisfaction and organizational commitment, which are indicators of employee morale, when compared with a national sample of mental health workers.⁶ About 15

⁶Charles Glisson, John Landsverk, Sonja Schoenwald, Kelly Kelleher, Kimberly Eaton Hoagwood, Stephen Mayberg, and Philip Green, "Assessing the Organizational Social Context (OSC) of Mental Health

(continued)

percent of home visitors and 12 percent of supervisors reported having symptoms of depression. This rate is higher than the 10 percent of the women in the U.S. population who experienced symptoms of depression between 2009 and 2012, but lower than rates reported in past home visiting studies.⁷ Between 12 percent and 18 percent of staff reported they did intend to leave their current position within the next year, which is higher than in other recent studies of home visitors' work attitudes.⁸

Implementation System

The implementation system is the link between the services that have been defined in a local program's service plan and the services actually provided to families enrolled in home visiting. The components of the implementation system examined in this report include training and supervision of home visitors, clinical and administrative supports provided to home visitors, and the community service environment available to local programs. Further, home visitors' perceptions of their roles and their effectiveness in carrying out those roles are described, as well as home visitors' ratings of their local program's implementation systems, their perceptions of the MIECHV program and its influence on their work, and the availability and quality of services in their communities.

Home visitors typically reported receiving more frequent training and less frequent supervision than specified by their evidence-based models. They reported infrequent use of both role play in training and supervisor observation of visits. These practices are considered important for building new skills and improving program effectiveness.⁹ Home

Services: Implications for Research and Practice," *Administration of Policy in Mental Health* 35, 1-2 (2008): 98-113.

⁷Laura A. Pratt and Debra J. Brody, *Depression in the U.S. Household Population, 2009-2012*, NCHS Data Brief No. 172 (Hyattsville, MD: National Center for Health Statistics, 2014); Daniel J. Whitaker, Tadesse Haileyesus, Monica Swahn, and Linda S. Saltzman, "Differences in Frequency of Violence and Reported Injury Between Relationships with Reciprocal and Nonreciprocal Intimate Partner Violence," *American Journal of Public Health* 97, 5 (2007): 941-947.

⁸Lori Burrell, Elizabeth McFarlane, Darius Tandon, Loretta Fuddy, Anne Duggan, and Philip Leaf, "Home Visitor Relationship Security: Association with Perceptions of Work, Satisfaction, and Turnover," *Journal of Human Behavior in the Social Environment* 19, 5 (2009): 592-610.

⁹Lisa A. Burke and Holly M. Hutchins, "Training Transfer: An Integrative Literature Review," *Human Resource Development Review* 6, 3 (2007): 263-296; Dean L. Fixsen, Sandra F. Naoom, Karen A. Blase, Robert M. Friedman, and Frances Wallace, *Implementation Research: A Synthesis of the Literature* (Tampa, FL: Louis de la Parte Florida Mental Health Institute, National Implementation Research Network, 2005); Joseph A. Durlak and Emily P. DuPre, "Implementation Matters: A Review of Research on the Influence of Implementation on Program Outcomes and the Factors Affecting Implementation," *American Journal of Community Psychology* 41, 3-4 (2008): 327-350; Katherine L. Casillas, Angèle Fauchier, Bridget T. Derkash, and Edward F. Garrido, "Implementation of Evidence-Based Home Visiting Programs Aimed at Reducing Child Maltreatment: A Meta-Analytic Review," *Child Abuse and Neglect* 53 (2016): 64-80.

visitors reported receiving an average of more than eight hours of training per month. However, the training did not typically include role play of skills.

Including weeks without reported supervision, home visitors' average time spent in individual supervision was 43 minutes per week. This is a shorter duration than what was intended by some of the models; model expectations for individual supervision ranged from 2 hours per month to 1 to 1.5 hours per week. However, when individual supervision sessions were held, they typically met model expectations for length. Supervisors reported that individual supervision sessions lasted slightly more than an hour, on average.

Home visitors in MIHOPE varied in how often they were observed in visits with families over a yearlong period and in how structured those observations were. Across all models, a third of home visitors were not observed at all, about one-fourth were observed once, about a third were observed two to four times, and one-tenth were observed more than four times in a year. About three-fourths of supervisors reported they used a structured tool when observing visits.

Direct observation of practice can be a vitally important supervision tool for assessing and reinforcing home visitors' skills in communicating with families — for example, how well home visitors identify and respond to family members' cues regarding concerns, interests, and understanding. The need for direct observation is evident in results of MIHOPE's video sub-study, which showed meaningful variation in how home visitors communicated with families. For example, home visitors varied widely in the extent to which they used conversational techniques to build partnerships with families.

Local programs provided home visitors with an array of administrative and clinical supports. Most local programs in MIHOPE reported having appropriate administrative supports in place, including management information systems, continuous quality improvement activities, and program monitoring. Clinical supports included curricula that focused heavily on topics directly related to parenting and child development. The 88 local programs in MIHOPE used a number of different parenting curricula, with an average of 3.4 different parenting curricula at each local program. The three most common parenting curricula used by local programs were the Parents as Teachers (PAT) Foundational Curriculum, Partners in Parenting Education (PIPE), and Partners for a Healthy Baby (PHB). Nearly half of all local programs either recommended or required the PAT Foundational Curriculum. All three of these widely used curricula provided structured guidance to home visitors for their work with parents on positive parenting and child development, but they (and other supplemental materials provided by the models) varied in the depth of their treatment of other topics, such as intimate partner violence, substance use, and mental health.

At least 80 percent of local programs reported that community service providers were available across all service types. However, less than two-thirds of local programs perceived those service providers to be accessible and effective in helping their families. As one part of the early childhood comprehensive system of care, home visiting is expected to improve outcomes not only through direct service delivery but also through referral to and coordination with other providers in the community. Ties could be further strengthened between the local programs and other service providers via formal agreements and designated contacts between organizations.

In general, home visitors felt both well supported and effective in working with families across a wide range of outcomes, giving themselves high ratings more consistently with respect to parenting and child development than maternal health and well-being. Home visitors typically reported that their program's implementation system supported them to improve most outcomes, but this finding varied by outcome-specific area. For instance, more than 75 percent of home visitors felt they had a supportive implementation system for promoting positive parenting and child development, but less than 60 percent felt well supported to address tobacco use, substance use, mental health, and intimate partner violence.

Service Delivery

All four of the evidence-based models specify planned services related to dosage, such as intended duration, visit frequency, and visit length. In addition to highlighting the dosage of services delivered to families, this section describes three additional aspects of home visiting services: continuity of the home visitor, home visit content, and family responsiveness.¹⁰

Families participated in a home visiting program for an average of eight months in the year following their first visit. All of the evidence-based models expected services to continue at least until the child's second birthday. About half of the families were still participating at the time of the child's first birthday, consistent with past literature on the implementation of home visiting.

Families received fewer visits than expected by their evidence-based model. In the first year of enrollment, close to 60 percent of families received at least 50 percent of the visits expected by their model. This is consistent with the dosage described in previous research on home visiting implementation.

Families' participation in home visiting during their first year followed three broad trajectories after receiving their first visit. Trajectories included early leavers whose

¹⁰The findings in this section are based on families with at least one home visit.

initial visits were followed soon after by a steep decline in participation and then no participation (28 percent of families), later leavers whose initial visits dropped to a plateau and then whose participation declined sharply to nonparticipation (17 percent of families), and long-term participators whose visit patterns settled into a relatively stable pattern over the period (55 percent of families). One year after their first home visit, long-term participators — who represented over half of families — were typically still receiving between 1.2 and 2.5 visits per month.

The minimum expected length of a visit ranged from 50 minutes for PAT to 90 minutes for EHS. The actual visit length was, on average, at least an hour for all models. This visit length met model expectations for all models except EHS, for which the average visit was slightly shorter than expected (82 minutes) but still lasted longer than in the other three models.

On average, families and home visitors discussed five outcome-specific topics in each visit, and families received referrals to an average of three different types of community services during the first year of services, demonstrating the breadth of these programs' objectives. Mental health, positive parenting behavior, child preventive care, child development, and economic self-sufficiency were the most common topics discussed across all visits. Close to 50 percent of families received at least one referral for public assistance or health insurance, Medicaid, or the Children's Health Insurance Program. Of families who entered the study prenatally, close to 50 percent received at least one referral to services for prenatal health and birth outcomes.

Most families received visits from only one home visitor, and home visitors generally rated families as responsive during home visits and between visits. Eighty percent of families that received at least one visit received all their visits from one home visitor in the year after their first visit. Home visitors rated families as responsive during home visits and between visits, where responsiveness refers to how families reacted to or engaged in program activities, such as following through with referrals or engaging in suggested parenting behaviors.

Characteristics Related to Differences in Service Receipt

Of the families who were found to be eligible for a local home visiting program and were assigned to MIHOPE's program group, 83 percent received at least one visit, and families who received visits tended to participate for about eight months out of the first year. To help the home visiting field increase engagement among lower attenders or to target services efficiently, it is useful to understand how specific characteristics of families, home visitors, and local programs are related to families' likelihood of receiving services, their number of visits, and the content of their visits. The analyses presented below do not indicate whether these characteristics directly caused the differences in service receipt that were observed, but the results could

suggest fruitful areas for further investigation as home visiting programs reflect on new directions for service delivery.

While the families in MIHOPE faced several socioeconomic and health risk factors at study entry, families with relatively more challenges and barriers participated in home visiting programs for shorter periods compared with average families in the study, while families with relatively fewer challenges participated longer. Families participated in home visiting for 8.2 months, on average. Families with relatively more challenges participated for 6.5 months, on average, and families with relatively fewer challenges participated for 9.1 months, on average.

First-time mothers and less-educated mothers were less likely to receive any home visits. Among mothers who were found to be eligible for a local home visiting program and who entered the study, first-time mothers were 5 percentage points less likely to receive a home visit. Mothers who had not completed high school were 4 percentage points less likely to receive a home visit than mothers who had at least some college. These differences are relatively large since, overall, 83 percent of families in the study received a home visit.

Local programs that implemented different evidence-based models differed in whether families received at least one visit and how long families stayed in the program. These differences were evident even after taking into account various characteristics of families, home visitors, and local programs. Families served by local programs implementing EHS were more likely to receive at least one visit, and families served by local programs implementing NFP or EHS stayed in the home visiting program for a longer time, on average.

Tailoring of services to families' needs was especially evident in areas of substance use, mental health, and intimate partner violence. Home visitors were more likely to discuss these topics with or provide referrals to families whom the study identified through surveys and assessments as likely to need services in these areas, compared with other families.

Certain practices of home visitors and local programs were associated with how often families and their home visitors discussed specific sensitive topics. Home visitors who attended training related to family planning and birth spacing, substance use, mental health, intimate partner violence, or child development discussed the topic more often with families than home visitors who did not attend training to address these outcomes. When a local program had formal processes in place for screening — as well as internal monitoring of these processes — for substance use or intimate partner violence, families and home visitors discussed the topic more often, compared with families served by local programs that did not have these processes in place to address these outcomes.

Home Visitor Perspectives on Services Provided to Families

To shed further light on what occurs in home visiting and to offer insights into why and how services provided may vary across families through the lenses of home visitors, the research team conducted qualitative interviews with 104 home visitors across 24 local programs participating in MIHOPE. The local programs operated in seven states and equally represented the four evidence-based models.

Most home visitors described their work as providing consistent and stable support to empower the mother in her role as the child's first teacher. Home visitors underscored that their local programs aim to honor the goals and preferences of the mother. The emphasis on the mother's preferences sometimes created tensions for the home visitor in balancing mothers' preferences with the goals of the local program, the evidence-based model, and the federal MIECHV program when they did not align with each other.

Given the emphasis on maternal preferences, some home visitors reported respecting the mother's position if she was not interested in changing a particular behavior. Home visitors most often mentioned doing so in the areas of reducing tobacco use or promoting breastfeeding. Even though home visitors believed these behaviors were important, they described feeling the need to balance the goal of helping a parent adopt new behaviors with supporting the family's engagement, which they thought would be compromised if they repeatedly brought up the issue. They expressed concerns that compromising engagement in this way, in turn, would undermine opportunities to improve and provide education in other areas such as child health and development.

Some home visitors described feeling especially challenged in addressing a mother's poor mental health, substance use, and intimate partner violence. Perhaps not surprisingly, areas associated with stigma were not easy to address, in part because home visitors indicated that they could not easily identify these sensitive issues. In spite of the use of screening tools, home visitors reported that some families were unlikely to be forthright about such issues until some trust had been established. Even when home visitors indicated that they could identify these issues, they felt that some families were unwilling or unable to understand their seriousness and potential consequences.

In the working relationships with families that home visitors saw as rewarding, they perceived mothers' eagerness to learn about and improve parenting practices as high and evident in how they continued with the visits and followed through between visits. For these families, home visitors felt they could achieve the intended level of service delivery and identify noticeable improvements in family behaviors or well-being.

Home visitors described their more challenging families as either being unmotivated to change or learn about positive parenting, having high levels of needs, or having psychosocial issues that sometimes stemmed from current and past trauma. In some of these cases, home visitors felt they were constantly engaged in crisis management and noted that planned visit content and duration of family participation were hard to achieve. This finding is consistent with those discussed above, indicating that families with more challenges and barriers tended to stay in home visiting for a shorter time than families with fewer challenges and barriers.

Conclusion

The MIHOPE implementation research analysis provides important information on local home visiting programs in the early years of the MIECHV program. The findings indicate that, as intended, local programs participating in the MIECHV program served socioeconomically disadvantaged families with a wide range of risks to healthy parenting and child development. Local programs were staffed by a relatively inexperienced workforce. These local programs relied somewhat more on in-service training and less on week-to-week supervision than intended by their evidence-based models.

Families that faced more risk factors appeared to be somewhat less likely to stay in home visiting for an extended period, compared with families that faced fewer risk factors. Home visitors more consistently reported feeling effective and strongly supported to promote positive parenting and child development than to address sensitive topics related to maternal health and well-being, such as substance use, mental health, and intimate partner violence. Although evidence-based models have historically emphasized positive parenting and child development outcomes, local programs reported increasingly focusing on sensitive areas, at least in part as a result of the MIECHV program.

The literature suggests the importance of observation-based feedback as part of training and supervision to introduce, build, and reinforce home visitors' skills in working with families. The results from the MIHOPE implementation research analysis show that local programs used this strategy relatively infrequently. The findings also show that home visitors more frequently broached sensitive topics such as substance use and intimate partner violence when they had received training on these topics or when their local programs had formal processes in place for screening families — as well as internal monitoring of these processes — on these topics.

What's Next

These descriptive findings about how services are currently supported and delivered can help to inform the home visiting field's evolution within the early childhood system of care. For instance, the finding that many families, particularly those facing more parenting risks, leave

home visiting shortly after enrolling could inform decisions about outreach, engagement, and services for families. Further, the finding that specific home visitor and local program practices, such as formal screening processes and internal monitoring of these screening processes, are associated with how home visitors deliver services to families suggests some promising possibilities regarding the kinds of operational practices that appear to support local programs in achieving their service delivery priorities.

One example of the home visiting field's continuing efforts to align families' goals, strengths, and risks with service strategies to improve family outcomes is HRSA's recent launch of the Innovation Toward Precision Home Visiting national research and development platform.¹¹ The intent of this platform is to define and test the planned services and implementation system components of home visiting models and to improve efficiency by identifying the subsets of components most effective for different groups of recipients. Using this platform, stakeholders will work together to design theory-based components, test them using innovative rapid-cycle methods, and take effective components to scale with the subsets of families who benefit most.

Further, the national offices of the evidence-based models continue to make programmatic changes, such as updates to their curricula and screening procedures to address outcomes related to parent-child interactions or maternal health and well-being. Some of these changes could be the result of MIECHV programmatic priorities or knowledge gained through the MIECHV program, while other updates were already underway before the MIECHV program began.

Future reports will provide additional information on the effectiveness of the local programs that participated in MIHOPE. The upcoming MIHOPE impact report will present findings on the effects of home visiting on outcomes in each of the areas that are emphasized in the legislation authorizing the MIECHV program. It will also address whether and how implementation features described in this report influence the impacts of home visiting on family outcomes, in order to further inform the field on actionable programmatic factors that can potentially be leveraged to improve the effectiveness of services in the future. A separate report will present estimates of costs for local evidence-based home visiting programs. Results of these reports, in combination with those of the current report, will inform efforts to strengthen home visiting.

¹¹For more information, see funding opportunity number HRSA-17-101 at <https://mchb.hrsa.gov/fundingopportunities> and www.hvresearch.org.

Chapter 1

Introduction

Early childhood experiences set the stage for health and development across a person's life span.¹ The home environment is the main setting for these early experiences. Many children are born into families whose circumstances make it challenging for parents to provide the safe, secure, and supportive environment needed to start children on a trajectory for a successful life. As a result, children from low-income families are more likely to suffer from poor social, emotional, cognitive, health, and behavioral outcomes than children from higher-income families.² The critical role of early parenting calls for a service strategy that supports over-burdened families and empowers them to overcome the challenges they face and foster the healthy development of their young children.³

One such service strategy is early childhood home visiting, which aims to improve outcomes for expectant families and families with young children, typically infants and toddlers, by supporting them in their home environments.⁴ Since the 1970s, many models of home visiting have been developed that address multiple aspects of parenting and child well-being, though the models often originated in specific service sectors, including health, early education, and child welfare.⁵ Concurrently, a substantial literature has provided evidence of home visiting impacts on family functioning, parenting, and child outcomes.⁶ The literature also provides evidence of various challenges in designing and implementing services so that home visiting achieves its potential as a part of the early childhood system of care.⁷

In 2010, Congress authorized the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program by enacting section 511 of the Social Security Act, 42 U.S.C. § 711, which also appropriated funding for fiscal years 2010 through 2014.⁸ Subsequently enacted laws extended funding for the program through fiscal year 2022.⁹ While home visiting programs were

¹National Research Council and Institute of Medicine (2000).

²Brooks-Gunn and Duncan (1997).

³DiLauro and Schreiber (2012).

⁴DiLauro and Schreiber (2012).

⁵Weiss (1993); Duggan (2015).

⁶U.S. Department of Health and Human Services (2017a).

⁷See, for example, Boller et al. (2014). An early childhood system of care refers to a network of strong, coordinated, and responsive organizations that aim to improve outcomes for children ages 0 to 5.

⁸SEC. 511 [42 U.S.C. 711] (j) (1).

⁹Funds for subsequent fiscal years were appropriated by section 209 of the Protecting Access to Medicare Act of 2014, Pub. L. 113-93 (fiscal year 2015); section 218 of the Medicare Access and Children's Health

already being implemented across the country, the MIECHV program expanded the availability of evidence-based home visiting.¹⁰

The federal MIECHV program is administered by the Health Resources and Services Administration (HRSA) in collaboration with the Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services (HHS). As shown in Figure 1.1, HRSA distributes funds from the federal MIECHV program to MIECHV state and territory awardees. In 2017, the Health Resources and Services Administration (HRSA) provided awards to 56 states and territories: 47 state agencies; three nonprofit organizations serving Florida, North Dakota, and Wyoming; the District of Columbia; and five U.S. territories.¹¹ Awardees distribute funds to local implementing agencies — also commonly referred to as local programs — who work directly with families.

ACF oversees the Tribal MIECHV program, which, as of 2017, funded 29 Indian tribes, consortia of tribes, tribal organizations, and urban Indian organizations across 16 states. Under the program’s authorizing legislation, support for tribal home visiting is set at 3 percent of appropriated MIECHV funds for the fiscal year.¹² Tribal grantees follow the same program requirements as the MIECHV state and territory awardees to the “greatest extent practicable,” while allowing for flexibility to meet unique tribal needs and contexts.¹³ Some tribal grantees directly serve families while others distribute funds to local programs to serve families.

The authorizing legislation requires that awardees’ early childhood home visiting programs funded under the MIECHV program be designed and implemented to work toward demonstrating improvement in the following benchmark outcome areas: (1) prenatal, maternal, and newborn health; (2) child health and development; (3) parenting skills; (4) school readiness and child academic achievement; (5) crime or domestic violence; (6) family economic self-sufficiency; and (7) referrals and service coordination.¹⁴

The authorizing legislation requires awardees to devote the majority of MIECHV funding for home visiting models designated as evidence-based by HHS.¹⁵ At the time that the

Insurance Program Reauthorization Act of 2015, Pub. L. 114-10 (fiscal years 2016-2017); and section 50601 of the Bipartisan Budget Act of 2018, Pub. L. 115-123 (fiscal years 2018-2022).

¹⁰Michalopoulos et al. (2015).

¹¹U.S. Department of Health and Human Services (2017b).

¹²SEC. 511 [42 U.S.C. 711] (j) (2) (A).

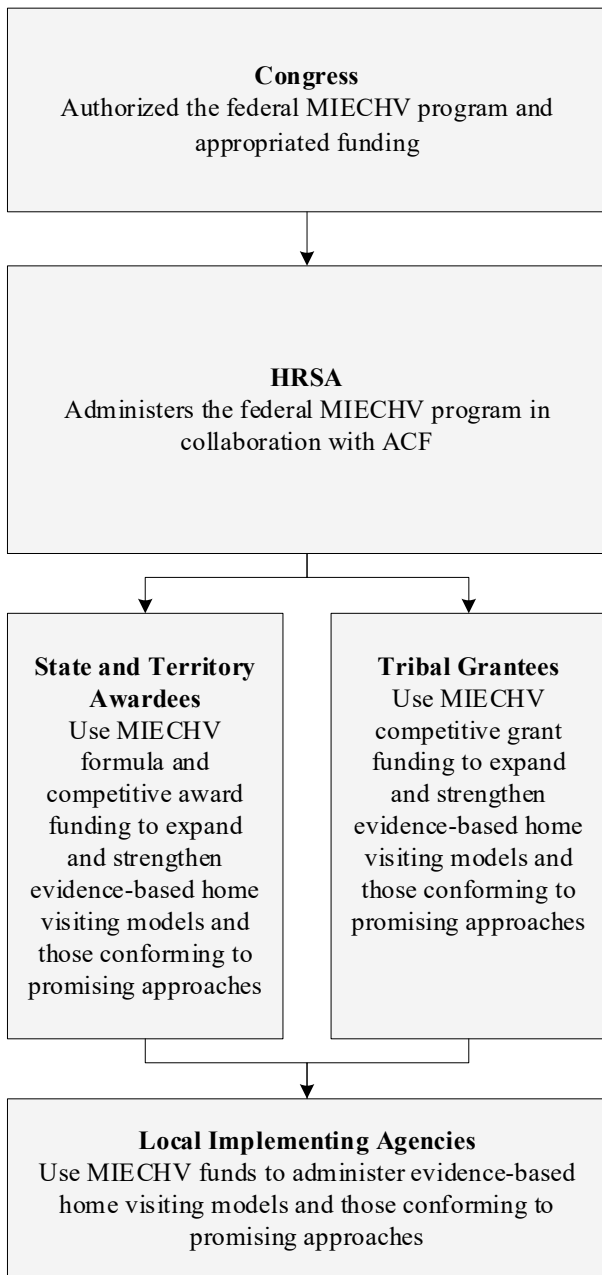
¹³SEC. 511 [42 U.S.C. 711] (h) (2) (A).

¹⁴SEC. 511 [42 U.S.C. 711] (d) (2) (B) (i-vii).

¹⁵SEC. 511 [42 U.S.C. 711] (d) (3) (A) (ii). To determine which home visiting models are defined as evidence-based, HHS commissioned the Home Visiting Evidence of Effectiveness (HomVEE) review. See U.S. Department of Health and Human Services (2017a).

Figure 1.1

MIECHV Funding Stream



Congress authorized the federal Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program by enacting section 511 of the Social Security Act, 42 U.S.C. § 711, which also appropriated funding for fiscal years 2010 through 2014. Subsequently enacted laws extended funding for the program through fiscal year 2022.

The federal MIECHV program is administered by the Health Resources and Services Administration (HRSA) in collaboration with the Administration for Children and Families (ACF). These agencies distribute funds from the federal MIECHV program to MIECHV state and territory awardees and tribal grantees and ensure that these entities operate their early childhood home visiting programs according to the requirements outlined in the authorizing legislation.

Awardees include 47 state agencies; three nonprofit organizations serving Florida, North Dakota, and Wyoming; the District of Columbia; and five U.S. territories. Grantees include 29 tribal entities. HRSA oversees awards to states and territories; ACF oversees grants to tribal entities. State and territory awardees distribute funds to local implementing agencies (LIAs) to implement evidence-based home visiting models and those conforming to promising approaches, monitor and support LIAs' progress toward reaching benchmarks, and engage in broad systems-building activities. Tribal grantees either implement home visiting models directly or through subcontracts to LIAs.

LIAs receive funding from MIECHV state and territory awardees, and in some cases tribal grantees. These funds are used to implement evidence-based home visiting models and those conforming to promising approaches.

authorizing legislation was enacted, seven models had achieved this designation.¹⁶ While the evidence of effectiveness for each individual model was limited to a subset of outcomes, the

¹⁶The seven models classified as “evidence-based” at the time the authorizing legislation was enacted were: Early Head Start – Home-based option; Family Check-Up; Healthy Families America; Healthy Steps; Home Instruction for Parents of Preschool Youngsters (HIPPY); Nurse-Family Partnership; and Parents as Teachers.

full body of research across all of the models combined included evidence of positive impacts in most of the intended outcome areas listed above.¹⁷

The authorizing legislation also specifies that HHS must carry out a rigorous program of research to advance knowledge about the implementation and effectiveness of home visiting programs.¹⁸ Within the resulting program of MIECHV-funded research, the Mother and Infant Home Visiting Program Evaluation (MIHOPE) is a national evaluation to learn about the implementation, effectiveness, and costs of MIECHV-funded evidence-based home visiting programs administered by state awardees (hereafter referred to as “states”).¹⁹ MIHOPE was launched in 2011 by ACF. MDRC is conducting the study for HHS in partnership with James Bell Associates, Johns Hopkins University, Mathematica Policy Research, the University of Georgia, and Columbia University. The evaluation separately examines program implementation, impacts, and costs.

This report presents findings from the mixed-methods implementation research analysis embedded within MIHOPE. Building on initial findings from the 2015 MIHOPE report to Congress,²⁰ this report describes: (1) the process for selecting states and local programs for the study; (2) characteristics of the local programs, home visiting staff, and families who participated in the implementation research analysis from September 2012 to June 2016; (3) the services received by families; and (4) features of the local programs, home visitors, and families that are associated with how home visitors deliver services.

As explained below, the MIHOPE implementation research analysis includes a large number of local programs and home visitors, focuses on four different evidence-based models, and uses standardized methods for measuring services delivered to families and factors believed to influence the services received by families. This study design makes it possible to identify features of home visiting, not just of a specific model, that are associated with how services are delivered. In a separate impact report presenting findings about the effects of home visiting on certain outcomes, MIHOPE will address whether and how these implementation features influence the impacts of home visiting on family outcomes. Additionally, a separate report will present estimates of costs for local evidence-based home visiting programs.

¹⁷Paulsell et al. (2010). Across the seven models, no favorable impacts had been measured or found in the outcome domain of crime or domestic violence.

¹⁸SEC. 511 [42 U.S.C. 711] (h) (3) (A).

¹⁹MIHOPE focused on local programs overseen by state awardees. At the time that site recruitment for MIHOPE began, these awardees included 47 states and the District of Columbia. The other awardees were excluded from site recruitment since, at the time the MIHOPE research team began reviewing initial state plans in 2011, the three nonprofit agencies serving Florida, North Dakota, and Wyoming had not been awarded MIECHV funds and none of the home visiting models used by tribal grantees had been determined to be evidence-based. Territories were not included due to resource constraints.

²⁰Michalopoulos et al. (2015).

MIHOPE Study Design

MIHOPE was designed to study home visiting effectiveness in local programs as they operated under the auspices of the MIECHV program. To receive MIECHV funds, awardees were required to create initial plans that indicated the communities in which the funds would be used and the home visiting models that would be supported with those funds.²¹ MIHOPE focused on the evidence-based models that 10 or more states chose in their initial plans for MIECHV funding. Of the seven models designated as evidence-based at the start of the MIECHV program, the four models that 10 or more states chose in their initial plans, and therefore met the criteria for inclusion in MIHOPE, are the following: Early Head Start – Home-based option (EHS); Healthy Families America (HFA); Nurse-Family Partnership (NFP); and Parents as Teachers (PAT).

Figure 1.2 provides a timeline of key activities relevant for the MIHOPE implementation research analysis. Recruitment of local home visiting programs began in February 2012. Across 12 states, 88 local programs were selected and entered MIHOPE between September 2012 and December 2014, as described in Chapter 2 of this report and in greater detail in the MIHOPE report to Congress.²²

While families were eligible for home visiting if they met the usual eligibility criteria for the local program, not all families eligible for home visiting were eligible to participate in MIHOPE. Since it can be difficult to compare many outcomes across a broad range of children's ages, MIHOPE included only families in which the mother was age 15 years or older and was pregnant or her focal child was less than 6 months old. The MIHOPE research team chose this age range for children because the majority of MIECHV-funded local programs aimed to enroll women during pregnancy or shortly after childbirth.²³ This age restriction for the focal children was narrower than the eligibility criteria for the EHS and PAT models.

To provide reliable estimates of the effects of home visiting programs, the MIHOPE team randomly assigned families who were interested in and eligible for a MIECHV-funded local program participating in MIHOPE, and who consented to be in the study, to either the MIECHV-funded local program or a control group that was referred to other appropriate

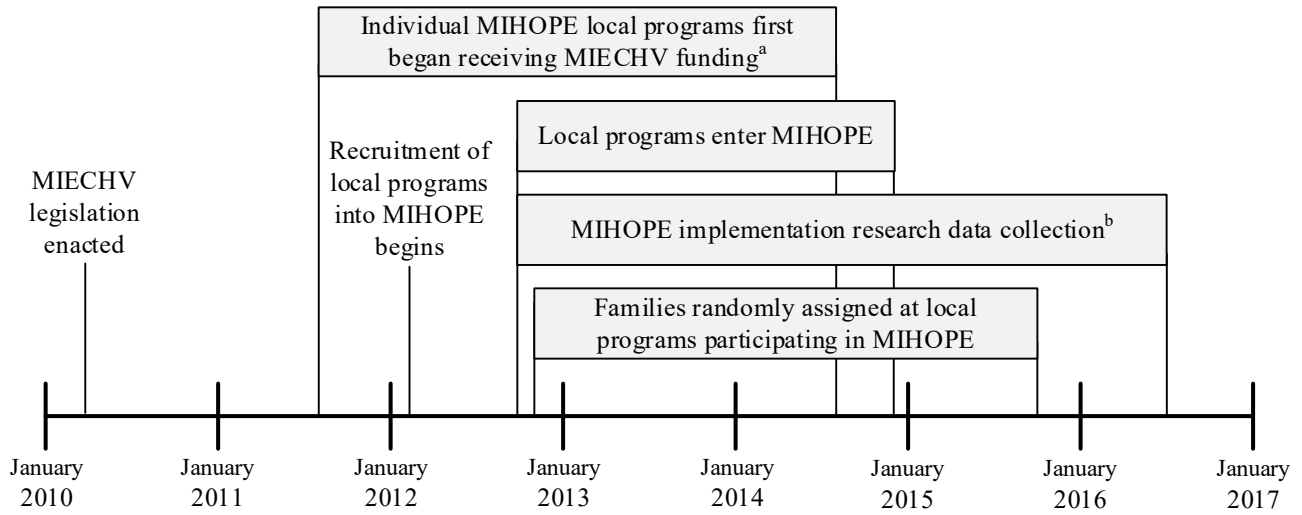
²¹SEC. 511 [42 U.S.C. 711] (e) (1-10).

²²Michalopoulos et al. (2015).

²³This report does not discuss the MIECHV outcome domain of school readiness and academic achievement because it could not be assessed during the MIHOPE study period. Children were no more than 6 months old at enrollment and the impact follow-up period lasted up to 15 months of age, which is too young to assess school readiness or academic achievement directly. However, follow-up at 15 months of age does measure aspects of child development that are associated with school readiness.

Figure 1.2

MIHOPE Implementation Research Analysis Timeline



NOTES: ^aLocal programs self-reported information.

^bBox 1.1 provides information about each data source for the implementation research analysis and their respective dates of collection for the analytical samples.

services in the community.²⁴ From October 2012 to October 2015, a total of 4,229 families entered the study. Over the course of MIHOPE, 11 families withdrew from the study for a final analytical sample of 4,218 families (2,104 in the program group; 2,114 in the control group).

For the implementation research analysis, the samples of interest are the 2,104 families randomly assigned to the MIHOPE program group and the staff at all 88 local programs. The entire period of implementation research data collection lasted from September 2012 to June 2016. Box 1.1 presents the sample sizes used in the analyses and data collection time periods by data source.

MIHOPE Implementation Research Analysis Goals

The MIHOPE implementation research analysis goals are:

1. To describe the services that families received in home visiting programs; and
2. To understand how characteristics of families, home visitors, local programs, other home visiting stakeholders (such as the federal MIECHV program and evidence-based models), and communities are associated with differences in the services that families received.

²⁴The evaluation design is described in detail in Michalopoulos et al. (2013).

Box 1.1

Data Sources

The analyses in this report draw on data from several sources for each of the topics below. Appendix A presents more detail on each data source, the analytical samples used, and response and match rates.

Family Characteristics

- **A family baseline survey** with the child's mother provides data on 2,104 women assigned to the program group, and the 675 children who were already born at the time of the family baseline survey. Surveys were completed between October 2012 and September 2015.
- **Observation ratings of the family home and external environment**, conducted by field interviewers between October 2012 and September 2015.

Home Visiting Staff Characteristics and Experiences

- **Staff surveys** of 521 home visitors and 138 supervisors provide data on their demographic and psychosocial characteristics and their perceptions, attitudes, and beliefs regarding work. Surveys were completed between September 2012 and July 2015.
- **Training logs**, completed monthly by 600 home visitors and 142 supervisors, provide data on the dosage, content, and modality of training each received. Training logs were completed between November 2012 and May 2016.
- **Supervision logs**, completed weekly by supervisors, provide data on the dosage, topics, and methods of supervision provided to 596 individual home visitors. Supervision logs were completed between November 2012 and February 2016.
- **Qualitative semi-structured interviews** with a subsample of 104 home visitors in 24 local programs across seven states provide information on staff perspectives on implementation processes. Interviews were conducted between March 2014 and December 2014.

Local Program Characteristics

- **Program manager surveys** at 88 local programs provide data on key characteristics of local programs, such as service plan components, policies and protocols, presence and types of implementation system supports, and networks of referral agencies. Surveys were completed between September 2012 and June 2015.
- **Reviews of program documents** from 83 local programs provide additional detail on implementation system components for staff recruitment (such as home visitor and supervisor job descriptions).
- **Reviews of the three most commonly used parenting curricula**, as reported in the program manager surveys.

(continued)

Box 1.1 (continued)

Evidence-based Models

- **Evidence-based model developer surveys, interviews, and document reviews (such as home visitor and supervisor job descriptions)** of the four evidence-based models included in MIHOPE provide information on the service plan and the implementation system. Training materials were also available for some evidence-based models. Primary interviews with model developers were completed between December 2012 and August 2013. Supplemental interviews were completed in June 2017.

Community Characteristics

- **Community services inventories** with program managers at 86 local programs provide data on service availability of and coordination with community service providers. Community services inventories were completed between December 2012 and March 2015.
- **Census tract data from the 2014 American Community Survey five-year estimates** for the geocoded addresses of 4,195 families (2,092 in the program group; 2,103 in the control group) provide data on the sociodemographic characteristics of the communities in which families lived.

Services for Individual Families

- **Family service logs**, completed weekly by home visitors for 2,021 families assigned to the program group, provide information on frequency, type, and duration of contacts with the family. For a subsample of 1,671 families who received at least one visit, family service logs also provide information on topics discussed, referrals provided, and levels of family responsiveness. Family service logs were completed between November 2012 and June 2016.
- **Observations of home visitor-family interactions**, collected via videos and analyzed for a subsample of 200 home visitor program group family dyads, provide data on what occurred during home visits. Observations were conducted between March 2013 and July 2015.

Key Features of Evidence-Based Home Visiting Programs in MIHOPE

Home visitors devote the majority of the visit time to providing education and support to families. They also provide referrals to and coordination with needed community services. Home visitors gather information from families informally and through formal screening and assessment to identify family strengths, needs, concerns, and interests that they should address directly through education and support during visits or through referral and coordination. The four

evidence-based models shared these major activities, as well as the broad goal of improving outcomes for at-risk families and their young children. However, the models also differed in important ways. Table 1.1 gives an overview of each model's goals, intended recipients, intended timing of enrollment, and intended duration of enrollment. Later chapters describe other planned services and the components of each model's implementation system. This information was compiled through interviews with all four evidence-based model developers from December 2012 through August 2013 and reflects their planned services and implementation systems at the time that the MIHOPE study was conducted.²⁵ Supplemental information was collected in June 2017.

Conceptual Framework

Factors at many levels are likely to influence the home visiting services that a given family receives, as depicted in the conceptual framework in Figure 1.3. Families are likely to receive different services depending on their own characteristics and the characteristics of the home visitors who are assigned to work with them. The characteristics of these participants in home visiting — families and home visitors — are in turn likely to be influenced by the service plan and implementation system of the local home visiting program.

Services across local programs will vary because of differences among them in the perspectives, policies, and actions of stakeholders at higher levels who influence local programs' priorities, implementation systems, choice of evidence-based models, and community context. For example, the local programs in MIHOPE operate under the guidelines of their evidence-based models, which historically have prioritized different family outcomes. States and other entities can also provide support for infrastructure, such as particular types of training or technical assistance, or can incorporate their own priorities into their MIECHV-funded programs to the extent they are compatible with the requirements of the evidence-based models being used. Local programs operate in and families reside in communities that vary in terms of their resources, norms, and stressors. Local programs hire staff with differing professional and psychosocial backgrounds, and they support home visitors' professional development and job performance in different ways. Finally, families who participate in home visiting have different goals, strengths, and risks.

²⁵While none of the models made significant changes to their planned services during the MIHOPE study period, evidence-based models regularly use findings from current research and their own data to update their planned services and details of their protocols and guidance to local programs about programmatic expectations.

Table 1.1

**Planned Services of the Evidence-Based Home Visiting Models in MIHOPE:
Goals, Recipients, Enrollment, and Duration**

Key Component	Early Head Start Home-Based Option	Healthy Families America	Nurse-Family Partnership	Parents as Teachers
Evidence-based model goals ^a	<p>Enhance the development of very young children</p> <p>Promote healthy family functioning</p> <p>Promote school readiness</p>	<p>Build and sustain community partnerships to systematically engage overburdened parents in home visiting services prenatally or at birth</p> <p>Cultivate and strengthen nurturing parent-child relationships</p> <p>Promote healthy childhood growth and development</p> <p>Enhance family functioning by reducing risk and building protective factors</p> <p>Prevent child maltreatment and adverse experiences</p>	<p>Improve prenatal health and birth outcomes</p> <p>Improve child health and development</p> <p>Improve families' economic self-sufficiency and maternal life course development</p>	<p>Provide parents with child development knowledge and parenting support</p> <p>Provide early detection of developmental delays and health issues</p> <p>Prevent child maltreatment</p> <p>Increase school readiness</p>
Intended recipients	<p>Low-income pregnant women and families with children from birth to 3 years of age, families at or below the federal poverty level, and children with disabilities who are eligible for Part C services under the Individuals with Disabilities Education Act in their state</p>	<p>Parents facing challenges such as single parenthood, low income, childhood history of abuse or adverse experiences, current or prior behavioral health issues, or domestic violence</p> <p>Local programs select the specific characteristics of the target populations they plan to serve</p>	<p>First-time, low-income, pregnant mothers and their children</p>	<p>No eligibility requirements for participants</p> <p>Local programs select the specific characteristics of their target populations, such as children with special needs, families at risk for child abuse, low-income families, teen parents, first-time parents, immigrant families, families with little literacy, or parents with mental health or substance use issues</p>

(continued)

Table 1.1 (continued)

Key Component	Early Head Start Home-Based Option	Healthy Families America	Nurse-Family Partnership	Parents as Teachers
Intended timing of enrollment	Pregnancy through age 3 years	Pregnancy or within the first 3 months after a child's birth	Before the end of the 28th week of pregnancy ^b	Pregnancy or soon after birth, though can continue until age 5 years
Intended duration of enrollment	Through the child's third birthday ^c	Through the child's third birthday but can extend to child's fifth birthday	Through the child's second birthday	Local programs required to offer at least two years of services to families; recommend offering three years of services. Services can be offered until kindergarten entry

SOURCES: Evidence-based model websites (Early Head Start Home-based option: eclkc.ohs.acf.hhs.gov/hslc; Healthy Families America: www.healthyfamiliesamerica.org; Nurse-Family Partnership: www.nursefamilypartnership.org; Parents as Teachers: parentsasteachers.org) and the U.S. Department of Health and Human Services Home Visiting Evidence of Effectiveness (HomVEE) website (homvee.acf.hhs.gov/programs.aspx).

NOTES: ^aGoals are as stated by each evidence-based model.

^bLocal programs are recommended to begin conducting visits as early as possible in the pregnancy.

^cChildren can remain with Early Head Start Home-based option until the child transitions into another appropriate setting.

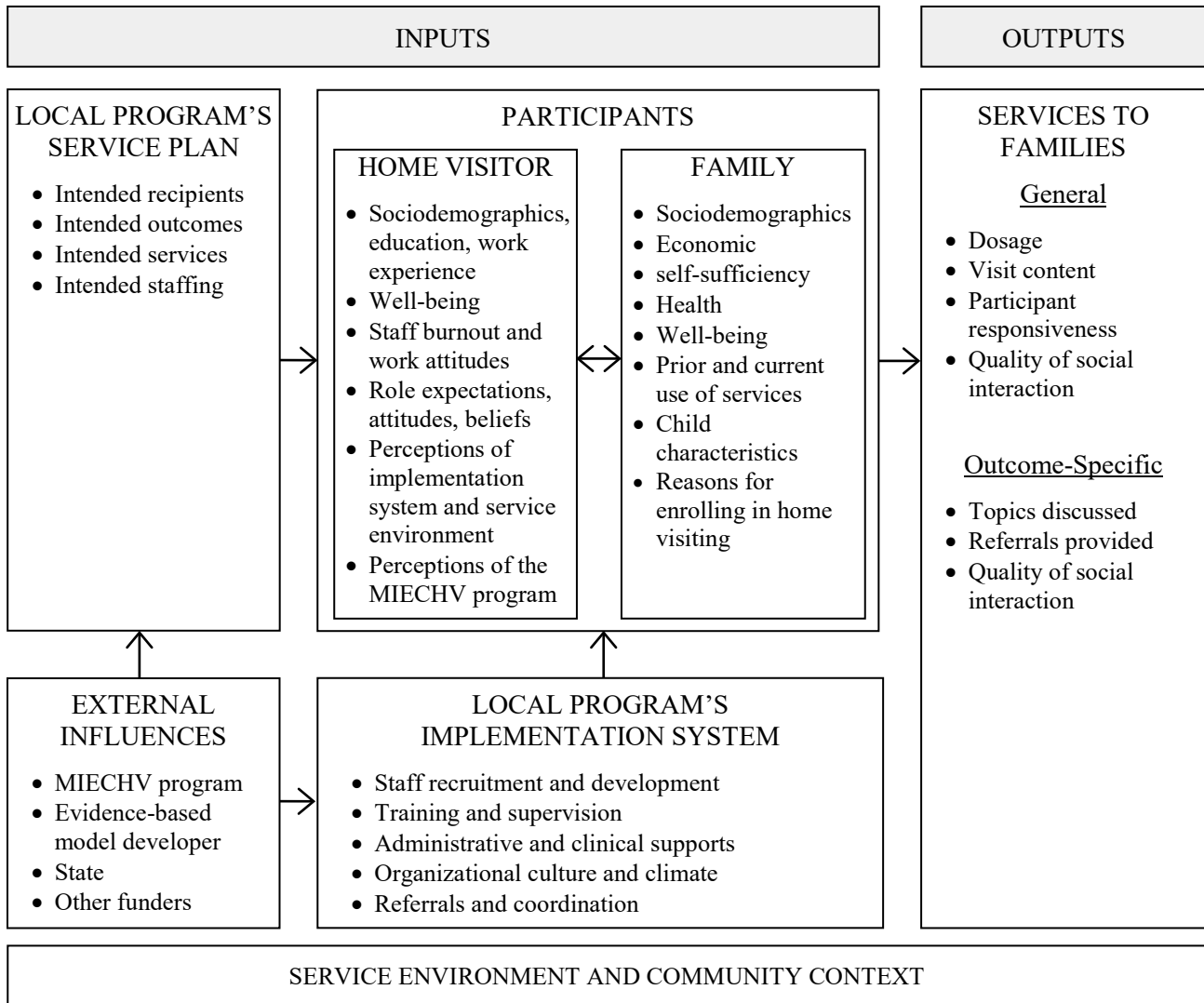
As described below and throughout the report, the focus of the MIHOPE implementation research analysis is to learn as much as possible about the specific home visiting services that local programs provide families and, in particular, how the inputs at multiple levels, shown in Figure 1.3, influence outputs, or the services that families receive.

Local Programs' Services to Families

As described in Box 1.2, the services delivered by local programs to individual families vary in ways that are either general, such as the overall number or frequency of visits, or that are outcome-specific, such as the proportion of visits in which a particular topic (for example, mental health) is discussed. Two families might receive the same number of visits but have very different experiences with respect to the topics discussed during those visits, as a result of the individual families' needs, the tailoring of services to address those needs, and the particular home visitor's skills, abilities, and training.

Figure 1.3

MIHOPE Implementation Research Analysis Conceptual Framework



External Influences on Local Programs

Evidence-based models specify planned services and often provide some of the implementation system infrastructure that local programs need to support home visitors in their work. The four evidence-based models included in MIHOPE — EHS, HFA, NFP, and PAT — differed in the services that were expected to be provided to families and in the infrastructure they offered local programs. Some models delegated more responsibility to local communities and implementing agencies than others. For example, NFP had specific requirements regarding

Box 1.2

Implementation Measurement in MIHOPE: General and Outcome-Specific Areas

Services to families can be thought of in two ways. One way is to consider services in general, such as the overall quantity or quality of services a family receives. The other way is to consider outcome-specific services, or the subset of services to improve a particular outcome, such as positive parenting behavior or economic self-sufficiency. Similarly, some components of the service plan and implementation system might shape services in general, while other components might influence services with respect to specific outcomes.

An example of the latter is the priority a local program gives to a specific outcome and the strength of its implementation system — for example, training, curricula, protocols, supervision, and service monitoring — to promote high-quality services to improve that outcome. A local program might assign a higher priority to one outcome than another and possess a stronger implementation system to provide high-quality services for one outcome than another.

Because one would expect that both general and outcome-specific aspects of service delivery could influence the benefits that families receive from home visiting, MIHOPE's implementation research analysis measures both general and outcome-specific inputs and services. For outcome-specific measures, it considers 18 outcome-specific areas listed below, largely aligned with the domains specified in the legislation authorizing the federal MIECHV program and discussed in the MIHOPE revised design report.* These outcome-specific areas also largely align with those in the MIHOPE report to Congress, plus four areas that were not available for that report, which reflect local programs' access to community resources and public services.†

MIHOPE Outcome-Specific Areas

Maternal and newborn health and well-being

1. Prenatal health
2. Birth outcomes
3. Maternal physical health
4. Family planning and birth spacing
5. Tobacco use
6. Substance use
7. Mental health
8. Intimate partner violence

Parenting

9. Breastfeeding
10. Positive parenting behavior
11. Child maltreatment

Child health and development

12. Child preventive care
13. Child development

Family economic self-sufficiency

14. Economic self-sufficiency

Access to community resources and public services

15. Child care
 16. Public assistance
 17. Health insurance
 18. Housing
-

NOTES:

*SEC. 511 [42 U.S.C. 711] (d) (1) (A) (i-vi); SEC 511 [42 U.S.C. 711] (d) (2) (B) (i-vii); Michalopoulos et al. (2013).

†Michalopoulos et al. (2015) presented information on mental health and substance use as a combined area. The current report separates them into two areas to align more closely with the explanatory variables included in the multiple regression analyses of factors associated with service delivery.

which population local programs could serve, the curricula that local programs could use, and the qualifications that home visitors must have had. In contrast, EHS allowed local programs flexibility in choosing curricula and setting the educational requirements of home visitors; HFA allowed considerable flexibility for local programs to decide target populations, curricula, and the educational backgrounds of home visitors; and PAT provided local programs with specific parenting curricula but allowed them flexibility in selecting target populations and in defining eligibility criteria.

The federal MIECHV program is, of course, another source of influence on states and local programs. The federal MIECHV program awards and administers grant funding and provides guidance for awardees to execute the goals of the authorizing legislation. (See Figure 1.1.) Some of the requirements that awardees must address, consistent with the authorizing statute, include the following: (1) work toward improving the outcomes specified in the authorizing legislation,²⁶ (2) devote the majority of their MIECHV funding to delivery of services according to the specifications of designated evidence-based models,²⁷ (3) create implementation infrastructure to fully implement the chosen models,²⁸ (4) target high-risk communities and families,²⁹ and (5) individualize services based on assessment of family needs and risks.³⁰ Later, this chapter presents a more detailed discussion of ways in which the federal MIECHV program shapes the services that families ultimately receive.

Community context is also relevant to understanding local program operations. Communities vary in terms of the availability, accessibility, and quality of resources for families. This variation may partly reflect differences in community-level disadvantage or development. Even among communities with similar resources, local programs may differ with regard to their formal relationships with the providers of such resources and how they coordinate with them and facilitate referrals. Furthermore, resource availability and local program relationships with resource providers may vary across outcomes within a local program.

Influence of Local Programs on Home Visitors and Families

A local program's service plan comprises the intended outcomes, intended recipients, intended staffing, intended services, and theory of change. Evidence-based models define many of the components of service plans, but local programs may choose to expand on these in response to state or local circumstances or to add detail for components left to their discretion by the evidence-based model they use.

²⁶SEC. 511 [42 U.S.C. 711] (d) (1) (A) (i-vi).

²⁷SEC. 511 [42 U.S.C. 711] (d) (3) (A) (ii).

²⁸SEC. 511 [42 U.S.C. 711] (d) (3) (B) (ii-v).

²⁹SEC. 511 [42 U.S.C. 711] (d) (4) (A-I).

³⁰SEC. 511 [42 U.S.C. 711] (e) (7) (B).

The implementation system of a local program includes its infrastructure for staff recruitment and professional development; the clinical, administrative, and system supports provided to staff to carry out their job functions; and its organizational culture and climate. A local program's implementation system is the critical link between the planned services and those that are ultimately delivered. For example, if a local program does not place a priority on a particular outcome, it is unlikely that staff will have the adequate tools or training to identify families' risks and to address that outcome. If an outcome is a high priority, but staff members do not have sufficient supports to meet individual families' needs, it is unlikely that families will receive the intended services.

Home visiting staff and families are the main participants in home visiting.³¹ Local programs' recruitment practices determine the baseline characteristics of newly hired home visiting staff and of newly enrolled families. For example, a local program's specification of qualifications for hire and its procedures for assessing the knowledge, attitudes, and skills of applicants will determine staff capacity — their motivation and ability — to meet job expectations. In the same way, local programs' policies and procedures for family recruitment will affect enrolling families' strengths and risks and their reasons for enrolling.

Influence of Home Visitors and Families on Each Other

Both the home visitor and the family have roles as participants in home visiting. One key part of the home visitor's role is to support and empower the family through a strengths-based approach to providing services. This service delivery approach is centered on identifying and using the tools, skills, resources, and agency that each family possesses to achieve its goals.³² A major focus of a strengths-based approach is to encourage the family in its role as the child's first teacher.³³

A second key part of the home visitor's role is to understand the family's situation. This requires the home visitor to respectfully gather information and skillfully read cues in order to assess the family's strengths, risks, concerns, and preferences. The family's corresponding role is to share information honestly, including whether it wishes to discuss a particular topic. The home visitor and family should forge a strong working alliance to set and achieve agreed-upon goals.³⁴ Doing so requires that home visitors educate, offer support, and connect families to other services that are relevant to such goals. It also requires that families follow through on agreed-upon actions.

³¹Michalopoulos et al. (2015). While some of the evidence-based models examined in MIHOPE target other family members, all participants in MIHOPE were mothers.

³²Weick, Rapp, Sullivan, and Kisthardt (1989).

³³Hebbeler and Gerlach-Downie (2002).

³⁴Bordin (1979); Horvath and Greenberg (1989).

In this way, home visitors and families influence each other's behavior during and in between visits. A home visitor who is nonjudgmental, respectful, and responsive will encourage a family to share information honestly. A home visitor who lacks these skills will discourage such sharing. Similarly, a family that is willing to discuss mental health, for example, may prompt further discussion and perhaps referrals to specialized mental health services. In contrast, a family that is not responsive may discourage discussion and referral.

The diversity of families' circumstances gives rise to substantial variation in how home visitors deliver services. Box 1.3 provides a description of how a home visitor might individualize home visits to serve a variety of families' needs.

Box 1.3

A Snapshot of a Home Visitor's Day with Three Families

Tracy has been a home visitor for about a year.* She spends most of her time visiting the 17 families in her caseload, who are spread out across her small suburban county. She spent yesterday in a training session on recognizing postpartum depression and is eager to get started today in the three home visits she has scheduled. The families she will visit are similar in that they are young parents with small children. But each family is also unique, so Tracy will need to be attentive to their cues as well as their concerns, interests, understanding, and readiness to take actions that will improve family life and their children's health and development.

At the first visit, Tracy is greeted warmly by Kimmy and her 6 month-old girl, Shanna. Tracy sits on the floor with them and rolls out a plastic mat with toy fish inside. She encourages Kimmy to press on the mat and move the fish around to catch Shanna's attention. Kimmy helps support Shanna to sit up and she eagerly bats at the fish. Kimmy listens attentively as Tracy explains how this activity promotes motor development. Tracy also encourages Kimmy to count the number of fishes to Shanna, explaining that it is never too early to introduce language and number concepts. As the baby plays, Tracy recalls that Kimmy had felt nervous about starting solids with Shanna. She asks whether Kimmy read the handouts on the topic she had left and how she is now feeling about starting solids. After Kimmy expresses interest, they agree to spend time in the next visit preparing purees to practice feeding Shanna.

Next, Tracy visits Gloria, a relatively new client, and her baby, Jessica. Gloria says that she is more stressed out than normal, and she smokes while Tracy asks more about what is going on. Gloria states that her phone bill is unusually high this month and she is not sure she can pay the bill, and she is running low on infant formula. Tracy nods empathetically as Gloria talks, and then suggests that they focus on each concern, one at a time. Although Gloria is worried about her phone bill, Tracy advises Gloria to pay what she can, as this will prevent her services being cut off. She further suggests that she and Gloria focus on budgeting at the next visit. She also gives Gloria a number to call to apply for Women, Infant, and Children (WIC) services and in

(continued)

Box 1.3 (continued)

the meantime, offers to bring over infant formula that the office has in stock. Tracy probes more on the types of stressors Gloria typically faces and how she deals with them, seeing an opportunity for Gloria to open up more. She comments to Gloria on how healthy Jessica looks and praises Gloria for how affectionate she is with the baby. Tracy wants to talk to Gloria about smoking in the home, and ponders how best to raise this subject sensitively at the next visit to explore Gloria's readiness for change.

Last, Tracy visits parents Marine and Bill and their infant son, Tyler. Both parents are typically quiet, but Tracy often can involve Marine in activities with Tyler. Bill usually sits and watches from a distance or tends to focus on something else. Tracy wants to involve him in learning to play with the baby. She uses strategies suggested by her supervisor to engage the family in play together — when Tyler starts to point to Bill, Tracy remarks, “Bill, someone’s looking for you!” and Bill waves and smiles. In addition to fostering parent-child interactions, Tracy encourages the parents to meet goals that are important to them. Tracy asks them about goals they have for their family. Marine and Bill look blankly at one another and shrug. Tracy comments positively that “anything can be a goal” and asks them to think about what would make their lives better over the next year — “big or small.” Tracy could choose some home visit topics from her program’s curricula, but she thinks that partnering with the family is a more effective way to empower them and make home visiting relevant for them. She reflects on ways to help them think through what matters to them and how home visiting might be helpful.

NOTES:

*The home visitor and families featured in these vignettes were created from the MIHOPE video and qualitative interview data collection efforts and do not represent any single individual. Pseudonyms are used to protect the identity of individuals.

Legislative Requirements for the Operation of Awardees’ Early Childhood Home Visiting Programs

The MIECHV authorizing legislation communicates clear requirements for program awardees. These requirements generally relate to the following areas:

1. Outcomes to be improved;
2. Adherence to evidence-based models;
3. Local program implementation capacity;
4. Prioritization of high-risk families; and
5. Individualization of services.

Awardees Should Improve Outcomes in Multiple Domains

The legislation authorizing the MIECHV program specifies, irrespective of the specific evidence-based model used, that awardees' early childhood home visiting programs must work toward demonstrating improvement in the following benchmark outcome areas: (1) prenatal, maternal, and newborn health; (2) child health and development; (3) parenting skills; (4) school readiness and child academic achievement; (5) crime or domestic violence; (6) family economic self-sufficiency; and (7) referrals and service coordination.³⁵ To achieve these goals, awardees are expected to monitor the performance of the local programs that receive grant funding in demonstrating improvement in these outcome-related benchmarks over time.³⁶

As a result of these legislative requirements, evidence-based models and local programs that had previously focused on a subset of the benchmark outcomes might find themselves compelled to emphasize additional outcome areas. The MIHOPE report to Congress found that many local programs did, in fact, report an increase in the priority that they assigned to specific outcomes as a result of receiving MIECHV funding.³⁷ This finding was especially true for local programs whose evidence-based model assigned a lower priority to a particular outcome required by the MIECHV program.

MIHOPE purposefully limited its sample of local programs to those that had been implementing their model for at least two years and were in good standing with their evidence-based model developer at the time the local program enrolled in MIHOPE.³⁸ The goal was to select local programs whose implementation systems were likely to be in a relatively mature, steady state.³⁹ However, if near the outset of MIHOPE a local program increased the priority it gave to a specific outcome because of the MIECHV program, it would likely have a less mature implementation system to support high-quality service and less experience providing services to achieve that

³⁵SEC. 511 [42 U.S.C. 711] (d) (1) (A) (i-vi); SEC 511 [42 U.S.C. 711] (d) (2) (B) (i-vii).

³⁶The authorizing legislation requires awardees (states, territories, and tribal organizations) to demonstrate improvements in six benchmark areas (SEC. 511 [42 U.S.C. 711] (d) (1) (A) (i-vi)). In addition, the program is designed to improve individual outcomes for participating families in seven areas (SEC. 511 [42 U.S.C. 711] (d) (2) (B) (i-vii)). There is considerable overlap between the six benchmark areas and the seven individual outcomes for participating families. This report uses the term "outcomes" to refer to both lists. MIHOPE is designed to assess impacts relevant to all of these outcomes. For a report describing state awardees' improvements in benchmarks, see U.S. Department of Health and Human Services (2016a). The 2018 reauthorization further specifies that MIECHV-funded programs are to demonstrate improvements in benchmark areas in subsequent years (SEC. 511 [42 U.S.C. 711] (d) (1) (D)).

³⁷Michalopoulos et al. (2015).

³⁸Local programs in good standing were identified by the evidence-based model developers as those that did not have any significant fidelity or implementation concerns.

³⁹Fixsen et al. (2005).

outcome. Thus, local programs are likely to vary in the strength of their implementation systems across the range of outcomes specified in the authorizing legislation.

Awardees Should Adhere to the Evidence-Based Models Used

The legislation authorizing the MIECHV program requires that awardees' early childhood home visiting programs adhere to the specific evidence-based home visiting models they have adopted.⁴⁰ This may increase the chances that awardees will achieve similar benefits for families as have been found in prior research on the model(s) they are implementing.⁴¹ The evidence-based models specified guidelines related to local programs' service plans and their implementation systems. (See Figure 1.3.)

Some components of the service plan relate to intended staffing and intended recipients. The service plan components specifically examined in Chapter 2 include staff qualifications and family eligibility. Other components of the service plan relate to intended services and include the duration of enrollment, frequency of visits, length of visits, and the administration of specific actions such as health and developmental screenings. Chapter 4 examines these components. Of those service plan components examined in the MIHOPE report to Congress, local programs reported adhering closely to the specifications of their evidence-based models.⁴²

The evidence-based models also provided guidance on the implementation infrastructure that local programs should have in place to support their staff. Examples of these implementation system components include training, supervision, and required curricula, and are examined in Chapter 3.

While the evidence-based models specified components of the service plan and implementation system to which local programs should adhere, they allowed some variation at the local program or family level. Thus, where possible, this report examines not only the degree to which local programs appeared to adhere to the specifications of their evidence-based models but also the degree to which local programs exceeded the models' minimum expectations or implemented adaptations, which may have supplemented the service plan and implementation system.

Awardees Should Build Capacity to Implement High-Quality Services

The legislation authorizing the MIECHV program requires that awardees' early childhood home visiting programs have the infrastructure needed to provide high-quality services, including well-trained and competent staff, high-quality supervision, strong organizational

⁴⁰SEC. 511 [42 U.S.C. 711] (d) (3) (B) (i).

⁴¹Boller, Strong, and Daro (2010).

⁴²Michalopoulos et al. (2015).

capacity, appropriate linkages and referral networks, and monitoring of fidelity of program implementation.⁴³ As mentioned above, the evidence-based models provided guidance on the implementation infrastructure that local programs should have in place to achieve these goals. As Chapter 3 describes, MIHOPE’s implementation research analysis assesses the extent to which participating local programs had access to these types of implementation infrastructure.

The MIHOPE report to Congress noted that while the local programs generally reported that they had built the necessary infrastructure, the local programs exhibited substantial variation in some components of their implementation systems.⁴⁴ Examples include training and other supports to build the capacity of frontline staff, local programs’ capacity to provide expert consultation and to monitor services provided to families, and inter-agency agreements to fill available slots and enroll families likely to benefit from home visiting services. This variation is likely to have given rise to variation in home visitors’ perceived comfort and effectiveness in carrying out their expected roles, which, in turn, may have influenced home visitors’ job performance.

Awardees Should Prioritize High-Risk Families

The legislation authorizing the MIECHV program requires that awardees’ early childhood home visiting programs give priority to providing services to eligible families in at-risk communities, which include those with concentrations of the following: poverty, crime, domestic violence, adverse birth outcomes such as premature birth and infant mortality, high school drop-outs, substance abuse, unemployment, and child maltreatment.⁴⁵ It also requires that home visiting services give priority to providing services to the following high-risk populations: (1) low-income families, (2) pregnant women who are under 21 years of age, (3) families who have a history of child abuse or neglect or prior interactions with child welfare services, (4) families with users of tobacco in the home, (5) families with a history of substance abuse or who need substance abuse treatment, (6) families with children who have low student achievement, (7) families with children with developmental delays or disabilities, and (8) families with individuals who currently serve or formerly served in the Armed Forces.⁴⁶

⁴³SEC. 511 [42 U.S.C. 711] (d) (3) (B) (ii-vi).

⁴⁴Michalopoulos et al. (2015).

⁴⁵SEC. 511 [42 U.S.C. 711] (d) (4) (A). The 2018 reauthorization amends SEC. 511 [42 U.S.C. 711] (d) (4) (A), which refers to at-risk communities, by adding “taking into account the staffing, community resource, and other requirements to operate at least one approved model of home visiting and demonstrate improvements for eligible families” to the end of the phrase in the original legislation.

⁴⁶SEC. 511 [42 U.S.C. 711] (d) (4) (B-I).

Awardees Should Individualize Services to Families' Needs

The legislation authorizing the MIECHV program requires that awardees' early childhood home visiting programs have in place procedures to ensure that services are provided to eligible families in accordance with the assessment for each individual family.⁴⁷ This requirement to provide tailored services to help families to achieve a broad range of outcomes underscores the importance of implementation systems that support home visiting staff in identifying and addressing a diverse set of risks to the family and child well-being.

Summary

As Figure 1.1 suggests, these legislative requirements apply to all awardees who, in turn, fund local programs to operate home visiting services that should fulfill these expectations. This report examines the extent to which the services delivered are in alignment with these legislative requirements. However, when it comes to actual program operations, local programs and their home visiting staff can sometimes reveal tensions among these requirements. For example, individualizing services is not always straightforward: If a mother only wants to work on a particular set of goals, but the home visitor's initial assessment has uncovered some other issues that could place her child at risk of poor outcomes, the home visitor may need to skillfully navigate between these different perspectives. Similarly, a state awardee may expect a local program to monitor family outcomes in all MIECHV domains, but as mentioned earlier, the evidence-based model used in the local program might expect home visitors to devote more time and attention to some outcomes than others. This report describes local programs' adherence to the planned services of the evidence-based models. It also discusses home visitors and local program managers balancing the evidence-based model specifications with MIECHV program requirements.

MIHOPE Implementation Research Analysis Research Questions

The following chapters of this report present results that answer broad questions about specific components of the conceptual framework (see Figure 1.3) and about associations among those components:

Chapter 2. Who participated in MIHOPE? This chapter describes which states were recruited into the study, characteristics of local programs and home visiting staff, characteristics of families served by local programs, and characteristics of the communities in which families lived. The chapter compares these characteristics with specifications outlined in the legislation authorizing the MIECHV program and those of the evidence-based models.

⁴⁷SEC. 511 [42 U.S.C. 711] (e) (7) (B).

Chapter 3. How did local programs support home visitors to carry out their roles?

This chapter describes implementation system components that can build home visitors' capacity to carry out their roles with regard to each intended outcome, and that can facilitate and support them in doing so. Components include home visitors' recruitment, training, supervision, and clinical and administrative supports; the availability of relevant community services; local programs' formal linkages to available community services; and home visitors' perceptions about their local programs' implementation systems and community service environment.

Chapter 4. What services did local programs provide to families? This chapter describes key aspects of services provided to families, including dosage, home visitor continuity, home visit content as related to the outcomes specified in the authorizing legislation, and family responsiveness. Where applicable, it compares the services provided to families with intended services specified by the evidence-based models.

Chapter 5. What characteristics of families, home visitors, and local programs are related to differences in services provided to families? This chapter describes how differences in services provided to individual families can be explained by differences in the families themselves, their home visitors, and their local programs.

Chapter 6. What are home visitors' perspectives on services provided to families? This chapter describes how home visitors view their roles, the families with whom they work, and their work environment using data drawn from qualitative interviews with a sub-sample of home visitors. It uses home visitors' own words to explain how they approach their work and their experiences working with different types of families.

Chapter 7. What are the implications of the MIHOPE implementation research analysis findings for advancing the home visiting field? The final chapter summarizes the findings and discusses the implications for home visiting policy and practice.

Chapter 2

Who Participated in MIHOPE?

The investment in the federal Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program enabled a significant expansion of voluntary, evidence-based home visiting programs. In 2017, the Health Resources and Services Administration (HRSA) provided awards to 56 states and territories: 47 state agencies; three nonprofit organizations serving Florida, North Dakota, and Wyoming; the District of Columbia; and five U.S. territories.¹ These awards have resulted in the federal MIECHV program serving families in roughly one-fourth of U.S. counties.² Additionally, the Tribal MIECHV program had awarded grants to 29 tribal entities in 16 states since the program's inception, and in 2017 served approximately 1,716 families.

As described in Chapter 1, certain sections of the legislation authorizing the MIECHV program influence who provides home visiting services and which families are served. For example, the authorizing legislation requires awardees to employ well-trained and competent staff,³ and to give priority to providing services to eligible high-risk families.⁴ The authorizing legislation also requires awardees to adhere to the specific evidence-based models they have adopted, which further specify guidelines about staffing and families to serve.⁵

The authorizing legislation requires awardees to employ well-trained and competent staff, as demonstrated by past education or training,⁶ and to hire supervisors that will deliver high-quality supervision to continue to establish home visitors' competencies.⁷ Evidence-based models provided varying guidelines on the staff qualifications required of home visitors; such qualifications focused primarily on education requirements and experience working with families and children.⁸

The authorizing legislation requires that awardees' early childhood home visiting programs give priority to providing services to eligible families in at-risk communities, which include those with concentrations of the following: poverty, crime, domestic violence, adverse birth outcomes such as premature birth and infant mortality, high school dropouts, substance

¹U.S. Department of Health and Human Services (2017b).

²U.S. Department of Health and Human Services (2017c).

³SEC. 511 [42 U.S.C. 711] (d) (3) (B)(ii).

⁴SEC. 511 [42 U.S.C. 711] (d) (4) (A-I).

⁵SEC. 511 [42 U.S.C. 711] (d) (3) (B) (i); SEC. 511 [42 U.S.C. 711] (d) (3) (B) (vi).

⁶SEC. 511 [42 U.S.C. 711] (d) (3) (B) (ii).

⁷SEC. 511 [42 U.S.C. 711] (d) (3) (B) (iii).

⁸See Appendix Table B.1.

abuse, unemployment, and child maltreatment.⁹ It also requires that home visiting services give priority to providing services to the following high-risk populations: (1) low-income families; (2) pregnant women who are under 21 years of age; (3) families who have a history of child abuse or neglect or prior interactions with child welfare services; (4) families with users of tobacco in the home; (5) families with a history of substance abuse or who need substance abuse treatment; (6) families with children who have low student achievement; (7) families with children with developmental delays or disabilities; and (8) families with individuals who currently serve or formerly served in the Armed Forces.¹⁰ Additionally, the evidence-based models also specified their own set of varying guidelines regarding the families that local programs should serve.¹¹

This chapter describes the participants of the MIHOPE implementation research analysis. It begins with an overview of state awardee (hereafter referred to as “state”) and local program eligibility and selection, and characteristics of local programs. Next, it describes the home visitors who delivered services and the supervisors who supported them. This chapter closes by describing the families served by these local programs, as well as their communities. Information on participating families provides insights into the challenges faced by families who receive home visiting. The presence of family needs and risk factors should influence the types of services that home visiting programs provide; these associations are examined in Chapter 5.

Key Findings

- **Most local programs participating in MIHOPE operated in large metropolitan areas, had been in operation for six or more years, and were relatively large.** While MIHOPE aimed to be representative of the diversity of local programs funded by the MIECHV program, requirements of the study design limited the pool of local programs eligible for site selection. As a result, MIHOPE included many of the most populous states, and included local programs that had been in operation for a minimum of two years, had at least two home visitors on staff, and had the capacity to contribute at least 40 families to the study.
- **A high proportion of home visiting staff participating in MIHOPE had a bachelor’s degree and had studied relevant fields, such as social work,**

⁹SEC. 511 [42 U.S.C. 711] (d) (4) (A). In 2018, Congress amended this clause by adding the following: “taking into account the staffing, community resource, and other requirements to operate at least one approved model of home visiting and demonstrate improvements for eligible families.”

¹⁰SEC. 511 [42 U.S.C. 711] (d) (4) (B-I).

¹¹See Table 1.1 in Chapter 1.

child development, psychology, or nursing. Three-fourths of home visitors and nearly all supervisors across all of the evidence-based models included in MIHOPE had a bachelor's degree or higher. This was the case even though Nurse-Family Partnership (NFP) was the only evidence-based model to require a bachelor's degree.

- **Local programs were staffed by a relatively new home visiting workforce.** Half of home visitors had less than three years of experience providing home visiting services at the time of the staff survey. One-fifth had been in their current position less than one year and had no experience in home visiting.
- **Families participating in MIHOPE faced a number of risk factors at study entry, before they began receiving home visiting services, consistent with the MIECHV program's goal of targeting home visiting to at-risk parents and children.** Over a third of women were under 21 years of age. Almost half of women did not have schooling beyond high school. More than half of households reported they had run out of food or worried about running out of food in the past year. Close to 90 percent of households received public assistance. Thirty-one percent of women reported illegal use of drugs or drinking heavily before becoming pregnant. Over a third reported symptoms of depression and about one-fifth reported symptoms of anxiety. About one-fourth of women had experienced or perpetrated intimate partner violence in the past year.
- **Families participating in MIHOPE lived in communities that experienced greater socioeconomic disadvantage than the national average, consistent with MIECHV's goal of targeting at-risk families and communities.**

Selection of States and Local Programs in MIHOPE

MIHOPE began in 2011, with an intensive year of study design, measurement development, and recruitment of states into the study. Recruitment of local home visiting programs began in February 2012. Local programs entered MIHOPE between September 2012 and December 2014. (See Figure 1.2 in Chapter 1 for a timeline of MIHOPE implementation research activities.) Although not a nationally representative set of local programs, states were chosen to represent all regions of the country. Site selection aimed to provide a roughly equal number of local programs operating each of the four evidence-based home visiting models included in MIHOPE, as many local programs operating in nonmetropolitan areas as feasible, and a large

enough sample of families for reliable estimates of the impacts of evidence-based home visiting on outcomes of interest. As per the authorizing legislation, MIECHV-funded states and local programs were required to participate in MIHOPE if asked.¹²

States were eligible for MIHOPE if they planned to use MIECHV funds to implement at least two of the four evidence-based models in their initial state plans. Local programs were eligible if they had been implementing their current evidence-based model for at least two years when they entered the study, were in good standing with their evidence-based model developer at the time of site selection,¹³ had more than one MIECHV-funded home visitor, and were based in communities that were large enough to support random assignment but that were unlikely to provide many control group families with alternative evidence-based home visiting programs.

MIHOPE selected 88 local programs from the following 12 states: California, Georgia, Illinois, Iowa, Kansas, Michigan, Nevada, New Jersey, Pennsylvania, South Carolina, Washington, and Wisconsin. There were slightly more Healthy Families America (HFA) local programs (26) and slightly fewer Early Head Start – Home-based option (EHS) local programs (19) than Nurse-Family Partnership (NFP) local programs (22) and Parents as Teachers (PAT) local programs (21). Figure 2.1 presents a breakdown of local programs by state and evidence-based model.

Local Program Characteristics

Characteristics of local programs — such as the type of county served, the number of years in operation, or the enrollment capacity — may be associated with how evidence-based models are implemented at the local level and, in turn, how they affect families. For example, studies of human services programs provide evidence that program effects are associated with factors such as the location of local programs or program maturity.¹⁴

Information on local program characteristics was collected either during site selection between September 2012 and December 2014, or from surveys collected with program managers at 88 local programs between September 2012 and June 2015.

¹²SEC. 511 [42 U.S.C. 711] (e) (8) (B); More detail on the selection process of MIHOPE states and local programs is outlined in the MIHOPE report to Congress. See Michalopoulos et al. (2015).

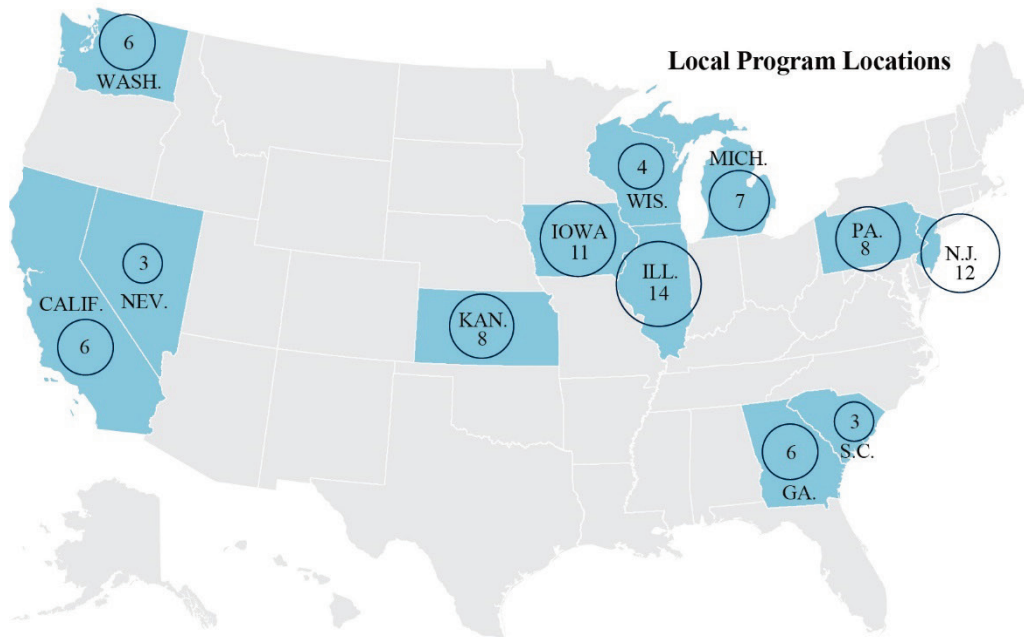
¹³Local programs in good standing were identified by the evidence-based model developers as those that did not have any significant fidelity or implementation concerns.

¹⁴Fixsen et al. (2005); Rubin et al. (2011).

Figure 2.1

Location and Number of MIHOPE Local Programs

Total Local Programs	Early Head Start Home-Based Option	Healthy Families America	Nurse-Family Partnership	Parents as Teachers
88	19	26	22	21
Illinois	■	■■■■■	■	■■■■■■■
New Jersey		■■■■	■■■■■	■■■
Iowa	■■■■■	■■■■■■■		
Pennsylvania	■■■■■		■■	■■
Kansas	■■	■■		■■■■
Michigan	■■■	■■	■■	
Washington			■■■■	■■
California		■	■■■■■	
Georgia	■	■■■		■■
Wisconsin	■■	■		■
Nevada	■■		■	
South Carolina		■	■■	



As shown in Table 2.1, close to 80 percent of local programs in MIHOPE served families in metropolitan counties.¹⁵ This is a greater representation of metropolitan counties than in the federal MIECHV program. In fiscal year 2016, approximately 50 percent of all MIECHV-served counties were rural.¹⁶ The design of MIHOPE called for selecting programs to represent both urban and rural counties, but it proved to be difficult to include states that funded multiple home visiting models and also funded programs in rural counties. As a result, MIHOPE included many of the most populous states in the country, which limited the number of counties that were deemed to be rural. Even within the populous states that participated in MIHOPE, some local programs in rural counties were excluded for other reasons. For example, in one state, five local programs in rural counties were not included in MIHOPE due to the proximity of other home visiting programs or an insufficient number of families in the community that could provide a control group for the study.

Three-fourths of participating local programs had been operating for six or more years when they joined the study. This reflects two factors. First, states' initial plans targeted MIECHV funds primarily to expand existing local programs rather than to establish new ones.¹⁷ Second, MIHOPE limited site selection to local programs that had been in operation for at least two years.

The majority of local programs reported enrollment capacity of more than 100 families, and about 80 percent reported having five or more home visitors currently on staff. MIHOPE was limited to local programs with at least two home visitors and the capacity to contribute at least 40 families to the study while still providing a control group. These features likely explain the relatively large size of participating local programs.

Home Visiting Staff Characteristics

While evidence-based models in MIHOPE required or preferred prior experience working with children and families, they differed in their educational requirements for home visitors. (See Appendix Table B.1.) For example, NFP required that home visitors have a minimum of a bachelor's degree in nursing and preferred that they have two years of recent experience in

¹⁵To designate counties as metropolitan or nonmetropolitan, this report follows the Department of Agriculture Economic Research Service's Rural-Urban Continuum Codes classification scheme. See Economic Research Service (2013).

¹⁶U.S. Department of Health and Human Services (2017d).

¹⁷Michalopoulos et al. (2015).

Table 2.1
Basic Characteristics of Local Programs

Characteristic (%)	Local Programs
<u>Type of county served^a</u>	
Metropolitan	78.4
Nonmetropolitan	13.6
Both	8.0
<u>Type of local implementing agency</u>	
Community-based nonprofit	62.5
Local health department	15.9
School district	9.1
Health care organization	5.7
Other ^b	6.8
<u>Years program had been in operation at study entry^c</u>	
2 to 3	8.0
4 to 5	15.9
6 or more	76.1
<u>Proportion of funding from the MIECHV program</u>	
Less than 20%	46.5
20 to 49%	27.9
50 to 74%	15.1
75% or more	10.5
<u>Enrollment capacity^d</u>	
50 families or less	12.5
51 to 100 families	27.3
More than 100 families	60.2
<u>Number of home visiting staff at study entry^e</u>	
1 to 4	19.3
5 to 9	58.0
10 or more	22.7
<u>Number of supervisor staff at study entry^e</u>	
0	4.6
1	54.6
2 or more	40.9
Sample size	88

(continued)

Table 2.1 (continued)

SOURCES: Calculations based on data from the MIHOPE program manager survey and the MIHOPE site selection team.

NOTES: Local programs entered MIHOPE between September 2012 and December 2014. Percentages may not sum to 100 because of rounding.

^aTo designate counties as metropolitan or nonmetropolitan, this report follows the Department of Agriculture Economic Research Service's Rural-Urban Continuum Codes classification scheme (Economic Research Service, 2013).

^bOther types of organizations include state-funded institution of higher education, local governments and cooperative extension, university, social service nonprofit, Community Action Agency, and Healthy Families provider.

^cYears operating the specific evidence-based model are those reported at study entry.

^dEnrollment capacity is the number of families that can be served at any one time.

^eCurrent staffing combines full-time and part-time employees.

maternal or child health, public health, home visiting, or mental or behavioral nursing. In contrast, PAT's minimum requirement was a high school credential but required two years of supervised experience working with young children or parents. PAT recommended a bachelor's degree in early childhood education or a related field. HFA required home visitors to have at least a high school credential and required local programs to look for individuals with relevant community-based experience and interpersonal characteristics. EHS did not have specific educational requirements,¹⁸ but required home visitors to have knowledge and experience in child development, early childhood education, and other areas.¹⁹ Both HFA and EHS allowed for flexibility on whether knowledge was obtained through education or experience working with families and children.

Both the EHS and HFA models specifically stated that home visitors were expected to have experience working with culturally and linguistically diverse communities, and HFA additionally recommended selecting home visitors based on a combination of personal characteristics such as the ability to establish trusting relationships and the ability to maintain boundaries between personal and professional lives.

To assess the characteristics of staff who participated in MIHOPE, 521 home visitors and 138 supervisors representing all 88 local programs provided information on staff surveys. Staff surveys were completed between September 2012 and July 2015.

¹⁸Effective August 1, 2018, EHS home visitors must have a minimum of a home-based Child Development Associate credential or comparable credential.

¹⁹The other areas include principles of child health, safety, and nutrition; adult learning principles; and family dynamics.

Staff Sociodemographic Characteristics

Staff sociodemographic characteristics, educational background, and home visiting experience may be associated with the services provided to families. Although there has been some evidence showing that higher levels of education or professional status among home visitors are associated with increased retention of families,²⁰ other studies have not found an association.²¹ For example, McGuigan and colleagues found that home visitors with less than a bachelor's degree were more likely than those with a bachelor's degree to have families remain in home visiting for at least one year, but this finding was not significant when controlling for other family and staff characteristics.²² However, with respect to prior home visiting experience, Daro and colleagues found that having at least one year of experience in delivering home visitation services, working with a similar target population, or both was associated with families receiving more home visits.²³ Table 2.2 presents staff characteristics such as age, race and ethnicity, and educational and employment background for home visitors and supervisors across all local programs. Differences by evidence-based model are presented in Appendix Tables B.2 and B.3.

Slightly more than one-fourth of home visitors were younger than 30 years old and close to 60 percent were younger than 40 years old. This finding is consistent with other studies, which found that home visitors tend to be younger than 40 years old.²⁴ Supervisors tended to be older; 36 percent were more than 50 years old. Home visitors and supervisors were more likely to identify themselves as non-Hispanic white (57 percent and 73 percent, respectively) than any other race or ethnicity. About one-fifth of home visitors identified themselves as Hispanic and one-fifth reported being bilingual in both English and Spanish.

Three-fourths of home visitors and nearly all supervisors had at least a bachelor's degree, though, in general, NFP was the only one of the evidence-based models in MIHOPE to require this level of education for its home visitors. While 93 percent of NFP home visitors had a bachelor's degree or higher, the percentages were 79 percent for EHS, 62 percent for HFA, and 66 percent for PAT home visitors. This finding is consistent with a recent cross-model study of evidence-based home visiting that found that 79 percent of home visitors had a bachelor's degree or higher.²⁵ Earlier studies have reported rates of bachelor's degrees among

²⁰Korfmacher, O'Brien, Hiatt, and Olds (1999).

²¹Daro, McCurdy, Falconnier, and Stojanovic (2003); McGuigan, Katzev, and Pratt (2003).

²²McGuigan, Katzev, and Pratt (2003).

²³Daro, McCurdy, Falconnier, and Stojanovic (2003).

²⁴Burrell et al. (2009); LeCroy and Whitaker (2005); Whitaker (2014).

²⁵Boller et al. (2014).

Table 2.2

Sociodemographic Characteristics of Home Visitors and Supervisors

Characteristic (%)	Home Visitors	Supervisors
<u>Staff sociodemographics</u>		
Age		
29 years or younger	27.6	8.0
30 to 39 years	29.6	37.0
40 to 49 years	23.0	19.6
50 years or older	19.8	35.5
Race/ethnicity		
Hispanic	21.5	8.7
White, non-Hispanic	57.6	73.2
Black, non-Hispanic	15.5	13.0
Other/multiracial	5.4	5.1
Bilingualism		
English-Spanish	21.0	—
English-other	3.1	—
<u>Education and employment background</u>		
Highest education level		
High school diploma or General Educational Development (GED) certificate or less	2.3	0.0
Vocational or technical training or some college	10.6	3.6
Associate's degree or training program degree	12.3	1.4
Bachelor's degree	61.6	56.5
Master's degree or higher	13.2	38.4
Field of study ^a		
Child development	25.0	16.7
Early childhood education	20.4	22.5
Education	14.3	18.8
Psychology	24.0	20.3
Social work or social welfare	27.3	32.6
Nursing	30.8	24.6
Other ^b	19.3	17.4
Experienced in home visiting field ^c	49.9	70.1
Sample size	521	138

(continued)

Table 2.2 (continued)

SOURCES: Calculations based on data from the MIHOPE home visitor survey and the MIHOPE supervisor survey.

NOTES: Dashes indicate that data are not available.

Percentages may not sum to 100 because of rounding.

^aResponse categories are not mutually exclusive, so percentages may total more than 100.

^bOther fields of study include human services, sociology, criminal justice, business administration, and accounting, among others.

^c“Experienced” is defined as either having at least three years of prior experience providing home visiting services to families or at least three years in their current position. For supervisors, their current position is defined as their supervisor role.

home visitors ranging from 32 percent to 72 percent.²⁶ Supervisors were more likely than home visitors to hold a master’s degree (38 percent compared with 13 percent).

Home visitors and supervisors came from various fields of study, including child development, early childhood education, education, psychology, social work, and nursing. As expected, all NFP home visitors and supervisors had degrees in nursing while fewer than 10 percent of home visitors and supervisors in local programs using the other models had nursing degrees.

The local programs participating in MIHOPE had a relatively new home visiting workforce. One-fifth of home visitors had been in their current position less than one year and had no experience in home visiting (results not shown in table). Half of home visitors had less than three years of total experience providing home visiting services. This finding was true for all four evidence-based models and could be due, in part, to the rapid expansion of MIECHV-funded slots at the time the study began, though MIHOPE was not able to systematically confirm this explanation with the data collected.

Overall, supervisors had more home visiting experience than home visitors. Seventy percent had at least three years of total experience providing home visiting services or in their current position as supervisors.

Staff Well-Being

Psychosocial characteristics of home visiting staff have been shown to affect the relationships they establish with mothers, thus influencing the services they deliver. In particular, home visitors’ attachment insecurity — as indexed by relationship anxiety and relationship

²⁶Burrell et al. (2009); Whitaker (2014).

avoidance²⁷ — has been posited as a factor of service delivery because of its influence on the home visitors' capacity to engage mothers while addressing mothers' psychosocial risks.²⁸ For example, prior research found that home visitors with high levels of relationship anxiety were less likely to respond to their clients' psychosocial needs such as intimate partner violence and poor maternal mental health.²⁹ Similarly, another study found that home visitors who reported more symptoms of depression had lower scores on the Visitor-Parent Working Alliance measure, an indicator of the quality of the relationship between the home visitor and mother, which is an important factor in the successful implementation of home visiting programs.³⁰ Other research has suggested that home visitors' burnout, as indexed by high ratings of emotional exhaustion and low ratings of personalization and personal accomplishment, adversely affected the quality of relationships developed with mothers.³¹ Table 2.3 describes the psychosocial attributes of home visitors and supervisors that participated in MIHOPE.

Home visitors and supervisors that participated in MIHOPE had relatively low prevalence of psychosocial risk. About 15 percent of home visitors and 12 percent of supervisors reported having symptoms of depression, compared with 26 percent of home visitors in a previous study of Head Start and Early Head Start programs.³² These rates from MIHOPE and previous studies are higher than the national average of 10 percent of the women in the U.S. population who experienced symptoms of depression between 2009 and 2012.³³ Contrary to other studies,³⁴ very few home visitors and supervisors participating in MIHOPE reported having either high relationship anxiety or avoidance (fewer than 10 percent).

Compared with a national sample, home visitors and supervisors in MIHOPE reported higher than average personal accomplishment in their roles, indicating they have a strong sense

²⁷Relationship anxiety refers to an individual's excessive need for reassurance, fear of rejection, and a desire to merge with relationship partners. Relationship avoidance reflects the extent to which an individual avoids intimacy and is distrusting of others. See Mikulincer and Shaver (2007); McFarlane et al. (2010).

²⁸McFarlane et al. (2010).

²⁹McFarlane et al. (2010).

³⁰Whitaker (2014).

³¹Burrell et al. (2009).

³²Whitaker (2014). While not a clinical diagnosis, the measure used in MIHOPE to assess current symptoms of depression does provide a clinically informative cut-off score, which is reported in Table 2.3.

³³Pratt and Brody (2014).

³⁴Burrell et al. (2009); Whitaker (2014). As in these studies, MIHOPE used the Attachment Style Questionnaire – Short Form (ASQ-SF) to measure relationship anxiety and avoidance. However, there are some differences in measurement of these constructs across these studies, with MIHOPE using the full measure and scoring guidelines from Karantzas, Feeney, and Wilkinson (2010).

Table 2.3**Well-Being and Work Attitudes of Home Visitors and Supervisors**

Characteristic	Home Visitors	Supervisors
Well-being		
Depression symptoms score at or above cutoff ^a (%)	14.8	11.7
Attachment style ^b		
Relationship anxiety (average score)	32.3 (8.7)	32.7 (7.4)
Relationship avoidance (average score)	45.5 (8.7)	44.1 (7.8)
Relationship anxiety score above cutoff (%)	3.7	1.5
Relationship avoidance score above cutoff (%)	7.7	5.2
Burnout risk ^c (average score)		
Emotional exhaustion	48.7 (7.9)	50.1 (8.0)
Personalization	48.7 (9.0)	46.8 (9.2)
Personal accomplishment	57.7 (7.5)	56.1 (6.8)
Work attitudes and perceptions		
Work attitudes ^c (average score)		
Job satisfaction	56.9 (8.0)	55.8 (8.4)
Organizational commitment	59.3 (7.5)	58.9 (7.9)
Intent to leave position in next 12 months (%)	17.3	12.5
Sample size	521	138

SOURCES: Calculations based on data from the MIHOPE home visitor survey and the MIHOPE supervisor survey.

NOTES: Standard deviations for continuous variables are shown in parentheses.

^aA score of 8 or higher on the Center for the Epidemiological Studies-Depression (CES-D)10-item scale (Kohout, Berkman, Evans, and Cornoni-Huntley, 1993) indicates clinically significant symptoms of depression.

^bScores were measured using the Attachment Style Questionnaire-Short Form (ASQ-SF) (Karantzas, Feeney, and Wilkinson, 2010). Anxiety is measured using 13 items, and avoidance is measured using 16 items. Relationship anxiety scores can range from 13 to 78 and relationship avoidance scores can range from 16 to 96. High scores indicate greater relationship anxiety or avoidance. Relationship anxiety and avoidance scores “above cutoff” are defined as those scoring above the theoretical median (scores > 45 for relationship anxiety; scores > 56 for relationship avoidance).

^cScores were measured using the Organizational Social Context measurement system (Glisson et al., 2008). Reported here are the first-order, individual, home visitor scales as standardized T-scores with a mean of 50 and standard deviation of 10. Higher scores are more favorable, with the exception of the emotional exhaustion score in which higher scores indicate greater levels of emotional exhaustion.

of efficacy in dealing with the families they serve and have positive emotions related to families' successes.³⁵ Similarly, when compared with a national sample of mental health workers, home visitors and supervisors participating in MIHOPE report higher than average job satisfaction and organizational commitment scores, together suggesting that staff exhibit high employee morale.³⁶ Previous studies have found that home visitor morale is positively associated with visit dosage.³⁷ However, between 12 percent and 18 percent of staff reported they did intend to leave their current position in the next 12 months, which is higher than in other recent studies of home visitor work attitudes.³⁸

Recipients of Home Visiting Services in MIHOPE

Evidence-based models aimed to serve families at risk for poor child outcomes, based on one or more family characteristic, as described in Chapter 1. Although the indicators used to identify at-risk families differed among the models, all models largely targeted low-income families, one of the MIECHV program's priority populations. NFP specifically targeted first-time mothers early in their pregnancies. EHS emphasized targeting families with children with disabilities who are eligible for Part C services in their state, under the Individuals with Disabilities Education Act. Both NFP and EHS allowed individual local programs to further target the populations they serve, but only after the models' eligibility criteria were applied. In contrast, HFA and PAT permitted individual local programs to select the specific characteristics of the target populations they planned to serve; both have historically served families with a broad array of risks.

All of the evidence-based models in MIHOPE could enroll women when they were pregnant. As mentioned, NFP targeted only first-time mothers who were 28 weeks pregnant or less. HFA enrolled women until three months postpartum. EHS could accept families prenatally through age 3. PAT enrolled families during pregnancy or soon after birth, but could continue until age 5.

Since it can be difficult to compare many outcomes across a broad range of children's ages, and because the majority of MIECHV-funded local programs included in MIHOPE aimed to enroll women during pregnancy or shortly after childbirth, MIHOPE only included families in which the woman was pregnant or the focal child was younger than 6 months old when the

³⁵Glisson et al. (2008). The average scores reported in Table 2.3 represent scores standardized to a national sample of mental health organizations. A score of 50 is the mean of the national sample, so values over 50 are considered higher than average when describing comparisons to this national sample.

³⁶Glisson et al. (2008).

³⁷Latimore et al. (2017).

³⁸Burrell et al. (2009).

family entered the study. EHS and PAT, however, typically enrolled families with children in a much broader age range than that being studied in MIHOPE.

Intended Recipients of Local Programs

As seen in Chapter 1, in choosing who to target for home visiting services, local programs were influenced by the guidelines provided by their evidence-based model and, in some instances, by local priorities such as the needs of the populations in their vicinity. Importantly, while the legislation authorizing MIECHV specified certain priority high-risk populations,³⁹ states used a variety of information to make decisions about which populations specifically to target. Many of the state MIECHV administrators interviewed in MIHOPE recognized that community-based agencies often best understand the needs of the families in their areas. This recognition may be why they did not report being overly restrictive in managing local programs' enrollment process.⁴⁰ Table 2.4 highlights various eligibility criteria for the intended recipients and reports how local programs consider these criteria for enrollment in their services. It also breaks out results by evidence-based model and presents findings from tests of whether there are significant differences in the results by evidence-based model. Throughout the remainder of the report, as well as in the appendix chapters, tables that present results by subgroup also report findings from significance testing between subgroups.⁴¹

A little more than half of local programs reported that low-income status, one of the MIECHV priority populations,⁴² was a requirement. About one-fourth of local programs reported that enrollees must be first-time mothers or pregnant women. Other characteristics such as teenage mothers, unmarried mothers, children with special health care needs, substance-using mothers, and prior involvement with Child Protective Services were reported to be considerations for enrollment (but not requirements) by more than half of local programs.

Over 80 percent of EHS and NFP local programs reported that low-income status was a requirement, while this was only the case for about one-fourth of HFA and PAT local programs.

³⁹SEC. 511 [42 U.S.C. 711] (d) (4) (A-I).

⁴⁰Michalopoulos et al. (2015).

⁴¹Descriptive tables in Chapters 2, 3, and 4 that present findings by subgroups, such as by evidence-based model, also provide results from statistical tests of subgroup differences. These tests indicate whether there are significant differences overall between the subgroup values, or in some cases significant differences overall in the subgroup distributions, as is the case in Table 2.4. These descriptive tables do not show results from "post hoc" analyses that can show which particular subgroup values seem to be driving the overall differences. Instead, multiple regression analyses, which simultaneously take into account many characteristics, including subgroups such as evidence-based model, are presented in Chapter 5.

⁴²SEC. 511 [42 U.S.C. 711] (d) (4) (B).

Table 2.4

Local Programs' Eligibility for Enrollment Criteria, by Evidence-Based Model

Criteria (%)	Overall	EHS	HFA	NFP	PAT
Low-income status					***
Required	53.4	89.5	26.9	81.8	23.8
Considered, but not required	29.5	10.5	42.3	13.6	47.6
Not a consideration	17.0	0.0	30.8	4.5	28.6
Disqualification	0.0	0.0	0.0	0.0	0.0
First-time mothers					***
Required	28.4	0.0	19.2	86.4	4.8
Considered, but not required	48.9	63.2	61.5	13.6	57.1
Not a consideration	22.7	36.8	19.2	0.0	38.1
Disqualification	0.0	0.0	0.0	0.0	0.0
Pregnant women					***
Required	23.9	5.3	3.8	86.4	0.0
Considered, but not required	62.5	84.2	80.8	13.6	71.4
Not a consideration	13.6	10.5	15.4	0.0	28.6
Disqualification	0.0	0.0	0.0	0.0	0.0
Teenage mothers					*
Required	2.3	0.0	0.0	0.0	9.5
Considered, but not required	69.3	89.5	73.1	63.6	52.4
Not a consideration	27.3	10.5	26.9	36.4	33.3
Disqualification	1.1	0.0	0.0	0.0	4.8
Unmarried mothers					**
Required	1.1	0.0	0.0	0.0	4.8
Considered, but not required	51.1	68.4	57.7	27.3	52.4
Not a consideration	47.7	31.6	42.3	72.7	42.9
Disqualification	0.0	0.0	0.0	0.0	0.0
Children with special health care needs					***
Required	1.1	5.3	0.0	0.0	0.0
Considered, but not required	57.5	84.2	57.7	23.8	66.7
Not a consideration	41.4	10.5	42.3	76.2	33.3
Disqualification	0.0	0.0	0.0	0.0	0.0

(continued)

Table 2.4 (continued)

Criteria (%)	Overall	EHS	HFA	NFP	PAT
Substance-using mothers					
Required	2.3	0.0	0.0	4.8	4.8
Considered, but not required	59.3	66.7	65.4	42.9	61.9
Not a consideration	37.2	33.3	30.8	52.4	33.3
Disqualification	1.2	0.0	3.8	0.0	0.0
Prior Child Protective Services involvement					**
Required	1.1	5.3	0.0	0.0	0.0
Considered, but not required	55.2	68.4	61.5	23.8	66.7
Not a consideration	40.2	26.3	30.8	71.4	33.3
Disqualification	3.4	0.0	7.7	4.8	0.0
Sample size	88	19	26	22	21

SOURCE: Calculations based on data from the MIHOPE program manager survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Percentages may not sum to 100 because of rounding.

Since each categorical variable includes multiple categories, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Fisher's exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Eighty-six percent of NFP local programs also required women to be pregnant with their first child, consistent with their model guidelines. (The remaining 14 percent of NFP local programs reported these criteria as considerations, but not requirements.) In addition to the requirement for low-income status, most of EHS local programs also considered teenage mothers, pregnant women, and children with special health care needs. HFA and PAT local programs varied more in what eligibility criteria they used to enroll participants. This variation reflects the fact that HFA and PAT local programs were given more latitude to select the specific characteristics of the target populations they served than local programs in the other two models, though EHS and NFP allowed for the targeting of populations after the models' respective eligibility criteria were applied.

Formal Agreements with Referral Partners to Recruit Families into Local Programs

Local programs rely on close relationships with community service providers to obtain referrals for families interested in enrolling in home visiting. For example, local programs may receive referrals for eligible families directly from prenatal health clinics, hospitals, or child welfare services. Additionally, some local programs use a central intake system that provides a

single entry point where families are screened and referred to appropriate services based on family need or other community-level criteria. Home visiting is just one service that families may be referred to from centralized intake.⁴³

One way to facilitate partnerships with community service providers or a central intake system in order to obtain family referrals is through formal written arrangements.⁴⁴ As seen in Appendix Table B.5, about half of local programs had formal referral arrangements with at least one type of organization (not including a central intake system). For specific types of referral partners, the percentage of local programs with formal referral arrangements ranged from 12 percent (pediatric clinics) to 25 percent (Women, Infant, and Children [WIC] programs).

Across all local programs, less than half had a formal referral arrangement with a central intake system, while 60 percent of local programs in MIHOPE reported any receipt of family referrals from a central intake system (results not shown in table). Central intake systems have become more widespread across states, in part due to support provided by the MIECHV program.⁴⁵ However, at the time of the data collection, local programs participating in MIHOPE in New Jersey, Illinois, and Georgia, and to a lesser extent Kansas and Iowa, reported using centralized intake as a formal source of family referrals into home visiting services (results not shown in table). The impact of central intake systems is largely unknown, but they have the potential to efficiently connect families to services based on need and eligibility, simplify the referral process for community service providers, eliminate duplication of efforts and services across providers, improve care coordination, and maximize appropriate usage of available resources.⁴⁶

Characteristics of Families in MIHOPE

Family characteristics are relevant to understanding the diversity and risk profiles of families served by local programs in MIHOPE. Tables 2.5 through 2.8 describe the program group families at study entry in terms of family sociodemographic and economic self-sufficiency characteristics, family risk factors, and health insurance and service utilization. Many of these variables have been used in prior home visiting studies to examine patterns of engagement across families. For example, earlier research has shown that younger mothers may be more likely to initially enroll in home visiting, but older mothers are more likely to be en-

⁴³National Evidence-Based Home Visiting Model Alliance (2016).

⁴⁴Harrison, Lynch, Rosander, and Borton (1990).

⁴⁵National Evidence-Based Home Visiting Model Alliance (2016).

⁴⁶Lilly et al. (2016).

rolled longer and to receive more visits.⁴⁷ Similarly, enrolling during pregnancy, and specifically early in pregnancy, is associated with receiving more home visits.⁴⁸

From October 2012 to September 2015, 4,229 families entered the study. Eleven families later withdrew from the study for a final analytical sample of 4,218 families. The implementation research analysis focuses on the 2,104 families randomly assigned to receive home visiting services. Family characteristics presented in this chapter were obtained from baseline surveys collected from women (either pregnant women or current mothers) shortly after random assignment occurred and before they began receiving any home visiting services. For this reason, results throughout the remainder of this chapter do not reference other caregivers, though referencing the family or household is appropriate for some findings.

Family Sociodemographic Characteristics

As seen in Table 2.5, the women in MIHOPE were young, with an average age of about 24 years. A little over a third of women were between the ages of 15 and 20 years. Being a younger mother (particularly younger than 20) is associated with greater risk of poor birth outcomes and delays in child development for their children,⁴⁹ although these associations may be driven by age differences in socioeconomic factors such as income, marital status, and education.⁵⁰

As expected given the study design, around two-thirds of women entered the study when they were pregnant. This number is much higher than the 39 percent of pregnant women who participated in the MIECHV program in the fiscal year 2014.⁵¹ Two-thirds of women in MIHOPE were first-time mothers. All women served by NFP local programs were pregnant and nearly all were first-time mothers at the time of enrollment, in alignment with the evidence-based model and the enrollment criteria by local programs participating in MIHOPE. About half of women served by the other three models were pregnant at the time of enrollment. While not an explicit guideline of the model, there was a higher concentration of first-time mothers in HFA local programs (60 percent) than EHS and PAT local programs.

⁴⁷Damashek, Doughty, Ware, and Silovsky (2011); Daro, McCurdy, Falconnier, and Stojanovic (2003); Duggan et al. (2000); McGuigan, Katzev, and Pratt (2003); O'Brien et al. (2012).

⁴⁸Daro, McCurdy, Falconnier, and Stojanovic (2003); McCurdy et al. (2006); O'Brien et al. (2012).

⁴⁹Chandra et al. (2002); DuPlessis, Bell, and Richards (1997); Sommer et al. (2000).

⁵⁰Chittleborough, Lawlor, and Lynch (2011); Reichman and Pagnini (1997).

⁵¹U.S. Department of Health and Human Services (2016a).

Table 2.5

**Selected Family Sociodemographic Characteristics and Economic Self-Sufficiency
at Study Entry, by Evidence-Based Model**

Characteristic	Overall	EHS	HFA	NFP	PAT
<u>Maternal and household sociodemographic characteristics</u>					
Average maternal age ^a (years)	23.6 (5.7)	24.8 (5.4)	23.7 (5.7)	21.1 (4.5)	25.8 (6.0) ***
Maternal age 15 to 20 years (%)	36.2	23.2	34.3	55.7	21.9 ***
Pregnant at study entry ^b (%)	67.9	50.7	56.6	100.0	54.4
Pregnant at study entry and under 21 years old (%)	28.9	15.1	22.4	55.7	13.0 ***
First-time mother ^c (%)	63.8	36.9	60.3	98.1	42.5 ***
Race/ethnicity ^d (%)					
Hispanic	36.6	23.5	33.3	49.5	32.8
Mexican	23.9	16.7	21.1	30.6	23.7
Other Hispanic	12.7	6.8	12.2	19.0	9.1
White, non-Hispanic	24.7	30.3	25.8	15.7	31.4
Black, non-Hispanic	30.5	37.3	33.2	25.7	28.5
Other/multiracial	8.2	9.2	7.6	9.2	7.3
Language other than English spoken in the home (%)	36.2	21.8	34.9	47.2	32.8 *
Mother is married to child's father (%)	18.3	18.3	18.0	11.7	27.3 ***
Child's father figure is present in the home ^e (%)	42.1	44.3	40.9	36.1	49.8 *
Other adult relative lives in the home ^f (%)	49.3	34.0	47.5	67.3	38.8 ***
Nonadult sibling of the child lives in the home ^g (%)	36.1	63.1	39.7	1.9	57.2 ***
<u>Maternal and household economic self-sufficiency (%)</u>					
No high school diploma ^h	43.2	36.0	44.5	41.9	46.8
Age 20 years and younger ⁱ	58.1	54.5	61.2	57.3	55.3
Age 21 years and older ^j	34.6	30.1	35.7	22.2	44.5 ***
Currently taking education or training classes	24.7	20.1	20.6	36.9	18.2 ***
Age 20 years and younger ⁱ	43.5	47.0	38.9	46.3	42.9
Age 21 years and older ^j	14.1	11.9	11.0	25.1	11.4 ***
Ever employed during past 3 years	79.5	83.6	79.1	77.9	79.6
Age 20 years and younger ⁱ	69.3	74.6	70.8	66.9	70.5
Age 21 years and older ^j	85.2	86.2	83.4	91.5	82.2 **

(continued)

Table 2.5 (continued)

Characteristic	Overall	EHS	HFA	NFP	PAT
<u>Maternal and household economic self-sufficiency (%)</u>					
Any earnings in the last month	38.5	34.2	34.2	49.7	33.5 ***
Moved more than once in the past year	20.3	17.3	21.9	19.9	20.3
Household receipt of public assistance ^k	88.2	95.0	93.3	75.3	92.5 ***
Household experiences food insecurity ^l	54.0	50.0	57.4	49.3	57.4 **
Sample size	2,104	284	723	612	485

SOURCE: Calculations based on data from the MIHOPE family baseline survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Standard deviations for continuous variables are shown in parentheses.

For all categorical variables except those with multiple categories, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. See notes “a” and “d” below for further information on statistical tests used with continuous variables and categorical variables with multiple categories, respectively. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aSince this variable is continuous, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^bA Rao-Scott second-order chi-square test was not applied since 100 percent of women in NFP were pregnant at study entry.

^cAlthough no women in the NFP sample should have other children (according to NFP eligibility requirements, women must be first-time mothers), the percentage may not be 100 percent for this sample because parity was determined using a household count that could include stepsiblings and half-siblings of the focal child.

^dPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^eChild’s father figure includes the child’s biological father as well as the child’s adoptive father or stepfather. In eight households, the father figure was an adoptive father or stepfather. One household included both the biological father and the stepfather.

^fOther adult relative includes any relative who is age 18 or older, other than child’s biological mother, biological father, adoptive father, or stepfather.

^gNonadult sibling includes stepsiblings.

^hNo high school diploma includes individuals who received a General Educational Development (GED) certificate.

ⁱSample sizes for women age 20 years and younger are: overall = 761; EHS = 66; HFA = 248; NFP = 341; PAT = 106.

^jSample sizes for women age 21 years and older are: overall = 1,343; EHS = 218; HFA = 475; NFP = 271; PAT = 379.

^kPublic assistance includes Temporary Assistance for Needy Families (TANF), Supplemental Nutrition Assistance Program (SNAP), Supplemental Security Income (SSI), Social Security Disability Insurance (SSDI), and Women, Infants, and Children (WIC).

^lRespondents were asked two screening items from the U.S. Department of Agriculture’s Household Food Security Survey Module and were classified as food insecure if they indicated any experience with food not lasting or worry about food running out in the past year.

The women in MIHOPE were racially and ethnically diverse. Overall, 37 percent of women identified as Hispanic, with 24 percent of the overall program sample identifying as being of Mexican origin. Twenty-five percent identified as non-Hispanic white and about 30 percent identified as non-Hispanic black or African-American.

Most women (86 percent) completed the family baseline survey in English, while 14 percent of women completed the survey in Spanish. For the most part, home visitors were able to provide services in the language in which women completed the baseline survey. However, for those 14 percent who spoke mostly Spanish and chose to complete the baseline survey in Spanish, over one-fifth were served by home visitors who did not speak Spanish (a proxy for home visitor-mother language mismatch) which is 3 percent of the overall sample (results not shown in table).

Overall, about half of women (49 percent) in MIHOPE lived with another adult relative. While only 18 percent reported being married to the focal child's father, about 40 percent of biological fathers or father figures lived in the home.

Family Economic Self-Sufficiency

The women in MIHOPE possessed low levels of education at study entry. Among women ages 21 years and older, 35 percent had less than a high school diploma.⁵² In comparison, for women of all ages in the United States, most births occur among women with at least some college education (54 percent), while only 20 percent of births in the United States occur among women with less than a high school diploma.⁵³ Among women ages 20 years and younger in MIHOPE, 44 percent were taking education or training classes, while the rate was only 14 percent among those ages 21 years and older (irrespective of their educational attainment).

Overall, 88 percent of women lived in households receiving one or more forms of public assistance, including Temporary Assistance for Needy Families (TANF), Supplemental Nutrition Assistance Program (SNAP), Supplemental Security Income (SSI), Social Security Disability Insurance (SSDI), and WIC. The percentage of households receiving public assistance was lower for those served by NFP local programs than for the other three models, although a large majority (75 percent) were receiving public assistance. Notably, even with high rates of public assistance, approximately half of all households experienced food insecurity, which was defined as worrying about food or actually having food run out in the year before enrollment in MIHOPE.

⁵²This percentage includes receipt of a General Educational Development (GED) certificate.

⁵³Livingston and Cohn (2010).

Only 39 percent of women reported any individual earnings in the prior month, which was expected given the sample's youth and how close its members were to a recent or upcoming birth. In NFP local programs, half of women had earnings in the prior month, consistent with the lower receipt of public assistance among those women's households. That being said, 85 percent of women ages 21 years and older had been employed during the past three years. The rate was still quite high among those who were ages 20 years and younger (70 percent).

One-fifth of women reported moving more than once in the past year. Frequent moves can be a proxy for transience and unstable housing, particularly if there appears to be a consistent pattern of moves over several consecutive years.⁵⁴ The prevalence of recent moves among these women in MIHOPE is slightly lower than the rate found in a study of housing mobility across 10 U.S. cities, in which about one in four low-income families had moved in the previous year.⁵⁵

Family Risk Factors

Since the 1990s, there has been growing interest in documenting the role of early life experiences in children's development, particularly exposure to stressful events, because these experiences may place children's long-term health and well-being at risk.⁵⁶ To better understand the risk profiles of families participating in MIHOPE, Table 2.6 describes the health, psychosocial well-being, and behavior of women and their home environment at the time of study entry in MIHOPE before they began receiving any home visiting services. Table 2.7 describes the birth outcomes among infants who were already born at the time of study entry.

- **Tobacco and Substance Use**

Families with histories of household tobacco use and substance use are identified as priority groups in the legislation authorizing MIECHV.⁵⁷ Behavioral health risks such as tobacco use and problematic use of alcohol and other drugs negatively affect both children and mothers. Engaging in these behaviors is associated both with negative birth outcomes, such as fetal growth restriction, and with risks for children after birth, such as respiratory illness, and in

⁵⁴Dong et al. (2005); Zioli-Guest and McKenna (2014).

⁵⁵Kutty (2008).

⁵⁶Felitti et al. (1998).

⁵⁷SEC. 511 [42 U.S.C. 711] (d) (4) (F). MIHOPE asked families to report on their substance use behaviors such as illegal use of drugs and binge alcohol use before pregnancy. These proxies do not necessarily constitute measures used by clinicians to diagnose chronic addiction or systematically unhealthy levels of use.

Table 2.6

Selected Maternal and Household Risk Factors at Study Entry, by Evidence-Based Model

Characteristic	Overall	EHS	HFA	NFP	PAT
Health self-rated as “poor” or “fair” (%)	11.4	14.4	11.9	8.2	12.8 *
Smoking (%)					
Any smoking in the 3 months prior to pregnancy	28.2	34.0	28.7	22.5	31.1
Any current smoking	14.5	21.6	15.1	6.3	19.8 ***
Smoking is permitted in the home	16.9	18.8	16.9	16.0	16.8
Binge alcohol use or illegal use of drugs prior to pregnancy ^{a,b} (%)	31.1	30.2	29.2	33.2	31.7
Depression symptoms score at or above cutoff ^c (%)	37.6	41.9	39.3	36.5	34.1
Anxiety symptoms score at or above cutoff ^d (%)	21.4	19.4	23.0	22.9	18.3
Attachment style ^e (%)					
Relationship anxiety score above cutoff	15.5	13.2	17.3	16.0	13.6
Relationship avoidance score above cutoff	45.7	47.0	49.3	42.0	44.3
Average mastery score ^{f,g}	22.2	22.4	22.0	22.2	22.2
	(3.4)	(3.4)	(3.4)	(3.3)	(3.5)
Maternal abstract verbal reasoning ^{h,i} (%)					
A weakness or below average	63.2	59.4	65.5	62.7	62.5
Average	34.8	38.9	33.1	34.6	35.2
A strength or above average	2.0	1.8	1.4	2.6	2.3
Mother has never breastfed or does not intend to breastfeed her child ^j (%)	18.5	21.7	20.5	10.5	23.7 **
Mother has weak empathy skills ^k (%)	22.5	23.3	22.8	23.6	20.3
Home environment for learning ^l (%)					
Mother has weak conversational skills ^m	6.3	6.4	6.3	6.7	5.6
Home is cluttered or unclean	14.7	13.6	16.7	13.0	14.6
Household has fewer than 10 books visible in the home	48.9	39.1	55.7	48.4	45.5
Evidence of recent alcohol or nonprescription drug use in the home	7.7	11.0	6.3	8.8	6.3
Maternal experience with or perpetration of intimate partner violence in the past year ⁿ (%)	26.1	23.2	25.8	28.2	25.6
Arrested in the past year (%)	6.5	5.7	7.3	5.9	6.7
Sample size	2,104	284	723	612	485

(continued)

Table 2.6 (continued)

SOURCES: Calculations based on data from the MIHOPE family baseline survey and the research team’s baseline home observations.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Standard deviations for continuous variables are shown in parentheses.

For all categorical variables except those with multiple categories, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. See notes “g” and “i” below for further information on statistical tests used with continuous variables and categorical variables with multiple categories, respectively. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aBinge alcohol use is defined as having four drinks or more in one sitting and was reported for the three months prior to pregnancy.

^bIllegal use of drugs was reported for the month prior to pregnancy. This measure includes using prescription drugs in ways other than intended.

^cA score of 8 or higher on the Center for the Epidemiological Studies-Depression (CES-D) 10-item scale (Kohout, Berkman, Evans, and Cornoni-Huntley, 1993) indicates clinically significant symptoms of depression.

^dA score of 10 or higher on the Generalized Anxiety Disorder (GAD-7) 7-item scale (Spitzer, Kroenke, Williams, and Löwe, 2006) indicates moderate or severe anxiety symptoms.

^eMeasured using the Attachment Style Questionnaire-Short Form (ASQ-SF) (Karantzas, Feeney, and Wilkinson, 2010). Anxiety is measured using 13 items, and avoidance is measured using 16 items. Relationship anxiety and avoidance scores “above cutoff” are defined as those scoring above the theoretical median (scores > 45 for relationship anxiety; scores > 56 for relationship avoidance).

^fScore is measured using the Pearlin Mastery Scale (Pearlin and Schooler, 1978). Mastery refers to the extent to which one perceives control and autonomy over various aspects of life. Scores can range from 7 to 28, with higher scores indicating greater levels of mastery.

^gSince this variable is continuous, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^hMeasured using the similarities subscale of the Wechsler Adult Intelligence Scale-Third Edition (WAIS-III) (Wechsler, 1997). Respondents who took the Spanish version of the survey took the equivalent subscale of the *Escala de Inteligencia de Wechsler-Tercera Edición* (EIWA-III) (Wechsler, 2008). Below average = scores 1-7, average = scores 8-12, above average = scores 13-19.

ⁱPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^jThis measure is combined. Women who were not pregnant at study entry were asked whether they had ever breastfed the focal child, while women who were pregnant were asked whether they intend to breastfeed the focal child.

^kEmpathy skills were measured using a subscale of the Adult Adolescent Parenting Inventory-2 (AAPI) (Bavolek and Keene, 1999). For English-speaking women, the cutoff score for low empathy was less than or equal to 32 for adolescents and less than or equal to 38 for adults. For Spanish-speaking women, the cutoff score for low empathy was less than or equal to 29 for adolescents and less than or equal to 28 for adults.

^lThis was measured using the Home Observation for Measurement of the Environment (HOME) Inventory (Caldwell and Bradley, 1984).

^mThis means that the mother did not converse in a free and easily audible manner.

ⁿOnly women who had a spouse or were in a relationship with a partner at the time of study entry were asked about experiences of intimate partner violence (overall = 1,538; EHS = 208; HFA = 502; NFP = 467; PAT = 361). Acts included in this measure are throwing something at one’s spouse or partner; pushing, shoving, hitting, slapping, or grabbing one’s spouse or partner; using a knife, gun, or weapon on one’s spouse or partner; choking, slamming, kicking, burning, or beating one’s spouse or partner; and, in cases of maternal victimization, using threats of force to make the mother have sex.

Table 2.7

Selected Child Risk Factors at Study Entry, by Evidence-Based Model

Characteristic (%)	Overall	EHS	HFA	NFP	PAT
Child had low birth weight, <2,500 grams or 5.5 pounds	12.0	12.2	10.8	NA	13.6
Preterm birth (<37 weeks)	18.8	22.9	16.6	NA	19.5
Child was placed in neonatal intensive care unit	13.0	17.3	11.5	NA	12.3
Sample size	675	140	314	NA	221

SOURCE: Calculations based on data from the MIHOPE family baseline survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. NA = not applicable.

Measures are for focal children born before the mother’s entry into the study. These measures are missing for NFP because only pregnant women are eligible to participate in NFP programs.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

the case of alcoholism and illegal use of drugs, cognitive delays, child abuse and neglect, and intimate partner violence.⁵⁸ Overall, 28 percent of women reported smoking in the three months before pregnancy, with the prevalence ranging from 23 percent of women in NFP local programs to 34 percent of those in EHS local programs. Although these rates are higher than the national rate of smoking among all adult women (16 percent),⁵⁹ they are lower or equal to the smoking rate of female Medicaid enrollees before becoming pregnant (34 percent).⁶⁰ Further, overall, nearly a third of women reported binge alcohol use or illegal use of drugs in the months before pregnancy. Since respondents tend to underreport the prevalence of these behaviors, the true rates of smoking and substance use are likely to have been higher than shown.⁶¹

- **Mental Health**

The women in MIHOPE had a substantially higher prevalence of major symptoms of depression than the national average among pregnant women or those who have recently given

⁵⁸U.S. Department of Health and Human Services (2004); National Institute on Drug Abuse (2011); Chomitz, Cheung, and Lieberman (1995); Lemon, Verhoek-Oftedahl, and Donnelly (2002); Magura and Laudet (1996); Russell et al. (1991); Centers for Disease Control and Prevention (2014).

⁵⁹Agaku, King, and Dube (2014).

⁶⁰Tong et al. (2013).

⁶¹Gorber et al. (2009); Northcote and Livingston (2011).

birth (38 percent as compared with 13 percent).⁶² Further, more than one-fifth of the women in MIHOPE reported symptoms of general anxiety disorder,⁶³ a rate which is much higher than the prevalence nationally (3 percent of adults in any given year).⁶⁴ As maternal mental health problems can have repercussions on both maternal and child well-being,⁶⁵ local programs are increasingly addressing maternal mental health problems. For example, the MIHOPE report to Congress found that a third of local programs increased the priority of mental health issues as a result of the MIECHV program, and many local programs have initiated additional mental health screenings of mothers.⁶⁶ Some evidence-based models, such as HFA, have traditionally targeted women with poor mental health.

- **Relationship Insecurity**

Attachment theory posits that early childhood interactions with one's primary caregivers influence how secure an individual feels in their relationships across the life span.⁶⁷ As adults, relationship insecurity — as indexed by relationship anxiety and relationship avoidance — influences how mothers interact with other adults, including home visitors.⁶⁸ Relationship insecurity may influence the effectiveness of service delivery by affecting the mother's willingness to share sensitive information, trust the home visitor, and follow through on agreed-upon actions.⁶⁹ For example, past research found that relationship-avoidant mothers were less emotionally engaged with home visitors during sessions,⁷⁰ and mothers with high relationship anxiety were more likely to receive a high dose of visits.⁷¹ Overall, close to half of women in MIHOPE scored high for relationship avoidance at study entry, and one-sixth scored high for relationship anxiety. These numbers fall within the range of other home visiting studies measuring maternal relationship insecurity.⁷²

⁶²U.S. Department of Health and Human Services (2009).

⁶³Measured using the Generalized Anxiety Disorder 7-item scale. Copyright © (2018) American Medical Association. All rights reserved.

⁶⁴While not clinical diagnoses, the measures used in MIHOPE to assess current symptoms of depression and anxiety provide clinically informative cut-off scores which are reported in Table 2.6.

⁶⁵Chung et al. (2004); Petterson and Albers (2001); Ross and McLean (2006).

⁶⁶Michalopoulos et al. (2015).

⁶⁷Daro et al. (2007); Zayas, Mischel, Shoda, and Aber (2011).

⁶⁸Mikulincer and Nachshon (1991); Mikulincer and Shaver (2007).

⁶⁹McFarlane et al. (2010).

⁷⁰Bosquet and Egeland (2001); Korfmacher, Adam, Ogawa, and Egeland (1997).

⁷¹McFarlane et al. (2010).

⁷²McFarlane et al. (2013); Cluxton-Keller et al. (2014).

- **Intimate Partner Violence**

Young children who are exposed to violence and crime experience high levels of stress and are more likely to exhibit externalizing or “acting out” behavior later on.⁷³ Exposure to intimate partner violence is also associated with child abuse and neglect.⁷⁴

Among women in a relationship with a partner at study entry, about one-fourth reported having experienced or perpetrated intimate partner violence in the past year. This number is consistent with a study using a nationally representative sample of adults ages 18 to 24 years that found that intimate partner violence was reported in 24 percent of relationships and nearly half of those were reciprocally violent.⁷⁵ Research has indicated that it is important to consider contextual factors when comparing the rates at which women are perpetrators or victims of violence. For example, women may perpetrate violence in self-defense, as a coping mechanism for past intimate partner violence committed against them, or to exert control.⁷⁶ Prior research has typically probed the context and motivation for intimate partner violence through the use of qualitative interviews and lengthy, detailed questionnaires.⁷⁷ In MIHOPE, detailed questions about why the violence occurred were not asked due to both the sensitivity of the content and the limited length of the telephone-administered interview.

- **Home Environment**

Observations of households by research staff revealed that most participants in MIHOPE lived in home environments that appeared to be conducive to fostering healthy child development. For example, only 8 percent of homes showed evidence of recent alcohol or drug use. However, almost half of all households had fewer than 10 books of any kind visible in the home at the time of enrollment in MIHOPE, a measure that is correlated with family literacy practices and child language and cognitive development.⁷⁸ Most women were observed to have adequate conversation skills, as indexed by a free and easy style of conversation with research staff. However, over 60 percent of women exhibited lower than average abstract verbal reasoning,⁷⁹ a proxy for verbal intelligence — that is, the ability to analyze

⁷³Sternberg et al. (1993); Wolfe et al. (2003).

⁷⁴Tajima (2004).

⁷⁵Whitaker, Haileyesus, Swahn, and Saltzman (2007).

⁷⁶Hellmuth, Gordon, Stuart, and Moore (2013); Swan et al. (2008); Stuart et al. (2006); Babcock, Miller, and Siard (2003).

⁷⁷Bair-Merritt et al. (2010).

⁷⁸Linver, Martin, and Brooks-Gunn (2004).

⁷⁹Measured using the similarities subscale of the Wechsler Adult Intelligence Scale-Third Edition. Used by permission of NCS Pearson.

information and solve problems using language-based reasoning.⁸⁰ Mothers with lower levels of verbal intelligence may be at higher risk for harsh parenting and may be less likely to create enriching home experiences for children.⁸¹

- **Child Characteristics**

Birth weight and gestational age are well-recognized measures of birth outcomes associated with the long-term health and development of children.⁸² Overall, 12 percent of women who entered the study postnatally reported that their child was born with a low birth weight and 19 percent reported that their child was born preterm. These rates for low birth weight and premature birth are considerably higher than the national averages of 8 percent and 12 percent, respectively.⁸³

Health Insurance and Service Utilization

Benchmark areas specified by the MIECHV authorizing legislation include improvements in maternal and newborn health as well as improvements in coordination with and referrals for other community resources and supports.⁸⁴ The latter includes families' access to and use of needed health care services, such as health insurance, prenatal health care, preventive services, and services to address mental health, substance use, and intimate partner violence. Table 2.8 describes the women's access to and use of health insurance, use of services by women at the time of study entry in MIHOPE before they began receiving any home visiting services, and use of services by infants who were already born at the time of study entry.

- **Maternal Health Care and Health Insurance**

The mother's access to care was an issue for many of the families enrolling in home visiting. Before enrolling in home visiting services, only about 60 percent of women had a usual source of general health care — that is, a place to go to for general health care if they were sick or to seek advice about health — outside of prenatal care and family planning. This figure ranged from 53 percent of women in NFP local programs to 69 percent among women in EHS local programs.

However, roughly 80 percent of women in MIHOPE initiated prenatal care in the first trimester. This number is higher than the national average; 74 percent of women giving birth received prenatal care in the first trimester of pregnancy.⁸⁵

⁸⁰Byrnes (2001).

⁸¹Deater-Deckard, Wang, Chen, and Bell (2012); Bacharach and Baumeister (1998).

⁸²Institute of Medicine (2007); Centers for Disease Control and Prevention (2009).

⁸³Martin et al. (2013).

⁸⁴SEC. 511 [42 U.S.C. 711] (d) (1) (A) (i), SEC. 511 [42 U.S.C. 711] (d) (1) (A) (vi).

⁸⁵U.S. Department of Health and Human Services (2013).

Table 2.8

**Selected Health Insurance and Service Utilization Characteristics at Study Entry,
by Evidence-Based Model**

Characteristic (%)	Overall	EHS	HFA	NFP	PAT
<u>Maternal health care access and insurance coverage</u>					
Initiated prenatal care in the 1st trimester	81.2	76.6	79.5	83.7	83.4 *
Has usual source of general health care ^a	62.8	69.2	66.3	53.0	66.3 ***
Insurance type ^b					
Uninsured	18.4	15.4	16.8	21.8	18.1
Public coverage	74.1	78.6	76.8	70.3	72.1
Private insurance	12.2	11.5	12.8	11.3	13.0
<u>Mental health, substance use, and intimate partner violence (IPV) services</u>					
In the past year, ever received help or treatment for... ^b					
Mental health	17.2	18.4	18.1	15.3	17.5
Alcohol or substance use	9.8	7.4	11.8	7.9	10.9
IPV or anger management	3.7	2.8	4.2	3.6	3.5
Sample size (number of mothers)	2,104	284	723	612	485
<u>Child health care access and insurance coverage^c</u>					
Has usual source of well-child care	93.3	92.8	93.0	NA	94.1
Insurance type ^d					
Uninsured	12.4	3.6	15.8	NA	13.2 **
Medicaid/Children's Health Insurance Program	77.5	84.2	77.3	NA	73.6
Other	9.6	12.0	6.3	NA	12.6
<u>Child care^c</u>					
Child receives care from someone other than mother on a regular basis	16.4	17.9	13.5	NA	19.5
Sample size (number of focal children)	675	140	314	NA	221

SOURCE: Calculations based on data from the MIHOPE family baseline survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. NA = not applicable.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aMother's usual source of general health care includes all care except prenatal care and family planning.

^bResponse categories are not mutually exclusive, so percentages may not sum to 100.

^cChild measures are for focal children born before the mother's entry into the study. These measures are missing for NFP because only pregnant women are eligible to participate in NFP programs.

^dPercentages do not sum to 100 because 20 women indicated the focal child had health insurance coverage but did not specify the type of insurance.

At study entry, most women (82 percent) reported having some form of health insurance. Seventy-four percent reported having public health coverage,⁸⁶ which reflects these women's low incomes. Another 12 percent of women in MIHOPE were insured through other types of insurance (for example, private insurance).⁸⁷ Close to one-fifth of women were uninsured.

- **Child Health Care and Health Insurance**

Among children already born at study entry, 78 percent of children were covered by Medicaid and Children's Health Insurance Program (CHIP) and 10 percent were covered by other types of insurance (for example, private insurance). However, one in eight children lacked any type of insurance, which is notable given the number of federal, state, and local programs that provide low-cost or free health coverage for young, low-income children. Children served by EHS local programs had the highest rates of Medicaid and CHIP coverage (84 percent) and the lowest rates of no insurance coverage (4 percent) before receiving home visiting services. Almost all women reported that their children had usual sources of care (93 percent). These findings may not be generalizable to home visiting programs more broadly since children already born at study entry had to be 6 months old or younger to participate in MIHOPE and home visiting programs serve a wider age range, as seen in Table 1.1 of Chapter 1.

- **Service Utilization**

In the past year before study entry, 17 percent of women reported receiving mental health treatment and 1 in 10 women reported receiving treatment for alcohol or substance use. Rates of prior treatment for intimate partner violence or anger management in the past year before study entry were low (4 percent), which is notable considering that in that same timeframe, one-fourth of women reported intimate partner violence (either perpetration or victimization).

Primary Reasons for Enrolling in Home Visiting

As seen in earlier sections, the women participating in MIHOPE varied by their socio-demographic characteristics, levels of risk factors, and access to and use of needed health care services. As a result, women may have had different motivations and expectations for why they chose to enroll in home visiting services. These reasons are presented in Table 2.9.

⁸⁶Public insurance coverage includes Medicaid, Medicare, Medigap, Children's Health Insurance Program (CHIP), military insurance, Indian Health Service, and state-sponsored insurances.

⁸⁷Insurance types do not add up to 100 percent since the family baseline survey allowed women to indicate having more than one type of insurance (for example, women could have selected a public health insurance plan such as Medicaid and a single service plan for dental, vision, or prescription coverage).

Table 2.9**Primary Reasons for Enrolling in Home Visiting Services, by Evidence-Based Model**

Primary Reason (%)	Overall	EHS	HFA	NFP	PAT
Prenatal, maternal, and newborn health	7.5	3.0	4.4	16.6	3.2 ***
Child health and development	24.4	41.4	20.1	17.5	29.2 ***
Parenting support	35.6	31.0	36.3	37.9	34.3
Family economic self-sufficiency	4.0	3.7	5.2	1.6	5.3 *
Referrals and service coordination	11.2	11.2	14.1	6.0	13.7 ***
General advice and support	50.8	38.8	55.8	57.9	41.7 ***
Sample size	2,104	284	723	612	485

SOURCE: Calculations based on data from the MIHOPE family baseline survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Response categories are not mutually exclusive as mothers were asked to provide up to three reasons for enrolling in home visiting, so percentages may total more than 100.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

The majority of women (51 percent) reported wanting to enroll in home visiting for the general advice and support the evidence-based models provided, which included reasons such as having someone to talk to and reducing feelings of isolation. Over a third of women reported being motivated to learn how to be better mothers and sought parenting support. Further, one-fourth of women wanted to learn ways to improve their children’s health, support their children’s development, and find good child care. Very few women reported seeking help to get financial assistance or to complete education or job training goals as primary reasons for enrolling in home visiting services.

Community Characteristics

The characteristics of communities can influence family participation in home visiting and local programs’ ability to affect outcomes by linking families to other needed resources since the availability of formal services can vary.⁸⁸ In MIHOPE, “community” was defined as the neigh-

⁸⁸Halpern (1990); Daro et al. (2007).

borhoods where program and control group families resided rather than the local programs' catchment areas, which can be a much larger geographic area. Past literature found that families living in communities with greater distress (for example, those with high rates of unemployment, public assistance, undereducation, and single parenthood) received higher dosage of home visits.⁸⁹

Table 2.10 presents sociodemographic characteristics at the census-tract level based on where families lived at the time of random assignment into the MIHOPE program or control groups.⁹⁰ Because states generally focused MIECHV funding on areas with higher proportions of risk factors than the rest of the state,⁹¹ families participating in MIHOPE resided in communities that have a greater concentration of risk factors when compared with national averages. On average, MIHOPE families lived in neighborhoods that were more socioeconomically disadvantaged than the neighborhoods of 84 percent of Americans.

The average family participating in MIHOPE lived in a slightly more densely populated area than the average American (5,855 versus 5,487 persons per square land mile for the nation as a whole). This finding is consistent with the finding shown in Table 2.1 that local programs in MIHOPE were more often located in urban areas due to the study design restrictions placed on site selection.

Families in MIHOPE lived in census tracts with higher percentages of minorities compared with national averages. These tracts have more Hispanic (24 percent versus 17 percent), more black (24 percent versus 12 percent), and fewer non-Hispanic white residents (45 percent versus 63 percent). Overall, families in MIHOPE lived in census tracts with a higher percentage of residents speaking a language other than English at home than the national average (25 percent versus 21 percent).

Families in MIHOPE lived in census tracts that had greater socioeconomic disadvantage than the nation as a whole,⁹² consistent with the MIECHV goal of focusing

⁸⁹Daro et al. (2007).

⁹⁰Data are generated from the 2014 American Community Survey five-year estimates. Given that this sample is relatively mobile, the family addresses used to present census-tract information are a snapshot of where families lived at the time of random assignment.

⁹¹Michalopoulos et al. (2015).

⁹²Socioeconomic disadvantage is defined by a standardized sum of four variables from the 2014 American Community Survey five-year estimates: percentage over age 25 without a high school degree, percentage unemployed, percentage of families living in poverty, and percentage receiving public assistance (Turney and Harknett, 2010).

Table 2.10
Community Characteristics of MIHOPE Families

Community Characteristics	National Mean ^a	Local Mean ^b	Local	
			Standard Deviation	Range
Community density ^c (persons per square land mile)	5,487.4	5,855.3	6,684.3	3.7-50,446.1
Race/ethnicity (%)				
Hispanic	16.9	24.1 ***	24.4	0.0 – 99.0
White, non-Hispanic	62.8	45.1 ***	30.6	0.0 – 99.3
Black, non-Hispanic	12.2	24.1 ***	28.3	0.0 – 100.0
Asian, non-Hispanic	4.9	3.5 ***	5.8	0.0 – 67.5
Other/multiracial	3.2	3.3	3.0	0.0 – 28.1
Speaks language other than English at home ^d (%)	20.9	25.3 **	23.0	0.0 – 95.8
Household type (%)				
Married couple	48.4	37.7 ***	15.2	2.2 – 80.6
Female-headed household; no husband present	13.0	20.4 ***	11.1	0.0 – 62.0
Other ^e	38.5	41.9 ***	11.3	11.0 – 93.8
Household type – unmarried partner ^f (%)	6.0	7.5 ***	3.8	0.0 – 25.9
Household size (persons)	2.6	2.8 ***	0.5	1.3 – 6.3
Median household income (\$)	53,482.0	40,743.0 ***	17,733.2	9,432.0 – 142,600.0
Uninsurance among the nonelderly population ^g (%)				
	16.3	20.3 ***	9.7	1.3-60.9
Neighborhood socioeconomic disadvantage ^{h,i}				
Families living in poverty (%)	11.5	22.5 ***	14.7	0.0 – 73.1
Families receiving public assistance (%)	7.5	13.2 ***	9.4	0.0 – 52.3
Unemployed in civilian labor force ^j (%)	9.2	14.1 ***	7.9	0.0 – 52.6
Age 25 years and over and less than high school degree or equivalency (%)	13.7	22.3 ***	13.3	0.8 – 71.7
Sample size	4,195			

SOURCES: Calculations based on U.S. Census Bureau, 2014 American Community Survey five-year estimates. Participant addresses were obtained from the MIHOPE family baseline survey.

NOTES: Under some circumstances, the American Community Survey suppresses estimates of smaller populations and subpopulations in individual census tracts to limit the disclosure of information about individual respondents and to reduce the number of estimates with unacceptable levels of statistical reliability.

(continued)

Table 2.10 (continued)

Differences between the local means and national means were tested for statistical significance using a one sample comparison of means test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aThe values under “National” express average statistics for the country as calculated by the U.S. Census Bureau, except for “community density” and “neighborhood socioeconomic disadvantage” which reflect tract-level population weighted averages aggregated to the national level.

^bThe values under “Local” express the average among the census tracts of MIHOPE sample members, weighted by the number of sample members in each tract.

^cNational standard deviation = 13,089.5. National range = 0.0 - 455,643.2.

^dAmong the population ages 5 years and older.

^eOther household types include single, male-headed households and non-family households (living alone or living with nonrelatives).

^fAn unmarried partner household is one that includes a householder and an “unmarried partner,” who can be of the same or of the opposite sex of the householder. An unmarried partner household may be a family household or a nonfamily household, depending on the presence or absence of another relative in the household.

^gNonelderly population is the population less than 65 years old.

^hThe neighborhood socioeconomic disadvantage index is based on the composite measure of socioeconomic disadvantage using four American Community Survey variables: (1) percentage age 25 years and over without a high school degree, (2) percentage unemployed, (3) percentage of families living in poverty, and (4) percentage of families receiving public assistance (Turney and Harknett, 2010). The index was normed to the population-weighted national averages.

ⁱNational standard deviation = 1.0. National range = -1.6 to 8.6.

^jAmong the population 16 years and older.

services in disadvantaged communities.⁹³ Compared with national statistics, the census tracts of families in MIHOPE had higher rates of families living in poverty (23 percent versus 12 percent), adult unemployment (14 percent versus 9 percent), public assistance receipt (13 percent versus 8 percent), and individuals over the age of 25 without a high school degree (22 percent versus 14 percent). Further, the median household income was lower (\$40,743 versus \$53,482) and more individuals under the age of 65 did not have medical insurance (20 percent versus 16 percent). Finally, the communities where families in MIHOPE lived were rated similarly or worse on a checklist of visible indicators of neighborhood disorder when compared with ratings of communities where families lived who were enrolled in a nationally representative sample of Early Head Start programs (results not shown in table).⁹⁴

⁹³SEC. 511 [42 U.S.C. 711] (d) (4) (A).

⁹⁴Using items from the Project on Human Development in Chicago Neighborhoods (for example, general condition of housing units, garbage on street or sidewalk [Leventhal et al., 2004; Sampson, 2012]), fieldworkers rated the face-blocks where families in MIHOPE lived during their intake visits. Unstandardized sums of all items were compared with ratings of the face-blocks where families lived who were enrolled in a nationally representative sample of Early Head Start programs (Vogel et al., 2015).

Conclusion

MIHOPE enrolled a selection of local programs that represented every region of the country and provided nearly equal representation for each of the four evidence-based models being studied. While the MIHOPE local programs were not nationally representative of all MIECHV-funded local programs, these local programs were effective in reaching high-priority populations mentioned in the legislation authorizing MIECHV: low-income families, pregnant women under 21 years of age, families with users of tobacco in the home, and families with a history of substance use or need for substance abuse treatment.⁹⁵ Local programs were also staffed with a large proportion of home visitors who held a degree in a related field. However, the home visitors delivering services in MIHOPE were relatively new to home visiting, highlighting the need for strong implementation systems and service coordination to support home visitors in addressing the needs of the at-risk families in MIHOPE. Chapter 3 examines various components of local programs' implementation systems and the accessibility and effectiveness of community service providers available to those local programs. Chapter 7 discusses the implications of these findings for local programs and the home visiting field.

⁹⁵SEC. 511 [42 U.S.C. 711] (d) (4) (A-I).

Chapter 3

How Did Local Programs Support Home Visitors to Carry Out Their Roles?

The implementation system is the infrastructure that each local program has in place to support home visiting staff in their work. It is one of the important links between what has been defined in the service plan and the services actually provided to families, both of which are described in Chapter 4.

This chapter examines key features of the implementation system, specifically emphasizing the supports that home visitors receive from their local program such as training, supervision, clinical and administrative supports, and the relationships with other service providers in the communities in which they operate. This chapter also describes home visitors' perceptions of their roles and their effectiveness in carrying out those roles, as well as ratings of their local program's implementation systems, how their work environment changed as a result of their local programs receiving funding from their states' federal Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program awards, and the availability and quality of services in their communities.

The legislation authorizing the MIECHV program requires that awardees have the infrastructure needed to provide high-quality services, including well-trained and competent staff, high-quality supervision, strong organizational capacity for implementation, appropriate linkages and referral networks, and monitoring of fidelity of program implementation.¹

The evidence-based models provided guidance for many of these implementation system components in varying degrees. For example, all of the models provided model-specific training for newly hired staff, but they varied in the amount of ongoing training they expected and provided for staff.

Implementation system components are intended to motivate, enable, and reinforce staff to carry out their roles. Thus, variation in these components across local programs might explain variation in the services that families receive. These relationships are examined in more detail in Chapter 5.

¹SEC. 511 [42 U.S.C. 711] (d) (3) (B) (ii-vi).

Key Findings

- **Home visitors reported receiving more frequent training than specified by each of the evidence-based models.** (Model expectations ranged from 3 to 36 hours per year.) Home visitors self-reported receiving an average of more than 8 hours of training per month. However, more often than not, these trainings did not include observed role play of skills.
- **Home visitors received fewer hours of supervision than specified by the evidence-based models.** (Model expectations ranged from 2 hours per month to 1 to 1.5 hours per week for individual supervision.) Although individual supervision sessions averaged slightly more than an hour each as self-reported by supervisors, they did not occur as frequently as intended by some of the models. Further, home visitors varied in how often they were observed in visits with families by their supervisors; a third of home visitors were not observed at all over a 12-month period.
- **Local programs reported having other appropriate implementation system components,** including parenting curricula, management information systems, continuous quality improvement activities, and program monitoring.
- **Home visitors typically felt effective in working with families across a wide range of outcomes.** Home visitors gave themselves high ratings more consistently in outcome-specific areas related to parenting and child development than in those related to maternal health and well-being. These ratings varied somewhat by evidence-based model.
- **Community service providers were reported to have been available across all service types for most local programs, but issues of accessibility and effectiveness were commonly reported.** At least 80 percent of local programs reported that service providers were available for all areas. However, less than two-thirds of local programs reported that those same service providers were accessible and effective in helping their families.

Home Visitor Training

Home visitor recruitment is an important aspect of the implementation system because it determines the process by which local programs hire qualified home visitors to serve families. While the evidence-based models have specified their staffing requirements (see Appendix Table B.1), local programs are responsible for hiring new home visitors within their communities. In many

cases, local programs may have their own requirements or qualifications that they seek in a candidate and these vary somewhat by model. (See Appendix Table C.1.)

Seventy-two of the local programs participating in MIHOPE (82 percent) hired new home visitors in the 12 months preceding their participation in MIHOPE. (See Appendix Table C.2.) Many local programs reported difficulties finding home visitors to meet specified requirements. In fact, of those who did hire new home visitors, about two-thirds found that it was difficult to do so. (See Appendix Table C.2.) The most common reasons for these difficulties included finding candidates who were bilingual in English and Spanish and finding candidates who met the educational requirements.

Once hired, home visitors require training. Training is an essential component of an implementation system because it equips home visitors with the skills and knowledge needed to deliver services. Implementation science theorizes that the adequacy of training is positively associated with staff competence.² Theories of behavior posit that individuals are more likely to engage in behaviors they believe they can carry out competently.³ However, home visitor training is a particular implementation challenge for local programs; some research suggests that it does not address all key outcome areas necessary for delivering high-quality services.⁴ In response, workforce development is one of the top research priorities for the field.⁵

Information on training was collected from evidence-based model developer interviews conducted between December 2012 and August 2013 and from training logs completed monthly by home visitors between November 2012 and May 2016.

Training Required by Evidence-Based Models

All evidence-based models required training for home visitors, but the models differed in their timing, intensity, and content of training. Table 3.1 provides the requirements for initial training on model implementation, training on curriculum, and ongoing training.⁶

²Fixsen et al. (2005).

³Glanz, Rimer, and Viswanath (2008).

⁴Paulsell, Del Grosso, and Supplee (2014).

⁵See the National Home Visiting Research Agenda (Duggan et al., 2013).

⁶The evidence-based models may have required other trainings in addition to these three types, such as training on specific assessments or observation tools. Models also may have provided additional or different training for supervisors. Effective August 1, 2018, EHS local programs must use a research-based, coordinated coaching strategy for training staff.

Table 3.1

Intended Training for Home Visitors, by Evidence-Based Model

Training Focus	EHS	HFA	NFP	PAT
<u>Initial training on model implementation</u>				
Length	No requirement	Minimum 4 days	13-14 days	5 days
Modality	In-person and web-based	In-person	In-person, self-study, and web-based	In-person
Provided by	EHS national office, EHS trainer, TA providers	HFA-certified trainer	NFP National Service Office and online learning management system (LMS)	PAT-certified trainer
Timing	No requirement	Within 6 months of hire	Majority must be completed prior to serving families; remainder within the first 6 months of employment	After completing curriculum training and prior to serving families
<u>Training on curriculum</u>				
Length	Depends on curricula selected	Depends on curricula selected	Included as part of initial training on model implementation	Included as part of initial training on model implementation
Modality	Depends on curricula selected	Depends on curricula selected	In-person	In-person
Provided by	Depends on curricula selected	Depends on curricula selected	NFP National Service Office	PAT-certified trainer

(continued)

Table 3.1 (continued)

Training Focus	EHS	HFA	NFP	PAT
<u>Ongoing training</u>				
Length	Minimum 15 hours per year	Minimum 36 hours in first year required; minimum of 15 hours recommended for subsequent years	3-5 hours of online education per year	Minimum 20 hours of professional development within one year of certification, 15 hours during second year after certification, 10 hours in the third and subsequent years after certification
Modality	In-person and web-based	In-person and web-based	In-person and web-based	In-person and web-based
Provided by	EHS national office, EHS trainer, TA providers, local program, community agencies	HFA national office of e-learning, local program, community agencies	LMS, webinars, local program, community agencies	PAT-certified trainer, local program, community agencies

SOURCE: MIHOPE evidence-based model developer interview.

NOTE: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. TA = technical assistance.

Initial training on model implementation always involved in-person training and sometimes included web-based training as well, and it typically occurred before home visitors served families. The content of initial training included the model’s history and theory, its basic components for service delivery and model fidelity, the home visitor’s role, and data requirements and reporting procedures.

Curriculum training prepares home visitors to carry out the curriculum used by their local program and covers the general content and approach for providing home visits. (A detailed overview of home visiting curricula is presented later in this chapter.) Early Head Start – Home-based option (EHS) and Healthy Families America (HFA) did not require the use of a particular curriculum and so the specifics of training vary across local programs, depending on the curriculum

used. Nurse-Family Partnership (NFP) and Parents as Teachers (PAT) did require a particular curriculum and provided training on its use as part of the initial training on model implementation.

Ongoing training, sometimes referred to as in-service training or professional development, can be defined as training that home visitors participate in throughout their employment. The models varied considerably in the required number of hours of ongoing training per year. All of the models provided resources to meet the ongoing training requirements but also relied on outside entities to provide trainings to home visitors. For instance, local programs often provided their own trainings that were tailored to meet the needs of the community and may have also required that home visitors attend trainings provided by other training providers or networks in their community or state.

About two-thirds of local programs reported that all of their home visitors were compliant with training requirements; the other third reported that most of their home visitors were compliant. (See Appendix Table C.2.) This finding is consistent with previous home visiting research.⁷

Training Reported by Home Visitors

To understand ongoing home visitor training more fully, MIHOPE asked home visitors to report on all training they attended in each month of study participation. The majority of training reported in MIHOPE is considered ongoing training, rather than initial training received before working with families.⁸

Dosage and Modality of Training

Overall, in a 12-month period, home visitors reported attending one or more trainings in nearly three-fourths of the monthly logs, as shown in Table 3.2.⁹ On average, they attended 1.8 trainings per month, although this dosage varied by evidence-based model. Home visitor trainings took place for a total of 8.4 hours per month, which was similar across the four models.

⁷Boller et al. (2014).

⁸Home visitors began reporting their training generally in the first month after their local program began participating in the study. Home visitors hired after the start of the study typically began reporting their training during their first months of employment.

⁹To standardize the timeframe for reporting training, these analyses are limited to home visitors who had the potential to contribute 12 months of data before their local program's participation in the study ended. Some of these visitors provided less than 12 months of data, for example, because they left their position. When a home visitor had more than 12 months of data, the analyses included the first 12 months. On average, home visitors provided 10 months of data.

Table 3.2**Dosage and Modality of Home Visitor Training, by Evidence-Based Model**

Training Measure	Overall	EHS	HFA	NFP	PAT
<u>Dosage^a</u>					
Months attending any training (%)	73.8	78.3	72.6	77.1	65.9 *
Average number of training sessions per month	1.8 (1.3)	2.2 (1.3)	1.6 (0.9)	1.8 (1.6)	1.5 ** (1.1)
Average training per month (hours)	8.4 (8.2)	9.2 (6.2)	8.1 (5.8)	9.0 (11.4)	7.2 (7.9)
Sample size	600	143	175	161	121
<u>Modality^b (%)</u>					
Training involving role play	30.1	33.1	33.0	22.9	32.3 ***
Training involving role play and there was an observation of role play	22.7	25.4	25.9	15.9	24.3 ***
Sample size ^c	594	140	172	161	121

SOURCE: Calculations based on data from the MIHOPE home visitor monthly training logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Sample includes home visitors who had a potential to contribute 12 months of training logs, and represents a maximum of 12 monthly logs per home visitor. Training logs were expected monthly, regardless of whether a training occurred.

Standard deviations for continuous variables are shown in parentheses.

For all percentage variables and continuous variables, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of home visitors within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aDosage is calculated among months when training logs were submitted.

^bModality is calculated among months when training logs were submitted and they indicated training occurred.

^cSample is limited to staff who submitted at least one log indicating training occurred.

These hours of monthly training reported by home visitors were considerably more than what the evidence-based models specified as minimum training hours required. For instance, EHS specified that home visitors participate in at least 15 hours of training per year, but home visitors in EHS local programs reported an average of 9 hours of training per month. The majority of this training was assumed to be ongoing training, but even if some of it was time-intensive initial or curriculum training for newly hired home visitors, the average still substantially exceeded the models' training requirements.

Training modalities are diverse and may include, for example, lectures, role play, and knowledge-based tests. Studies show that effective training consists not only of the presentation of information and demonstration and modeling of skills, but also the opportunity to practice new skills in a safe environment with feedback during and after such practice.¹⁰ In home visiting, training involving role play has been shown to improve program effectiveness.¹¹

On average, home visitors reported participating in training that included role play in only about 30 percent of months in which a home visitor participated in training. Training that included role play that was observed by the trainer happened less frequently (23 percent of months in which a home visitor participated in training). Both training modalities were reported less often by NFP home visitors than by home visitors in the other three evidence-based models. Other modalities were used more often in home visitor trainings; the most common one involved lectures (89 percent of months; results not shown in table).

Content of Training

As seen in Table 3.3, the content of home visitor training varied considerably by outcome-specific areas. In a 12-month period, more than three-fourths of home visitors completed at least one training in each of five outcome-specific areas: mental health or stress, positive parenting behavior, child maltreatment, child preventive care, and child development. In contrast, home visitors were less likely to receive formal training on access to community resources, ranging from only 9 percent receiving training in accessing high-quality child care to 37 percent receiving training in accessing public assistance.

Eighty-one percent of home visitors reported completing training on mental health or stress. This high percentage likely reflects the MIECHV program's emphasis on this outcome at the time the data were collected from 2012 to 2016, coupled with the growing recognition of the high prevalence of mental health issues among enrolling families and home visitors' perceived need for more training in this area.¹²

The percentage of home visitors receiving training varied significantly across evidence-based models in several outcome-specific areas. NFP home visitors were more likely than home visitors in other models to participate in trainings on prenatal health or birth outcomes; maternal physical health; and breastfeeding, feeding, and nutrition. EHS home visitors were more likely than home visitors from other models to participate in training on economic self-sufficiency.

¹⁰Fixsen et al. (2005); Durlak and DuPre (2008).

¹¹Casillas, Fauchier, Derkash, and Garrido (2016).

¹²Ammerman et al. (2010); Jones Harden, Denmark, and Saul (2010); Tandon, Mercer, Saylor, and Duggan (2008); Duggan et al. (2007).

Table 3.3
Percentage of Home Visitors Who Attended Any Training on Outcome-Specific Areas, by Evidence-Based Model

Outcome-Specific Area (%)	Home Visitors Who Attended Any Training ^a				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal health/birth outcomes	60.9	55.0	52.9	78.3	56.2 ***
Maternal physical health	46.0	41.4	43.6	61.5	33.9 ***
Family planning and birth spacing	43.6	45.7	44.8	48.4	33.1
Tobacco use/substance use	44.6	45.7	49.4	42.2	39.7
Mental health or stress	80.8	80.0	79.1	80.1	85.1
Intimate partner violence	62.8	56.4	66.3	66.5	60.3
<u>Parenting</u>					
Breastfeeding, feeding, and nutrition	44.9	42.1	37.2	65.8	31.4 ***
Positive parenting behavior	87.4	90.0	83.1	93.2	82.6 *
Child maltreatment	87.9	89.3	87.8	88.2	86.0
<u>Child health and development</u>					
Child preventive care	84.3	89.3	82.0	86.3	79.3
Child development	89.4	90.7	85.5	95.0	86.0 *
<u>Family economic self-sufficiency</u>					
Economic self-sufficiency	54.5	70.0	54.1	46.0	48.8 ***
<u>Access to community resources and public services</u>					
Child care	9.1	7.1	13.4	7.5	7.4
Public assistance	37.0	34.3	39.5	41.6	30.6
Health insurance	25.6	20.7	25.6	34.2	19.8 *
Housing	21.7	18.6	25.0	21.1	21.5

(continued)

Table 3.3 (continued)

Outcome-Specific Area (%)	Home Visitors Who Attended Any Training ^a				
	Overall	EHS	HFA	NFP	PAT
General home visitor training					
General clinical and communication skills	76.9	76.4	82.0	75.8	71.9
Stress management	57.9	55.7	58.7	55.9	62.0
Administrative activities	67.3	72.1	72.1	59.0	66.1
Cultural sensitivity/diversity	65.7	70.7	72.7	59.6	57.9
Initial/core and continuing training for evidence-based model	58.2	60.0	65.7	58.4	45.5 **
Occupational health/safety ^b	17.3	20.0	21.5	15.5	10.7
Sample size	594	140	172	161	121

SOURCE: Calculations based on data from the MIHOPE home visitor monthly training logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Sample includes home visitors who had a potential to contribute 12 months of training logs, and represents a maximum of 12 monthly logs per home visitor. Training logs were expected monthly, regardless of whether a training occurred. The analysis window for each home visitor spans the time from their first log submitted to the last log submitted, up to a maximum of 12 months. As such, these measures only capture whether the home visitor attended a training for each outcome-specific area within this analysis window.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local programs. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aSample is limited to staff who submitted at least one log indicating training occurred.

^bThis area was coded from open-ended write-in responses. See Appendix A for more information on this coding process.

Aside from training on outcome-specific content, home visitors also attended trainings to build more general skills. For instance, 77 percent reported attending a training in clinical and communication skills. Close to 60 percent reported attending a stress management training and about two-thirds of home visitors attended a cultural sensitivity or diversity training.

Supervision of Home Visitors

Staff supervision is another essential element of local programs' implementation systems. Broadly speaking, supervisors in home visiting programs are responsible for ensuring that staff

roles and responsibilities are carried out, enabling home visitors' skill development, and promoting home visitors' personal and professional growth.¹³ Some research suggests that in addition to focusing on model fidelity, case management, and service delivery, supervision should provide a supportive environment to address the stress of working with a high-risk population.¹⁴ Studies have shown that supervision, including reflective practice — which is a way to discuss and reflect on caseloads to improve home visitors' skills — is associated with decreased worker burnout, increased sense of personal accomplishment, fewer symptoms of depression among home visitors, and greater retention of families in home visiting programs.¹⁵

Information on supervision was collected from interviews with evidence-based model developers conducted between December 2012 and August 2013 and from supervision logs completed weekly by supervisors between November 2012 and February 2016.

Supervision Required By Evidence-Based Models

Table 3.4 shows guidelines for group supervision, individual supervision, and observation of home visits for each evidence-based model in MIHOPE. Group supervision typically includes supervision provided to all home visitors in a team meeting or similar group setting. Individual supervision generally is formal, scheduled one-on-one supervision of a home visitor. Observation of home visits refers to a supervisor directly observing an actual home visit as it occurs or by reviewing a video recording of the visit.

Models varied in whether and how they specified the frequency and duration of group and individual supervision. Neither EHS nor HFA specified requirements for group supervision, and EHS did not have specific requirements for individual supervision. NFP required the most time for group and individual supervision combined, but HFA had the highest requirement for individual supervision.

Supervision Provided to Home Visitors

In general, few studies have systematically reported on the frequency and modality of home visiting supervision.¹⁶ Studies that have reported on supervision often relied on information from a single question on a survey or from case studies examining local programs at one or two

¹³Wasik (1993).

¹⁴Gill, Greenberg, Moon, and Margraf (2007).

¹⁵Lee et al. (2013); Gill, Greenberg, Moon, and Margraf (2007); McGuigan, Katzev, and Pratt (2003); McAllister and Thomas (2007).

¹⁶Paulsell, Grosso, and Supplee (2014).

Table 3.4
Intended Supervision, by Evidence-Based Model

Type of Supervision	EHS	HFA	NFP	PAT
Group supervision/team meetings	Not specified	Group supervision is optional and allowable if facilitated by a qualified reflective group consultant. Team meetings are encouraged at least monthly	1-1.5 hours per week	Minimum of 2 hours per month
Individual supervision	Not specified	Minimum 1.5 hours per week for staff working more than 0.75 FTE; minimum 1 hour for staff working less than 0.75 FTE	1 hour per week	Minimum of 2 hours per month for staff working more than 0.5 FTE; minimum of 1 hour per month for staff working less than 0.5 FTE
Observation of home visits ^a	Required; frequency not specified	Required; minimum of twice per year ^b	Required; minimum of every 4 months	Required; minimum once per year

SOURCE: MIHOPE evidence-based model developer interview.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. FTE = full-time equivalent.

^aEHS and HFA do not specify how often observation should occur. NFP requires observation once every four months and on an as needed basis. PAT requires observation twice in a home visitor's first year, annually in the second year and beyond, and more frequently if concerns are identified.

^bRequirement of observation of home visits at least twice per year added to HFA Best Practice Standards (July 1, 2013 version).

points in time.¹⁷ In contrast, MIHOPE collected information for individual home visitors on multiple types of supervision in a log system on a weekly basis for the duration of the local program's participation in the study. While this more comprehensive measurement of supervision dosage provides a detailed description of supervision in MIHOPE, it is hard to compare those findings with what has previously been reported.

¹⁷McGuigan, Katzev, and Pratt (2003); Goyal et al. (2016); Gill, Nathans, Seidel, and Greenberg (2017); Boller et al. (2014).

As seen in Table 3.5, on average in a 12-month period, home visitors attended group supervision in nearly half of the weeks.¹⁸ This dosage varied by evidence-based model. Group supervision was more frequent for NFP and PAT, the two models that had a specific expectation for group supervision, than for EHS and HFA, which did not have a specific expectation. However, the actual weekly frequency of group supervision was lower for NFP than the expectation; it occurred in about 64 percent of weeks for NFP local programs while the model guidance was weekly.

On average, in a 12-month period, home visitors received individual supervision in 59 percent of weeks. Home visitors took part in weekly individual supervision much more often in the two models that required weekly supervision (HFA and NFP) than in the models that specified only a required number of hours per month (PAT) or that had no explicit expectation (EHS). Including weeks without supervision reported, home visitors spent an average of 43 minutes per week in individual supervision. HFA home visitors spent the longest time in individual supervision (an average of 72 minutes per week) and EHS home visitors spent the shortest time (an average of 17 minutes per week). For each model, home visitors' average weekly time in individual supervision was less than what was expected by the model guidelines, when specified.¹⁹ The results suggest that local programs may want to prioritize increasing the rate of actual individual supervision given that roughly half of the home visitors had relatively little home visiting experience, as described in Chapter 2.

However, when individual supervision sessions were held (on average, 2.3 times per month),²⁰ they typically met evidence-based model expectations for length, when these expectations were specified. On average, sessions lasted 69 minutes. Sessions were much longer for HFA (92 minutes on average) than for the other models (54 to 66 minutes on average). This finding was consistent with model expectations: HFA expected sessions to last at least 90 minutes per week while NFP expected sessions to last 60 minutes per week, EHS had no explicit expectation, and PAT expected sessions to last at least two hours per month. HFA expected longer supervision sessions and lower supervision caseload sizes, compared with NFP and PAT. (See Appendix Table D.25.)

¹⁸To standardize the timeframe for reporting supervision, the MIHOPE research team limited these analyses to home visitors who had the potential to have their supervisors contribute 52 weeks of data before their local program's participation in the study ended. Some supervisors provided less than 52 weeks of data, for example, because the home visitor left their position. On average, supervisors provided 42 weeks of data on behalf of the home visitors on their caseloads.

¹⁹The majority of home visitors participating in the study were employed full time. It is possible that home visitors who were employed part time may have met or exceeded their individual supervision requirements when these requirements were specified.

²⁰The averages reported in this paragraph assume that one supervision session was held during each week reported.

Table 3.5
Dosage and Modality of Supervision, by Evidence-Based Model

Supervision Measure	Overall	EHS	HFA	NFP	PAT
<u>Dosage</u>					
Weeks attending any group supervision sessions ^a (%)	46.4	42.2	33.8	63.9	46.7 ***
Weeks attending any individual supervision sessions ^a (%)	58.7	30.5	77.3	73.6	44.8 ***
Average time spent in individual supervision per week ^a (minutes)	42.7 (26.8)	17.4 (16.5)	71.7 (20.3)	43.7 (11.2)	28.6 (16.9) ***
Average number of individual supervision sessions received per month ^b	2.3 (1.1)	1.2 (0.8)	3.1 (0.6)	2.9 (0.6)	1.8 (1.1) ***
Sample size	596	145	176	161	114
<u>Length and modality^c</u>					
Average length of individual supervision session ^d (minutes)	69.3 (25.9)	54.1 (24.8)	92.5 (22.5)	59.2 (9.6)	66.3 (23.6) ***
Weeks attending individual supervision involving role play (%)	9.2	6.1	13.8	9.0	6.0
Weeks attending individual supervision involving modeling (%)	9.3	7.4	14.4	5.9	8.4 **
Weeks attending individual supervision involving reflective supervision (%)	80.5	58.5	87.1	91.5	81.4 ***
Sample size ^e	586	138	176	161	111
<u>Supervisor observation in a 12-month period^a</u>					
Home visitors with... ^f (%)					**
0 observed visits	32.7	37.2	23.9	26.1	50.0
1 observed visit	23.0	26.2	26.1	21.7	15.8
2 to 4 observed visits	34.6	30.3	34.1	47.2	22.8
5 or more observed visits	9.7	6.2	15.9	5.0	11.4
Sample size	596	145	176	161	114

SOURCE: Calculations based on data from the MIHOPE weekly supervision logs completed by supervisors of individual home visitors.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Sample includes home visitors who had a potential to contribute 52 weeks of supervision logs, and represents a maximum of 52 weeks of logs per home visitor. Supervision logs were expected weekly, regardless of whether supervision occurred. Measures of “individual supervision” are specific to formal supervision.

Standard deviations for continuous variables are shown in parentheses.

(continued)

Table 3.5 (continued)

For all percentage variables and continuous variables, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of home visitors within local programs. See note “f” below for further information on the statistical test used with categorical variables with multiple categories. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aThis variable is calculated among weeks when supervision logs were submitted.

^bThis variable is calculated by dividing the number of weeks supervision logs were submitted (indicating formal individual supervision occurred) by the number of months from when the first log was submitted to when the last log was submitted. It assumes one supervision session occurred each week. Logs were expected weekly, irrespective of whether supervision occurred. Since staff did not always submit logs each week, this calculation assumes that when logs were not submitted, supervision did not occur.

^cLength and modality are calculated among weeks when supervision logs were submitted and they indicated a formal individual supervision session occurred.

^dThis variable is calculated by dividing the total time spent in individual supervision by the number of weeks supervision logs were submitted indicating formal individual supervision occurred. It assumes one supervision session occurred each week.

^eSample is limited to staff with at least one log indicating formal individual supervision occurred. (Ten home visitors were excluded from these analyses because they never received an individual supervision session.)

^fPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Individual supervision rarely involved role play or modeling (9 percent of weeks for each), while over three-fourths of weeks with individual supervision involved reflective supervision. Individual supervision provided at EHS local programs was less likely to involve reflective supervision than individual supervision provided at local programs implementing the other three evidence-based models. Reflective supervision is a way for home visitors to discuss and reflect on the families in their caseload with their supervisors to improve their decision making and problem-solving abilities and has been positively associated with program effectiveness.²¹ Reflective supervision is also thought to build the home visitor’s capacity to use a reflective approach with families, which, in turn, is thought to help build parents’ own reflective capacity.²²

Supervisors also reported on the informal supervision they provided to home visitors. Informal supervision is defined as supervision occurring in nonscheduled contacts with a home visitor, such as during informal conversation, phone calls, e-mails, and texts. Informal supervision was very common; including weeks without supervision reported, home visitors received informal supervision in 75 percent of weeks, and, on average, this informal contact was about 30 minutes per week. (See Appendix Table C.9.)

Home visitors varied in how often they were observed in visits with families. Across all models, a third of home visitors were not observed at all, one-fourth were observed once, a third

²¹Casillas, Fauchier, Derkash, and Garrido (2016).

²²McAllister and Thomas (2007).

were observed two to four times, and one-tenth were observed five or more times. During in-visit observations, about three-fourths of supervisors reported that they used a specific observational tool (for example, NFP's Visit Implementation Scale or PAT's Personal Visit Observation Tool; results not shown in table).

Provision of Clinical and Administrative Supports to Home Visitors

Information on clinical and administrative supports was collected from surveys conducted with program managers at 88 local programs between September 2012 and June 2015, from review of local program documents, and from interviews with evidence-based model developers conducted between December 2012 and August 2013. Supplemental interviews were completed in June 2017.

Clinical Supports

Clinical supports include tools and strategies to facilitate home visitors' work with families. Examples include home visit planning tools; curricula; curricular supplements such as activities, worksheets, or information found online; and peer support.

The majority of home visitors reported that they were required to prepare a home visit plan and that they did so 85 percent or more of the time (results not shown in table). While most home visitors used a curriculum to prepare for their home visits, there were other considerations in determining visit topics. As shown in Table 3.6, nearly all local programs reported that the family played a role in deciding visit content, about two-thirds reported that program requirements drove visit content, and 38 percent reported that home visitors played a role in deciding visit content. Allowing families to choose visit content may reflect home visitors' acknowledgment of the difficulties working with complex families, since, in practice, home visitors often feel that they need to address families' immediate needs rather than what is specified by the curriculum.²³ Chapter 4 describes the content of visits for the families participating in MIHOPE.

The 88 local programs in MIHOPE used a number of different parenting curricula. As shown in Table 3.6, on average, each local program reported using 3.4 different parenting

²³Barak, Spielberger, and Gitlow (2014); Tandon, Mercer, Saylor, and Duggan (2008).

Table 3.6
Visit Planning, Curriculum Use, and Peer Learning at Local Programs,
by Evidence-Based Model

Activity	Overall	EHS	HFA	NFP	PAT
<u>Visit planning</u>					
Topics and lessons discussed in home visits often or always driven by... ^a (%)					
Family's choice	89.8	94.7	80.8	100.0	85.7
Home visitor's choice	37.5	15.8	50.0	40.9	38.1
Program requirements	63.6	47.4	65.4	72.7	66.7
<u>Curriculum</u>					
Average number of parenting curricula used by local program ^{b,c}	3.4 (1.7)	3.7 (1.0)	4.1 (2.0)	2.3 (1.8)	3.1 (1.2) ***
Home visitors encouraged to supplement curriculum ^d (%)					***
Encouraged	51.1	73.7	69.2	27.3	33.3
Neither encouraged nor discouraged	30.7	21.1	23.1	27.3	52.4
Discouraged	18.2	5.3	7.7	45.5	14.3
<u>Peer learning</u>					
Formal opportunities for peer support provided ^e (%)	88.6	89.5	80.8	95.5	90.5
Sample size	88	19	26	22	21

SOURCE: Calculations based on data from the MIHOPE program manager survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Standard deviations for continuous variables are shown in parentheses.

For all categorical variables except those with multiple categories, differences across evidence-based models were tested for statistical significance using a Fisher's exact test. Each category was tested separately. See notes "c" and "d" below for further information on statistical tests used with continuous variables and categorical variables with multiple categories, respectively. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aResponse categories are not mutually exclusive, so percentages may total more than 100.

^bLocal programs were asked about usage of 12 major parenting curricula and if an agency-created or additional curriculum was used. The 12 parenting curricula included Parents as Teachers/Born to Learn, Parents as Teachers/Foundational Training, Partners in Parenting Education (PIPE), Partners for a Healthy Baby (PHB), Great Beginnings Start Before Birth, Creative Curriculum, Growing Great Kids, Promoting First Relationships, Nurturing Program, Learning Games, San Angelo, and Emotional Availability.

^cSince this variable is continuous, differences across evidence-based models were tested for statistical significance using a one-way ANOVA. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^dPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Fisher's exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^eThis includes opportunities such as dedicated time for staff to share their experiences and learn from one another.

curricula to deliver services.²⁴ The differences across the evidence-based models are partially explained by how the models specified the use of particular parenting curricula. NFP and PAT provided local programs with a required curriculum while EHS and HFA allowed local programs flexibility in choosing curricula.²⁵

Table 3.7 provides an overview of the three most common parenting curricula used by local programs: Parents as Teachers (PAT) Foundational Curriculum, Partners in Parenting Education (PIPE), and Partners for a Healthy Baby (PHB). Appendix Tables C.11 through C.13 provide full descriptions of these curricula. NFP required that its local programs use PIPE and PAT required its local programs to use the PAT Foundational Curriculum. Across the four evidence-based models, nearly half of all local programs either recommended or required the PAT Foundational Curriculum. This represented 58 percent of EHS local programs, 27 percent of HFA local programs, 9 percent of NFP local programs, and 100 percent of PAT local programs (results not shown in table).

All three of the most commonly used parenting curricula were designed for use with families from the prenatal period through the child's first 3 years of life. Each curriculum structured the visits but they differed in how they did so. For example, the PAT Foundational Curriculum specified that a visit should include both an opening and a closing, as well as activities related to parent-child interaction, development-centered parenting, and family well-being. PIPE specified that visits follow a process including presentation of concepts, demonstration, supervised parent-child interaction, and evaluation. Finally, PHB specified that the home visitor structure the visit according to the topics the home visitor chose to cover, each of which must include a purpose statement, suggested follow-up activities, and recommended resources. All three curricula were highly focused on parenting, parent-child interaction, and child development. However, both the PAT Foundational Curriculum and PIPE also included content for social support, and PHB included content for addressing maternal health and other needs, in recognition of the importance of addressing these factors as key to improving family functioning and, in turn, parenting.

²⁴Local programs were asked about the usage of 12 major parenting curricula and whether another curriculum was used. The 12 parenting curricula were Parents as Teachers/Born to Learn, Parents as Teachers/Foundational Training, Partners in Parenting Education (PIPE), Partners for a Healthy Baby (PHB), Great Beginnings Start Before Birth, Creative Curriculum, Growing Great Kids, Promoting First Relationships, Nurturing Program, Learning Games, San Angelo, and Emotional Availability. Twenty-six local programs indicated using an additional curriculum outside of these 12 curricula (results not shown in table).

²⁵HFA specified that its local programs use evidence-informed curricula and provides examples of those commonly used. Beginning in August 2017, EHS specified that local programs use research-based early childhood home-based curricula.

Table 3.7
Parenting Curricula Summary

Curricula Information	Parents as Teachers (PAT) Foundational Curriculum	Partners in Parenting Education (PIPE)	Partners for a Healthy Baby (PHB)
Developmental stages	Prenatal through age 3 years	Prenatal through age 3 years	Prenatal through age 3 years
Common home visit activities or structure	Personal visit planning guide outlines a sequence of visit activities: <ol style="list-style-type: none"> 1. Opening 2. Parent-child interaction 3. Development-centered parenting topic 4. Family well-being topic 5. Closing 	Visits follow PIPE instructional process: <ol style="list-style-type: none"> 1. Presentation of concepts 2. Demonstration 3. Supervised parent-child interaction and coaching 4. Evaluation 	Visits are structured by the home visitor's selection of topics to cover. Each topic has: <ol style="list-style-type: none"> 1. A purpose statement 2. Suggested follow-up activities 3. Recommended resources (including handouts and worksheets)
Overarching content	Parenting behaviors Parent-child interaction Child development Developmental concerns Development-centered parenting Early care and education Family well-being Basic essentials Social support	Self-care Parent-child attachment Child development Discipline/behavior management Establishing routines Emotional regulation Importance of play Social support	Maternal health Maternal needs Child development Infant/toddler care Family development Family health
MIHOPE local programs that recommend or require the curriculum (%)	46.6	25.0	29.9
MIHOPE home visiting models used by local programs that recommend or require the curriculum	EHS HFA NFP PAT	HFA NFP	EHS HFA

SOURCES: Parents as Teachers (PAT) Foundational curriculum, Partners in Parenting Education (PIPE) curriculum, Partners for a Healthy Baby (PHB) curriculum, and the MIHOPE program manager survey.

NOTE: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

As seen in Table 3.6, about half of local programs encouraged home visitors to supplement the curricula with additional materials or online resources; this number varied significantly by model. Around 70 percent of EHS and HFA local programs encouraged home visitors to supplement the curricula, while a minority of NFP and PAT local programs did so. In fact, nearly half of NFP local programs discouraged home visitors from supplementing the curricula. These differences were generally consistent with the models' philosophies for curriculum use.

Throughout the course of MIHOPE, the models frequently updated their emphasis on key topic areas such as parent-child interaction and parental risk factors. In fact, several curriculum changes and enhancements took place while families were enrolling and participating in home visiting and MIHOPE.²⁶ However, for some topics, there were neither required nor recommended curricula beyond what was included in the parenting curricula, though there were some exceptions.²⁷ In these instances, the models had slightly different approaches for how local programs and home visitors learned about and addressed these topics with families. HFA expected their local programs and staff to rely on the content-specific training they received and the relationships with and materials provided by local community partners. Staff were also expected to seek out relevant materials they identified from other sources. Similarly, PAT allowed local programs to bring in additional materials or resources from the community and also recommended that local programs use screening tools and associated protocols. On the other hand, NFP used a portfolio of materials for each topic area that were provided to local programs and in some cases were used with every participant (for example, materials regarding intimate partner violence). These materials included handouts to guide discussion with clients on specific topics, as well as instruction sheets, prompts, and tracking forms for use by the home visitors. EHS had a website that housed an extensive library of written and multimedia training materials for various topics, such as tip sheets, handbooks, webinars, online lessons, and audio conferences, which local programs could use as needed.

Peer learning is another example of clinical support, with staff sharing their experiences and learning from one another. Peer support opportunities have been shown to improve staff members' general health and to reduce stress, burnout, and perceived work demands.²⁸ Nearly all

²⁶NFP implemented changes during the study period, such as pilot testing approaches for working with families to address intimate partner violence and mental health challenges during 2014-2016. PAT underwent a gradual introduction to a new PAT Foundational Curriculum (reviewed in Table 3.7) beginning in 2010; all local programs were expected to have made the transition to the new curriculum by July 2014. HFA has also issued guidance that is still evolving on how to address challenging issues facing families, such as mental health problems, parental developmental disability, substance use, and intimate partner violence.

²⁷NFP recommends the mental health curriculum Promoting Maternal Mental Health During Pregnancy. HFA requires that local programs have child health and child development curricula, but local programs can choose the curricula. Until 2016, PAT recommended the use of the Domestic Violence Enhanced Home Visitation intervention (DOVE) to address intimate partner violence.

²⁸Peterson et al. (2008).

local programs provided such opportunities. Examples included providing specific time for peer learning during and after staff meetings and providing opportunities for peer review and joint visits.

Administrative Supports

Administrative supports include the availability and use of organizational tools or systems (for example, a management information system, or MIS) to monitor and promote adherence to the model. The legislation authorizing the MIECHV program emphasizes that awardees build this organizational capacity to help local programs deliver intended services.²⁹ It also requires that evidence-based models used by awardees be associated with organizations that have “comprehensive home visitation program standards that ensure high quality service delivery and continuous program quality improvement.”³⁰ Continuous quality improvement (CQI) was defined in MIHOPE as using data and information to inform performance and practice. These types of systems allow for the monitoring of program operations, including screening for particular health and behavioral outcomes.

As shown in Table 3.8, nearly all local programs used an MIS; in fact, about one-fourth of them used two or more MIS. Local programs might use multiple MIS due to requirements of the evidence-based model, state or other funders, or local agencies (for example, a hospital). Concerning CQI, overall, 85 percent of local programs reported conducting CQI activities and 60 percent dedicated staff time to support these activities. This finding is encouraging given reports that recent home visiting CQI initiatives have been shown to improve service delivery and family outcomes.³¹ As for the monitoring of program operations, nearly all local programs monitored screening rates for child development; however, the monitoring of screening rates for other outcome-specific areas varied across models.

Home Visitor Perceptions

Home visitors’ interactions with families may be shaped by how they perceive their roles, how well they feel they are supported by their local program’s implementation system in carrying out these roles, and how comfortable and effective they feel in doing so. These perceptions may vary across the outcomes that the federal MIECHV program and its state awardees intend for their

²⁹SEC. 511 [42 U.S.C. 711] (d) (3) (B) (iv).

³⁰SEC. 511 [42 U.S.C. 711] (d) (3) (A) (i) (I).

³¹Goyal et al. (2016); McCabe, Potash, Omohundro, and Taylor (2012).

Table 3.8

Local Programs' Management Information Systems, Continuous Quality Improvement, and Program Monitoring, by Evidence-Based Model

Activity (%)	Overall	EHS	HFA	NFP	PAT
<u>Administrative supports</u>					
Management information systems (MIS)					
Number of MIS used by local program ^a					***
No MIS	2.3	0.0	0.0	4.5	4.8
One MIS	70.5	78.9	88.5	36.4	76.2
Two or more MIS	27.3	21.1	11.5	59.1	19.0
Uses MIS to generate reports for key stakeholders	93.2	84.2	100.0	90.9	95.2
Other staff (non-home visitors) enter data in MIS	71.3	83.3	50.0	100.0	57.1 ***
Continuous quality improvement (CQI)					
One or more CQI activities in the past 12 months	85.2	84.2	88.5	90.9	76.2
Staff members with dedicated time to support CQI activities	59.8	78.9	61.5	63.6	35.0 **
<u>Program monitoring</u>					
Monitoring of selected aspects of operations ^b					
Screening					
Maternal depression	77.3	63.2	88.5	100.0	52.4 ***
Maternal substance use	56.8	36.8	65.4	77.3	42.9 **
Intimate partner violence	60.2	21.1	73.1	90.9	47.6 ***
Child development	95.5	100.0	100.0	95.5	85.7 *
Appropriateness of referrals into program	76.1	73.7	84.6	86.4	57.1
Family retention rates at specific points	84.1	68.4	96.2	86.4	81.0 *
Sample size	88	19	26	22	21

SOURCE: Calculations based on data from the MIHOPE program manager survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

For all categorical variables except those with multiple categories, differences across evidence-based models were tested for statistical significance using a Fisher's exact test. Each category was tested separately. See note "a" below for further information on the statistical test used with categorical variables with multiple categories. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Fisher's exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^bResponse categories are not mutually exclusive, so percentages may total more than 100.

local programs to improve. Home visitors can also provide a valuable perspective on how programmatic changes may have affected their work environment. Information on home visitor perceptions was collected from staff surveys completed with 521 home visitors between September 2012 and July 2015.

As seen in Table 3.9, most home visitors felt they were expected to improve the intended outcomes, ranging from about 73 percent who felt they were expected to improve family planning and birth spacing to 95 percent who felt they were expected to promote child development.

Home visitors generally reported that their local program's implementation system supported them in improving most outcomes, but this finding varied by outcome-specific area. For instance, more than 75 percent of home visitors felt they had a supportive implementation system for promoting positive parenting and child development but less than 60 percent felt well supported in addressing tobacco use, substance use, mental health, and intimate partner violence.

Perceived implementation system support aligned with perceived comfort and effectiveness. Home visitors generally felt comfortable and effective in improving most outcomes. This finding was particularly true for outcome-specific areas related to parenting and child health and development. However, less than two-thirds of home visitors felt comfortable and effective in addressing family planning and birth spacing, intimate partner violence, tobacco use, and substance use. Previous research has also noted lower home visitor ratings of comfort and effectiveness and perceived adequacy of training in areas other than parenting and child development.³²

A similar pattern emerged for a composite measure that combines ratings of perceived role expectations, implementation system support, and comfort and effectiveness for each home visitor. (See the final column in Table 3.9.) The composite measure allows for a better understanding of the areas in which home visitors feel most supported and equipped to work with families. More than 70 percent of home visitors reported high ratings for all three of these perceptions with regard to positive parenting and child development. In contrast, only 50 percent or less of the home visitors reported high ratings for all three perceptions with regard to family planning and birth spacing, tobacco use, substance use, mental health, and intimate partner violence.

These findings align with reports of the frequency of home visitor training. (See Appendix Table C.3.) On average, home visitors participated in more months of training on child development and parenting than on substance use, mental health, and intimate partner violence.

³²Caldera et al. (2007); Duggan et al. (2007).

Table 3.9

Home Visitors' Perceptions of Role Expectations, the Implementation System at Their Local Programs, and Their Own Effectiveness

Outcome-Specific Area (%)	Home Visitors Feel They Are...			
	Expected to...	Supported by Their Implementation System to... ^a	Comfortable and Effective Working to... ^b	Expected to, Supported by Their Implementation System to, ^a and Comfortable and Effective Working to ^b ...
<u>Maternal and newborn health and well-being</u>				
Improve prenatal health/birth outcomes	89.0	71.8	84.7	66.4
Improve maternal physical health	84.8	69.8	80.2	62.8
Improve family planning and birth spacing	72.7	56.6	62.2	44.6
Reduce tobacco use	76.5	54.5	59.8	42.3
Address substance use	83.9	52.3	62.1	42.1
Address mental health	87.8	56.3	72.8	50.0
Address intimate partner violence	87.4	58.6	65.8	47.7
<u>Parenting</u>				
Improve breastfeeding	77.1	69.4	74.3	54.9
Promote positive parenting behavior	93.5	75.5	87.8	70.9
Reduce risk of child maltreatment	90.7	71.3	85.0	64.5
<u>Child health and development</u>				
Improve child preventive care	92.1	74.1	89.5	69.3
Promote child development	95.3	79.9	92.4	77.1
<u>Family economic self-sufficiency</u>				
Improve economic self-sufficiency	81.9	60.0	72.7	51.3

(continued)

Table 3.9 (continued)

Outcome-Specific Area (%)	Home Visitors Feel They Are...			
	Expected to...	Supported by Their Implementation System to... ^a	Comfortable and Effective Working to... ^b	Expected to, Supported by Their Implementation System to, ^a and Comfortable and Effective Working to ^b ...
<u>Access to community resources and public services</u>				
Secure high-quality child care	76.2	63.0	75.3	50.5
Increase access to public benefits	88.8	62.8	84.9	57.8
Help mothers find health care coverage or access to a free or low-cost clinic for themselves ^c	77.0	59.6	—	53.2
Help mothers find health care coverage or access to a free or low-cost clinic for their children ^c	86.5	63.0	—	59.8
Sample size	521	521	521	521

SOURCE: Calculations based on data from the MIHOPE home visitor survey.

NOTES: Percentages reflect respondents who reported that they “agreed” or “strongly agreed.”

Dashes indicate that data are not available.

^aMeasure combines home visitor ratings on the adequacy of their training, the availability of useful tools and strategies, and the receipt of positive and constructive supervisory feedback.

^bMeasure combines home visitor ratings on how comfortable they feel talking with mothers and how effective they are in helping mothers in these areas.

^cValues for home visitor ratings of support by the implementation system at their local program exclude information on supervisory feedback for this outcome-specific area.

Given the higher frequency of training, it is not surprising that more home visitors are likely to feel well supported, comfortable, and effective in promoting child development and positive parenting than in addressing these risks for poor parenting and child well-being.³³

The overall results in Table 3.9 vary considerably by evidence-based model, as detailed in Appendix Tables C.16 through C.19. For example, in the outcome-specific area of tobacco use, most HFA (86 percent) and NFP (87 percent) home visitors felt they were expected to improve

³³Wolfe et al. (2003); Tajima (2004); Russell et al. (1991); Petterson and Albers (2001).

this outcome, in contrast to only about two-thirds of EHS (59 percent) and PAT (70 percent) home visitors. Similarly, many HFA (68 percent) and NFP (76 percent) home visitors felt they were comfortable and effective in improving this outcome, while less than half of EHS (41 percent) and PAT (50 percent) home visitors felt so. More than half of HFA (51 percent) and NFP (62 percent) home visitors reported high ratings for all three perceptions for this outcome as compared with about one-fourth of EHS (25 percent) and PAT (26 percent) home visitors. Consistent with theories of behavior,³⁴ these findings suggest that HFA and NFP home visitors were more motivated to address tobacco use, better supported to do so, and more comfortable and effective in doing so. This alignment of motivation, support, and comfort and effectiveness emerged across evidence-based models for some other outcome-specific areas, such as substance use and intimate partner violence.

Home visitor perceptions in other areas are important as well. For example, as shown in Appendix Table C.21, many home visitors believed that receipt of MIECHV funds influenced their local program's work environment in notable ways. Nearly a third of home visitors felt that the quality of their local program's services was higher as a result of programmatic changes from receipt of MIECHV funds, while only 6 percent felt quality of care was lower. On the other hand, over half believed their work was harder and their responsibilities greater as a result of their local programs' receipt of MIECHV funds; far fewer reported that their work was easier and their responsibilities smaller. One-fifth believed their role was less clear, while 10 percent believed it was clearer as a result of receiving MIECHV funds.

Community Service Environment

As one part of the early childhood comprehensive system of care, home visiting is expected to improve outcomes not only through direct service delivery but also through referral to and coordination with other providers in the community. The importance of this function is evident in the legislation authorizing the MIECHV program, which explicitly lists “coordination and referrals for other community resources and supports” as an expected outcome of home visiting.³⁵

The community service environment generally refers to the full array of providers in a community available to serve families with needs similar to those served by home visiting programs. Linking families to these other providers is a key feature of home visiting; many studies have found that families receiving home visiting services were better connected to other needed services in the community than families not receiving home visiting.³⁶

³⁴Montaño and Kasprzyk (2008).

³⁵SEC. 511 [42 U.S.C. 711] (d) (1) (A) (vi).

³⁶Love et al. (2002); Lowell et al. (2011); Silovsky et al. (2011); Caldera et al. (2007).

Information was collected on the community service environment from community services inventories completed by program managers at 86 local programs between December 2012 and March 2015.

Availability, Accessibility, and Effectiveness of Community Service Providers

For home visitors to refer families to needed services, such services must be available. For families to receive needed services, the services must be accessible. In MIHOPE, availability refers to the presence of a community service provider to which local home visiting programs can refer families, while accessibility involves the difficulties families may face in obtaining these services (for example, location of the provider or cost of services). For families to benefit from services, the services must be effective. Effectiveness refers to the local program's perception of how well a community service provider delivers services to meet families' needs. Perceived accessibility and effectiveness may well influence a home visitor's decision about whether to refer a family to available services. The presence of service providers available in the community who are perceived as accessible and effective may well influence local programs' referral practices.

Local program managers reported on the availability, accessibility, and effectiveness of nine services that families enrolling in home visiting often need to address various risks for poor parenting. At least 80 percent of local program managers reported that each of these nine services were available, as shown in Table 3.10. This high availability of service providers is consistent with findings from other research, including one statewide evaluation.³⁷ Nearly half to three-fourths of local programs reported having accessible service providers available in their communities for all types of services. Similarly, about half to 80 percent of local programs reported having very or quite effective providers in their communities for all types of services.

Half to two-thirds of local programs reported having available service providers that were also both accessible and effective for six of the nine services. (See the final column of Table 3.10.) Fewer than half of the local programs reported having available, accessible, and effective services for child care (36 percent), intimate partner violence counseling (45 percent), and treatment of substance use and mental health (47 percent). Thus, while many local programs felt their communities offered accessible and effective providers, it is also true that one- to two-thirds of local programs believed their communities lacked accessible and effective providers for any given type of service.

³⁷Gustin et al. (2014).

Table 3.10

**Local Programs' Reports of Availability, Accessibility, and Effectiveness of
Community Service Providers to Which Families Could Be Referred**

Service Type (%)	Community Service Provider...			
	Is Available	Is Available and Has No Access Difficulties	Is Available and Is Rated Very or Quite Effective	Is Available, Has No Access Difficulties, and Is Rated Very or Quite Effective
<u>Maternal and newborn health and well-being</u>				
Prenatal care	91.9	70.9	77.9	64.0
Family planning and reproductive health care	88.4	65.1	67.4	54.7
Substance use and mental health treatment	94.2	58.1	57.0	46.5
Shelter for intimate partner violence	93.0	59.3	69.8	53.5
Intimate partner violence counseling/ anger management	80.2	55.8	52.3	45.3
<u>Child health and development</u>				
Pediatric primary care	88.4	67.4	73.3	61.6
Early intervention services	98.8	74.1	80.0	63.5
<u>Family economic self-sufficiency</u>				
Adult education or employment services	95.3	64.0	75.6	60.5
<u>Access to community resources and public services</u>				
Child care	89.5	46.5	52.3	36.0
Sample size	86	86	86	86

SOURCE: Calculations based on data from the community services inventory completed by program managers.

NOTE: All local programs that responded to the MIHOPE community services inventory were included in the calculation of the service provider measures. Respondents answering “don’t know” and “no” were treated as non-yes responses.

For the most part, these findings did not differ by evidence-based model, as detailed in Appendix Tables C.25 through C.28. The similarities across the models indicate that there is a similar availability of accessible and effective community service providers in the local communities. In general, these findings do not suggest that particular models have more available, accessible, and effective referral partners than one another.

Appendix Tables C.23 through C.24 provide information on home visitor perceptions of the service environment. Similar to local program managers, about 90 percent or more of home visitors reported having all types of services available, although not all could name a specific service provider. Of home visitors who named a specific service provider, at least two-thirds reported that the service provider was accessible and at least half reported the provider was very or quite effective. Home visitors' ratings of service accessibility and effectiveness were lowest for mental health and substance use treatment. Home visitors were somewhat more likely than local program managers to rate services as accessible and effective in most service areas.

Formal Agreements, Contacts, and Ratings of Coordination with Community Service Providers

Coordination is the deliberate organization of activities across two or more entities to facilitate the delivery of the right services in the right setting, in partnership with the family.³⁸ Better coordination between home visiting programs and community service providers could improve timeliness of services, provide consistent messaging, decrease unmet needs, reduce service duplication, and increase family engagement and retention.³⁹ Indicators of coordination measured in MIHOPE include having either a memorandum of understanding (MOU) to partner with a service provider at an external agency or a provider within its own agency, having a designated point of contact with the service provider, and rating the coordination with the service provider to be good or excellent (from the perspective of the local program).

As shown in Table 3.11, fewer than half of local program managers reported having an MOU with a service provider or an in-agency provider for any of the nine services. This number ranged from about 21 percent for intimate partner violence counseling and anger management to 42 percent for early intervention services. These results are similar to those reported in one statewide evaluation of community resources.⁴⁰

³⁸Minkovitz, West, Korfmacher, and Bard (2016). Adapted from McDonald et al. (2014).

³⁹Minkovitz, West, Korfmacher, and Bard (2016).

⁴⁰Gustin et al. (2014).

Table 3.11

**Formal Agreements, Contacts, and Coordination with Community Service Providers
Across All Local Programs**

Service Type (%)	Local Program Has At Least One...			
	In-Agency Provider or Outside Provider with an MOU	Provider with a Designated Point of Contact	Provider with Good or Excellent Coordination	In-Agency Provider or Outside Provider with an MOU, Designated Point of Contact, and Good or Excellent Coordination
<u>Maternal and newborn health and well-being</u>				
Prenatal care	40.7	64.0	74.4	31.4
Family planning and reproductive health care	32.6	46.5	64.0	24.4
Substance use and mental health treatment	39.5	53.5	64.0	25.6
Shelter for intimate partner violence	22.1	44.2	62.8	16.3
Intimate partner violence counseling/anger management	20.9	44.2	54.7	17.4
<u>Child health and development</u>				
Pediatric primary care	32.6	37.2	72.1	18.6
Early intervention services	42.4	62.4	83.5	34.1
<u>Family economic self-sufficiency</u>				
Adult education or employment services	27.9	48.8	65.1	23.3
<u>Access to community resources and public services</u>				
Child care	29.1	41.9	59.3	23.3
Sample size	86	86	86	86

SOURCE: Calculations based on data from the community services inventory completed by program managers.

NOTES: MOU = memorandum of understanding.

All local programs that responded to the MIHOPE community services inventory were included in the calculation of the service provider measures. Respondents answering “don’t know” and “no” were treated as non-yes responses.

About one- to two-thirds of local program managers reported having a designated point of contact with at least one service provider across the service types. Local programs were most likely to have a designated point of contact with a prenatal care provider and least likely to have one with a pediatric primary care provider. More than half of local program managers reported having good or excellent coordination with at least one community service provider across the service types.

Only a third or fewer of the local programs reported having all three indicators of coordination. (See the final column of Table 3.11.) This number ranged from 16 percent for intimate partner violence shelters to 34 percent for early intervention services. The higher rating for early intervention services may be in part due to more than 60 percent of EHS local programs having this level of coordination. (See Appendix Table C.32.) In fact, EHS's rating of coordination with early intervention services was the highest of all evidence-based models, for all service types. This finding may in part reflect the Office of Head Start's historical emphasis on coordination with Part C services to provide early intervention to children under the Individuals with Disability Education Act and their performance standards to enroll at least 10 percent of children with suspected or diagnosed disabilities.⁴¹

The importance of coordination is evidenced by its designation in the legislation as a benchmark domain and key participant outcome of the MIECHV program.⁴² Several initiatives confirm the importance of coordination if home visiting is to achieve its potential in the early childhood system of care.⁴³ MIHOPE's results demonstrate opportunities to improve coordination across the range of services needed by families enrolled in home visiting.

Conclusion

Home visitors participating in MIHOPE attended extensive training focused on a wide array of outcome-specific areas, far more than what is specified by the evidence-based models. However, trainings rarely included modalities that have been found successful in improving skills, and, in particular, observed role play. Home visitors received less supervision than what was expected by the evidence-based models and this supervision infrequently involved direct observation of home visits. While many administrative and clinical supports were in place for most local programs, having accessible and effective service providers in the community was an implementation challenge for some local programs. Home visitors felt more equipped to provide services targeted at parenting and child development than other areas such as intimate

⁴¹U.S. Department of Health and Human Services (2016b).

⁴²SEC. 511 [42 U.S.C. 711] (d) (1) (A) (vi); SEC. 511 [42 U.S.C. 711] (d) (2) (B) (vii).

⁴³Examples include initiatives of the Pew Home Visiting Campaign, Home Visiting Collaborative Improvement and Innovation Network, and Home Visiting Applied Research Collaborative.

partner violence and substance use. Chapter 4 examines the services provided to families — both as they are intended by the evidence-based models and as they are delivered by the local programs. Chapter 7 discusses the implications of these findings for local programs and the home visiting field.

Chapter 4

What Services Did Local Programs Provide to Families?

The legislation authorizing the federal Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program requires awardees to adhere to the specific evidence-based home visiting models they have adopted.¹ As such, evidence-based models provided specifications concerning the intended services families were expected to receive. Further, the authorizing legislation requires that early childhood home visiting programs assess the needs of enrolled families and individualize services in alignment with identified needs,² thus influencing the content and amount of services delivered to families. This chapter describes the evidence-based models' specifications for planned services and the actual services delivered to families.

In particular, this chapter focuses on four aspects of home visiting services: (1) dosage; (2) home visitor continuity; (3) visit content; and (4) family responsiveness. Some measures are of services in general, such as a family's total number of visits. Other measures are outcome-specific; for example, the proportion of a family's visits with content relevant for a particular outcome such as economic self-sufficiency. This chapter also highlights patterns of variation in the services received by families across models and for selected subgroups of families. Understanding this variability is important for determining whether evidence-based models implemented by local programs have sufficient dosage and content to achieve desired participant outcomes.

Key Findings

- **Families participated in a home visiting program for an average of 8 of the 12 months following their first visit.** Consistent with past literature on the implementation of home visiting, about half of the families were still participating at the time of the child's first birthday.
- **Families received fewer visits than expected by their evidence-based model.** In the first 12 months of enrollment, close to 60 percent of families received at least 50 percent of the visits expected by their model. This finding is consistent with the dosage described in previous research on home visiting implementation.

¹SEC. 511 [42 U.S.C. 711] (d) (3) (B) (i).

²SEC. 511 [42 U.S.C. 711] (e) (7) (B).

- **Most families received visits from only one home visitor.** In other words, they did not change home visitors, for instance, because a home visitor left the program.
- **Families and home visitors discussed many different topics during each visit.** On average, five outcome-specific topics were discussed in each visit. Mental health, positive parenting behavior, child preventive care, child development, and economic self-sufficiency were the most common topics across all visits.
- **Families received referrals to community services in an average of three different outcome-specific areas.** Close to 50 percent of families received at least one referral for public assistance or health insurance, Medicaid, or the Children’s Health Insurance Program (CHIP). Of families who entered the study prenatally, close to 50 percent received at least one referral to services for prenatal health and birth outcomes.

Home Visiting Dosage

Dosage reflects the amount of home visiting services a family receives. MIHOPE measured dosage in three different ways: (1) how long a family participates in services (duration); (2) the frequency of visits; and (3) visit length. All four evidence-based models specified expectations regarding these three aspects of dosage.

Home visitors completed family service logs weekly for 2,021 families to provide information on the duration, frequency, length, and type of contacts with the family. Family service logs were completed between November 2012 and June 2016. Pregnant women or current mothers of the focal children were the primary participants and participated in nearly all of the home visits (96 percent; results not shown in table). However, the child’s father or the mother’s current partner were also involved for a smaller percentage of visits (13 percent), as were other adult family members such as the child’s grandmother (11 percent). Thus, this chapter describes the services delivered to families.

Duration of Services Delivered to Families

All four evidence-based models intended for services to continue at least until the child’s second birthday, as shown earlier in Table 1.1 of Chapter 1. While Nurse-Family Partnership (NFP) could provide services through a child’s second year, Early Head Start – Home-based option (EHS) generally continued home visits through a child’s third year, Healthy Families America (HFA) could continue until a child was 5 years old, and Parents as Teachers (PAT) varied by local program but could last until a child entered kindergarten.

Some families who agree to enroll in home visiting never actually take part in any visits. Past studies have indicated that 12 percent to 22 percent of families agreeing to enroll never received a home visit.³ In MIHOPE, 17 percent of families assigned to the program group never received a visit, as shown in Table 4.1. EHS families were more likely to receive at least one visit than families in local programs using the other three models.

There are a number of reasons an interested family may ultimately have no visits. For example, a family might move out of the service area, a mother might change her mind about wanting to participate in services, a family's circumstances might change so that they no longer have the time to take part in visits, or the family's contact information may change so that local program staff are unable to schedule the first visit.

Dosage findings for the rest of this chapter are based on families with at least one home visit because all four evidence-based models consider a family "enrolled" after completing the first home visit. The analytic sample is further restricted to families who entered the study early enough to measure services for a 12-month period.⁴ See Appendix Table D.1 for dosage findings using the full sample, including families with no visits.

Across the duration of participation measures, families received a smaller dosage of home visiting than what was specified by their evidence-based model. On average, families participated in the home visiting program for 8 of the 12 months after their first home visit, which may have occurred during pregnancy or after the birth of their child. This finding is congruent with results from the Supporting Evidence-Based Home Visiting to Prevent Child Maltreatment (EBHV) study, which found that families remained enrolled in home visiting for an average of 35 weeks (approximately 8 months).⁵ In MIHOPE, duration of enrollment varied across the models, ranging from an average of 7.4 months for families in PAT local programs to 8.9 months for families in NFP local programs.

Consistent with prior research, nearly half of the families were still enrolled at the child's first birthday.⁶ As all models expected visits to continue at least until the child's second

³Duggan et al. (1999); Wagner et al. (2003).

⁴To maximize sample size while using a standard timeframe for reporting dosage, the MIHOPE research team limited these analyses to families who had the potential to contribute 52 weeks of data based on the date of the first documented home visit. Families who had their first visit by the week of July 5, 2015, met this criterion, resulting in the inclusion of 1,671 families and the exclusion of 67 families from analyses. Although some families participated in home visiting far beyond 52 weeks, most of the analyses reported here are based on a maximum of 52 weeks of logs for a given family.

⁵Boller et al. (2014).

⁶O'Brien et al. (2012); Duggan et al. (1999); McFarlane et al. (2010); Duggan et al. (2007).

Table 4.1**Duration of Participation, by Evidence-Based Model**

Service Delivery Measure	Overall	EHS	HFA	NFP	PAT
Families that never had a visit ^a (%)	17.3	6.5	18.5	17.8	21.1 ***
Number of families	2,021	260	709	602	450
Average number of months of participation ^{b,c}	8.0 (4.4)	8.0 (4.4)	7.6 (4.5)	8.9 (4.2)	7.4 (4.6) ***
Number of families with visits	1,671	243	578	495	355
Still enrolled when child was 12 months old ^d (%)	47.1	45.6	42.2	55.7	44.0 **
Number of families with visits who had the potential to still be enrolled when child was 12 months old	1,596	228	557	472	339

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Standard deviations for continuous variables are shown in parentheses.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. See note “c” below for further information on the statistical test used with continuous variables. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aSample includes families who had a potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit for families with visits, or the date of random assignment for families whose home visitor either never submitted a log or whose logs never indicated that a visit occurred through the end of data collection.

^bSample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family.

^cSince this variable is continuous, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^dSample includes families who had at least one visit and had the potential to be enrolled when the child was 12 months of age based on the date of the first log documenting a home visit through the end of data collection.

birthday, or for at least two years in the case of PAT, this rate reflects low adherence to expectations regarding duration of services. Differences in the percentage of families still enrolled at the child’s first birthday varied across models; families enrolled in NFP local programs remained enrolled longer than families in local programs implementing any of the other three models.

Family Retention in Home Visiting

Some studies have measured family retention in home visiting relative to service initiation, rather than the child's age. These studies reported 39 percent to 53 percent of families were still participating 12 months after services began.⁷ MIHOPE found similar results: 46 percent of families were still participating in home visits 12 months after their first visit. (See overall line in Figure 4.1.) The steepest drop in retention for all families with at least one visit occurred between the first and second months of services.

Family retention rates were also explored separately for women who were pregnant at the time of study entry versus those who were not pregnant, in part because the evidence-based models differ in their expectations for the intended timing of enrollment and because of any influence the birth of the child may have on retention. All women served by NFP local programs entered the study prenatally, consistent with their model expectations. Only about half of women served by EHS, HFA, and PAT local programs entered the study prenatally (see Table 2.5 of Chapter 2), even though these models also targeted pregnant women.

As seen in Figure 4.1, women who were pregnant at study entry and who were served by NFP local programs had the highest retention rate 12 months after the first visit (56 percent) when compared with women who were pregnant at study entry and who were served by the other three models. However, EHS local programs were more effective at retaining women who were not pregnant at study entry, when compared with women who were not pregnant at study entry and who were served by HFA and PAT, with 56 percent still enrolled 12 months after the first visit.

Retention rates were similar for women served by PAT and HFA local programs, regardless of their pregnancy status at study entry. Beginning in the second and fourth months of services, respectively, their retention rates dropped below the overall average. However, by the end of the 12-month period, the HFA family retention rate among those women who entered the study postnatally was the same as the overall retention rate (46 percent).

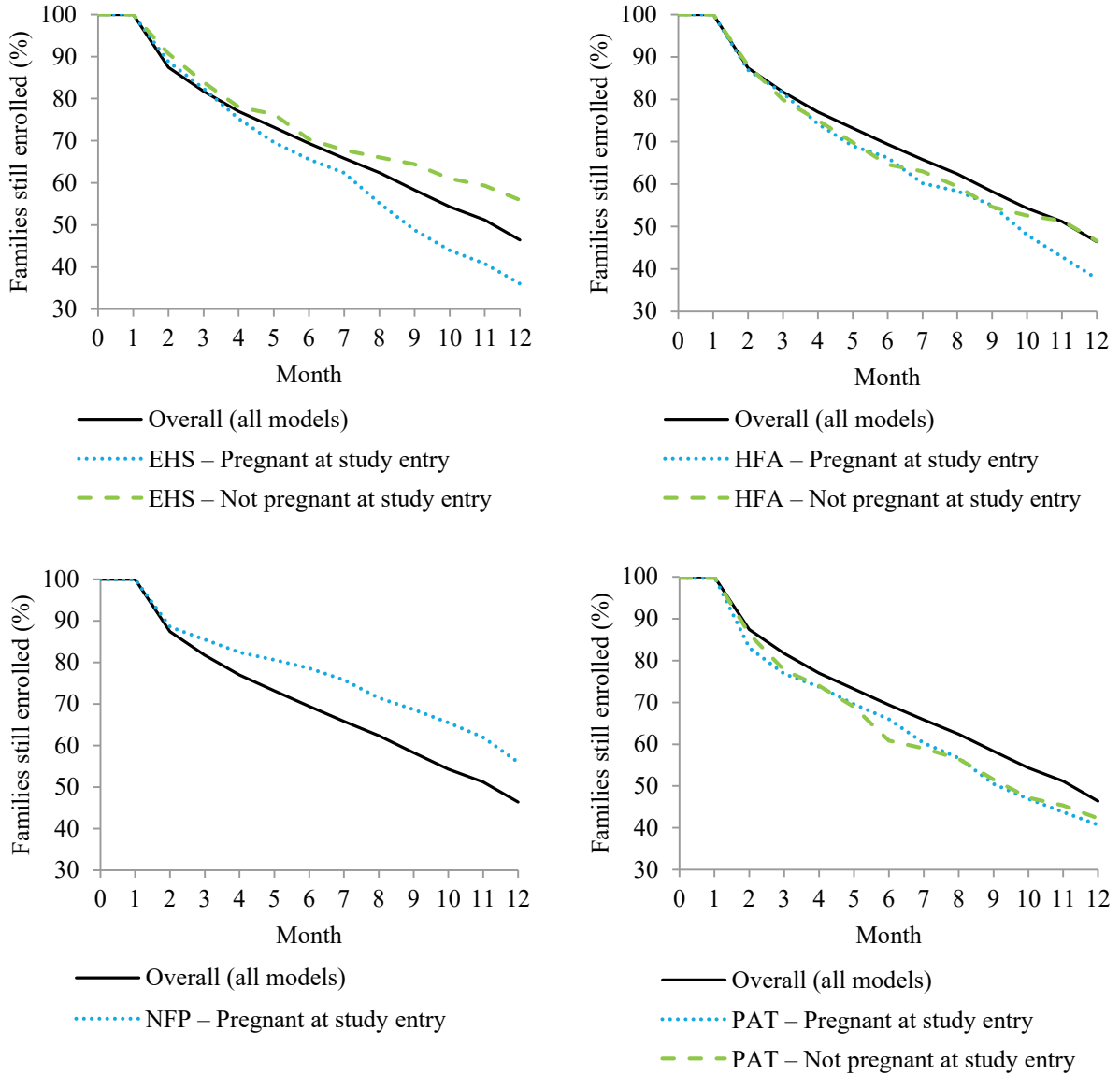
Visit Frequency

All four evidence-based models specified an intended frequency of visits, as shown in Table 4.2. Some specified the frequency of visits per year, while others specified the intended visit frequency based on the level of family risk, child age, or the time since the family's enrollment. EHS specified the highest expected visit frequency: weekly home visits as well as

⁷McFarlane et al. (2010); Boller et al. (2014); Institute for Child and Family Well-Being (2016).

Figure 4.1

Family Retention in Home Visiting Programs Over 12 Months, by Evidence-Based Model and Pregnancy Status at Study Entry



SOURCE: MIHOPE family service logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Sample is restricted to families that received at least one home visit. The timespan from 0 to 1 month represents any visits that occurred during the first month of family participation in home visiting services. A family is considered still enrolled at each month if their next or last home visit occurs in a subsequent month. Overall values represent the retention rates of all families with visits, including those pregnant at study entry and those not pregnant at study entry, across all models.

Table 4.2

**Planned Services of the Evidence-Based Home Visiting Models in MIHOPE:
Visit Frequency**

EHS	HFA	NFP ^a	PAT
Weekly visits	Minimum of visits every other week during pregnancy; frequency determined by home visitor and supervisor based on needs of family	Schedule depends on developmental period, ranging from weekly to monthly:	Frequency depends on family risk characteristics, ranging from monthly to biweekly or weekly visits
22 group socialization activities per year	Minimum of weekly visits during first 6 months after child’s birth	<ul style="list-style-type: none"> • First month after enrollment = weekly; • Between first month and birth of baby = every other week; • First 6 weeks after delivery of baby = weekly; • Until child is 20 months old = every other week; • 21 to 24 months old = monthly 	Minimum of 12 visits per year for families with one or fewer risk characteristics and 24 visits per year for families with two or more risk characteristics
	Subsequent visit schedule depends on progress of the family, ranging from weekly to quarterly: <ul style="list-style-type: none"> • Level 1 = weekly; • Level 2 = every other week; • Level 3 = monthly; • Level 4 = quarterly 		12 group connection activities per year

SOURCE: MIHOPE evidence-based model developer survey.

NOTE: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

^aNFP introduced the STAR framework in 2015. Using the STAR framework, after pregnancy, the frequency of visits may change based on assessment of the client’s strengths and risks.

22 group socializations per year.⁸ HFA and NFP called for weekly visits during critical periods, such as the first few months after the birth of the child. PAT called for at least monthly or bi-weekly visits, depending on the family’s level of need, and 12 group connections per year.⁹ With the exception of EHS, all models explicitly allowed for adjustments to the visit schedule

⁸U.S. Department of Health and Human Services (2016b). Group socializations involve bringing together small groups of families for child development experiences, parenting education, and opportunities to socialize with the goal of reducing the isolation that some parents experience.

⁹Parents as Teachers National Center (2017). Group connection formats include family activities, ongoing groups, presentations, community events, and parent café.

for specific families based on their risk level and needs and delegated such decisions to the local program.

Since the evidence-based models' expectations for the visits varied depending on family risk, child age, or time since enrollment, the MIHOPE research team conferred with each evidence-based model developer to understand the number of visits expected for a typical family's first year of enrollment in a local program, for purposes of these analyses. Table 4.3 presents the expected number of visits in the first 12 months for each model; the range is from 24 visits for PAT to 50 visits for EHS.¹⁰ The number of visits expected for a given family, particularly in HFA or NFP, could be higher or lower than the "typical" expectation used in the MIHOPE analyses, depending on when the family enrolled and the identified strengths and risks of the client. The expected number of visits for PAT families could be lower if they were on a monthly schedule. Further, while these models' expectations for visit frequency varied based on individual family needs, the expected number of visits used in the MIHOPE analyses do not account for the *actual* expected number of visits for each individual family. Therefore, the measures presented here should be considered rough proxies for the extent to which families received their expected dosage, rather than a fully individualized indicator of service receipt.

Overall, families received an average of 18 visits. This is within the range of the frequency of visits reported in previous studies.¹¹ Families served by EHS and HFA local programs received more visits on average than those served by NFP and PAT local programs, consistent with model expectations. When compared with the expected number of visits assumed by the MIHOPE analyses over the first 12 months, the actual number of visits received by families served by EHS was less than half, while it was about 55 percent to 58 percent of the expected number of visits used in the MIHOPE analyses for the other three models. Approximately 11 percent of families received 100 percent of the expected number of visits, ranging from 0 percent (EHS) to 19 percent (HFA) (results not shown in table).

Because the average visit frequency was substantially lower than the "typical expected frequency" used in the MIHOPE analyses for each model, only a portion of families with at

¹⁰During the course of MIHOPE, EHS expected weekly visits, but typically did not expect visits during the winter holidays because many local programs are closed, hence an expected 50 visits instead of 52 visits. (Effective August 1, 2017, EHS regulations specify a minimum of 46 visits per year.) HFA's expected number of visits was based on an assumption of eight weeks of services prenatally with biweekly visits until the birth of the child, then weekly visits through the first six months post-birth followed by biweekly visits. NFP's expected number of visits was based on an assumption of 20 weeks of services prenatally. Using the standard visit schedule, this entailed weekly visits for the first four weeks followed by biweekly visits until the birth of the child, then weekly visits for the first 6 weeks post-birth followed by biweekly visits. PAT's expected number of visits was based on an expectation of two visits per month.

¹¹Boller et al. (2014); Duggan et al. (1999).

Table 4.3

Frequency of Visits Among Families with Visits, by Evidence-Based Model

Service Delivery Measure	Overall	EHS	HFA	NFP	PAT
Expected number of visits in the first 12 months ^a	NA	50	34	30	24
<u>Visit frequency</u>					
Average number of visits received ^b	18.1 (12.6)	22.1 (14.2)	20.3 (15.1)	16.4 (8.7)	14.0 *** (9.8)
Families with... ^c (%)					***
1-11 visits	34.5	28.8	35.6	29.3	43.9
12-23 visits	33.5	24.3	21.8	46.7	40.6
24-35 visits	23.0	24.3	28.2	23.8	12.7
36 visits or more	8.9	22.6	14.4	0.2	2.8
Families who received at least 50% of the expected visits ^a (%)	57.0	45.7	58.3	61.6	56.1
Families who received at least 75% of the expected visits ^a (%)	35.5	21.4	41.0	35.6	36.3 **
<u>Visit rate</u>					
Average number of visits per month ^b	2.2 (0.9)	2.7 (0.8)	2.5 (1.1)	1.9 (0.6)	1.9 *** (0.8)
Families with... ^c (%)					***
≤ 0.9 visits per month enrolled	3.2	0.8	1.6	4.4	5.6
1.0-1.9 visits per month enrolled	38.7	18.9	26.1	52.9	53.0
2.0-2.9 visits per month enrolled	38.8	41.6	45.2	36.8	29.6
≥ 3.0 visits per month enrolled	19.3	38.7	27.2	5.9	11.8
<u>Threshold measure of high dosage (%)</u>					
Enrolled at least 6 months and received at least half of expected visits for 6 months ^a	62.1	56.8	59.7	69.5	59.4
Enrolled at least 12 months and received at least half of expected visits for 12 months ^a	43.0	39.9	40.5	50.9	38.3 *
Sample size	1,671	243	578	495	355

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. NA = not applicable.

Sample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family.

(continued)

Table 4.3 (continued)

Standard deviations for continuous variables are shown in parentheses.

For all categorical variables except those with multiple categories, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. See notes “b” and “c” below for further information on statistical tests used with continuous variables and categorical variables with multiple categories, respectively. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aFor analysis purposes, the MIHOPE team used the following assumptions to identify a specific number of expected visits by model: EHS is based on an expectation of weekly visits, but typically does not expect visits during the winter holidays, hence an expected 50 visits instead of 52 visits. HFA is based on an assumption of 8 weeks of services prenatally with biweekly visits until the birth of the child, then weekly visits through the first 6 months post-birth followed by biweekly visits. NFP is based on an assumption of 20 weeks of services prenatally. Using the standard visit schedule, this entails weekly visits for the first 4 weeks followed by biweekly visits until the birth of the child, then weekly visits for the first 6 weeks post-birth followed by biweekly visits. PAT is based on an expectation of two visits per month. The number of visits expected for a given family, particularly in HFA or NFP, could be higher or lower than the “typical” expectation used in these calculations, depending on when the family enrolled and the identified strengths and risks of the client. In addition, the expected number of visits for PAT families could be lower if they were on a monthly schedule.

^bSince this variable is continuous, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^cPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

least one visit went on to receive at least half of the full expected number of visits. Overall, 57 percent of families received at least half the number of visits expected by their models. The average visit frequency was lower compared with results from the EBHV study, which reported that 72 percent of families who had at least one visit received 60 percent of expected visits and 44 percent of families who had at least one visit received 80 percent of expected visits 12 months after enrollment.¹²

The patterns of overall visit frequency did not vary significantly by model. About a third of families received at least three-fourths of expected visits. A smaller percentage of families did so in EHS, the model with the highest expected number of visits.

One way to define “high dosage” is to identify the proportion of families who received visits for at least six months and received at least half of the expected visits of their model (as defined in the MIHOPE analyses) for the six-month period following their first visit.¹³ Sixty-two percent of all families achieved this high dosage. This finding is consistent with rates of 59

¹²Boller et al. (2014), Table III.7, based on data from 34 implementing agencies representing the following five evidence-based models: HFA, NFP, PAT, SafeCare, and Triple P.

¹³Duggan et al. (2015).

percent to 65 percent reported in other studies.¹⁴ Overall, 43 percent of families were enrolled for at least 12 months and received at least half of the expected visits of their model for the 12-month period. A greater percentage of families in NFP local programs met this threshold.

Patterns of Participation in Home Visiting Among Families

Though evidence-based models specified guidelines on the number of visits a family should receive, in reality, in any given month there is variation in the total number of visits a family received or even whether a family received a visit at all. Little research has examined patterns of participation in home visiting once implementation has been taken to scale in community-based settings.¹⁵ To examine patterns of participation in home visiting over the first year across all four evidence-based models in MIHOPE, the frequency of visits and total duration of participation among families who received at least one home visit were combined. First, the MIHOPE research team computed the number of home visits per month for each family.¹⁶ Next, the research team analyzed the data to ascertain “visit trajectories,” or broad patterns of participation.¹⁷ Six distinct patterns, shown in Figure 4.2, were evident. Each line plots the average number of visits received in any given month for the families belonging to that distinct visit trajectory.

Figure 4.2 and Table 4.4 show the percentages of all families with visits in each of the six groups. While six groups were uniquely identified, families’ participation patterns tended to fit into one of three broad types:

- **Early leavers: Families whose initial visits were followed soon after by a steep decline in participation, then no participation.** Groups A (15 percent of the sample) and B (13 percent of the sample) received 1.7 and 2.6 visits on average, respectively, during the first month of participation. Then their participation drops sharply. The vast majority of families in Group A were no longer participating by the third month, while the vast majority of families in Group B were no longer participating by the sixth month.

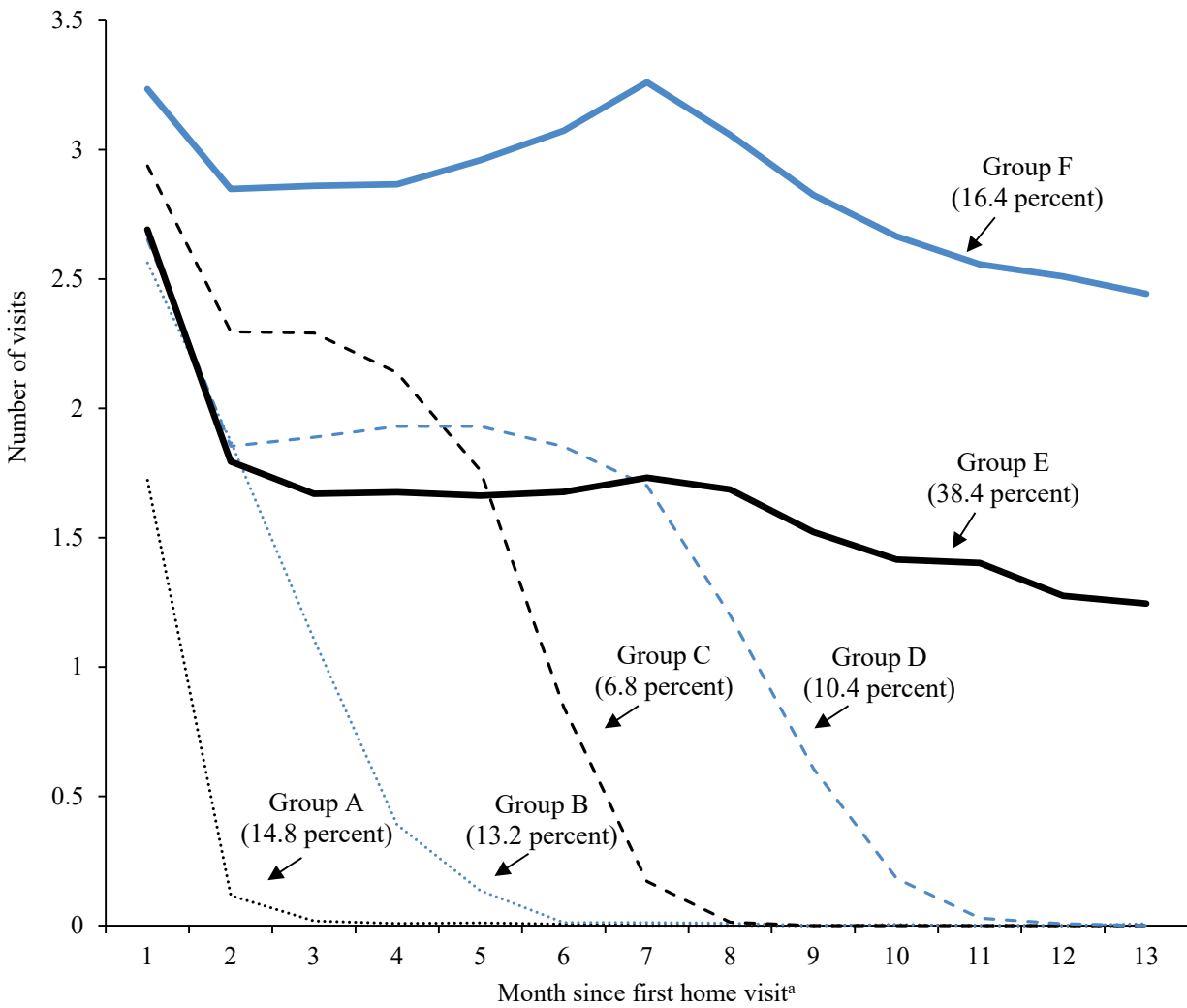
¹⁴Latimore et al. (2017); Duggan et al. (2015).

¹⁵For an exception, see Holland, Olds, Dozier, and Kitzman (2017). The study focused on participation patterns of participants in NFP local programs across the country. It identified five participation patterns, making distinctions between those who participated consistently versus inconsistently, and those who left the program early, gradually, or late.

¹⁶For this analysis, the month is a four-week period corresponding to 28 days. This calculation was used because the home visitor logs, from which the visits were recorded, were collected weekly and the day of the home visit was not recorded on the log.

¹⁷A model fitting procedure was used to identify these patterns, further described in Hill, Cohn, Xia, and Portilla (2018). These estimates do not control for any characteristics or for the evidence-based models.

Figure 4.2
Families' Trajectories of Home Visits Per Month^a



SOURCE: MIHOPE weekly family service logs.

NOTES: The lines denoted by Groups A, B, C, D, E, and F show the common patterns of participation, or visit trajectories, among MIHOPE families that received at least one home visit. Groups A and B comprise the early leavers; Groups C and D comprise the later leavers; and Groups E and F comprise the long-term participants. Percentages may not sum to 100 because of rounding.

^aFor the purposes of this analysis, a month is defined as 28 days (four weeks).

Table 4.4
Distribution of Mothers Across Trajectory Groups of Home Visits per Month,^a
by Evidence-Based Model

	Percentage of All Families ^b	Percentage of Families in Trajectory Group					
		Early Leavers		Later Leavers		Long-Term Participators	
		A	B	C	D	E	F
All families		14.8	13.2	6.8	10.4	38.4	16.4
Evidence-based model							
EHS	14.5	11.5	15.6	8.6	11.1	17.3	35.8
HFA	34.6	15.2	16.3	6.9	10.0	24.6	27.0
NFP	29.6	13.7	7.1	4.4	9.9	62.0	2.8
PAT	21.2	18.0	14.9	8.5	11.3	42.5	4.8
Sample size ^b	1,671	248	220	113	174	642	274

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Percentages may not sum to 100 because of rounding.

^aFor the purposes of this analysis, a month is defined as 28 days (four weeks).

^bSample includes families who received at least one home visit.

- Later leavers: Families whose initial visits dropped to a plateau, then whose participation declined sharply to nonparticipation within the first year.** Families in Groups C (7 percent of the sample) and D (10 percent of the sample) received 2.9 and 2.7 visits on average, respectively, during the first month. Families in Group C settled into a somewhat stable pattern of about two visits per month on average for the next four months, but then their participation dropped. The vast majority were no longer receiving visits eight months after their first visit. Families in Group D settled into a somewhat stable pattern of just under two visits on average per month, through the seventh month. Then, similar to families in Group C, their participation dropped. By the eleventh month, the vast majority were no longer participating in home visiting.
- Long-term participators: Families whose visit patterns settled into a relatively stable pattern over the period.** Families in Groups E (38 percent of the sample) and F (16 percent of the sample) exhibited a sustained pattern of home visiting participation across the observed time period, compared with

the early leavers or later leavers. Together, Groups E and F compose the majority of families who had at least one home visit (55 percent). Families in Group E received 2.7 visits on average during the first month, then averaged between 1.2 and 1.8 visits per month for the remainder of the year. Families in Group F started with 3.2 visits on average per month and maintained a high level of participation overall, dropping to about 2.5 visits on average per month a year later.

The trajectories in Figure 4.2 are not adjusted for which evidence-based model provided the family with services, but Table 4.4 shows the percentage of families in each trajectory group by evidence-based model. Almost half or more of families within each evidence-based model were long-term participators (between 47 percent to 65 percent). A greater percentage of EHS families (36 percent of all EHS families) were in Group F, consistent with the model's expectation of greater visit frequency. NFP families were most represented in Group E (62 percent of all NFP families). Finally, the percentage of families from any evidence-based model that disengaged from home visiting early (Group A) was approximately evenly distributed across the four models (ranging from 12 percent to 18 percent).

Visit Length

All four evidence-based models specified a minimum intended length of visits, ranging from 50 minutes for PAT to 90 minutes for EHS, as shown in Table 4.5. The actual visit length was, on average, at least an hour for all models. These results are consistent with those of previous studies.¹⁸ The average visit length met model expectations for all models except EHS; for EHS, visits were slightly shorter than expected, but were considerably longer than in the other three models.

Overall, families experienced an average of 21 hours of face-to-face time with home visitors during visits in the first 12 months following the first visit.¹⁹ Time spent on the phone or text messaging with families was not included in this total.²⁰ Total face-to-face time in home visits varied across models, from 15 hours for families served by PAT to 32 hours for families served by EHS.

¹⁸Boller et al. (2014); Raikes et al. (2006); Filene et al. (2010).

¹⁹This calculation also includes time spent in face-to-face interactions with other staff at the local program, but those interactions were minimal, representing only 2.5 percent of the family service logs examined.

²⁰Personnel time spent in non-face-to-face communication with families will be presented in a separate MIHOPE report on cost estimates.

Table 4.5**Visit Length and Total Time Spent in Home Visits Among Families with Visits, by Evidence-Based Model**

Service Delivery Measure	Overall	EHS	HFA	NFP	PAT
Expected visit length (minutes)	NA	≥ 90	≥ 60	60 - 90	≥ 50
Average visit length (minutes)	67.2 (17.9)	81.5 (13.7)	61.1 (16.7)	71.8 (18.1)	61.2 *** (14.1)
Average total time spent in home visits (hours) ^a	21.1 (15.6)	31.6 (21.4)	21.2 (15.2)	20.4 (12.2)	15.0 *** (11.6)
Sample size	1,671	243	578	495	355

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. NA = not applicable.

Sample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family.

Standard deviations for continuous variables are shown in parentheses.

For all continuous variables, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aThis includes time spent in one-on-one contact with home visitors as well as other staff at the local program.

Continuity of Home Visitor

Evidence-based home visiting models value a strong, ongoing working relationship between the family and home visitor. Such relationships are built over time. Previous research suggests that families whose home visitor leaves the local program remain enrolled a shorter time and receive fewer home visits.²¹ Continuity of home visitor is a mechanism to help achieve a strong working relationship, just as continuity of provider is an important attribute of high-quality primary care.²² Thus, MIHOPE assessed continuity of care as measured by the Continuity of Care Index developed for the primary health care field.²³ For the purposes of this analysis, the Continuity of

²¹O'Brien et al. (2012).

²²Institute of Medicine (1996).

²³Bice and Boxerman (1977). The Bice-Boxerman Continuity of Care Index uses the number of physicians and number of visits a patient has to determine the dispersion of their visits, resulting in a value between

Care Index measures the number of home visitors a family sees and the number of visits each home visitor conducts. Higher continuity scores (values closer to 1) reflect a larger number of visits concentrated within a smaller number of home visitors.

Home visitor continuity was high overall. Eighty percent of families with at least one visit received all their visits from a single home visitor in the 12 months following the first visit, as shown in Table 4.6. Moreover, average home visitor continuity of care — which adjusts for the total number of visits — was high among families with at least four home visits (Continuity of Care Index = 0.92). Results were similar when the sample was restricted to families who were still receiving home visits at 12 months (results not shown in table).

Both the continuity of care and the number of home visitors that visited a family varied. Continuity of care was highest for families served by NFP local programs and lowest for those served by EHS local programs. About one in eight families in EHS had three or more visitors; this rarely occurred in other models. To help meet the weekly visit expectation, some EHS local programs reported assigning a supervisor or Head Start nurse as a substitute home visitor if the primary visitor was sick or on vacation. The other three models expect missed appointments to be scheduled as soon as possible, but generally do not use substitute home visitors, which might explain EHS's lower levels of home visitor continuity relative to the other three models.

Home Visit Content

Home visit content can be defined in terms of the activities carried out and the outcomes on which activities focus. MIHOPE conceptualizes the home visitor's role as comprising three tasks that are relevant across all outcomes: (1) gathering information to inform services; (2) directly providing education and support; and (3) providing referrals to and coordination with needed services.

Information Gathering

Information gathering, including formal screening, allows home visitors to assess families' strengths and needs and to adjust the education and support provided to families accordingly. It also helps to identify necessary referrals. These tasks align with specifications in the legislation authorizing the MIECHV program to assess family needs and individualize services to meet those needs.²⁴

0 and 1. In MIHOPE, the calculation of this index was limited to families with at least four visits because the concept (and calculation) of continuity is only relevant for families who engaged in home visiting for more than a few visits (Christakis et al., 2000).

²⁴SEC. 511 [42 U.S.C. 711] (e) (7) (B).

Table 4.6
Continuity of Home Visitor Assignment Among Families with Visits,
by Evidence-Based Model

Service Delivery Measure	Overall	EHS	HFA	NFP	PAT	
Number of home visitors to visit a family ^{a,b} (%)					**	
One home visitor	79.5	71.6	78.9	83.2	80.6	
Two home visitors	16.3	15.6	17.5	14.7	16.9	
Three or more home visitors	4.2	12.8	3.6	2.0	2.5	
Sample size (number of families with at least one visit)	1,671	243	578	495	355	
Continuity of care as experienced by families ^{c,d} (score)	0.92 (0.17)	0.87 (0.22)	0.93 (0.16)	0.94 (0.15)	0.91 (0.18)	**
Sample size (number of families with at least four visits)	1,427	217	488	432	290	

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Standard deviations for continuous variables are shown in parentheses.

Sample includes families who had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family.

^aThis measure may include staff not registered as a home visitor, such as a supervisor or specialist. Sample includes families who had at least one visit.

^bPercentages may not sum to 100 because of rounding. Since this categorical variable includes multiple categories, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^cThis was measured using the Continuity of Care Index (Bice and Boxerman, 1977). A score of 0 represents maximum dispersion (a different home visitor for every visit) while a score of 1 represents minimum dispersion (the same home visitor for every visit). Because continuity of care is arguably only relevant for families who engaged in home visitation for more than a few visits, this measure includes families who had at least four visits (Christakis et al., 2000). “Home visitors” in this measure may include staff not registered as a home visitor, such as a supervisor or specialist.

^dSince this variable is continuous, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Identifying and responding to family needs require skill on the part of home visitors, especially for sensitive areas such as delays in child development and psychosocial risks for poor parenting. Implementation systems are critical to building staff competence and facilitating the carrying out of tasks. All of the evidence-based models had formal screening policies or protocols for child developmental delays and for selected psychosocial risks for poor parenting. In

some cases, models recommended or required the use of specific screening tools.²⁵ Some models provided explicit guidance on how to respond to a positive screening, while others defined specific standards and allowed home visitors to decide on their own how to respond to a positive screening. Local program policies varied as well. (For select outcome-specific areas, see Appendix Tables D.20 through D.24.)

Education and Support

Home visitors devote the majority of visit time to providing education and support. All models expected home visitors to provide education and support to target a variety of outcomes, based both on curricula and on family needs and interests. Home visitors use a variety of methods to share topical information and support such as verbal presentation, distribution of materials including handouts and videos, or activities such as demonstration and parent-child activities. Tables 3.6 and 3.7 in Chapter 3 highlight the local program's use of materials and curricula, specifically parenting curricula, to guide visits.

Referrals

The models had different policies regarding the home visitor's role in referring families to needed community services. Some required home visitors to provide information on community resources but expected the family to take responsibility for following through in accessing such resources. Other models expected home visitors to play a more explicit role in connecting the family with a service, for example, calling to arrange appointments. All models expected home visitors to monitor the outcome of a referral. Local program policies varied as well. (For select outcome-specific areas, see Appendix Tables D.20 through D.24.)

Intended Outcomes

Local programs and their staff are likely to focus their attention during visits on outcomes they believe are a high priority. The MIHOPE implementation research analysis's conceptual framework described in Chapter 1 identifies several higher-level factors that might influence local programs' and their home visitors' perceptions of outcome priorities. Chief among these factors are the federal MIECHV program and the evidence-based models. The legislation

²⁵Some evidence-based models specified changes to their required screening tools during the course of MIHOPE. For example, in 2014, HFA updated guidance on assessing parent-child interaction at every visit and using the Cues Holding Expression Empathy Environment Rhythmicity/Reciprocity Smiles (CHEERS) assessment, a parent-child observation strategy to assess, address, and promote positive parent-child interaction, attachment, and bonding with all families. NFP implemented changes during the study period such as adopting the Dyadic Assessment of Naturalistic Caregiver-child Experiences (DANCE) tool for parenting in January 2013 and increasing the emphasis on coaching in motivational interviewing in 2015. As of 2016, PAT no longer recommends a specific screening tool for identification of intimate partner violence, though they do still recommend intimate partner violence screening.

authorizing the MIECHV program requires awardees to improve outcomes in an explicit set of outcomes areas.²⁶ Furthermore, it holds awardees accountable for monitoring benchmark performance in alignment with these outcomes, as described in Chapter 1.²⁷

As reported during interviews with the evidence-based model developers conducted between December 2012 and August 2013, the four evidence-based models showed both similarities and differences in the priorities they assigned to outcomes displayed in Table 4.7, which largely aligned with the outcomes specified in the legislation authorizing the federal MIECHV program and discussed in the MIHOPE report to Congress.²⁸ All four models assigned high priority to five outcomes: promoting positive parenting behavior, preventing child maltreatment, fostering economic self-sufficiency, encouraging child preventive care, and promoting child development. However, the models differed in how they ranked other outcomes. Overall, NFP assigned high priority to all of the 13 outcomes listed in Table 4.7, HFA to 9 of them, PAT to 7, and EHS to 6. PAT was the only model to rank some outcomes as low priority; it gave this designation to maternal physical health, family planning and birth spacing, and tobacco use.

Appendix Table D.17 shows the percentage of local program managers who reported that receipt of MIECHV funding changed how they ranked different outcomes. No local program reported that receipt of MIECHV funding reduced the priority of an outcome. About a third of EHS local programs reported raising the priority of various maternal health and well-being outcomes, as well as birth outcomes, and over 40 percent reported raising the priority of reducing tobacco use. HFA local programs also reported increasing their emphasis on maternal health and well-being outcomes, particularly the outcomes of mental health and substance use and intimate partner violence. Nearly one-fifth of NFP local programs reported raising the priority of outcomes related to mental health and substance use, intimate partner violence, breastfeeding, parenting, and child health. After the MIECHV program began, PAT placed

²⁶SEC. 511 [42 U.S.C. 711] (d) (2) (B) (i-vii).

²⁷SEC. 511 [42 U.S.C. 711] (d) (1) (A) (i-vi).

²⁸Michalopoulos et al. (2015). The authorizing legislation holds awardees (states, territories, and tribal organizations) accountable for monitoring performance in six benchmark areas (SEC. 511 [42 U.S.C. 711] (d) (1) (A) (i-vi)), and for showing improvements in four or more of these areas at the end of third year of funding (SEC. 511 [42 U.S.C. 711] (d) (1) (B)) and in subsequent years (SEC. 511 [42 U.S.C. 711] (d) (1) (D)). In addition, it requires that MIECHV-funded programs be designed to improve individual outcomes for participating families in seven areas (SEC. 511 [42 U.S.C. 711] (d) (2) (B) (i-vii)). There is considerable overlap between the six benchmark areas and the seven individual outcomes for participating families. This report uses the term “outcomes” to refer to both lists. MIHOPE is designed to assess impacts relevant to all of these outcomes. The current report does not discuss the MIECHV outcome domain of school readiness and academic achievement because it could not be assessed during the study period covered in the report.

Table 4.7**Priority Ratings for Intended Outcomes, by Evidence-Based Model**

Outcome	Evidence-Based Model Developer Rating ^a			
	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>				
Prenatal health	High	Medium	High	High
Birth outcomes	Medium	High	High	High
Maternal physical health	Medium	Medium	High	Low
Family planning and birth spacing	Medium	Medium	High	Low
Tobacco use	Medium	Medium	High	Low
Mental health and substance use	Medium	High	High	Medium
Intimate partner violence	Medium	High	High	Medium
<u>Parenting</u>				
Breastfeeding	Medium	High	High	Medium
Positive parenting behavior	High	High	High	High
Child maltreatment	High	High	High	High
<u>Child health and development</u>				
Child preventive care	High	High	High	High
Child development	High	High	High	High
<u>Family economic self-sufficiency</u>				
Economic self-sufficiency	High	High	High	High
Sample size	1	1	1	1

SOURCE: Calculations based on data from the MIHOPE evidence-based model developer survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

^aLow = ratings from 0 to 3, medium = ratings from 4 to 7, high = ratings from 8 to 10.

greater emphasis on a number of maternal health and well-being outcomes in particular. For example, more than 40 percent of PAT local programs reported placing greater emphasis on prenatal health, family planning and birth spacing, tobacco use, mental health and substance use, and intimate partner violence.

Visit Topics and Referrals

A major component of services delivered to families, and one that has rarely been examined in previous studies, is the specific content covered during home visit activities. Specifically, the topics discussed and referrals provided are the means by which home visitors promote behavioral change and positive outcomes for families. Tables 4.8 and 4.9 summarize results related to topics discussed during visits and referrals provided in the MIHOPE outcome-specific areas.

Visit topics and referral information were provided on family service logs that home visitors completed weekly for 1,671 families who received visits. Home visitors completed the family service logs between November 2012 and June 2016.

Visit Topics

In line with the range of outcomes targeted by the MIECHV program and the evidence-based models, families received home visiting services that focused on a variety of topics. On average, 5.4 outcome-specific topics were discussed per visit. Mental health or stress, positive parenting behavior, child preventive care, child development, and economic self-sufficiency were each discussed in over a third of visits. With the exception of mental health for EHS and PAT, these topics were also ranked as high priority outcomes by local programs. Both prenatal health and birth outcomes were discussed in over a third of all visits. Most prenatal visits included discussions of prenatal health and birth outcomes (78 percent and 81 percent, respectively; results not shown in table). Close to 90 percent of families had at least one visit in which prenatal health and birth outcomes were discussed during pregnancy. Across all visits, over three-fourths of families had at least one visit in which mental health or stress; breastfeeding, feeding, and nutrition; positive parenting behavior; child maltreatment; child preventive care; child development; or economic self-sufficiency was discussed. Child care, intimate partner violence, and tobacco or substance use were the topics least likely to be discussed across all visits and to be ever discussed with families.

In general, the topics that were discussed in a greater percentage of NFP visits and that a greater percentage of NFP families ever discussed included maternal and newborn health and well-being; breastfeeding, feeding, and nutrition; and economic self-sufficiency. In contrast, the topics that were discussed in a greater percentage of EHS, HFA, and PAT visits and that a

Table 4.8
Visit Topics and Referrals, by Evidence-Based Model

Service Delivery Measure	Overall	EHS	HFA	NFP	PAT
Average number of topics discussed per visit ^a	5.4 (2.2)	4.9 (2.2)	5.3 (2.3)	6.0 (2.1)	4.9 *** (2.2)
Average number of unique referrals provided across outcome-specific areas ^b	3.4 (2.8)	3.1 (2.7)	3.7 (3.0)	3.8 (2.8)	2.7 ** (2.4)
Sample size	1,671	243	578	495	355

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Sample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family.

Standard deviations for continuous variables are shown in parentheses.

For all continuous variables, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aThis is based on a potential of 17 outcome-specific topic areas (since the family service log combined tobacco use and substance use onto a single item). See Table 4.9 for the list of these outcome-specific topic areas.

^bThis is based on a potential of 15 outcome-specific referral areas for women who were pregnant at study entry and 14 outcome-specific referral areas for women who were not pregnant at study entry (since the family service log combined prenatal health and birth outcomes onto a single item, tobacco use and substance use onto a single item, and public assistance/health insurance onto a single item). See Table 4.9 for the list of these outcome-specific referral areas. Referrals related to prenatal health/birth outcomes are limited to those made during the prenatal period (for example, before the birth of the child or the week of the birth of the child), and as such they are not counted for women who were not pregnant at study entry.

greater percentage of families served by those models ever discussed were parenting and child health and development. (See Appendix Tables D.2 and D.3.) These differences align with the evidence-based model goals shown in Table 1.1 of Chapter 1. While all models' goals included parenting and child development, NFP goals also explicitly included health and family economic self-sufficiency.

Box 4.1 summarizes the findings from the MIHOPE video sub-study, which describes the content observed during visits and in home visitor-family interactions using video recordings.

Table 4.9
Visit Topics and Referrals in Outcome-Specific Areas

Outcome-Specific Area (%)	Visits in Which Topic Was Discussed ^a	Families with Whom Topic Was Ever Discussed ^b	Families Who Ever Received a Referral ^b
<u>Maternal and newborn health and well-being</u>			
Prenatal health ^c	43.5	89.3	—
Birth outcomes ^c	44.9	90.2	—
Prenatal health/birth outcomes ^c	—	—	46.1
Maternal physical health	25.5	73.9	19.5
Family planning and birth spacing	18.8	68.8	23.6
Tobacco use/substance use ^d	10.3	48.1	4.4
Mental health or stress	34.9	81.1	22.3
Intimate partner violence	6.4	38.7	8.9
<u>Parenting</u>			
Breastfeeding, feeding, and nutrition	30.4	79.3	33.5
Positive parenting behavior	61.5	89.3	8.5
Child maltreatment	31.1	78.3	9.6
<u>Child health and development</u>			
Child preventive care	47.6	86.8	29.9
Child development	66.8	91.1	12.8
<u>Family economic self-sufficiency</u>			
Economic self-sufficiency	44.3	85.7	38.8
<u>Access to community resources and public services</u>			
Child care	7.4	42.1	23.8
Public assistance	17.8	64.2	—
Health insurance/Medicaid/CHIP	15.6	58.9	—
Public assistance and/or health insurance/Medicaid/CHIP ^e	—	—	45.8
Housing	20.1	64.2	31.3
Sample size	1,671	1,671	1,671

(continued)

Table 4.9 (continued)

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: CHIP = Children's Health Insurance Program.

Dashes indicate that data are not available.

Sample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family.

^aCalculations are based on the number of family service logs submitted (indicating each topic was discussed), divided by the number of visits from the first log (documenting a home visit occurred) to the last log (documenting a home visit occurred), up to a maximum of 52 weeks.

^bThe analysis window for each family spans the time from their first log documenting a home visit occurred to the last log documenting a home visit occurred, up to a maximum of 52 weeks. As such, these measures only capture whether the family ever discussed each topic or ever received a referral in each outcome-specific area within this analysis window.

^cThis is limited to women who were pregnant at study entry (n=1,143) and to topics discussed and referrals provided during the prenatal period (for example, before the birth of the child or the week of the birth of the child).

^dTobacco cessation was not explicitly mentioned as a referral option on the MIHOPE family service logs. However, it is likely that referrals for tobacco use were marked as "Substance use (alcohol and other drugs) treatment." Additionally, any open-ended write-in responses for tobacco use were combined with "Substance use (alcohol and other drugs) treatment."

^eReferrals for "Public assistance" and "Health insurance/Medicaid/CHIP" are combined in this table because the MIHOPE family service log response option combined referrals for these outcome-specific areas: "Public assistance (Medicaid, SNAP, WIC, CHIP, TANF, etc.)." See Appendix A for more information.

Referrals

Referral to community services in order to meet family needs is an important activity for home visitors. To capture the breadth of services to which families are connected, Table 4.8 presents the number of unique outcome-specific areas addressed by the referrals provided to families. In other words, if a family received multiple referrals within the same outcome-specific area, those were only counted once for that referral type. Overall, an average of 3.4 outcome-specific areas were addressed through the referrals provided to families. These findings varied across models: on average, HFA and NFP families received referrals to services in slightly more outcome-specific areas. As described in Chapter 3, survey data suggest that differences in referrals across local programs were likely to have been caused by factors other than differences in availability of services in their respective communities.

As seen in Table 4.9, 46 percent of women who entered the study while pregnant received at least one referral to address prenatal health or birth outcomes during the prenatal period. Over the 12-month period included in the analyses, families were most likely to receive at least one referral to address breastfeeding, feeding, and nutrition; economic self-sufficiency; and public assistance or health insurance, Medicaid, or CHIP. Families were least likely to receive at

Box 4.1

MIHOPE Video Sub-Study

MIHOPE included a sub-study using video recordings of home visits for a subsample of states, local programs, home visitors, and families. The sub-study examined how home visitors and families interacted during visits. Appendix E gives an overview of the methods of this sub-study and highlights answers to three research questions:

- How much time do home visitors spend discussing specific topics?
- How do home visitors and mothers communicate during visits to elicit and share information, provide support and reassurance, and build partnership?
- How much do the MIHOPE family service logs agree with the content areas discussed in observed visits?

Key Findings

- **Visits varied in the time spent discussing specific topics.** Some topics were discussed in nearly all visits while other topics were rarely discussed. For example, positive parenting was discussed in over 97 percent of postnatal visits, while the mother's physical health was discussed in slightly less than half of these visits. In visits where a specific topic was discussed, the time devoted to it varied greatly. For example, across all visits where positive parenting was discussed, the time devoted to this topic ranged from less than 1 percent to 73 percent.
- **Visits varied in how home visitors emphasized gathering information, providing information, providing support and reassurance, and partnership building.** For example, across all visits, 16 percent of the home visitor's conversation with families was about partnership building, but this ranged from 3 percent to 38 percent. This finding is important because research has shown that partnership building is associated with client satisfaction, follow-through on provider recommendations, and positive impacts on outcomes.
- **The home visitor's and mother's communication styles were inter-related in ways likely to influence family engagement.** For example, as the home visitor's communication directed at building partnership increased, mothers shared more information about the family, engaged more in the conversation, played a more active role in the conversation, and talked less about purely social topics unrelated to the purpose of home visiting. In contrast, when home visitors expressed criticism of others, mothers also engaged more in criticism.
- **For a majority of topics, there was a good level of agreement between the video recordings of visits and the family service logs.** Agreement was usually greater for narrow, concrete topics such as tobacco use than for broad, abstract topics such as mental health. Visits included conversation on an average of 8.3 topics; conversation on about half of the topics discussed was very brief, lasting only a few minutes on average. Conversation often integrated multiple topics. These features — the high number of topics discussed, the brief time devoted to some topics, and the integration of topics — likely contributed to instances of disagreement between video recordings of visits and family service logs.

least one referral to address child development, positive parenting behavior, child maltreatment, tobacco or substance use, and intimate partner violence. Chapter 5 investigates whether families who were assessed as having a risk or need in an outcome-specific area were more likely to discuss these topics with and receive referrals from their home visitors.

Family Responsiveness

As described in Chapter 1, families themselves likely influence how services are delivered. Family responsiveness to home visiting includes how families react to or engage in program activities, particularly those occurring during home visits, as well as activities between visits, such as following through with referrals or engaging in suggested parenting behaviors.

Home visitors rated families' level of responsiveness during visits on family service logs that were completed weekly by home visitors for 1,671 families who received visits. Home visitors rated families' level of responsiveness between visits for 1,428 families in which follow-through was expected. Home visitors completed family service logs between November 2012 and June 2016. Home visitors generally rated families as responsive during home visits and between visits. (See Appendix Table D.5.)

Conclusion

Consistent with previous research,²⁹ most families received a lower dose of home visiting than called for by the evidence-based models. The average number of visits received was greater for models that expected a high frequency of visits. The consistency of results for overall dosage across models and studies raises several critical questions for the field:

1. Why do many families leave home visiting early on?
2. Does early departure signal achievement of intended outcomes or program failure to engage families most in need of services?
3. How does service quality influence a family's continued engagement?

Families varied in which topics they discussed in visits and how often. There also was variation in the percentage of families receiving at least one visit with content on a particular topic. And among families with whom a topic was discussed, variation was observed in the percentage of visits with such content. Video recordings of the visits revealed yet another area of variation — the percentage of visit time devoted to particular topics. This variation in the

²⁹Duggan et al. (2015); Boller et al. (2014).

time allocated to topics is concordant with findings from the few studies that have examined this subject.³⁰

Several different factors may account for variation in the dosage of home visiting, the topics discussed during visits, and referrals provided to families. These factors include family needs, home visitors' characteristics and priorities, and the characteristics and priorities of the local programs and evidence-based models. Chapter 5 provides results from exploratory analyses aimed at understanding the roles that these factors play in predicting services delivered to families. Chapter 6 uses home visitors' own words to unpack how they may have individualized services to family needs. Chapter 7 discusses the implications of these findings for local programs and the home visiting field.

³⁰Caldera et al. (2007); Peterson et al. (2007).

Chapter 5

What Characteristics of Families, Home Visitors, and Local Programs Are Related to Differences in Services Provided to Families?

Chapters 2 and 3 described the diverse nature of home visiting, including the families targeted, the home visitors who worked with families and the supervisors who supported them, and the implementation system infrastructure in place to assure high-quality service delivery. Chapter 4 described the variation in home visiting services both in overall dosage and in services relevant for specific outcomes.

This chapter examines how the services that families received varied based on characteristics of families, home visitors, and local programs. It focuses on measureable factors that have the potential to improve two broad aspects of home visiting services provided at local programs receiving funding from their states' federal Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program awards. First, it explores relationships with *general* measures of services provided, such as the total number of home visits, which are not unique to particular outcomes. Second, it explores relationships with *outcome-specific* service delivery measures that focus on addressing a particular outcome, such as improving mental health.

It is important to note that the study design and methods do not allow for causal interpretations of the estimates reported in this chapter. Instead, the analyses describe associations between service delivery and characteristics, often simultaneously taking into account a number of other characteristics in an attempt to understand the unique relationship between two particular characteristics. This chapter explores potential influences on service delivery, but it is not able to identify the causal links.

Key Findings

- **While the families in MIHOPE faced several socioeconomic and health risk factors at study entry, families with relatively more challenges and barriers participated in home visiting for shorter periods of time, compared with average families in the study, and families with relatively fewer challenges participated longer.** Families participated in home visiting for 8.2 months, on average. Families with relatively more challenges participated for 6.5 months, on average, and families with relatively fewer challenges participated for 9.1 months, on average.

- **First-time mothers and less-educated mothers were less likely to receive any home visits.** Among mothers who were found to be eligible for a local home visiting program and who entered the study, first-time mothers were 5 percentage points less likely to receive a home visit than other mothers. Mothers who had not completed high school were 4 percentage points less likely to receive a home visit than mothers who had at least some college. These differences are relatively large since, overall, 83 percent of families in the study received a home visit.
- **Local programs that implemented different evidence-based models differed in whether families received at least one visit and how long families stayed in the program. These differences were evident even after taking into account various characteristics of families, home visitors, and local programs.** Families served by local programs implementing Early Head Start – Home-based option were more likely to receive at least one visit, and families served by local programs implementing Nurse-Family Partnership or Early Head Start – Home-based option stayed in the home visiting program for a longer time.
- **Tailoring of services to families’ needs was especially evident in the outcome-specific areas of substance use, mental health, and intimate partner violence.** Home visitors were more likely to discuss these topics with and provide referrals to families whom the study identified through surveys and assessments as likely to need services in these areas, compared with other families.
- **Certain practices of home visitors and local programs were associated with how often families and their home visitors discussed specific sensitive topics.** Home visitors who attended training related to family planning and birth spacing, substance use, mental health, intimate partner violence, or child development discussed the topic more often with families than home visitors who did not attend training to address those specific outcomes. When a local program had formal processes in place for screening — as well as internal monitoring of these processes — for substance use or intimate partner violence, families and home visitors discussed the topic more often, compared with families served by local programs that did not have these processes in place to address these specific outcomes.

Overall, the findings suggest that the likelihood of having any home visits and the duration of home visits are primarily influenced by family characteristics, while the types of topics

that are discussed are related not only to family characteristics, but also to the characteristics of the home visitor and local program. These findings, together with findings from other chapters, point to potentially fruitful directions for the home visiting field to continue exploring with regard to family engagement and home visitor training and support. Chapter 7 discusses possible implications for the home visiting field of these and findings from other chapters.

The remainder of this chapter is divided into four sections. The first section provides an overview of the statistical approach used in the analyses. The second section describes how different characteristics are related to general service delivery measures. The third section explains how different characteristics are related to outcome-specific service delivery measures, and a final section concludes this chapter.

Overview of the Statistical Approach

Throughout this chapter, statistical methods are used to learn how family, home visitor, and local program characteristics were related to services that families received. This chapter reports summaries of the analyses, and a separate technical appendix provides details.¹

The statistical approaches reflect the MIHOPE implementation research analysis conceptual framework described in Chapter 1 whereby services may be delivered differently across families, home visitors, local programs, or the evidence-based models included in MIHOPE: Early Head Start – Home-based option (EHS); Healthy Families America (HFA); Nurse-Family Partnership (NFP); and Parents as Teachers (PAT).²

Out of the many measures collected in MIHOPE based on this conceptual framework, this chapter explores how the characteristics listed in Table 5.1 are associated with “general” service delivery measures, and how the characteristics listed in Table 5.2 are associated with “outcome-specific” service delivery measures.³ The technical appendix further describes the criteria for selecting these characteristics.⁴

¹See Hill, Cohn, Xia, and Portilla (2018).

²The analyses are grounded in the framework put forth by the National Implementation Research Network and its underpinnings in industrial or organizational psychology (National Implementation Research Network, 2013; Cooper and Locke, 2000) and the public health field’s approach to explain health behavior (Montaño and Kasprzyk, 2008).

³Not all characteristics listed in Table 5.2 are included in all outcome-specific models. For example, whether the mother had recent alcohol or drug treatment was included in models for substance use, but not for the other outcome-specific areas.

⁴A characteristic was given higher priority for selection if theory or prior research predicted an association with service delivery; if understanding the characteristic’s association with service delivery would be useful for policy or program decision making; if there was substantial variation in values across families, home visitors, or local programs; and if few cases had missing values. See Hill, Cohn, Xia, and Portilla (2018).

Table 5.1

Characteristics Included in General and Outcome-Specific Statistical Analyses

FAMILY CHARACTERISTICS

<u>Maternal sociodemographic characteristics</u> <ul style="list-style-type: none">• Mother’s age• Pregnant at study entry• First-time mother• Race/ethnicity• Relationship status• Biological father in household• Language other than English spoken at home	<u>Maternal and household economic self-sufficiency</u> <ul style="list-style-type: none">• Highest level of education• Moved more than once in the past year• Household experiences food insecurity <u>Maternal and household risk factors</u> <ul style="list-style-type: none">• Self-rated health as “poor” or “fair” or as limiting activities “a lot”• Depression symptoms score (CES-D) at or above cutoff• Relationship attachment style – anxiety (ASQ-SF)• Relationship attachment style – avoidance (ASQ-SF)• Maternal verbal intelligence (WAIS-III/EIWA-III)
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HOME VISITOR CHARACTERISTICS

<u>Home visitor education and work experience</u> <ul style="list-style-type: none">• Highest level of education• Current and prior experience in home visiting <u>Home visitor well-being</u> <ul style="list-style-type: none">• Depression symptoms score (CES-D) at or above cutoff• Relationship attachment style – anxiety (ASQ-SF)• Relationship attachment style – avoidance (ASQ-SF) <u>Home visitor work attitudes</u> <ul style="list-style-type: none">• Morale – organizational social context (OSC)• Intent to leave position in the next 12 months <u>Intended service plan</u> <ul style="list-style-type: none">• Number of outcomes rated as high priority	<u>Training and supervision</u> <ul style="list-style-type: none">• Average number of training hours per month• Time spent in individual supervision per week• Average percentage of supervision sessions focused on planning or problem solving around client issues or topics <u>Home visitor perceptions</u> <ul style="list-style-type: none">• Home visitor ratings of confidence when faced with a challenging situation to improve outcomes• Home visitor believes she is supported by the local implementation system to improve outcomes• Home visitor believes she is comfortable and effective working to improve outcomes
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LOCAL PROGRAM CHARACTERISTICS

<u>Community characteristics</u> <ul style="list-style-type: none">• Index of neighborhood socioeconomic disadvantage <u>Organizational culture</u> <ul style="list-style-type: none">• OSC – rigidity• OSC – proficiency• OSC – resistance	<u>Staffing</u> <ul style="list-style-type: none">• At least one staff person with dedicated time to support continuous quality improvement activities• Difficult to recruit qualified home visitor candidates• Average number of families in home visitors’ caseloads
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(continued)

Table 5.1 (continued)

LOCAL PROGRAM CHARACTERISTICS (continued)

Evidence-based model

- EHS
 - HFA
 - NFP
 - PAT
-

NOTES: CES-D = Center for the Epidemiological Studies Depression 10-item scale, GAD-7 = Generalized Anxiety Disorder 7-item scale, ASQ-SF = Attachment Style Questionnaire-Short Form, WAIS-III = Wechsler Adult Intelligence Scale Third Edition, EIWA-III = Escala de Inteligencia de Wechsler Tercera Edición. EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

The data sources for both the general and the outcome-specific service delivery measures were weekly family service logs completed by home visitors. Data sources for measures of family characteristics were surveys completed by women (pregnant women or current mothers of the focal children) at the time of study entry. Data sources for measures of home visitor characteristics were surveys and monthly training logs completed by home visitors, and weekly supervision logs completed by supervisors.⁵ Data sources for measures of local program characteristics were surveys completed by local program managers and home visitors, and census tract data from the 2014 American Community Survey five-year estimates. Appendix A and the technical appendix provide further details about the data.⁶

This chapter presents two types of estimates of the relationships between service delivery and characteristics of families, home visitors, and local programs. Simple associations do not take other characteristics into account when examining how a particular characteristic is related to service delivery, while conditional associations do.⁷ If the analyses were to find, for example, that families who entered the study prenatally spent longer durations of time in home visiting than those who entered postnatally, that would be a simple association. If the analyses were to find that families who entered the study prenatally spent longer durations of time even after taking into account any differences in mothers' risk factors and education levels, that would be a

⁵For details about home visitor survey completion rates and the matching of home visitors to families, see Hill, Cohn, Xia, and Portilla (2018).

⁶See Hill, Cohn, Xia, and Portilla (2018).

⁷The simple associations typically are coefficient estimates from bivariate regression models that account for families' clustering within home visitors and local programs. The conditional associations are estimates from multilevel multiple regression models.

Table 5.2

Additional Characteristics Included in Outcome-Specific Statistical Analyses

FAMILY CHARACTERISTICS	
<p><u>Baseline risk in outcome-specific area</u></p> <ul style="list-style-type: none"> • Family planning and birth spacing • Substance use • Mental health • Intimate partner violence • Family economic self-sufficiency • Child development • Child preventive care 	<p><u>Mental health, substance use, and intimate partner violence services</u></p> <ul style="list-style-type: none"> • Recent alcohol or drug treatment • Recent mental health treatment • Received intimate partner violence or anger management services • Ever wanted or needed counseling for intimate partner violence or anger management in the year preceding study participation
<p><u>Maternal sociodemographic characteristics</u></p> <ul style="list-style-type: none"> • Mother would like another child 	<p><u>Mother's primary reason for enrolling</u></p> <ul style="list-style-type: none"> • Learn how to keep baby healthy • Learn how to help baby learn and develop • Get help getting insurance • Get help completing education or job training • Get help getting financial assistance
<p><u>Maternal and household economic self-sufficiency</u></p> <ul style="list-style-type: none"> • Currently taking or planning to take education or training classes • Currently working or planning to work in the next year • Ever employed in the past three years • Any earnings in the last month • Sources of household income or benefits 	<p><u>Child characteristics</u></p> <ul style="list-style-type: none"> • Age at interview • Sex
<p><u>Maternal and household risk factors</u></p> <ul style="list-style-type: none"> • Maternal or household tobacco use • Binge alcohol use or illegal use of drugs • Mother has been arrested in past year 	<p><u>Child health care access and insurance</u></p> <ul style="list-style-type: none"> • Child has usual source of well-child care • Child's insurance type
<p><u>Maternal health care access and insurance</u></p> <ul style="list-style-type: none"> • Mother's insurance type 	<p><u>Child risk factors</u></p> <ul style="list-style-type: none"> • Low birth weight • Preterm birth • Child was placed in neonatal intensive care unit
HOME VISITOR CHARACTERISTICS	
<p><u>Training and supervision</u></p> <ul style="list-style-type: none"> • Ever attended training in outcome-specific area 	<p><u>Home visitor perceptions</u></p> <ul style="list-style-type: none"> • Home visitor ratings of confidence about improving outcome in outcome-specific area when faced with a challenging situation • Home visitor believes she is supported by the local implementation system to improve outcome in outcome-specific area • Home visitor believes she is comfortable and effective working to improve outcome in outcome-specific area
<p><u>Intended service plan</u></p> <ul style="list-style-type: none"> • Home visitor rates outcome in outcome-specific area as "high priority" 	

(continued)

Table 5.2 (continued)

LOCAL PROGRAM CHARACTERISTICS

<p><u>Service priorities</u></p> <ul style="list-style-type: none">• Program rates outcome in outcome-specific area as “high priority”• Program reports increasing priority in outcome-specific area as a result of receipt of MIECHV funding	<p><u>Staffing</u></p> <ul style="list-style-type: none">• Access to professional consultants in outcome-specific area
<p><u>Community characteristics</u></p> <ul style="list-style-type: none">• Program has memorandum of understanding and designated point of contact with community service provider in outcome-specific area• Program has service provider that is available, accessible, and effective in outcome-specific area	<p><u>Organizational structure and policies</u></p> <ul style="list-style-type: none">• Organization has formal screening tool in outcome-specific area that is required at a certain point in time and has internal monitoring procedures regarding screening• Organization has formal screening tool in outcome-specific area that is required at a certain point in time and does not have internal monitoring procedures regarding screening

conditional relationship between duration and entering the study prenatally. Home visiting program planners may benefit from both types of information — whether prenatal entrants in the study stay in services longer on the whole (without knowing about their other characteristics), and whether duration appears to be associated with entering the study prenatally even for families who have similar risk factors and levels of education.

Because this chapter examines many characteristics and their relationships with service delivery, some relationships appear to be large just by chance alone. There is greater confidence that associations are real rather than appearing by chance when there are consistent patterns of association across multiple measures. Therefore, this chapter draws conclusions about the relationships between family, home visitor, and local program characteristics and service delivery measures based on the stability of the direction and size of relationships across service delivery measures.

The statistical analyses throughout this chapter used different sample sizes, depending on the specific research question and the available data for answering that question. Table 5.3 shows the sample sizes of families, home visitors, and local programs used for analysis of each service delivery measure described in this chapter. The analyses did not include all 2,104 families in the program group for two main reasons. First, all analyses were limited to observations that had complete information on the characteristics in the statistical model. Second, most of the analyses were further limited to families who received at least one visit. The technical appendix provides further details about the analysis samples’ definitions, and Technical Appendix Tables TA.3 through TA.28 compare characteristics of the analysis samples with characteristics of the excluded observations.⁸ There were few differences between families, home visitors, or local programs that were included or excluded from the analyses.

⁸See Hill, Cohn, Xia, and Portilla (2018).

Table 5.3
Sample Sizes for Analyses of Service Delivery

Service Delivery Outcome	Number of Families	Number of Home Visitors	Number of Local Programs
<u>General service delivery</u>			
Whether family received a home visit	1,753	—	81
Duration of participation in home visiting, in months ^a	1,088	324	81
Membership in home visit trajectory group ^{a,b}	1,088	324	81
<u>Outcome-specific service delivery^{a,c}</u>			
Whether outcome-specific area was discussed	916 - 990	272 - 292	72 - 78
Number of visits in which outcome-specific area was discussed	295 - 996	141 - 292	55 - 78
Whether family ever received a referral in outcome-specific area ^d	280 - 832	136 - 276	55 - 75

SOURCES: The MIHOPE family baseline survey, the MIHOPE family service logs, the MIHOPE home visitor survey, the MIHOPE weekly supervision logs, the MIHOPE home visitor monthly training logs, the MIHOPE program manager survey, the MIHOPE community services inventory completed by program managers, and U.S. Census Bureau, 2014 American Community Survey five-year estimates.

NOTES: Analyses were restricted to observations that had complete data on all the characteristics in the statistical model. Refer to the technical appendix for more information.

^aThese models were run only on families who received a home visit.

^bFor the purposes of this analysis only, a month is defined to be four weeks (28 days).

^cOutcome-specific areas include family planning and birth spacing, substance use, intimate partner violence, mental health, family economic self-sufficiency, child preventive care, and child development. Sample sizes for these outcomes are presented as the ranges of sample sizes across the outcome-specific areas. Refer to the technical appendix for more information.

^dThese models were run only on families discussing the outcome-specific area at least once or receiving at least one referral in the outcome-specific area.

What Characteristics Were Associated with General Service Delivery of Home Visiting?

This section describes the characteristics related to general service delivery. Specifically, it examines families' participation in home visiting in the 12 months after the first home visit, focusing on whether the family received at least one home visit and on how long the family continued to receive visits.⁹

⁹Findings from statistical analyses of characteristics associated with membership in the "visit trajectory" group, presented in Chapter 4, were similar to the results described in the current section for the duration of participation in home visiting. The signs and relative sizes of relationships, and patterns of statistical significance, were similar. For detailed estimates, see Hill, Cohn, Xia, and Portilla (2018), Technical Appendix Table TA.38.

What Characteristics were Associated with Whether a Family Received at Least One Home Visit?

As seen in Table 4.1 of Chapter 4, 83 percent of families received a home visit. As discussed earlier in the report, all of the mothers had shown interest in home visiting and had consented to be in the study. The following findings take characteristics of families and local programs into account simultaneously (see right-hand panel of Figures 5.1 and 5.2):

- Mothers who did not graduate from high school were 4 percentage points less likely to receive a home visit, compared with mothers who had some college.
- First-time mothers were almost 5 percentage points less likely to receive a home visit, compared with mothers who already had children.¹⁰
- Families served by local programs with staff whose job responsibilities included dedicated time for continuous quality improvement were more likely to receive a home visit, compared with families served by local programs that did not have such dedicated staff time.
- Families served by local programs implementing EHS were more likely to receive a visit than families served in local programs that implemented the other three evidence-based models. This relationship was also found in the analyses reported in Table 4.1 of Chapter 4, which showed simple, not conditional, associations.

The results are presented in Figure 5.1, which shows statistical model results of relationships of family characteristics with ever receiving a home visit, and in Figure 5.2, which shows relationships of local program characteristics with ever receiving a home visit. The left-hand panel shows simple associations, while the right-hand panel shows conditional associations.¹¹ The horizontal lines show the statistical uncertainty of each estimated association, with longer lines indicating more uncertainty and shorter lines indicating less uncertainty. The circle is located at each interval's midpoint.¹² The findings highlighted above are conditional associations, whose lines

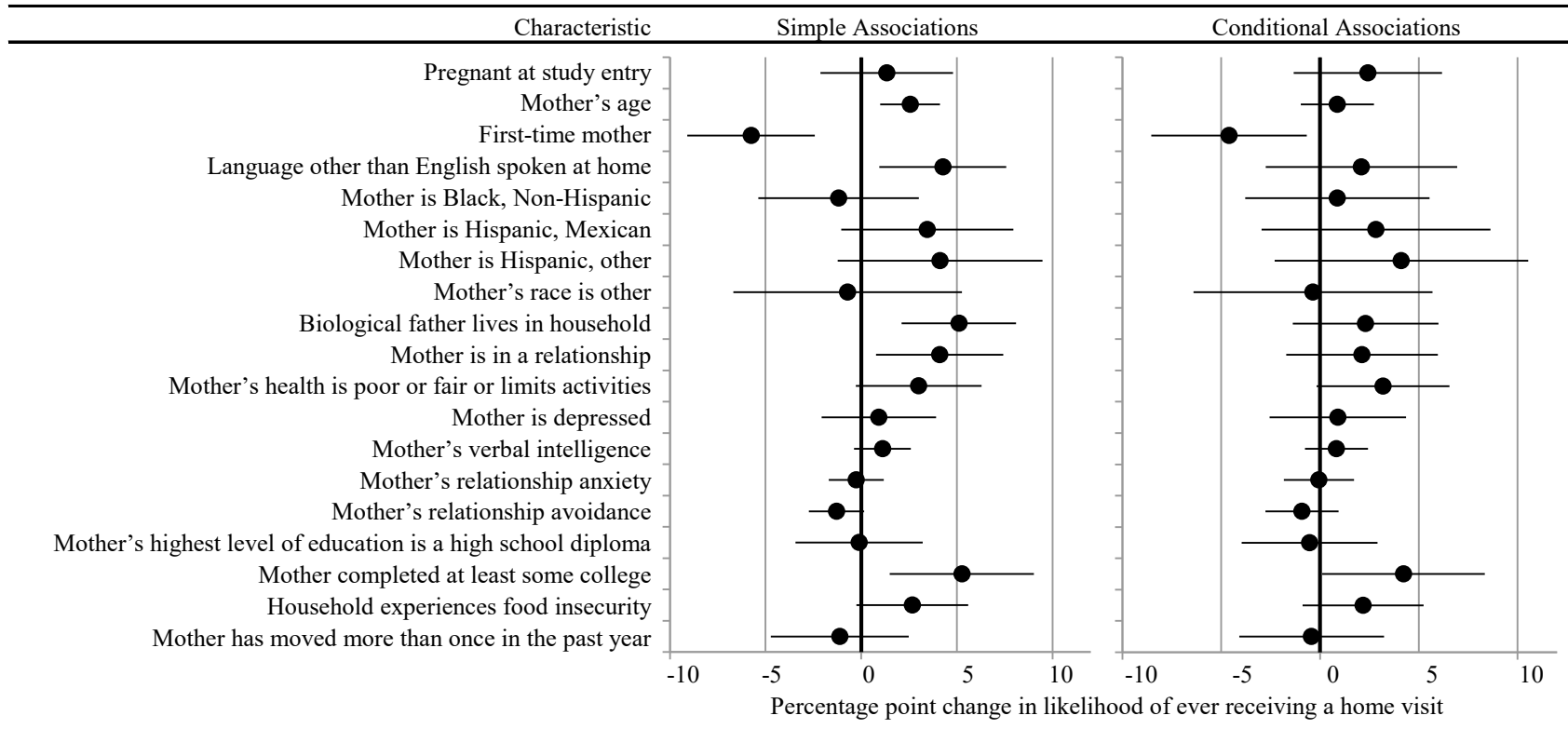
¹⁰The values reported are the midpoints of the 90 percent confidence interval for each conditional association. The 90 percent confidence intervals are 0.1 percentage point to 8.3 percentage points for mother's education, and 0.7 percentage point to 8.5 percentage points for first-time mothers.

¹¹Most of the estimated conditional associations had smaller magnitudes and greater statistical uncertainty compared with the simple associations.

¹²A 90 percent confidence interval is shown for each characteristic. Technical Appendix Table TA.29 shows detailed estimates. As shown in Figures 5.1 and 5.2, confidence intervals for conditional associations of family characteristics (for example, whether the mother was pregnant at the time she entered the study) and local program characteristics (for example, average caseload size) include values at least as large as 5 percentage points, but also include values of zero or probabilities in the opposite direction. Thus, these findings are not highlighted.

Figure 5.1

Presence of Family Characteristics and Percentage Point Changes in Likelihood of Ever Receiving a Home Visit



SOURCES: The MIHOPE family baseline survey, the MIHOPE family service logs, the MIHOPE home visitor survey, the MIHOPE program manager survey, the MIHOPE community services inventory completed by program managers, and U.S. Census Bureau, 2014 American Community Survey five-year estimates.

NOTES: The “Simple Associations” panel shows coefficient estimates from statistical models that do not include other characteristics besides the one being tested. The “Conditional Associations” panel shows coefficient estimates from a statistical model that includes all of the characteristics simultaneously shown in Figures 5.1 and 5.2.

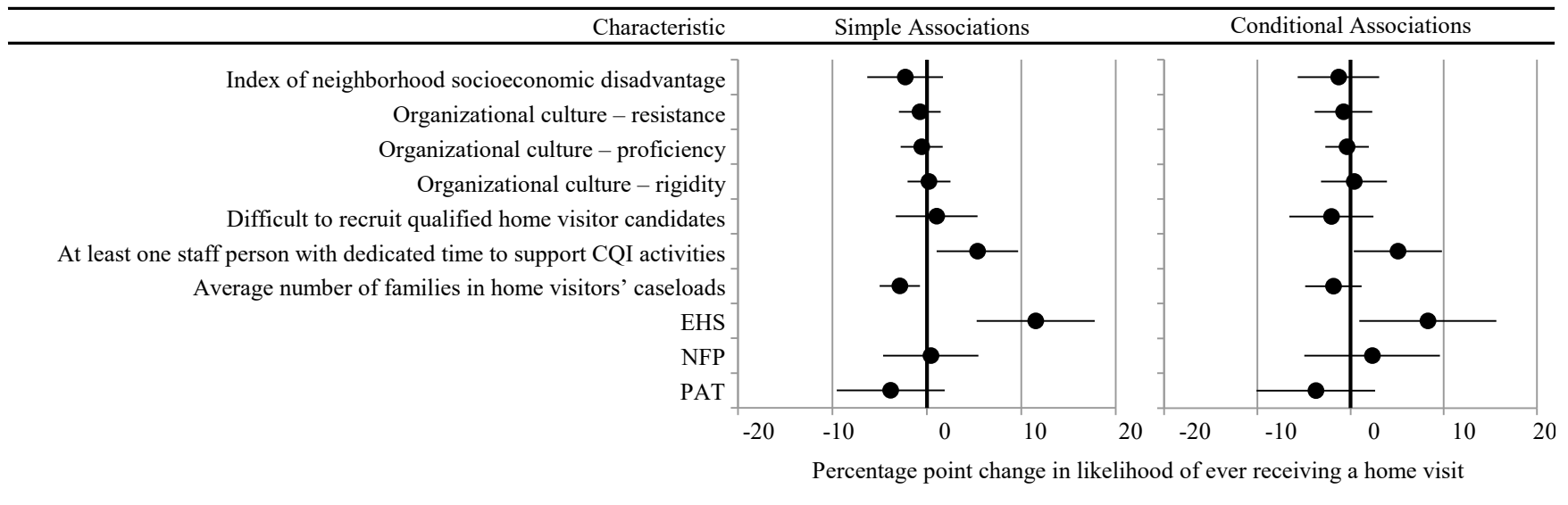
The horizontal line with each black circle shows a 90 percent confidence interval for the estimate.

For characteristics with two categories (for example, whether a woman is a first-time mother), the point estimate indicates the change in likelihood of ever receiving a home visit associated with the presence of the characteristic, compared with its absence. For characteristics with more than two categories (for example, a mother's race and ethnicity), the point estimate indicates the change in probability associated with the presence of the characteristic compared with a reference category of that characteristic. The reference category for a mother's race and ethnicity is “white, Non-Hispanic;” for a mother's highest level of education, it is “did not graduate from high school.” For characteristics that are continuous measures (such as a mother's age), the point estimate indicates the predicted change in probability associated with a one standard deviation increase in the measure.

Sample sizes are 1,753 families and 81 local programs.

Figure 5.2

Presence of Local Program Characteristics and Percentage Point Changes in Likelihood of Ever Receiving a Home Visit



SOURCES: The MIHOPE family baseline survey, the MIHOPE family service logs, the MIHOPE home visitor survey, the MIHOPE program manager survey, the MIHOPE community services inventory completed by program managers, and U.S. Census Bureau, 2014 American Community Survey five-year estimates.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. CQI = continuous quality improvement.

The “Simple Associations” panel shows coefficient estimates from statistical models that do not include other characteristics besides the one being tested.

The “Conditional Associations” panel shows coefficient estimates from a statistical model that includes all of the characteristics simultaneously shown in Figures 5.1 and 5.2.

The horizontal line with each black circle shows a 90 percent confidence interval for the estimate.

For characteristics with two categories (for example, whether the local program reports difficulty recruiting qualified home visitor candidates), the point estimate indicates the change in likelihood associated with the presence of the characteristic, compared with its absence. For characteristics with more than two categories (for example, evidence-based model), the point estimate indicates the change in likelihood associated with the presence of the characteristic compared with a reference category of that characteristic. The reference category for evidence-based model is HFA because the greatest number of families in the study were enrolled in HFA programs. For characteristics that are continuous measures (such as the scales for organizational culture), the point estimate indicates the predicted change in probability associated with a one standard deviation increase in the measure.

Sample sizes are 1,753 families and 81 local programs.

include a relatively large value (at least 5 percentage points in either direction) but do not include zero. For example, in the right-hand panel of Figure 5.1, values in the third row from the top show that there is a 90 percent chance that first-time mothers were 1 percentage point to 9 percentage points less likely to ever receive a home visit, compared with mothers who already had children. The midpoint is almost 5 percentage points, reported in the second bullet point above.

What Characteristics Were Associated with How Long the Family Participated in Home Visiting?

Families who received at least one home visit went on to participate in home visiting for an average of eight months, as shown in Table 4.1 of Chapter 4. This section shows how family, home visitor, and local program characteristics are related to the number of months a family received home visiting services. The following findings take characteristics of families, home visitors, and local programs into account simultaneously:

- Mothers participated in home visiting for less time if they were younger, did not live with the biological father of their child, were in poor health, exhibited relationship avoidance, or moved more than once in the past year.¹³
- Families' duration of home visiting did not appear to be related to the characteristics of their home visitors or the local programs.
- Families served by local programs implementing EHS and NFP participated longer on average than families served by local programs that implemented HFA and PAT. These relationships were also found in the analyses reported in Chapter 4, which showed simple, not conditional, associations.

A series of figures shows these conditional relationships in the right-hand panel, and also shows simple relationships in the left-hand panel: Figure 5.3 lists family characteristics, Figure 5.4 lists home visitor characteristics, and Figure 5.5 lists local program characteristics. The horizontal lines show the statistical uncertainty of each estimated association, with longer lines indicating more uncertainty and shorter lines indicating less uncertainty, and the circle indicating the midpoint.¹⁴ The findings highlighted above are conditional associations whose lines include a relatively large value (at least half of a month in either direction) but do not include zero.

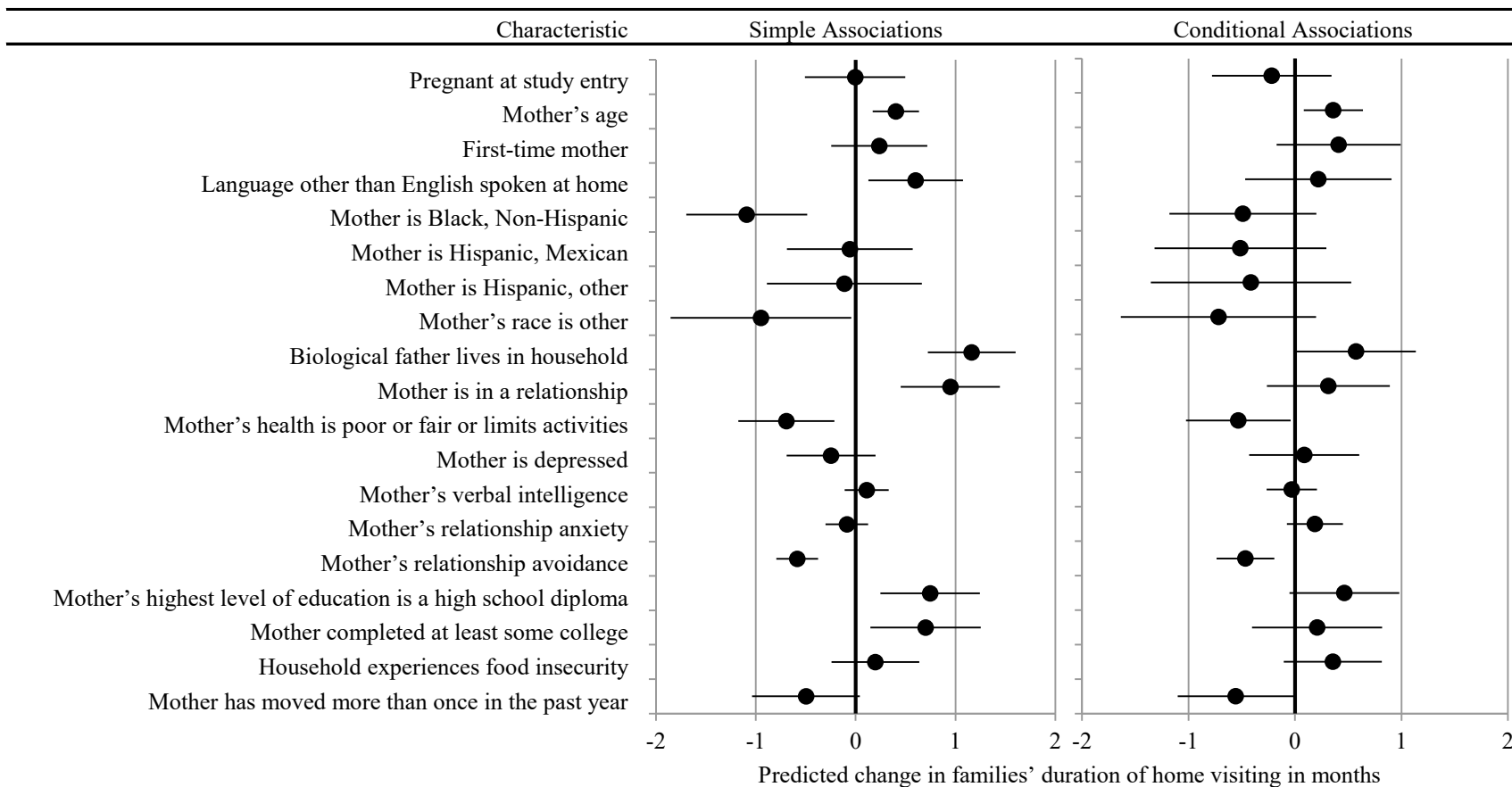
In addition to examining characteristics individually, results from the statistical model can be viewed in a different way by specifying values for all the characteristics in the model

¹³For detailed simple and conditional estimates from the statistical models, see Hill, Cohn, Xia, and Portilla (2018), Technical Appendix Table TA.33.

¹⁴A 90 percent confidence interval is shown for each characteristic.

Figure 5.3

Presence of Family Characteristics and Predicted Change in Families' Duration of Home Visiting (in Months)



(continued)

Figure 5.3 (continued)

SOURCES: The MIHOPE family baseline survey, the MIHOPE family service logs, the MIHOPE home visitor survey, the MIHOPE weekly supervision logs, the MIHOPE home visitor monthly training logs, the MIHOPE program manager survey, the MIHOPE community services inventory completed by program managers, and U.S. Census Bureau, 2014 American Community Survey five-year estimates.

NOTES: The “Simple Associations” panel shows coefficient estimates from statistical models that do not include other characteristics besides the one being tested.

The “Conditional Associations” panel shows coefficient estimates from a statistical model that includes all of the characteristics simultaneously shown in Figures 5.3, 5.4, and 5.5.

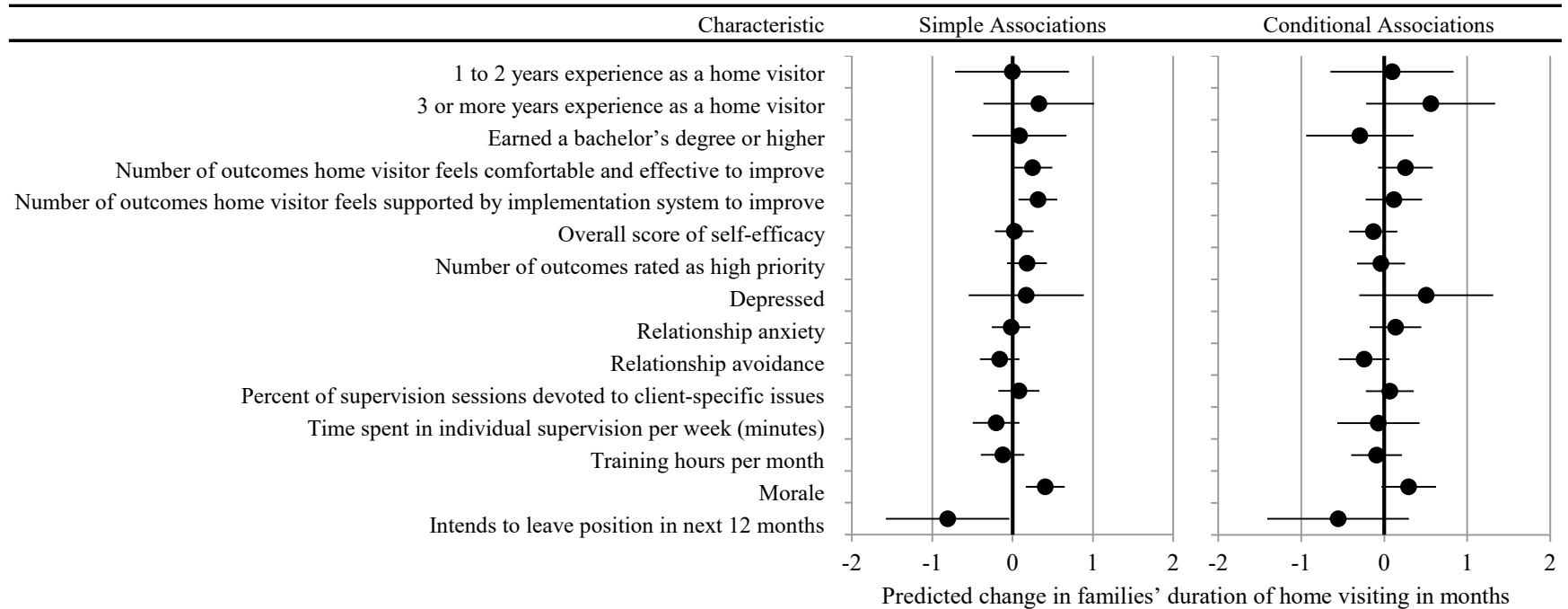
The horizontal line with each black circle shows a 90 percent confidence interval for the estimate.

For characteristics with two categories (for example, whether a mother is a first-time mother or not), the point estimate indicates the change in duration associated with the presence of the characteristic, compared with its absence. For characteristics with more than two categories (for example, a mother’s race and ethnicity), the point estimate indicates the change in duration associated with the presence of the characteristic compared with a reference category of that characteristic. The reference category for a mother’s race and ethnicity is “white, Non-Hispanic;” for a mother’s highest level of education, it is “did not graduate from high school.” For characteristics that are continuous measures (such as a mother’s age), the point estimate indicates the predicted change in duration associated with a one standard deviation increase in the measure.

Sample sizes are 1,088 families, 324 home visitors, and 81 local programs.

Figure 5.4

Presence of Home Visitor Characteristics and Predicted Change in Families' Duration of Home Visiting (in Months)



(continued)

Figure 5.4 (continued)

SOURCES: The MIHOPE family baseline survey, the MIHOPE family service logs, the MIHOPE home visitor survey, the MIHOPE weekly supervision logs, the MIHOPE home visitor monthly training logs, the MIHOPE program manager survey, the MIHOPE community services inventory completed by program managers, and U.S. Census Bureau, 2014 American Community Survey five-year estimates.

NOTES: The “Simple Associations” panel shows coefficient estimates from statistical models that do not include other characteristics besides the one being tested.

The “Conditional Associations” panel shows coefficient estimates from a statistical model that includes all of the characteristics simultaneously shown in Figures 5.3, 5.4, and 5.5.

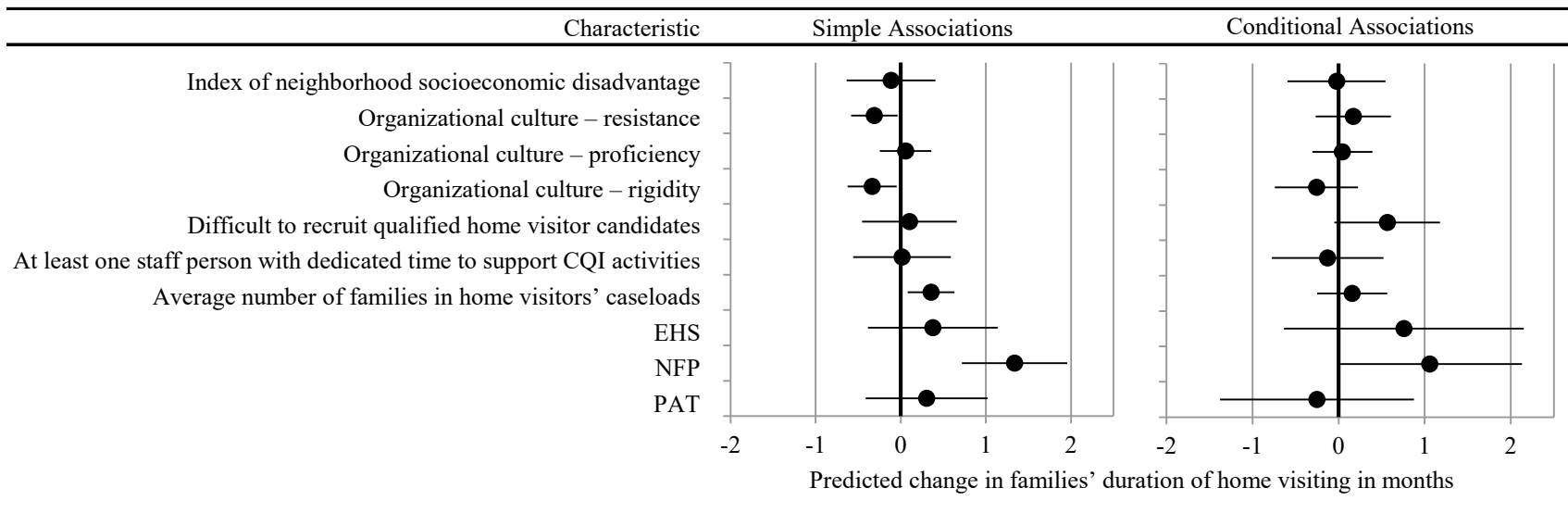
The horizontal line with each black circle shows a 90 percent confidence interval for the estimate.

For characteristics with two categories (for example, whether a home visitor is depressed), the point estimate indicates the change in duration associated with the presence of the characteristic, compared with its absence. For characteristics with more than two categories (for example, the home visitor's experience), the point estimate indicates the change in duration associated with the presence of the characteristic compared with a reference category of that characteristic. The reference category for home visitor experience is “less than one year of home visiting experience.” For characteristics that are continuous measures (such as number of outcomes rated as high priority), the point estimate indicates the predicted change in duration associated with a one standard deviation increase in the measure.

Sample sizes are 1,088 families, 324 home visitors, and 81 local programs.

Figure 5.5

Presence of Local Program Characteristics and Predicted Change in Families' Duration of Home Visiting (in Months)



SOURCES: The MIHOPE family baseline survey, the MIHOPE family service logs, the MIHOPE home visitor survey, the MIHOPE weekly supervision logs, the MIHOPE home visitor monthly training logs, the MIHOPE program manager survey, the MIHOPE community services inventory completed by program managers, and U.S. Census Bureau, 2014 American Community Survey five-year estimates.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. CQI = continuous quality improvement.

The “Simple Associations” panel shows coefficient estimates from statistical models that do not include other characteristics besides the one being tested.

The “Conditional Associations” panel shows coefficient estimates from a statistical model that includes all of the characteristics simultaneously shown in Figures 5.3, 5.4, and 5.5.

The horizontal line with each black circle shows a 90 percent confidence interval for the estimate.

For characteristics with two categories (for example, whether the local program reports difficulty recruiting qualified home visitor candidates), the point estimate indicates the change in duration associated with the presence of the characteristic, compared with its absence. For characteristics with more than two categories (for example, evidence-based model), the point estimate indicates the change in duration associated with the presence of the characteristic compared with a reference category of that characteristic. The reference category for evidence-based model is HFA because the greatest number of families in the study were enrolled in HFA programs. For characteristics that are continuous measures (such as the scales for organizational culture), the point estimate indicates the predicted change in duration associated with a one standard deviation increase in the measure.

Sample sizes are 1,088 families, 324 home visitors, and 81 local programs.

(shown in Table 5.1) to create profiles of different types of families, home visitors, and local programs. Specifically, three profiles were created: one reflects the average characteristics in the study of a family, home visitor, or local program; one reflects relatively greater challenges or barriers for a family, home visitor, or local program; and one reflects relatively fewer challenges or barriers.¹⁵ Table 5.4 shows the number of characteristics in each family, home visitor, and local program profile, as well as an example of a characteristic at each level.¹⁶ Program duration for each profile was predicted next based on the characteristics in that profile. The prediction for each profile, shown in Figure 5.6, has a midpoint shown by a circle and statistical uncertainty shown by a line. The following results were similar to those presented earlier in this chapter:

Table 5.4
Examples of Characteristics Used in Profiles of Families, Home Visitors, and Local Programs for Predictions of Duration

Type of Characteristic	Number of Characteristics in Each Profile	Example of a Characteristic Used in the Profile		
		Greater Barriers or Challenges	Average	Fewer Barriers or Challenges
Family	15	High relationship avoidance	Average relationship avoidance	Low relationship avoidance
Home visitor	14	Low morale	Average morale	High morale
Local program	8	Low organizational social context scores	Average organizational social context scores	High organizational social context scores

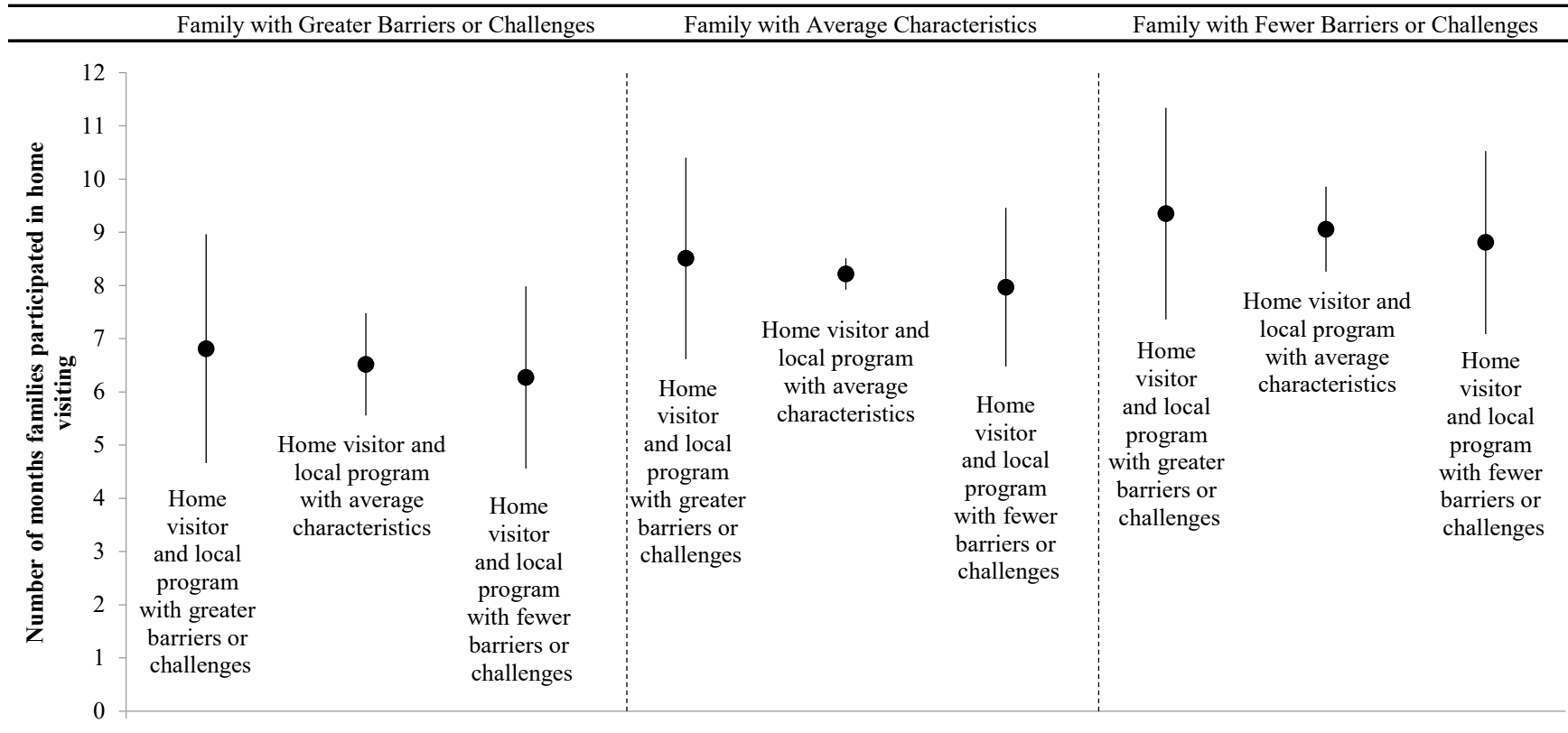
NOTE: See Table TA.36 in the technical appendix for the specific values used for each characteristic in each profile.

¹⁵Each of the three profiles used specific values for all the characteristics listed in Table 5.1. Findings from prior literature and theory informed the selection of specific values. For example, in the domain of maternal and household economic self-sufficiency, the profile reflecting relatively greater barriers for the family specified that the mother did not graduate from high school, had moved more than once in the past year, and came from a household that was experiencing food insecurity. In the domain of maternal and household risk factors, the profile reflecting relatively greater barriers specified that every risk listed in Table 5.1 was present. The remaining domains were specified in similar ways, with two exceptions: All three profiles used sample mean values for race and ethnicity, and for evidence-based model.

¹⁶For the specific values used for every characteristic in each profile, see Hill, Cohn, Xia, and Portilla (2018), Technical Appendix Table TA.36.

Figure 5.6

Predicted Duration of Home Visiting Participation (in Months) for Different Profiles of Families, Home Visitors, and Local Programs



SOURCES: The MIHOPE family baseline survey, the MIHOPE family service logs, the MIHOPE home visitor survey, the MIHOPE weekly supervision logs, the MIHOPE home visitor monthly training logs, the MIHOPE program manager survey, the MIHOPE community services inventory completed by program managers, and U.S. Census Bureau, 2014 American Community Survey five-year estimates.

NOTES: Vertical lines indicate the 90 percent confidence interval for the predicted duration for each profile. See Table 5.4 for profile examples, and Table TA.36 in the technical appendix for all values used for each profile.

Sample sizes are 1,088 families, 324 home visitors, and 81 local programs.

- A family with average characteristics was predicted to participate in home visiting for 8.2 months, on average, when served by a home visitor with average characteristics in a local program with average characteristics.
- A family with relatively more challenges or barriers was predicted to participate for 6.5 months, on average, while a family with relatively fewer challenges or barriers was predicted to participate for 9.1 months, on average.

Findings reported in Technical Appendix Table TA.37 indicate that most of the differences, or variation, in participation and duration occur across families, not across home visitors or across local programs.¹⁷ Thus, characteristics of families have more potential to “explain” this variation in service delivery, compared with characteristics of home visitors or local programs. Consistent with this possibility, the findings reported in this section suggest that family characteristics can be an important leverage point for home visitors and local programs to consider when examining their programs’ enrollment, duration, and frequency of visits. For example, policies and practices could focus outreach efforts on mothers who have less education, or who are younger, to increase their enrollment in the home visiting programs and to sustain their enrollment over a longer period of time.

What Characteristics Are Associated with Outcome-Specific Service Delivery of Home Visiting?

This section reports on the relationships between characteristics of families, home visitors, and local programs and whether families received services in the outcome-specific areas. Awareness of these relationships can inform effective home visiting practice and responsiveness to family needs. The section first describes simple associations between a mother’s risk or need in an outcome-specific area and whether she discussed it with a home visitor, how many times she discussed it, and whether she received a referral for further services in that area. These simple associations provide a snapshot overview of whether service delivery is consistent with “tailoring,” or adapting services to families’ needs. The section then reports on conditional associations with the same service delivery measures of discussions and referrals. In addition to measures of risk or need, the statistical models also include other characteristics of families, home visitors, and local programs.

¹⁷See Hill, Cohn, Xia, and Portilla (2018).

Simple Associations Between Risk and Outcome-Specific Service Delivery Measures

Chapter 4 discussed the content of home visiting in terms of the activities carried out and the outcome-specific areas on which activities focused. It reported overall rates of discussion and referrals that targeted different outcomes. If home visiting programs are responding to the needs of families and mothers, then mothers who are considered at risk should have higher levels of service delivery relevant to that risk factor compared with mothers who are not at risk. For example, when a mother has symptoms of depression or is highly anxious, a home visitor might place greater emphasis on mental health in visits for this family than for others that do not exhibit such a need. This emphasis would be consistent with “tailoring” of services to a family’s needs.

Table 5.5 lists the measures used to assess a mother’s risk or need at the time she entered the study.¹⁸ Table 5.6 shows three measures of outcome-specific service delivery: whether a family ever discussed a topic with the home visitor, how often the family discussed the topic, and whether the family received a referral for additional services. It shows simple associations, which do not take into account other characteristics of families, home visitors, or local programs.

Overall, the findings presented in Table 5.6 indicate that families at risk in the areas of substance use, mental health, and intimate partner violence were more likely to discuss these topics and to receive referrals than other families. In addition, families at risk in the area of economic self-sufficiency were more likely to receive referrals for services than other families. These findings included the following:

- Home visitors and families discussed substance use more than twice as often when the family was considered to be at risk (2.3 times, compared with 1.0 time, on average).
- Among mothers considered to be at risk for mental health issues, 30 percent received a referral, compared with 17 percent of those not considered at risk.
- Among mothers considered to be at risk for intimate partner violence, 48 percent ever discussed the issue with their home visitors, compared with 38 percent of those not considered at risk.

¹⁸MIHOPE collected extensive information when a family entered the study, but did not continue to collect this kind of information throughout the family’s enrollment. For further information about these measures and also about the process for selecting outcome-specific areas for analyses reported here, see Hill, Cohn, Xia, and Portilla (2018).

Table 5.5
Definitions of Risk or Need at Time of Study Entry
for High-Priority Outcome Areas

Outcome-Specific Area	Definition of Risk or Need at Time of Study Entry
<u>Maternal and newborn health and well-being</u>	
Family planning and birth spacing	<ul style="list-style-type: none"> • Mother does not have a usual place to go for family planning or birth control
Substance use	<p>At least one of the following:</p> <ul style="list-style-type: none"> • Mother smoked three months prior to pregnancy • Mother reports any current smoking • Mother reports binge alcohol use or illegal use of drugs
Mental health	<p>At least one of the following:</p> <ul style="list-style-type: none"> • Mother’s depression symptoms score (10-item CES-D) at or above cutoff • Mother’s anxiety symptoms score (GAD-7) at or above cutoff
Intimate partner violence	<p>At least one of the following:</p> <ul style="list-style-type: none"> • Mother is an intimate partner violence victim or perpetrator • Mother ever wanted or needed counseling for intimate partner violence or anger management in the past year
<u>Family economic self-sufficiency</u>	
Economic self-sufficiency	<p>At least one of the following:</p> <ul style="list-style-type: none"> • Mother’s primary reason for enrolling: “To get help completing my education or job training” • Mother’s primary reason for enrolling: “To get help getting financial assistance” • Household experiences food insecurity
<u>Child health and development</u>	
Child preventive care	<p>At least one of the following:</p> <ul style="list-style-type: none"> • Child does not have a usual source of well-child care • Mother’s primary reason for enrolling: “To learn how to keep baby healthy”
Child development	<p>At least one of the following:</p> <ul style="list-style-type: none"> • Child was placed in neonatal intensive care unit • Child was born preterm (<37 weeks) • Child had low birth weight (<2,500 grams or 5.5 lbs) • Mother’s primary reason for enrolling: “To learn how to help baby learn and develop”

NOTES: CES-D = Center for the Epidemiological Studies Depression 10-item scale, GAD-7 = Generalized Anxiety Disorder 7-item scale.

Table 5.6
Outcome-Specific Discussions and Referrals
by Presence of Risk or Need at Study Entry

Outcome-Specific Area	Sample Size ^a	Families with Whom Topic Was Ever Discussed (%)	Number of Visits in Which Topic Was Discussed	Families Who Ever Received a Referral (%)
<u>Maternal and newborn health and well-being</u>				
Family planning and birth spacing				
Risk or need present at study entry	437	71.4	3.9	25.2
Risk or need not present at study entry	479	69.1	3.4	22.8
Significance ^b				
Substance use				
Risk or need present at study entry	439	60.4	2.3	8.2
Risk or need not present at study entry	498	46.2	1.0	2.0
Significance ^b		***	***	***
Mental health				
Risk or need present at study entry	428	86.4	7.0	30.4
Risk or need not present at study entry	568	81.0	6.2	16.5
Significance ^b		**		***
Intimate partner violence				
Risk or need present at study entry	224	48.2	1.4	13.4
Risk or need not present at study entry	766	38.3	0.8	7.3
Significance ^b		**	***	**
<u>Family economic self-sufficiency</u>				
Economic self-sufficiency				
Risk or need present at study entry	493	88.4	8.6	42.4
Risk or need not present at study entry	328	86.9	7.9	35.7
Significance ^b				**
<u>Child health and development</u>				
Child preventive care ^{c,d}				
Risk or need present at study entry	42	90.5	12.9	26.2
Risk or need not present at study entry	253	95.7	13.6	36.8
Significance ^b				

(continued)

Table 5.6 (continued)

Outcome-Specific Area	Sample Size ^a	Families with Whom Topic Was Ever Discussed (%)	Number of Visits in Which Topic Was Discussed	Families Who Ever Received a Referral (%)
Child development ^{c,d}				
Risk or need present at study entry	144	97.9	20.8	17.4
Risk or need not present at study entry	162	95.7	16.9	17.3
Significance ^b			***	

SOURCES: Calculations based on data from the MIHOPE family baseline survey and the MIHOPE family service logs.

NOTES: ^aSample is restricted to families who ever received a home visit and who are not missing any covariates included in the outcome-specific multiple regression model.

^bDifferences in “families with whom topic was ever discussed (%)” and “families who ever received a referral (%)” across risk or need groups were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Since this variable is continuous, differences across groups in “number of visits in which topic was discussed” were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^cThe models for these outcomes were only run among visits in the postnatal period.

^dThe samples for these models were further restricted to include only mothers who had given birth to the focal child prior to study entry.

- Among families at particular risk for poor economic self-sufficiency, 42 percent received a referral, compared with 36 percent of those not considered at risk.

One reason MIHOPE may find evidence of tailoring for some outcome-specific areas but not for others is that tailoring may not be very relevant for areas that can apply to all families, regardless of measured baseline risk or need. For example, all families may benefit from discussions with home visitors about economic self-sufficiency and child preventive care. For other areas, the extent to which the study finds evidence of tailoring may vary because of when and how home visitors learn about families and their needs, and because of how home visitors respond to needs once they become apparent.

Conditional Associations between Family, Home Visitor, and Local Program Characteristics and Outcome-Specific Service Delivery Measures

The first part of this section presents the findings for whether families “ever discussed a topic” with a home visitor and whether they “ever received a referral” in the outcome-specific area. The second part focuses on the “number of visits in which particular outcome-specific topics were discussed.”

Associations with Whether a Family Ever Discussed a Topic or Received a Referral in an Outcome-Specific Area.

As described earlier in this chapter, some relationships can appear just by chance when a large number of relationships are examined. Findings highlighted here focus on characteristics that satisfied the following conditions for at least two of the outcome-specific areas for discussion topics and at least three of the outcome-specific areas for referrals: (1) they showed large conditional associations relative to the discussion or referral rates shown in Table 5.6; (2) the direction of their association with the outcome-specific area was the same in the simple and conditional models; and (3) their 90 percent confidence intervals did not include zero.¹⁹ The findings include the following:

- Even taking into account other family, home visitor, and local program characteristics, mothers considered at risk for substance use or intimate partner violence were more likely to discuss these topics with their home visitors than mothers who were not considered at risk. Mothers who had received help or treatment in the past year for these topics were also more likely to discuss the topic with their home visitors, compared with mothers who had not received help or treatment in the area in the past year. The conditional differences were large relative to the overall rates shown in Table 5.6 for each area.²⁰
- If home visitors had received training on family planning and birth spacing, substance use, or intimate partner violence, the families with whom they worked were more likely to discuss these topics with them. The conditional differences were large compared with the discussion rates for the topics shown in Table 5.6.
- Other characteristics of families, home visitors, or local programs had small conditional associations with ever discussing these topics or with ever

¹⁹The MIHOPE research team conducted the analysis of whether discussions were ever held for outcome-specific areas of family planning and birth spacing, substance use, and intimate partner violence. As shown in Table 5.6, families had closer to a 50 percent chance of discussing these topics, compared with the other topics shown. Outcome-specific areas that had discussion rates closer to 0 percent or to 100 percent were less useful for understanding relationships with other characteristics because there was less variation in the outcome to explain. For detailed estimates, including both simple and conditional associations, see Hill, Cohn, Xia, and Portilla (2018), Technical Appendix Tables TA.40, T.42, TA.43, TA.45, TA.47, TA.48, TA.50, TA.52, TA.54, and TA.56.

²⁰Simple differences in outcome-specific referral rates for intimate partner violence and economic self-sufficiency were statistically different depending on baseline risk. The conditional difference in intimate partner violence referral rates was the same, and the conditional difference in economic self-sufficiency referral rates was smaller, but neither difference was statistically significant.

receiving a referral, wide ranges of statistical uncertainty, or inconsistent associations across the outcome-specific areas.²¹

*Associations with the Number of Visits in Which Outcome-Specific Topics Were Discussed.*²²

Findings summarized here focus on characteristics that satisfied the following conditions for at least three of the outcome-specific areas: (1) they showed large conditional associations relative to the mean number of discussions in that area (shown in Table 5.6); (2) the direction of their association with the outcome-specific area was the same in the simple and conditional models; and (3) their 90 percent confidence intervals did not include zero. The findings include the following:²³

- Even after taking into account other family, home visitor, and local program characteristics, mothers who were considered at risk for substance use, intimate partner violence, and child preventive care issues discussed these topics with their home visitors in more visits compared with mothers who were not considered at risk. Mothers who had received help or treatment in the past year for substance use, mental health, or intimate partner violence discussed the topic in more visits with their home visitors, compared with mothers who had not received help or treatment in that area in the past year.
- Mothers who were pregnant when they entered the study discussed family planning and birth spacing, substance use, and mental health in more visits, but economic self-sufficiency in fewer visits, compared with mothers who entered the study after giving birth.

²¹As noted earlier in the section, when a large number of relationships are examined, some statistically significant relationships can appear by chance. Thus, findings highlighted in the chapter focus on characteristics that satisfied the following conditions for at least two of the outcome-specific areas for discussion topics and at least three of the outcome-specific areas: they showed large conditional associations relative to the discussion or referral rates shown in Table 5.6, they had the same direction of association with the outcome-specific area in both the simple and conditional models, and they had a 90 percent confidence interval that did not include zero. Still, some findings from the models may suggest areas for future investigation. For example, families were more likely to receive referrals for substance use and for economic self-sufficiency if their local home visiting programs had access to professional consultants in these areas. Because there was limited evidence of relationships between these characteristics and referrals in the other outcome-specific areas, these findings were not highlighted.

²²The MIHOPE research team used a “negative binomial” model, which is appropriate for examining “count data,” such as the number of times a topic was discussed. The model used an “offset” term, which was equal to the logarithm of each family’s total number of visits. For detailed estimates, see Hill, Cohn, Xia, and Portilla (2018), Technical Appendix Tables TA.41, TA.44, TA.46, TA.49, TA.53, and TA.55.

²³Information is not available about whether the mother or the home visitor initiated discussion of a topic.

- Compared with white non-Hispanic mothers:
 - Black non-Hispanic mothers and their home visitors discussed family planning and birth spacing more often, but discussed substance use, mental health, child preventive care, and child development in fewer visits.
 - Hispanic mothers of Mexican origin and their home visitors discussed family planning and birth spacing in more visits but substance use and mental health in fewer visits.
 - Mothers whose race and ethnicity were categorized as “other” or multiracial and their home visitors discussed substance use, child preventive care, and child development in fewer visits.
- When home visitors had received training in family planning and birth spacing, substance use, mental health, intimate partner violence, or child development, they discussed the topic in more visits with families, on average, compared with home visitors who did not receive training to address those specific outcomes. Home visitors who received more hours of training discussed economic self-sufficiency in more visits, but child preventive care and child development in fewer visits, compared with home visitors who received less training.
- When home visitors had a bachelor’s degree or higher, home visitors and families discussed family planning and birth spacing, child preventive care, and child development in fewer visits, but mental health in more visits, compared with home visitors who had less education.
- In local programs that required formal screening at specific points in time for substance use and intimate partner violence, and that also had internal monitoring of these screening processes, home visitors and families discussed these topics in more visits compared with families served by local programs that did not require formal screening at a particular point in time.²⁴
- In local programs that implemented PAT, families discussed family planning and birth spacing, child preventive care, and child development in fewer home visits compared with those served by local programs implementing the other three evidence-based models.

²⁴These measures were available for only four of the seven service delivery areas.

In sum, the presence of conditional associations between how often topics were discussed and characteristics of home visitors and local programs stand out in particular contrast to the findings for participation and duration reported earlier in this chapter. There are greater possibilities for home visitors and local programs to influence the content of discussions that are provided because meaningful differences in these service delivery measures were evident across both different types of families and different types of home visitors and local programs.²⁵ This finding suggests that there is room for local programs to potentially leverage opportunities at all three levels — family, home visitor, and local program — to change the frequency with which topics are broached. For example, in the future, local programs could formally test whether home visitors who participate in training to address specific outcomes are more likely to discuss those topics with families, and to discuss them more often. Since the results presented here cannot be interpreted causally, this type of next step would help to determine which of these findings point to useful directions for improving service delivery and which do not.

Conclusion

This chapter examines whether and how the services that families received were associated with specific family characteristics, home visitor characteristics, and local program characteristics. This chapter builds on findings presented in earlier chapters.

It is possible that there are additional characteristics of families, home visitors, and local programs that are associated with service delivery. Given the extensive set of characteristics included in analyses, however, the general patterns of findings presented here are likely to hold even with the addition of other factors. Still, a number of possibilities for further analyses are possible using the data collected for MIHOPE. Examples include the following:

- How are characteristics associated with measures of service delivery that were not examined for this report?
- How is timing of discussions about particular topics or of referrals related to families' duration in home visiting?
- Why is tailoring evident for some outcome-specific areas but not for others?
- Why are some characteristics strongly related to service delivery for particular outcome-specific areas but not for others?

²⁵For the variance decomposition for whether a family ever discussed an outcome-specific topic, the number of visits in which outcome-specific topics were discussed, and whether a family ever received a referral in an outcome-specific area, see Hill, Cohn, Xia, and Portilla (2018), Technical Appendix Tables TA.57, TA.58, and TA.59.

- Are particular characteristics of home visitors or local programs especially important in improving service delivery for families with particular characteristics but not for others?

Possible analyses of these questions and many others can build on the findings presented in this chapter, the detailed analyses reported in the technical appendix,²⁶ and findings from other chapters in this report. Specific theories, practitioner hypotheses, and policymaker priorities can inform such analyses, as well as policy and practice. Chapter 7 discusses the implications of these findings for local programs and the home visiting field.

²⁶Hill, Cohn, Xia, and Portilla (2018).

Chapter 6

What Are Home Visitors' Perspectives on Services Provided to Families?

This chapter presents findings from a qualitative interview-based sub-study that was conducted between March 2014 and December 2014 with a sample of 104 home visitors across 24 local programs participating in MIHOPE.¹ The local programs were operating in 7 of the 12 MIHOPE states, with equal representation across the four evidence-based models included in MIHOPE: Early Head Start – Home-based option (EHS); Healthy Families America (HFA); Nurse-Family Partnership (NFP); and Parents as Teachers (PAT).

The purpose of this sub-study was to describe what occurs in home visiting and to offer insights into why and how services provided may vary, through the lenses of home visitors employed at local programs receiving funding from their states' federal Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program awards. Specifically, this chapter presents themes from two overarching questions:

1. How do home visitors describe their work and their role?
2. How do home visitors navigate working with different types of families on their caseload?

Earlier chapters have documented notable variations in the quantity of home visits provided and duration of participation, as well as differences in the receipt of referrals and visit content across families. The report has also described areas where home visitors are fairly consistent across evidence-based models and local settings, from prioritizing many of the MIECHV participant outcomes of interest to reporting adequate training in many of the outcome areas prioritized by local programs.²

The qualitative sub-study was designed to both complement and supplement the findings presented in earlier chapters on patterns of services delivered to families, illustrating the perspectives of home visitors and their descriptions of the home visitor-mother dyad.³ Comple-

¹For more information on the subsample of home visitors included in the qualitative sub-study and further details on how the interviews were recorded, coded, and analyzed, see Appendix F.

²SEC. 511 [42 U.S.C. 711] (d) (2) (B) (i-vii).

³As noted earlier, the focus of MIHOPE is on mothers as primary caregivers. In the qualitative sub-study, although the home visitors described their work with different families, the vast majority of cases described were of families where the mother was the primary caregiver and client. Thus, there is very little information on other caregivers.

menting the recurrent themes of the report, this chapter describes sources of commonalities in home visitors' description of their interactions with mothers as well as circumstances where home visitors differed in their approach or perspectives. This chapter also offers insights into how and when individualization of service delivery occurs by tracing the home visitors' descriptions of similarities and differences in services delivered to the home visitors' understanding of and responses to the different strengths, needs, and motivations of the families served.

The convention followed in this chapter is to use the word "most" when about three-fourths of home visitors responded in a certain way, "many" or "majority" when more than half responded in a certain way, and "some" when one-fifth to one-half responded in a certain way.

Key Findings

- **Most home visitors described their work, first and foremost, as providing consistent and stable support to empower mothers in their role as the child's first teacher.** The emphasis on empowering the mother and focusing on the mother's preferences was consistent across local programs and evidence-based models.
- **Given the emphasis on maternal preferences, some home visitors noted that they did not always push mothers to change behaviors to address certain outcomes, such as reducing tobacco use or promoting breastfeeding.** These circumstances illustrate tensions between addressing outcomes targeted by the MIECHV program and fostering family engagement. Some home visitors felt that pressing mothers on behaviors that they were not open to changing could compromise other opportunities for providing parenting education on child health and development.
- **Across evidence-based models and local programs, the vast majority of home visitors consistently identified child safety as one area that trumped all other concerns.** In some situations, home visitors felt an obligation, as legally mandated reporters of child abuse and neglect, to risk a family's engagement with the home visitor and program by involving child protective services.
- **Poor maternal mental health, substance use, and intimate partner violence were among the most challenging areas for home visitors to address with families.** According to some home visitors, this was partly because these sensitive issues were not easily identifiable. In spite of the use of screening tools, home visitors reported that some families were unlikely

to be forthright about such issues until some trust had been established. Even when the risk was clear to the home visitor, some families were also unwilling or unable to understand the seriousness and potential consequences of the situation.

- **Home visitors defined their most rewarding families as those in which the eagerness of mothers to learn about and improve parenting practices was high and evident in their maintaining of visits and following through of activities.** These families illustrate circumstances where intended service delivery is achievable, and where the home visitor can point to noticeable improvements in family behaviors or well-being.
- **In contrast, home visitors described their more challenging families as either unmotivated to change or learn about positive parenting, or as families with high levels of needs and psychosocial issues that sometimes stemmed from current and past trauma.** In some of these cases, home visitors were constantly engaged in crisis management and noted that planned visit content and duration of family participation was hard to achieve.

As described in greater depth in the remainder of this chapter, these findings represent the viewpoints of a wide range and large number of home visitors across the four evidence-based models. However, the findings are not necessarily generalizable to the broader sample of home visitors or the other local programs participating in MIHOPE or the federal MIECHV program. It is also important to understand that the home visitors' discussions of their work with families do not reflect the perspectives or the experiences of families, but rather reflect the home visitors' interpretation of family dynamics and circumstances.

How Home Visitors Describe Their Work

As noted throughout earlier chapters, the evidence-based models vary in their expectations for services provided to families. They also vary in the types of expected implementation system supports to achieve these goals, with some delegating more discretion to local programs than others in specifying particular elements. Yet the core goal of building upon and strengthening the foundation for family functioning in the earliest years of childhood is a common thread across the four evidence-based models, as noted in Chapter 1.

Similarly, most home visitors in the qualitative sub-study shared a core philosophy that their role in a family's life was to support and empower the mother as well as other caregivers, indicative of a strength-based approach to providing services. In the broader literature, a

strength-based approach typically refers to a service delivery strategy that is client led and client directed, in which efforts are centered on identifying and using the tools, skills, resources, and agency that participants (clients) bring to a situation.⁴ In this chapter, home visitors describe key elements of the strength-based approach they used in their own words. Their use of strength-based approaches is both consistent with the overarching goals of the evidence-based models and with other research revealing home visitors' focus on encouraging mothers in their role as teacher to the child.⁵

Along these lines, home visitors described their role as providing consistent support to a family, such as being the mother's "cheerleader" or a "family advocate." Some noted that it was not uncommon to have clients who were socially isolated or who had experienced trauma during childhood, and thus had never developed a trustful relationship in their lives.

In contrast, a minority of home visitors, while not discounting a client-led approach, more openly embraced their role as an experienced professional whose expertise, knowledge, skills, and resources were valued by the family. Some, in fact, used their authoritative knowledge in an area to encourage particular behaviors.

Home Visiting as a Family-Led, Parental Empowerment Approach

Across evidence-based models and local programs, most home visitors emphasized a guiding principle that the parent-child relationship is foundational and a basic tenet that parents are "the first teachers" in a child's life. As such, the home visitors described their job as helping parents understand the critical role that they play in shaping their child's health and development in the earliest years, and to give parents the tools and resources to support them in that capacity. This framing of their work is notable in its contrast to a prescriptive model of problem diagnosis and treatment, and it manifests in different ways.

Prioritizing Among Intended Outcomes and Setting of Goals

One important manner by which a strength-based orientation emerges is in how home visitors articulate their common areas of emphasis or work with families. When asked about how they prioritize among the range of participant outcomes housed under the MIECHV program or their local program, some home visitors answered generally that "it's whatever the parent wants" or "whatever the mom desires."

From the first visit, some home visitors felt that this message — that the local program is a resource to support the mother in achieving her goals, as opposed to a local program im-

⁴Weick, Rapp, Sullivan, and Kisthardt (1989).

⁵Hebbeler and Gerlach-Downie (2002).

plementing its own agenda — was central to setting the tone of the home visitor-mother relationship and to fostering family engagement. Furthermore, as described in Chapter 1, this family-centered emphasis reflects a tailoring of services to respond to the family’s preferences, which is distinct from addressing assessed risks. One home visitor described it as follows:

It’s not about what we think or what’s important to us. It’s about them and what they think and what’s important to them. So if it’s important to her [the mother], then it’s important to me. It doesn’t matter how I feel or what I think about it because at the end of the day, this is her life... so that’s what we’re working on: her goals.

When probed about particular examples of what home visitors *typically* worked on across families, home visitors consistently named mother-child bonding and relationships as a top area of focus. In particular, home visitors reported that building a foundational mother-child relationship would support the ultimate outcome of improving the child’s health and overall well-being. These descriptions align with the service delivery patterns presented earlier in Chapter 4, which revealed that “positive parenting behaviors” and “child development” were among the most common topics discussed during home visits. Home visitors also made it clear that they focused on maternal needs and the mother’s own goals, such as continuing her education, accessing social service benefits, finding transportation, or securing child care, as part of their work with families. (While this chapter focuses on mothers as the primary caregiver, and home visitors mostly reflected on mothers in the interviews, Box 6.1 presents one home visitor’s experience working with a father who was the primary caregiver).

For the most part, these common priorities align with what home visitors perceived to be the motivating elements for why mothers decided to enroll in home visiting services. Indeed, the home visitors’ perceptions are consistent with the mothers’ primary reasons for enrolling in MIHOPE, described earlier in Chapter 2. Beyond desiring “general advice and support” (the number one reason for enrolling), the next most common reasons for enrolling were to receive parenting guidance and to improve their child’s health and development. These motivations, both as reported by mothers and perceived by home visitors, are also in line with some of the key participant outcomes stipulated in the legislation authorizing the MIECHV program.⁶

But there were other programmatic areas of emphasis for which the goals stood in contrast with the mother’s focus and desires. For example, when mothers used tobacco, unless the mother expressed a desire to quit, home visitors felt limited in their ability to promote

⁶SEC. 511 [42 U.S.C. 711] (d) (2) (B) (i-vii).

Box 6.1

Working with Fathers: A Case Study

Most of the home visitors interviewed as part of the qualitative sub-study in MIHOPE described their work with families where the mother was the primary caregiver and client. There were, however, a few cases where the home visitor described working closely and primarily with the father of the child. The following family illustrates such a case.

The home visitor began service engagement with the mother, Elisa,* shortly after the birth of her daughter, Jasmine. Elisa was very open from the start and rapport was established readily. The father, Francisco, was working odd jobs outside the home. After six months, the parents “flip-flopped” and Elisa went to work, while Francisco stayed at home and became the primary caregiver. The home visitor had to establish a new trusting relationship with Francisco, who had not previously been involved in the visits. Doing so was hard at first because Francisco’s demeanor was much more reserved than that of the mother, and he did not want to discuss certain topics or do some activities. In fact, while both parents had low levels of education (Elisa never finished high school and Francisco did not complete grade school), the home visitor came to understand that Francisco was illiterate. Her knowledge of this fact, which was through Elisa, could not be conveyed to Francisco. “He doesn’t know that I know that he doesn’t know how to read,” she explained.

The home visitor described how she was able to find ways to work with Francisco while accounting for his inability to read, and still foster the parent-child interactions she hoped to see:

I kind of got to tiptoe around [the issue] but at the same token, I try to give him little things. “Okay, you don’t have to read this book word for word. But you do have to read the story. And it [reading] is whatever the story you see on the pages. The pictures.” It’s difficult sometimes but we make it work.

The home visitor also observed that when she started working directly with Francisco, he tended to use the same, limited language with his daughter — “a lot of one word commands... Jasmine, come. Jasmine, do this. Don’t.” The home visitor suggested new words and ways of talking to Jasmine that he normally would not use. She suggested that the father ask Jasmine questions, such as “What are you doing? What do you see?” She explained to Francisco that even if Jasmine did not have the language yet to answer questions, her ability to develop cognitively and emotionally was tied to how her parents talked and engaged with her.

Francisco became increasingly open and receptive to the home visitor’s guidance. “He loves it when I come. Sometimes he’ll be sitting on his porch [waiting] for me,” she said. When asked why Francisco was so engaged, she noted that he cared very much about Jasmine’s development and he believed that the regular attention Jasmine received through the home visits was important for that goal — a goal that both Francisco and the home visitor shared.

NOTE:

*Pseudonyms are used to protect the identity of individuals.

behavioral change, even though it was an explicit goal of the model or local program. In fact, by talking repeatedly about a behavior that the mother was clearly unwilling to change, home visitors noted that they risked alienating the family and being perceived as judgmental or meddlesome.

The goal of promoting breastfeeding provides another example raised by several home visitors of when programmatic goals are not the same as those of the mother. In the following excerpt, the home visitor described how she responded to this situation, which is to support what the mother wants. She said:

Of course, we have our benchmarks and we have things that we need to meet for the program, and so we always will encourage those things... But I really find resistance on...breastfeeding, for example. Some are definitely dead-set that they don't want to breastfeed. And I just will support that, and we keep going. How can we keep the baby healthy otherwise, you know?

Use of Particular Techniques During Home Visits

Findings from the MIHOPE report to Congress revealed that all of the evidence-based model developers encourage home visitors to observe parents and provide them with both positive and constructive feedback on interactions with their children.⁷ However, the models diverged on encouraging other techniques, such as modeling (demonstrating) positive parenting practices, with EHS and NFP encouraging the practice and HFA and PAT discouraging the practice. In contrast to the model developers, most local programs across models reported that they encouraged all of these various parenting techniques.

Similar to the reports from local program managers, the home visitors interviewed for the qualitative sub-study described using a number of different techniques in their interactions with families, ranging from positive reinforcement, constructive reinforcement, role modeling, and role playing. In a minority of cases, home visitors also explained why they preferred to use certain techniques over others. These explanations were often rooted in the underlying goal of enhancing the mother's strengths and sense of empowerment, and shed light on the sometimes subtle distinctions behind these different approaches.

The vast majority of home visitors reported that they frequently used positive feedback and constant reinforcement in particular. Even the smallest of steps, such as a mother noticing and remarking on a child's behavior during a visit or being able to recall a child's behavior at the next visit, was an opportunity for the home visitor to praise and encourage the mother. In accordance with a strength-based approach, many home visitors also described their dislike for

⁷Michalopoulos et al. (2015).

providing “directive” guidance; instead, they asked the mother open-ended questions about concerns and probed her to reflect on her own observations of the child. Several home visitors noted that they avoided saying “no” or “don’t do that” when offering feedback, as this type of feedback places the emphasis on what is wrong instead of what is good and does not encourage the mother to do something different in the future.

Many home visitors also reported that they used both role modeling and role playing, and these two techniques were described almost interchangeably in the interviews. However, a small number of home visitors made a distinction between the two approaches. They explained that they did not like to use role modeling and instead preferred role playing because they thought that modeling would undermine the mother’s position of empowerment. In the following excerpt, the home visitor explains how and why she uses a doll to demonstrate feeding an infant. She said:

Showing tends to work often better than telling, sometimes. So, especially if it’s with the baby, sometimes you take a fake baby, like if it’s for holding a cup for the baby, or comforting a baby... ’cause sometimes you don’t want to use their child or they might get offended the baby likes you more than them. If they (children) do it for you and not for them.

In the example above, the home visitor is very careful not to undermine the mother’s role as the caregiver and put the mother in a position where the child is more responsive to the home visitor than to her. For this home visitor, the use of role playing rather than role modeling is more in line with a strength-based framework. It is important to note that there is scant research on differences in effectiveness of the techniques for teaching behaviors or for fostering empowerment. But while home visitors draw from a range of parent training techniques, they sometimes differ in their use of particular approaches. These differences, in turn, are related to their views on which techniques more or less empower the mother.

Making Referrals for Families

Universally, home visitors considered connecting families to resources to be a core component of their job responsibilities. How those connections were carried out varied across the home visitors who were interviewed.

Some home visitors felt that while their job was to provide families with information on and referrals to service providers in the community, fostering parental empowerment also meant stressing to the mother that she is both responsible for and capable of completing the referral process. Families did not always follow through on information provided, which could be a source of frustration for home visitors, as the excerpt below about a mother whose food assistance benefits expired illustrates.

I kept reminding her. She told me, “Remind me. Remind.” That’s all she ever says about everything: “Remind me to send in my updates.” I came over in a week and reminded her. “Did you send your update?” “No, but I got a letter that my stuff got cut off.” I said, “I told you to send it. I reminded you.” And she said, “Well I’ve been calling the 800 number and they’re not answering.” I said, “Okay. Well, I have the inside number you can call.” “Okay...you’re not going to call them for me?” “No, you can call them. You can do this.”

For this home visitor, making the call for the mother represented more of an enabling practice instead of an empowering one. The home visitor’s strategy was to repeatedly remind the mother of the importance of following through, but she also reinforced the idea that doing so was under the mother’s control (“you can do this”). Home visitors across the evidence-based models reported using this strategy of laying out options and providing contacts but not actively calling a referral partner on behalf of the family. Another home visitor noted that her local program had a policy about not providing transportation (giving rides) to clients, including transporting families to a referral source. She stated:

We don’t transport, which is a liability and protects us and them...which I think is good...because I think if we did that, oh my gosh [laughs]... We would be driving everywhere. And again, how have we helped them, you know? So, they have to learn how to problem solve, and I can help with some solutions, problem solving that. It’s just that I’m not gonna be that solution.

In contrast, some home visitors appeared to be more active participants in completing the referral process with the family, including calling referral partners with or on behalf of the mother, driving the mother to an appointment or to the agency, and sitting with the mother while the interview or application for services was completed. These cases of more active involvement by the home visitor were often conditional upon and specific to the home visitors’ understanding of the particular barriers facing the family. Home visitors noted that this type of tailored support was important to provide to mothers who were undergoing a lot of stress, who were particularly isolated, or who had limited access to transportation. For example, one home visitor described her ability to provide transportation as a beneficial aspect of the job. This home visitor had previously worked in another social service agency where staff members could not assist with transportation. She went on to say:

At [the other agency] we could give them information on resources for places that might help them get transportation but now I can sign the van out and take them. And that other agency, they didn’t have vehicles so we couldn’t do things like that...I had an 8-month old last week that was in the hospital for four days. Got out of the hospital. Mom doesn’t drive. No dad... and they needed a ride to a doctor’s appointment. So, yes, that is something that we need to do. That kid needs to go to that follow-up appointment.

Home Visitor as Educator and Expert

Providing Valued Expertise

In addition to honoring a family-directed approach, a common theme across the home visitors' descriptions of their work is one of "planting seeds." That is, part of what home visitors do over the course of visits is to suggest strategies related to positive parenting practices and mother-child interactions, even if they are not on the family's radar. However, telling a mother that she is the child's first teacher, for example, is only useful to the extent that the mother has an understanding of what that means and what that looks like in her day-to-day interactions with her child. As one home visitor articulated it: "Anybody who's parenting — I don't care what socioeconomic group you're in — is at risk because it's hard. And it's uncharted water."

Thus, while the overarching philosophy of home visiting may be one of empowerment, the means to that end was to provide direct education to the mother. One home visitor described her role with a mother this way: "I am not the baby's teacher. I am your teacher. And you are the baby's teacher."

This message was constantly reinforced throughout the course of visits and through particular activities. For example, several home visitors would sometimes describe visits in which mothers seemed to expect the home visitor to play and interact with the baby. As noted earlier, home visitors would model an activity with the child, such as reading a book, but then would ask the parent to do the activity with the child. When the parent engaged in that activity, the home visitor would explain how the activity was helping the child and the parent-child relationship. A home visitor described the approach as follows:

You're playing with this, and this is how it's helping your baby. You're showing them this book and this is why it's helping them...I explain [to the parent] that you're just looking at [colors in book] as red, white, and blue. But it's more than just red, white and blue to [the child]. It's their brain function, it's the way it connects, it's the pictures. In the future, they're going to realize these colors are part of the world...and oh, it's so much more than just red, white, and blue.

Another home visitor described how she helped mothers realize how seemingly mundane household chores were opportunities for learning. She said:

"Okay, when you're folding your laundry, they might not be able to fold it, but they can reach in the basket and pull something out and give it to you. And you can teach them. You're doing your language development, you're doing your motor [skills]..." So we tie it all in. That goes back to the [idea that] we want them to know their home can be full of learning opportunities.

She further noted that mothers either were surprised at the suggestion that their young toddler could help with a chore or thought the child would get in the way rather than help. By giving the

child an interactive role as a helper and showing the mother what that might look like, the home visitor essentially opens up two possibilities for the family: first, day-to-day tasks can be learning opportunities for the child, with the mother as the educator; and second, these opportunities allow the mother to interact with her child in a positive way (rather than seeing the child as an annoyance to the task at hand).

Several home visitors seemed to embrace their professional expertise and, during visits, they aimed to impart some of their expertise to mothers. In fact, these home visitors believed that their expertise was a reason why families wanted and needed services, in addition to the emotional support home visitors provided. One home visitor explained it as follows:

I think we wear a lot of hats in our job. You know, it's not only the nursing knowledge. I think we do the social work, we do the counseling, the therapy role. Listening is number one. We have to be really active listeners and we have to really listen well and understand our clients. We do a lot of the motivational interviewing and the reflective listening for our clients. I think we have to be really knowledgeable of resources in our community because our clients need that and I think they appreciate that. And our knowledge of nursing expertise.

In the example above, the home visitor is from an NFP local program. Because NFP specifies that its home visitors have a nursing background, NFP home visitors in particular often highlighted professional expertise and training as uniquely important in their work with families. In a few cases, NFP home visitors described pulling out the “nursing card” to explain why a particular parenting behavior was a concern and to encourage mothers to change their behaviors. For example, a nurse home visitor described a mother who was upset by a child safety issue she brought up. The home visitor goes on to say, “I had to approach it with a respectful manner and in a way that I can say, ‘Well from my nursing perspective and a medical world, I can say that this situation is not safe. And, you know, I have to think of my duties as a nurse, too.’ ” Another NFP home visitor noted that because of her nursing background and by conducting physical assessments of the child during visits, she could detect a medical problem early on and offer advice to the family accordingly.

Some visitors from other evidence-based models also occasionally noted how their prior work or experience, in fields such as early childhood education, child care, or social work, provided them with knowledge that they found particularly valuable in their work with families. A handful of others remarked that sharing common life experiences with the families they served was extremely helpful for nurturing trust, empathy, and engagement with mothers. These comments were most notable among EHS and PAT home visitors, of whom some were “graduates” (former clients) of the home visiting program.

Incorporating Program Goals

In practice, strictly adhering to a family-led agenda is not always realistic. Home visitors described the ways in which they incorporated new topics relevant to and based on the program curriculum and the child's age. In the following excerpt, a home visitor describes how she "sticks in" topics into the content of the visits that were not initiated by the mother:

There [are] some things that you stick in because you see it as maybe a weakness that they don't see, and so you try to incorporate it in. Just a way to kind of remind them, you know, we have our — our pregnancy — or our menus [curriculum] on pregnancy, infancy, toddler, and they... Everything is guided by the client. So we — it's — what do they want to talk about? We also kind of have our guidelines of things, too. You know I'll often say, "Oh, and you know, so you want to talk about what to eat while pregnant. About the same time we do like to talk about so-and-so. Is that okay with you?" And they always say "Yes."

Given the high priority home visitors generally placed on promoting child health and development, as seen in Appendix Table D.18, it was not surprising to hear home visitors describe how they incorporated topics related to the child's physical and cognitive development. The home visitor's focus on the child and the child's developmental stage often determined the activities they carried out from visit to visit as well as influenced the input from the mother.

One home visitor noted that there could be tensions, at times, between focusing too much on the mother's preferences over the child's needs. In the following excerpt, she explains how, when planning a home visit, she needs to balance the local program's emphasis on improving child development with what the mother wants to do at a visit:

We have a parent agreement form, and I'll whip out that parent agreement form three times a year if I have to... so let's work on what the child needs, not [just] what mom wants... I always plug in two or three other topics in there [beyond what mom wants]. I have to. If we go just based off of mom, we might be doing ABCs and 123s... But if the baby's six months, we can't do ABCs and 123s every visit because the baby is not going to get anything out of it.

Navigating Challenges Within a Strength-Based Approach

Prioritizing Child Safety

In working with families, many of whom are facing challenges associated with intergenerational poverty, home visitors sometimes described particular instances when they encountered a tension between the goal of prioritizing child safety and their desire to not upset the family and keep the family engaged. These instances arose when home visitors observed parenting practices that compromise child safety. Home visitors are legally required to report child abuse and neglect. This role they play with a family is important and extremely sensitive.

One home visitor acknowledged that many families may be afraid to seek help when they have a concern because, in their minds, once those risks are laid out, Child Protective Services (CPS) “will take their children away.” This home visitor tried to allay such fears by telling mothers, “these (community) programs are here to help you more so than to harm you.” Other home visitors felt that the best strategy is to be upfront, from the first visit, to make sure that families understood that the home visitor is legally bound to report instances in which child maltreatment is suspected.

An earlier qualitative study of home visiting programs that explored both the mothers’ and providers’ perspectives on family engagement found that, while the ongoing concerns about being reported to CPS that mothers expressed were a barrier to engagement, home visiting staff did not mention these same concerns.⁸ It was thus notable that in interviews conducted as part of MIHOPE, some home visitors recounted stories of reporting child maltreatment, even though they believed that doing so would upset the family, and who as a consequence might then disengage from the local program.

In one instance, a home visitor told a story in which she called child welfare authorities while on a home visit. She said:

Because I showed up to a family’s house and the little boy [toddler] was outside playing by himself and mom was sleeping on the couch inside. I went in. We talked about it. I said, “I have to call.” I called [CPS] while I was at their house so they could hear everything I was saying. Yeah, and she was plenty mad. But she got over it eventually.

In the example above, the family was already involved with CPS, and so the home visitor further described how she and the CPS caseworker worked together on the family’s safety plan. Although the family in this case seemed to remain engaged in the program, the home visitor’s role as a mandated reporter of child abuse or neglect and the visitor’s desire to keep the family engaged may not align at times.

For other families and in most other circumstances home visitors described, home visitors were able to immediately address the risk to child safety. To the extent that the home visitor was able to address the concern with the family, the cause for alarm was alleviated. For example, a home visitor recalled a visit in which she walked into a family’s home, only to find that the family had pulled in a “caterpillar engine” (farm equipment) to heat the house. In this case, the family’s heat had been shut off and the father thought that they could warm the house through the engine. The home visitor was uncharacteristically directive with the family — “I

⁸Stevens et al. (2005).

told them they can't do that" — and pointed out the numerous safety concerns, but then called an agency that could help the family with emergency heat service.

Addressing Mental and Behavioral Risks

Another area where tensions can occur between a home visitor's priorities and a family's goals is in discussions of sensitive risk factors. In their work with high-risk families, home visitors must navigate identifying and addressing risks that a family may not recognize or want to address. Of all the intended program outcomes, those related to the areas of maternal mental health, substance use, and intimate partner violence may be among the most challenging for home visitors to address. For example, a qualitative investigation of home visiting programs in Baltimore found that while home visitors reported having ample training and content knowledge on these subjects, they felt they lacked sufficient skills to talk to families about the issues and to motivate families to follow through on referrals to services that could address them.⁹

In MIHOPE, a majority of home visitors similarly reported having adequate and frequent training on how to screen and identify mental health and behavioral issues, as described in Chapter 3. But some home visitors pointed out that it was difficult for families to open up about such issues; indeed, prior research has shown that mothers may take offense to the personal questions in early screening processes.¹⁰ They further noted that a family would likely not reveal problems related to substance use or intimate partner violence until some semblance of trust was established. One unintended consequence of home visitors establishing up front their role as reporters of child abuse or neglect may be that families are even less likely to open up to the home visitor. The following interview excerpt illustrates this point:

Home Visitor: What I say, you know, is word-for-word, "I am a mandated child abuse reporter. If I see anything suspicious [relating to substance use] I will tell." So when we barely know each other I set that standard. So then we go from there.

Interviewer: Okay. All right. But does that prevent you, do you think, from ever learning about it in [the first place]?

Home Visitor: I had one mom that grandma called and said that [mom] was smoking weed in front of the kids. I've been in that house almost a year. She must be good at hiding it because every time I go, I don't smell anything. I don't see anything. She's normal. She doesn't look, you know, she's not high or nothing. Unless

⁹Tandon, Mercer, Saylor, and Duggan (2008).

¹⁰Stevens et al. (2005).

she's doing it two days before I come and then two days after I come, I don't know. But I don't believe that she is.

Although this home visitor did not think that families hid issues such as substance use from her, some mothers, particularly if they were new to home visiting, might be less forthcoming or less likely to seek help for an issue if they believed that doing so would trigger a call to CPS.

Home visitors also reported challenges with helping a mother recognize the consequences and seriousness of the situation, even if all signs pointed to the presence of a problem. Interviewers asked home visitors about tasks or areas they felt less comfortable or equipped to address with families. Discussing how intimate partner violence was an especially hard issue to handle, one home visitor recounted the following:

I have one, in particular, where she doesn't see it as being domestic violence. And the reason why she doesn't see that as domestic violence is because she hits back. And so, that's a big issue, because then, when you come in and you're talking about safety plans, and doing all this other stuff, and it's like, "Wait a minute, I didn't tell you I was being abused," you know.

The home visitor went on to describe how she planted the idea of a safety plan in the mother's head — she essentially recommended that the mother map out a course of action to protect the child first (arguments between the parents often escalated into physical fights), all without labeling it a "safety plan" or stigmatizing the mother. She said:

"You should just make it a point that, if you argue with him, that you just put her [baby] in a room. Even if she screams and hollers, at least she is safe, and you know she's safe from you guys. That nothing won't happen to her." So, I mean, that's a safety plan, you know what I mean? But for me to talk to her about that? I know that I could not have went into that home and said, "Today, we're gonna complete a safety plan for you, and this is what we're going to do with this safety plan. I'm gonna put this in your life..." You know? There is no way I could've gotten away with saying that... 'cause your goal is, you don't want to isolate them, and then you don't want [them] to push back from you.

This home visitor's approach to addressing a concerning family risk is revealing in at least two important ways. First, the home visitor developed a strategy for the mother to help keep the child safe from potential harm caused by the violent nature of the parents' relationship. This approach is an example of both individualizing services by using particular strategies to address a family risk (at least in the short term) and consistently prioritizing the child's safety as the foremost goal. Second, there are evidence-based strategies, such as motivational interviewing, that the home visitor possibly could have used to help identify the sources of the mother's resistance and probe more deeply into conflicts between the mother's desire to maintain the sta-

tus quo and the reasons why she may want to change.¹¹ Using a technique such as motivational interviewing does not guarantee behavioral change, but it is a technique that is expressly designed for situations in which someone does not see a need or is not motivated to change. Perhaps because it was not directly addressed in the interview protocol, it was uncommon to hear home visitors describe their use of directed motivational interviewing to tailor responses to a risk that the mother was either ambivalent about or resistant to changing.¹²

Case Studies of Contrasting Families

As described in earlier chapters, families varied not only in their characteristics when they began services, but also in the services they received through home visiting. As presented in Chapter 4, on average, many families did not receive the intended number of visits or participate for the intended duration specified by the evidence-based models.

To shed light on when home visiting worked as intended and when and why it was more difficult, interviewers asked home visitors to think of particular families on their caseloads at two ends of a spectrum: families who were among the more challenging to work with and families who were more rewarding to work with. The MIHOPE research team asked about these families in order to get a deeper understanding of how the home visitors approached their work under very different family circumstances.

Table 6.1 summarizes common themes from the home visitors' responses to the abovementioned question. It is important to note that while the interviewers used the terms "more challenging" and "more rewarding," they also asked home visitors to think of examples according to what they thought those terms meant. That is, the definitions shown in Table 6.1 and described in this section are based on how the home visitor understood "challenging" and "rewarding," and not on pre-specified indicators (such as the presence of more or fewer risk

¹¹Rubak, Sandbæk, Lauritzen, and Christensen (2005). Motivational interviewing emerged from the experiences of clinicians treating individuals with alcohol dependency, and is defined as "a directive, client-centered counseling style for eliciting behavior change by helping clients to explore and resolve ambivalence" (Miller and Rose, 2009). It is viewed as a particularly important technique when working with clients who are reluctant or resistant to changing their behaviors, and when standard cognitive behavioral and social learning (that is, positive or constructive reinforcement) approaches are not working (Iannos and Antcliff, 2013).

¹²In the qualitative sub-study, the majority of home visitors did not mention using motivational interviewing techniques. But this might have been because the interview protocol did not directly probe into the use and nature of motivational interviewing in particular. Furthermore, there is little information on training, supervision, and guidance on the use of motivational interviewing in the MIHOPE home visiting staff surveys.

Table 6.1

Common Themes Across Rewarding and Challenging Family Case Studies

	Rewarding Family	Challenging Family
Definitions	<ul style="list-style-type: none">• Wants to learn about parenting• Cooperative and engaged in visits• Sees progress being made; family follows through on activities	<ul style="list-style-type: none">• Using the program for material things or goods only• Hard to engage in visits or content• Unmotivated to change; does not follow through
Family context	<ul style="list-style-type: none">• Isolated – in need of home visitor’s support• Other family members involved and supportive	<ul style="list-style-type: none">• Isolated – needs more support than home visitor can provide• Other family members interfere and are a concern
Focus of home visits	<ul style="list-style-type: none">• Content on parenting and child development often achieved• Mother’s goals and issues often discussed	<ul style="list-style-type: none">• High-need family – visit plans often not realized• Mother not interested in visit content or not capable of engaging

factors). However, home visitors may have interpreted the questions as meaning something specific. For example, a home visitor may have thought a rewarding family was equivalent to a family who participated for a long time or had lots of visits. It is also important to remember that the home visitors described these families based on their perceptions, and what they said may not have captured the families’ unique and varying circumstances.

Rewarding Families

Home visitors highlighted families who shared a motivation to learn about parenting and who were able to engage in visit content as more rewarding. For example, one home visitor described a mother as being “like a sponge,” always wanting to learn more about what her child was doing and how she was developing. Another home visitor described her most rewarding family as “ideal” in the sense that the mother was eager for the services and not only followed through but “took charge” of activities. She said:

She’s determined. She’s very worried about her kids. She’s the ideal visit. She’s in charge of the visit. I’m just there for support...She’ll call me through the week with activities. She’s the one that works her kids outside of the program. When I started, her [older] son was four, just turned four, he could read, he can write...she was teaching him. So she’s one of the visits that I don’t have to [say], “Come on, mom, come on.” She’s all ready. “Come on, come on, I’m already ready for you,” when I walk in the door.

Typically, the mother's motivation and eagerness for enrolling in home visiting manifested in behaviors such as maintaining the agreed-upon visit schedule (or at least calling the home visitor beforehand if the mother could not keep the visit). Another home visitor commented: "You know, I watch and see how they perceive all of that [the information]... And that, you know, they are interested. They appreciate the materials and stuff that I bring in, and some of them, they even look forward to it."

Pursuing Education and Employment

In addition to an eagerness to learn about parenting, mothers whom home visitors highlighted as rewarding were often motivated to fulfill their own educational and employment goals. The excerpt below describes such a mother, who was 16 years at the time. Home visitors sometimes characterized teenage mothers as difficult to engage in services. Offering some explanation as to why this young mother was particularly rewarding, the home visitor said:

Maya,¹³ who is 16, you know, she knows education is gonna be her — her way. She knows that this is what she needs to do... but Maya also has a mom who is supportive and able to stay home with her baby, and she doesn't need to work. Her family is getting by living in government housing, you know, and so she is able to do that. Interesting thing with Maya: So we were talking about the single-mom scholarship. There's a lot of scholarships out there for single mothers. She looked into them. You have to be 18 for every one that she has found. She's 16 and a half when she graduates high school. So she is going to be relying on loans and then other types of scholarships, so that's gonna help her decide where she goes. So this is a girl... who is going to college, who has gotten into college, but she has that support that her mom can watch the baby.

The home visitor understood that the child's maternal grandmother was critical, both financially and emotionally, to the well-being of the mother.

Benefiting from Home Visitor's Support

In contrast to Maya, who had benefited from a supportive mother, other families whom home visitors identified as rewarding included mothers who were socially isolated. For example, one home visitor described the mother of such a family as eager for services, similar to Maya, but also noted that she lacked a social support system. This mother had two young children at home, the children's father had recently left the family, and the mother was not in contact with extended relatives. In addition to providing parenting education, the home visitor said that her main contribution was to provide a stable — "the mother's only" — source of support. In this case, the reasons why the home visitor highlighted this family as rewarding were both the

¹³Pseudonyms are used to protect the identity of individuals.

mother's motivation to become a better parent and the unique role the home visitor played as a singular support system.

Role of Other Family Members

For some of the families characterized as rewarding, home visitors noted the support of family members other than the mother as a key element to engagement. For others, home visitors said that other family members, particularly the baby's father or the mother's partner, could interfere with some of the mother's goals, as perceived by the home visitor. This sort of interference arose most commonly in matters related to birth control. Describing the mother she considered most rewarding (who at the time had recently given birth twice 13 months apart), one home visitor said that although the mother expressed a desire to go back to school and did not want to have more children in the near future, the father did not think they needed to use birth control. In spite of the home visitor's educated advice and encouragement to use an effective contraceptive method, the mother conveyed that the father had told her "he would take care of it," which the home visitor understood to be withdrawal. Despite this frustration — "I can't make them use an IUD" — the mother and the father, at times, actively participated in visits and engaged in learning about the developmental stages of the children. Case studies such as this one illustrate how home visitors may not achieve all intended program outcomes, even among mothers who are motivated to participate in the program.

Gradual Achievement of Goals

Many home visitors described how, in their work with all types of families, they often measured progress in "baby steps." Sometimes, home visitors did not witness the achievement of long-term or even short-term goals while they were with the client. In one case study, the home visitor considered her work with a mother successful when, after months of encouragement and prodding, the mother took a "baby step," and sought out services for a sleep apnea problem. The home visitor was concerned about the mother's sleep apnea because she reported randomly falling asleep at work, she was too tired to engage with the baby, and her physical health was suffering. The home visitor provided the mother with a referral, but also made it clear that she would not make the call for the mother. She said: "You need to call your insurance company. They're not going to share information unless I'm maybe sitting right next to you and you give them permission." The home visitor even offered to drive her client to the appointment. The home visitor considered the mother's unwillingness or inability to follow through to be part of a larger concern about the mother's apathy toward her own health. When the mother finally made the appointment and received treatment, the home visitor felt hopeful and proud that the mother was beginning to take some agency over her health and well-being.

Exceptions to the Rule

In qualitative data analysis, it is important to identify common themes when creating typologies, but it is equally important to understand exceptions to the rule. In one case study, the home visitor described a mother as one of her most rewarding, whose circumstances however were among the most challenging according to many objective measures. The mother worked as a prostitute and had lost custody of her older children. At the time she started participating in home visiting, the mother did not have stable housing and had recently found out she was pregnant again. The one and only goal the mother had was to keep custody of the current child, but she apparently was not interested in “the other parenting stuff,” according to the home visitor. The mother thought that by enrolling in a home visiting program, she could keep the child welfare system at bay.

The home visitor had a number of serious concerns, ranging from the mother’s physical health, the family’s safety, securing stable financial support for the family, ensuring that the child was healthy, and fostering mother-child engagement (especially because the mother had not raised her older children). Some of these concerns were addressed: For example, the mother began receiving public assistance and moved into public housing. However, it was unclear whether the other concerns were fully addressed. The mother also did not always understand why the home visitor kept telling her to do certain things, such as talking to or playing with the baby. But for this home visitor, the fact that she observed the foundations of a mother-child bond (that is, the child was attached to the mother, and the mother to her child) in her visits and that the mother maintained custody of her child after two years of service delivery were a testament to the benefits of the services she provided and the impact of her engagement.

Challenging Families

In contrast to the families whom home visitors characterized as rewarding, families whom they highlighted as challenging included mothers who were, for a number of different reasons, difficult to engage in services. Home visitors described cases in which, despite their experience, training, and the support of supervisors, their efforts were often met with limited responses from families. The reasons for a family’s challenges varied and are described below.

Burdened Down

In some challenging case studies, the home visitor characterized the mother’s motivation as genuinely wanting to become a better parent, similar to mothers in rewarding families. However, the mother’s circumstances made her engagement in home visiting difficult. Home visitors described some families as having so many pressing needs, including basic needs that were very hard to address readily, such as finding affordable housing, that they either spent

most of the time helping the families address those needs or found that the families were not able to maintain visits. One home visitor said:

One mom in particular...she just got so burdened down. I remember I called one day and I was wanting to see her, you know, set up a visit with her. And she told me, she said, "Oh, I think I'm just gonna end my whole visitation. You know, right now I've just got so many other issues going on, and I need somebody that's gonna, you know..." And even though we offer resources — but this is the thing with some of the families. They exhaust their resources by going back over and over and over, you know? Like a lot of resources now, they limit how many times that they will pay or help...So you've got some families [that] just go and just continually exhaust resources 'til they're left with nothing.

In other cases, the family may have generally kept visit appointments with the home visitor, but did not follow through on steps that the home visitor and mother had mutually agreed upon in a family plan, and did not engage in visit content. When one home visitor was asked why some families were not as engaged or did not follow through on plans, she remarked:

Some of these people have learned through some of their experiences growing up that there isn't help. And I think that almost puts them into like [a state of] I'm just gonna sit here and do nothing...I really don't believe it's sheer laziness or unwillingness. I just really feel like there has just been generations of crap to deal with.

Indeed, home visitors mentioned that the parents in some of their most challenging families themselves had troubled upbringings.¹⁴ Furthermore, there is a growing body of research that underscores how difficult it is for individuals to engage in behavioral change when they are exposed to numerous stressors, whether past or present.¹⁵ One home visitor described a mother with whom she found it very difficult to establish a trusting relationship. Even after months of service delivery, she said that there was still "a huge wall up." Over time, the home visitor gathered information about the mother's childhood. She learned that her own mother had repeatedly sent her away, that she had been sexually abused by one of her mother's boyfriends, and that she lived in different group and foster homes growing up, none of which were stable. The home visitor pointed out to the mother that by enrolling in the program, she had demonstrated motivation to break the cycle of abuse and neglect that she had experienced as a child, and used other techniques such as positive reinforcement and encouragement. Nevertheless, the home visitor

¹⁴It is important to note that some of the rewarding families described in the previous section also experienced past childhood trauma according to home visitors. It is unclear from the data why some families with past trauma are able to engage more in home visiting services than others.

¹⁵Thoits (1995).

expressed that she often felt limited by the mother's tendency to "shut down" and to not engage in visit content or with her children. The home visitor also often drove out for visits, only to find no one home. In this case, the best the home visitor thought she could do was to demonstrate that she cared about the family by showing up to scheduled visits, leaving kind notes if the mother missed a visit, asking the mother self-reflective questions, and focusing on the positive things that the mother was doing.

Lack of Interest in Content of the Program

Home visitors also stated that some of their challenging families had enrolled in home visiting services for the material goods given out by the local program, instead of for the educational content of the visits and personal support services provided. One home visitor worked with a challenging family whose young mother did not keep appointments after early engagement. In describing her experience, the home visitor surmised:

I feel like she may kind of be one of those girls that's a part of the program because there's all these activities and these free things and trips and stuff that you can get out of it. Because I know at one point...my supervisor had to actually stop her from going into the donation room because she'd go like every time she comes for groups. She would go in there and then she'll, you know, come out with bags of stuff for her son. So sometimes, it's all about what you can get. And we also give like bus passes to help them get back and forth to appointments and stuff like that....That's why she participates. Because she's really not that engaged [in visits]. You know, she'll be on her phone or she'll be just not really in the visit a lot of the time. Most of the time, actually.

As described in Chapter 2, many families in the MIHOPE sample had substantial material needs and limited resources. Still, in a handful of the challenging case studies, home visitors described certain families that appeared to use the home visiting program solely to address these material needs as frustrating. In the example above, the home visitor believed that the mother, given her young age and limited education, could have benefited from the educational content that the program offered. She also believed the mother was capable of engaging in the visits, unlike some of the overburdened, high-needs families described above. But her efforts to engage the mother in the parenting content were met with a lack of interest, which the home visitor felt was difficult to change. Another home visitor expressed similar frustration with such families, particularly when considering other families in the community in need of the services. She said: "It's really a good program and there are people who can't get in...and then when you have people that's just hem-hawing around, I call it, that you're wasting time and energy [on] that you can give to someone else."

Mental Health and Intimate Partner Violence Concerns

In addition to families with many pressing needs, home visitors described challenging families in which the home visitor and the mother mutually acknowledged the presence of a particular risk, such as poor mental health or intimate partner violence, but the nature of that risk and the plans to address it subsumed other goals. In one case study, a young mother had been abused, physically and verbally, by her boyfriend. The mother was in emotional distress when the home visitor first started working with her. The mother was also receiving services from a social worker who provided counseling. Even with these support providers in place, the home visitor recounted:

You can't give lessons when a person's crying and distressed about this boyfriend that's doing this and that. So it became like a lot of counseling for the first week, and the next week, and the next... I contacted her social worker and had...to relay to the counselor things that they did not see. How could we work together to help her to be stable? Because we can't — I can't carry through what she needs because that continuous crying and not sleeping was difficult.

Another home visitor described a mother with longstanding mental health issues, including depression and anger management, as one of her more challenging clients. One of the major obstacles was keeping the mother on consistent medication. This mother was also very isolated with few family ties, “often gets down on herself,” and had limited access to transportation, which made going to doctor or psychiatrist appointments difficult. Although the home visitor observed a willingness to engage and interact with her son, her doing so was sometimes a struggle because of the mental health issues. The home visitor explained:

It's tough, but she has her days where she'll, I'll come and she'll be really engaged with the baby, she'll play with him. And then other days, you know, it's kinda like, you know... she just wants him to kinda go play on his own. She doesn't really wanna be bothered with him.

The home visitor referred the mother to a community mental health clinic for psychiatric treatment, and the mother followed through on the referral after a few months. On the day of her appointment, however, the mother became frustrated by having to wait. The home visitor recalled: “She's calling me — she was calling me and she's mad, ‘I haven't seen anybody yet! (after 2 hours).’ ” The home visitor was able to convince her to stay. When the mother finally saw intake clinicians, they told her she would have to go through a multi-step process to begin sessions. At that point, the mother left the clinic in frustration and did not return. Thus, even when a mother recognizes a risk such as poor mental health, the home visitor makes a referral, and the mother begins the steps of following up on the referral, the additional steps the mother needs to take to actually receive the services that address the risk can be barriers.

Interference by Other Family Members

In contrast to some of the rewarding families, it was not common to hear about challenging families having strong support networks. In fact, in a few case studies, home visitors perceived other family members as interfering in a harmful way. One home visitor described a mother whose infant ultimately was medically diagnosed as “failure to thrive.”¹⁶ According to the home visitor, the mother supplemented the formula with additional water, causing the condition. That is, she diluted the formula beyond the directed amount, which is not recommended for infants but is a practice more common among low-income and less-educated women.¹⁷ The mother had been residing with her mother (the baby’s grandmother) and the grandmother had told the mother that mixing additional water was fine for the child and would make the formula last longer. Despite the home visitor’s efforts to educate the mother and to ensure the family had Women, Infants, and Children (WIC) coverage, the infant’s pediatrician eventually reported the situation to CPS because of the physical under-development of the child.

In another notable case study, the home visitor found a family challenging to work with because of how other family members treated her, rather than because of interpersonal dynamics with the mother. The mother was young and white and had a young boy. The home visitor, who is African-American, soon discovered that the family, including the baby’s father and the father’s brothers (who all lived in the same house), was racist. During her visits, the father and brothers would mutter the “n” word and sometimes curse at the mother for bringing in a “no good n-----” into their home. The supervisor of the home visitor, upon hearing of the situation, immediately wanted to replace the home visitor with someone of the same race as the mother. The home visitor, however, insisted on staying with the family. When asked why, she noted that the mother was not that way (not racist) and was clearly battered, at least emotionally. Most importantly, she noted that the young child had no racial bias and knew no hatred. She believed that the young boy and his mother deserved to see and know someone who would respect and nurture them, even if for a short period of time. Visits waned fairly quickly, but for the time that she visited the mother and child, the home visitor noted, “I loved them, and they loved me.”

Conclusion

The home visitors’ perspectives presented in this chapter summarize key themes from the interviews that the research team conducted with them across all four evidence-based models. These

¹⁶“Failure to thrive” is a term used in pediatric medicine to indicate cases in which there is insufficient weight gain or inappropriate weight loss, typically evaluated in reference to standard growth or weight for a child’s age. While there is not a standard cutoff or definition for diagnosis, most definitions use the 5th percentile or below to indicate failure to thrive.

¹⁷Wojcicki et al. (2011).

home visitors worked in different community contexts and had varying levels of home visiting experience and educational backgrounds. Despite these differences, home visitors described similar experiences in the interviews. The central findings in this chapter represent themes that were common across most home visitors interviewed. In particular, home visitors consistently reported honoring the goals and preferences of the mother when discussing their work.

It is notable that home visitors did not always prioritize an intended outcome of their local program, such as reducing tobacco use or promoting breastfeeding, because the mother was not motivated or ready to make a change. Given that only about 8 percent of mothers who enrolled in home visited reported doing so to help improve prenatal, maternal, and newborn health (as seen in Table 2.9 of Chapter 2), this tension is not surprising. In other outcome areas, such as mental health and intimate partner violence, some mothers resisted the idea that there was even a need or risk to address. It is important to keep in mind that while the interview data may speak to how home visitors approach setting goals with mothers, they cannot be used to ascertain the home visitors' level of skill in applying techniques to educate and guide the mothers.

In other circumstances, as illustrated through the challenging family case studies, home visitors may persistently try to educate and encourage a particular behavioral change with little evidence of progress. Some of the most challenging families seemed to need a wide range of services, therapy, or intensive counseling, and home visitors had to understand their ability to engage in home visiting services within the context of current and past stressors, including trauma. Theories of behavioral change and reasoned action suggest that individuals must be able to connect a behavior to an outcome, and they must believe that they can carry out that change.¹⁸ They also must perceive value in that change and resulting outcome. Seen in this light, the theme of “planting seeds” that recurred in the interviews reflects both some limitation in the home visitor's ability to motivate change in individuals who do not see value in changing, and the potential promise that the home visitor can at least crack the surface in identifying and addressing risks to the child's well-being.

¹⁸Bandura (1977); Ajzen (1985).

Chapter 7

Implications of the MIHOPE Implementation Research Analysis Findings for the Home Visiting Field

Since 2010, the federal Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program has expanded the availability of evidence-based home visiting, primarily through the scaling up of comprehensive models that are aimed at improving multiple aspects of family well-being, such as Early Head Start – Home-based option (EHS), Healthy Families America (HFA), Nurse-Family Partnership (NFP), and Parents as Teachers (PAT).

This report has described the local programs, home visiting staff, and families who participated in MIHOPE, the services that families received in their first year of enrollment in home visiting, and factors that might influence home visiting dosage and activities. These findings can inform decisions affecting home visiting programs and their continuing evolution within the early childhood system of care, and they can help in interpreting the results from MIHOPE’s impact analysis, which will be published in a future report.

This chapter focuses on three broad aspects of the MIHOPE implementation research analysis, which were highlighted in the preceding chapters: (1) the families that local programs served; (2) local programs’ capacity to provide high-quality services in alignment with the federal MIECHV program and their evidence-based models; and (3) the nature of the home visiting services that families received, including the content covered in visits, duration and dosage over time, and how services were individualized to families’ baseline needs and risks.

This chapter describes results in the context of the specifications of evidence-based models. Where indicated, it notes how the models themselves have updated their specifications over the course of MIHOPE. The chapter concludes by discussing the implications of the results from the implementation research analysis for the home visiting field going forward, while recognizing that results of the impact analysis are needed to assess the effectiveness of the MIECHV program during the period that was studied.

Families Served

Both the legislation authorizing the MIECHV program and the evidence-based models define sets of intended recipients. The authorizing legislation requires that awardees give priority to providing services to eligible families in at-risk communities with high levels of socioeconomic or health risks, and to families with specific risks such as low income, history of substance

abuse, or a history of child maltreatment.¹ Before the MIECHV program, three of the evidence-based models in MIHOPE (EHS, HFA, and NFP) specifically targeted low-income families. In addition, EHS targeted families of children with developmental disabilities, and HFA targeted families at risk for child abuse and neglect and with histories of poor mental health, substance use, and intimate partner violence. While the PAT model did not specifically target any particular high-risk family subgroups, it gave local programs the option to do so.

MIHOPE found that local programs' enrollment requirements and preferences aligned well with the original authorizing legislation and their evidence-based models. As a result, most families enrolling in home visiting and participating in MIHOPE were low income and many faced multiple and varied types of adversity associated with poverty and trauma.

Within the context of the MIECHV program, what are the implications of local programs' success in enrolling high-risk families? The high prevalence of socioeconomic and psychosocial adversities such as symptoms of major depression implies that home visitors need to be able to identify and tailor services to each of these barriers. Moreover, many mothers in MIHOPE were uncomfortable trusting others and many had limited abstract verbal reasoning skills, which means that home visitors needed to be alert during visits to cues of maternal disengagement or difficulty understanding the information shared and to respond skillfully and sensitively. The finding that families with more challenges or barriers were less likely to stay in home visiting over time underscores the importance of local programs being prepared to work with families with varying capacities to engage. It also underscores the need for creative, proactive strategies to connect with families most in need of education and support.

Clearly, families enrolling in home visiting are diverse in their needs and in their capacities to engage in home visiting. This finding has implications for how model developers specify and target their models, for how programs and home visitors tailor services, and for workforce development. For example, it will be critical for the home visiting field to consider the advantages and disadvantages of matching specialized programs or staff roles to families with particular risks and needs, compared with providing a broader array of services to families.

The fields of medicine and public health are moving toward “precision” services, that is, identifying specific approaches that work best with different subsets of the population.² In 2017, HRSA launched the Innovation Toward Precision Home Visiting national research and development platform to advance precision home visiting.³ The platform's intent is to define

¹SEC. 511 [42 U.S.C. 711] (d) (4) (A-I).

²See, for examples, Collins and Varmus (2015) and University of California – San Francisco (2016).

³For more information, see funding opportunity number HRSA-17-101 at <https://mchb.hrsa.gov/fundingopportunities>; www.hvresearch.org; and Duggan, Crowne, Supplee, and Willis (2018).

and test the planned services and implementation system components of home visiting models and to improve efficiency by identifying the subsets of components most effective for subsets of recipients. Using this platform, stakeholders will work together to design theory-based components, test them using innovative rapid-cycle methods, and take effective components to scale with the subsets of families who benefit most.

Local Programs' Capacity to Provide High-Quality Services

A strong implementation system is critical to ensuring that staff can and will provide high-quality services overall and specific to each intended outcome. The implementation research analysis identified both current strengths and opportunities for strengthening selected aspects of local programs' implementation systems. The findings help explain variation in family engagement and individualization of services. They also signal areas on which the home visiting field could consider focusing to improve family engagement and the tailoring of services.

Systems to Employ Well-Trained, Competent Staff

Local programs continually need to hire home visitors to expand services and keep pace with staff turnover. Over 80 percent of local programs had to hire new home visitors in the year preceding participation in MIHOPE. Three-fourths of home visitors in MIHOPE had at least a bachelor's degree, which is more education than most of the evidence-based models require. Yet nearly two-thirds of these local programs also reported finding it hard to recruit qualified candidates. Furthermore, half of the home visitors in MIHOPE had less than three years of experience providing home visiting at baseline.

Thus, many families enrolling in home visiting were served by recently hired staff. The competence of recently hired home visitors has implications for the quality of services they provide to the families assigned to them. Further, local programs' difficulty finding qualified applicants has important implications for assuring a stable, competent workforce. A recent national survey found that few local programs expect home visitors to be able to effectively engage families to take action and tailor services to family needs at their time of hire; rather, they expect that newly hired home visitors will develop skills through post-hire training and supervision over the course of their first year on the job.⁴ Continued expansion of home visiting will increase the demand for home visitors who can skillfully address diverse family needs. This expansion will further heighten the importance of strategies to enable local programs to recruit individuals who possess core competencies at the time of hire.

⁴Duggan and O'Neill (2016).

Training to Assure Staff Competence

Evidence-based models and local programs bear much of the responsibility for staff development. Three of the models have initial post-hire training requirements of four days to two weeks; EHS does not specify training requirements regarding the length or timing of initial training. All models require training beyond home visitors' initial training (between 3 and 36 hours per year, depending on the model).

Close to two-thirds of local programs reported that all of their home visitors were compliant with training requirements; the other third reported that most of their home visitors were compliant. Home visitors in MIHOPE reported spending about eight hours per month on average in post-hire training; this time far exceeded model requirements. The importance of training is underscored by its positive association with how often home visitors discussed with families topics such as family planning and birth spacing, substance use, mental health, intimate partner violence, and child development.

While home visitors participated in trainings that used different modalities, those modalities only infrequently included observed role play of skills. This finding may have been an indirect result of how local programs selected training opportunities for their staff; a recent national survey found local programs attach more importance to a training opportunity's low cost, local proximity, and short duration than to whether it provides opportunities for practice and reinforcement of skills.⁵ The broad literature on training makes clear the importance of continued opportunities for practice and feedback on skills that are introduced in training, if home visitors are to use those skills in their work with families.⁶ The lack of practice could undermine the training's effectiveness in moving home visitors beyond acquisition of knowledge to development of skills.

In summary, the findings presented in this report support devoting considerable resources to training, as is currently the case, but also point to the need for training that is designed to build skills and promote the use of those skills in actual work with families.

Supervision

Supervision is a key mechanism for reinforcing home visitors' skills on the job. Three of the evidence-based models — HFA, NFP, and PAT — had specifications for time spent in individual supervision, yet home visitors in local programs using these models received fewer hours of individual supervision than specified by their models. EHS home visitors received the smallest number of hours of individual supervision per month.

⁵Korfmacher, Filene, and O'Neill (2018).

⁶Burke and Hutchins (2007); Casillas, Fauchier, Derkash, and Garrido (2016).

There are several types of supervision, including administrative and reflective supervision. Administrative supervision relates to oversight of rules and policies. Reflective supervision relates to a home visitor's professional development and involves identifying the emotional aspects of a home visitor's job and how these aspects affect job performance.⁷

A recent meta-analysis found that program impacts on outcomes were greater when supervision was reflective rather than administrative and when supervisors had training in supervision.⁸ In MIHOPE, staff reported that most supervision sessions involved reflective supervision, though it was used less often in EHS sessions than in sessions for the other three evidence-based models.

Supervision is traditionally office-based and focused on home visitors' recollection or anticipation of encounters with families, which might not be indicative of actual practice. A supervisory practice that more directly builds home visitors' skills and that local programs are increasingly using is observation of and feedback on how home visitors and families actually interact. Recent meta-analytic research shows that local programs with supervision that includes observation of visits have larger impacts on family outcomes.⁹ All four evidence-based models required observation of home visiting practice but varied in how often it was required: EHS did not specify the frequency of observations, while the other three models required it one to three times a year.

Home visitors in MIHOPE varied in how often they were observed in visits with families over a 12-month period and in how structured those observations were. Across all models, a third of home visitors were not observed at all, one-fourth were observed once, a third were observed two to four times, and one-tenth were observed more than four times in a year. About three-fourths of supervisors reported that they used a structured tool when observing visits.

Direct observation of practice can be an important supervision tool for assessing and reinforcing home visitors' skills in communicating with families; for example, how well home visitors identify and respond to family members' cues regarding their concerns, interests, and understanding. Findings from MIHOPE's video sub-study presented in Appendix E show meaningful variation in how home visitors communicated with families. For instance, home visitors varied widely in the extent to which they used conversational techniques to build partnership with families. MIHOPE's findings suggest that there is room to strengthen supervisory policy and practice through greater use of observation and direct feedback to home visitors, thereby building home visitors' communication skills with families and improving performance.

⁷Wasik (1993); McAllister and Thomas (2007).

⁸Casillas, Fauchier, Derkash, and Garrido (2016).

⁹Casillas, Fauchier, Derkash, and Garrido (2016).

Establishing Linkages and Referral Networks

Local programs aim to support home visitors in linking families to needed resources. They can only do so, however, if needed resources are available in the community. At least 80 percent of local programs in MIHOPE reported having available community resources across all service types to address the needs of enrolled families. However, ties could be further strengthened between the local programs and other service providers via formal agreements, designated contacts, and good coordination. Furthermore, approximately a third of home visitors felt that available services were not easy to access and half of home visitors rated them as not effective.

Given that MIHOPE relied primarily on staff reports of accessibility and effectiveness, more investigation into these perceptions is needed before the implications can be fully understood. If home visitors' perceptions that some available services were inaccessible or ineffective were correct, then system-level strategies are needed to address barriers to access and to improve the service quality, or to establish home visiting program relationships with other resources that are more easily accessible and effective. If home visitors misperceived the opportunities for services in their communities, then appropriate strategies would involve improving their knowledge of these services and their ability to connect families to them.

Monitoring Implementation

Local programs need to monitor service delivery relative to established standards. When entering MIHOPE, nearly every local program used at least one management information system to generate reports of service delivery for key stakeholders. Sixty percent of local programs reported having a staff member with dedicated time to support continuous quality improvement, that is, activities to improve upon current service delivery. Continuous quality improvement, in turn, was associated with whether a family ever received a visit.

Program monitoring rates were typically high for selected aspects of operations. Local programs were more likely to monitor rates for child development screening and family retention than rates for screening for psychosocial risks for poor parenting. MIHOPE found that when local programs required formal screening at specific points in time for substance use and intimate partner violence, and also had internal monitoring of these screening processes, home visitors and families discussed these topics more often compared with families served by local programs that did not require formal screening at a particular point in time. The MIECHV program adopted a more concise set of uniform performance indicators in fiscal year 2017; it will be useful to track change in performance across states going forward and to link this change to local and state infrastructure and continuous quality improvement activities.

As mentioned above, while local programs commonly monitored how often services were provided, they infrequently observed how well frontline staff interacted with families. As the home visiting field continues to expand upon current approaches to in-person observation, these processes can provide regular opportunities for staff development while enabling local programs to monitor service delivery.

Clinical Supports

Local programs generally appeared to have stronger clinical supports around positive parenting than other family needs. They used parenting curricula that aligned with the recommendations of their evidence-based models, and these curricula focused considerably on positive parenting, parent-child interaction, and child development. While some local programs supplemented their primary curricula with materials to support home visitors in addressing common psychosocial needs and challenges to healthy family functioning, others did not. Thus, about half of local programs encouraged home visitors to find additional resources to guide their actions in addressing these issues.

It should be noted that the evidence-based models that participated in MIHOPE evolved during the study period and continue to do so. Several of the evidence-based models updated their clinical supports and screening procedures related to parent-child interaction or maternal health and well-being during the course of MIHOPE. It is likely that the MIECHV program motivated some updates, but some changes were already underway before the MIECHV program began. PAT gradually introduced a new PAT Foundational Curriculum and model fidelity requirements between 2010 and 2014. NFP introduced new approaches to promote positive parenting, address mental health issues, and address intimate partner violence; to evaluate and support the client's overall strengths and risks to guide service delivery; and to increase its emphasis on coaching with respect to motivational interviewing. HFA began to require a tool to assess the quality of parent-child interaction at every visit and began to formulate new guidance on mental health, parental developmental disability, substance abuse, and intimate partner violence. Beginning in August 2017, EHS specified that local programs use research-based early childhood home-based curricula.

Organizational Culture and Climate

Most local programs offered a work culture and climate conducive to positive worker morale. Concordantly, home visitors displayed high levels of job satisfaction and organizational commitment, and families enjoyed a high level of home visitor continuity.

Overall, home visitors were more likely to report feeling supported by their local program to promote positive parenting and child development than to improve outcomes in areas such as family planning and birth spacing, tobacco use, substance use, mental health, intimate

partner violence, or economic self-sufficiency. For some of these areas, fewer than half of home visitors reported feeling well supported and effective in addressing outcomes they acknowledged they were expected to address.

Some home visitors believed that receipt of MIECHV funding influenced their local program's work environment in important ways. For example, close to 30 percent of home visitors felt that the quality of their local program's services was higher due to programmatic changes resulting from MIECHV funding, while only 6 percent felt quality of care was lower. On the other hand, over half of home visitors believed their work was harder and their responsibilities greater as a result of their local programs' receipt of MIECHV funding; far fewer reported that their work was easier and their responsibilities fewer. One-fifth believed their role was less clear, while 10 percent believed it was clearer as a result of their local programs' receipt of MIECHV funding.

Taken together, these results show that most local programs provided a solid organizational culture and climate for home visitors, engendering strong commitment among workers. But there was some unevenness in the supports provided to home visitors across the intended outcomes, and this unevenness varied across the evidence-based models. Some home visitors believed that MIECHV funding had improved the quality of their local programs' services, but made their jobs harder in some respects. The evidence-based models were also evolving, implying additional changes in policies and procedures for local programs. These results suggest the need to strengthen supports for staff in addressing many MIECHV priority outcomes while being attentive to how staff perceive expanded responsibilities and changes in implementation systems.

Having considered the targeted families and local program capacity for high-quality services, this chapter now turns to the services families received.

Services Provided to Families

Content of Visits

The local programs participating in MIHOPE were closely aligned with their evidence-based models in terms of how they prioritized the outcomes that were specified by the legislation authorizing MIECHV.¹⁰ Since NFP was the only model that assigned a high priority to all of the MIECHV outcomes, local programs using the other evidence-based models would have needed to expand their own outcome priorities to align with MIECHV's full set of intended outcomes.

¹⁰SEC. 511 [42 U.S.C. 711] (d) (2) (B) (i-vii).

Many local programs did exactly that. Overall, between 35 percent and 45 percent of local programs reported elevating the priority of mental health, substance use, and intimate partner violence. Among local programs using EHS, HFA, and PAT models, a little over a third to over half did so. As one might expect, local program managers whose evidence-based models did not give a high priority to a particular outcome were less likely than other local program managers to endorse that outcome as a high priority. This pattern carried through to home visitors' own perceptions of outcome priorities. The broadening of intended outcomes, compared with three of the models' earlier emphasized outcomes, may have had ramifications on the building of infrastructure and the services provided to families during the study period.

Home visitors promoted behavioral change and positive outcomes through the topics they discussed, and the referrals they provided, in the home visits. MIHOPE has provided rarely available information about these outcome-specific measures of service delivery. The topics most frequently discussed in visits — mental health or stress, positive parenting, child preventive care, child development, and economic self-sufficiency — generally aligned with outcomes named as highest priority by the local programs. (Discussions of prenatal health and birth outcomes were also frequent for families who enrolled prenatally.) More sensitive topics such as tobacco or substance use and intimate partner violence were discussed less frequently. Referrals on these outcome-specific areas were relatively rare, even for mothers who reported some need or risk in these areas in MIHOPE's family baseline survey.

Dosage and Duration of Services

Two indicators of engagement are how many visits a family received and how long a family remained enrolled. The evidence-based models in MIHOPE have high expectations for dosage. Past research shows that actual dosage falls short of these expectations for many families who enroll.¹¹ The actual dosage received by families in MIHOPE is consistent with this literature.

MIHOPE's dosage trajectories distinguish subsets of families who remained enrolled and active for a year from those whose participation in visits dropped off after one or a few months of visits. What explains these results? Early departure might signal that the mother was satisfied with her achievement of outcomes and did not think she needed further services. Alternatively, it might signal a family's dissatisfaction with or inability to engage in home visiting as currently designed and implemented.

The results from MIHOPE seem more consistent with the theory that families facing more risk factors have difficulty engaging rather than the theory that families with fewer needs exit most quickly. Mothers with a history of residential transience and difficulty trusting others

¹¹For example, Boller et al. (2014); O'Brien et al. (2012); Duggan et al. (1999); Duggan et al. (2007).

were more likely to leave early. Residential mobility is common among families enrolling in home visiting. This implies the importance of strategies to track families and to link them to available comparable services if they move out of their local program's catchment area. Other research has linked difficulty trusting others to early program departure, influenced by the mother's rating of agreement with the home visitor on goals and their development of a trusting relationship.¹²

Forging a working alliance between the home visitor and the family regarding goals and strategies is part of the theory of change across all home visiting models and in the helping professions in general. Such an alliance requires shared decision making, earning a family's trust, and attending to issues that are salient to the family.¹³ It might be particularly challenging for home visitors to forge when working with mothers who have difficulty trusting others. In this light, it is not surprising that mothers who had difficulty trusting others ended services sooner than expected by the evidence-based models.

The MIHOPE qualitative sub-study, which focused on how home visitors approach working with families under widely varying circumstances, revealed that some of the most challenging families were those frequently in crisis with multiple and serious needs. Home visitors spent considerable time trying to help the families address those needs, but sometimes found that families still could not receive visits. This finding suggests that local programs might benefit from devising evidence-based strategies to help stressed families overcome crises as a first step toward improving other outcomes. Creating a safe and stable home environment by addressing basic needs such food, shelter, safety, and security could potentially help families better engage with home visiting programs and their curricula and eventually lead to better outcomes for children.

There is little evidence available on optimal dosage levels and whether providing frequent visits to all families over multiple years maximizes the effectiveness of local programs. Proponents of tailoring services would argue against fixed standards for service dosage in favor of tailored dosage that is aligned with family preferences and circumstances. Indeed, while the evidence-based models in MIHOPE have not changed their expectations for the duration of family enrollment, two of the models have revised their guidance to home visitors on the tailoring of visits. Over several years beginning in 2011, NFP implemented a series of policy changes that provided home visitors greater latitude in tailoring visit frequency and content to better accommodate client needs and to support client retention. HFA updated its visit frequency standards in 2018 for mothers who enroll while pregnant. It now requires weekly visits in the third

¹²Burrell et al. (2018).

¹³Korfmacher et al. (2008).

trimester, and allows visits either every week or every other week during the first and second trimesters depending on family needs.

Individualizing Services to Family Needs and Risks

The legislation authorizing MIECHV requires that awardees assess the needs of enrolled families and individualize services accordingly.¹⁴ The MIHOPE implementation research analysis examined whether local programs showed any evidence of tailoring services in the presence of seven types of family need or risk, using family baseline survey data: family planning and birth spacing, mental health, substance use, intimate partner violence, economic self-sufficiency, child preventive care, and child development. It did so by exploring whether families with a need or risk at baseline were more likely than other families to receive at least one visit with relevant discussion, to have a higher number of visits with such relevant discussion, and to receive a referral to relevant community resources.

The results identified different patterns of service delivery across the seven outcome-specific areas, with evidence of tailoring in some of these areas, particularly maternal mental health, substance use, and intimate partner violence. For all three of these outcome-specific areas, discussion and referral rates were higher for families with baseline need or risk for services, versus those without. In contrast was the pattern for the areas of child preventive care and child development. Home visitors nearly universally discussed these topics at least once, and discussed them in a majority of visits regardless of families' baseline need or risk.

Summary

These findings about the content, dosage, duration, and individualization of services raise the issue of how well implementation systems support home visitors in identifying and responding to family needs or risks. Low rates of discussion of topics such as substance use and intimate partner violence signal areas for potential improvement. As noted earlier, MIHOPE's surveys revealed that home visitors were more likely to report feeling supported by their local program to promote positive parenting and child development than to improve outcomes such as family planning and birth spacing, substance use, mental health, intimate partner violence, and economic self-sufficiency. Indeed, MIHOPE's qualitative interviews with home visitors indicate that while they felt adequately trained to screen for and recognize these types of risks, they felt less confident about their ability to motivate change, particularly for a mother who did not see a particular issue as a risk.

¹⁴SEC. 511 [42 U.S.C. 711] (e) (7) (B).

Overarching Implications for the Home Visiting Field Going Forward

Since its inception in 2010, the MIECHV program has brought together stakeholders at many levels to build infrastructure and to carry out research, evaluation, and continuous quality improvement to advance the home visiting field while scaling up complex evidence-based models of home visiting. MIHOPE is part of the MIECHV program's investment in research to advance the field.

Results from the MIHOPE implementation research analysis make clear the high prevalence and range of adversities faced by the families who enroll in home visiting. Mothers vary not only in parenting strengths and needs, but also in their capacity for abstract verbal reasoning and their comfort in developing trusting relationships. They are likely to vary as well in their interests, preferences, personal priorities, and readiness to develop behaviors that can support family functioning, maternal health, and children's healthy development. The diversity in families served by home visiting calls for diversity in the services offered to them — including their dosage, content, and approaches to building partnership to set and achieve shared goals.

The MIECHV program aims to promote child health and development by influencing parenting behavior directly through parenting education and support. It also aims to promote child health and development indirectly, by improving maternal health, family functioning, and family economic self-sufficiency. The four evidence-based models studied in MIHOPE seem to have stronger local implementation systems for parenting education and support than for maternal health and other areas that may indirectly promote child health and development. Service delivery also appears to vary for maternal health, family functioning, and economic self-sufficiency. MIHOPE found variation in whether and how often families and home visitors discussed these topics, and in general how home visitors interacted with families.

While this implementation research report does not provide information on program impacts, the findings presented suggest that the new directions in the home visiting field described earlier in this chapter are likely to be productive ones. These include efforts to define expectations of home visitors more precisely and to build implementation systems that support home visitors in how to raise sensitive topics effectively, build mothers' readiness to address these topics, empower them to take action, and affirm their successes. Moving home visiting programs in these directions can advance them toward delivering the full range of their expected services within the early childhood system of care.

Appendix A

**Analytical Samples, Response and Match Rates,
Aggregation of Data into Outcome-Specific Areas,
and Coding Procedures**

This appendix provides supplemental information for Chapter 1. This information includes:

- Information on the analytical samples used in the MIHOPE implementation research analysis
- Response and match rates for the data sources in MIHOPE
- The process for aggregating individual content areas from the data sources used in MIHOPE to the outcome-specific areas presented throughout the report
- The process for coding the write-in responses on MIHOPE logs
- The process for coding the staff recruitment documents

Analytical Samples Used in the MIHOPE Implementation Research Analysis

As described in Chapter 1, factors at many levels are likely to influence the home visiting services that a given family receives, as depicted in the MIHOPE implementation research analysis conceptual framework (Figure 1.3). In order to describe the various inputs and outputs of the home visiting implementation system, the data used in the MIHOPE implementation research analysis was multi-level (for example, family, home visiting staff, local program, and evidence-based model) and multi-informant (for example, home visitor and supervisor). The analytical samples for each data source are described below.

Family Characteristics

Family Baseline Survey

A total of 4,229 women entered the study and were randomly assigned after completing the family baseline survey (2,111 in the program group; 2,118 in the control group). Over the course of the study, 11 women withdrew from the study (7 in the program group; 4 in the control group), resulting in a final sample size of 4,218 (2,104 in the program group; 2,114 in the control group). The final analytical samples for the family baseline survey are the 2,104 women who were randomly assigned to the program group and remained in the study, and the 675 children already born at the time of the survey.

Observer Ratings of the Family Home and External Environment

At the time of the family baseline survey, field interviewers completed ratings of the family's home environment and external environment by rating the face-blocks where the

families lived (roughly equivalent to the street between two cross-streets, or about 10 housing units). The final analytical sample for the observer ratings is 2,100 program group families.

Staff Characteristics and Experiences

Staff Surveys

Staff surveys with home visitors and supervisors provided information on their demographic and psychosocial characteristics, as well as their perceptions, attitudes, and beliefs regarding work, among those who consented to provide survey data. Staff surveys were collected at two points in time: baseline (when the local program entered MIHOPE) and 12-month follow-up. If staff responded to only one survey, this information was used irrespective of the timing of the survey. If staff responded to both surveys, the survey collected most proximal to when the local program began randomly assigning families to the program group was chosen in order to more closely align the experiences of staff with the timing of when the home visiting services were delivered to families. In some cases, a staff person was identified as having both home visitor and supervisor responsibilities. Twenty-one individuals completed a home visitor or supervisor combination survey that asked items relevant for both roles. Their responses are reflected in each of the home visitor and supervisor analytical samples. For example, the responses for these 21 individuals are reported in both of the home visitor and supervisor sociodemographic and well-being characteristics tables presented in Chapter 2 and Appendix B.¹

The final analytical samples for the staff surveys are 521 home visitors and 138 supervisors.

Training Logs

Both home visitors and supervisors provided data on the dosage, content, and modality of training they received on a monthly basis. These training logs were expected to be completed each month, irrespective of whether training occurred. Home visitors and supervisors were expected to start reporting on their respective training in the first month that their local program started participating in MIHOPE research activities. Staff hired after their local program's study start date were expected to start reporting on their training the month they registered to start participating in MIHOPE research activities.

¹One additional staff person is included in both the home visitor and supervisor staff survey analytical samples because that staff person was in a home visitor role at baseline and then was in a supervisor role at the 12-month follow-up.

In order to standardize the timeframe for constructing measures from training data, the analyses in this report were limited to home visitors and supervisors who had the potential to contribute 12 months of data before their local program's participation in the study ended.² The time period of 12 months was selected to take into account any seasonal dips or changes that might occur throughout the calendar year.³ Staff had the potential to contribute 12 months of data if they entered the study at least 12 months prior to the end of their local program's participation in the study; staff who met this criterion were included in the sample irrespective of whether they actually participated for 12 months. Ninety-six staff joined the study too late and were thus excluded because they did not have the potential to contribute 12 months of training logs within the given window at their local program.⁴

In some cases, a staff person was identified as having both home visitor and supervisor responsibilities. Twenty-three individuals completed the training log as usual since the content was not different by role, but their responses are reflected in each of the home visitor and supervisor analytical samples.⁵ For example, the responses for these 23 individuals are reported in both of the home visitor and supervisor training content tables presented in Chapter 3 and Appendix C, respectively.

For each individual staff person, their analytical data period — or duration of participation — began with the first month staff were expected to start reporting on their training (as defined above) and ended the month their last training log was submitted. For those home visitors or supervisors that provided more than 12 months of data on their training experience, the analyses only included their first 12 months of data and only the months where data were submitted. For those who participated in MIHOPE for less than 12 months (for example, because they left their position), their calculations reflect an analytical data period shorter than 12 months and only months in which data were submitted.

The final analytical samples for the training logs are 600 home visitors and 142 supervisors. On average, home visitors provided 10.1 months of training data and supervisors provided 10.6 months of training data.

²This date varies by local program.

³For example, local programs that are affiliated with schools often close for the summer or winter holidays. Training, supervision, and service delivery activities are affected during these local program closures.

⁴Two additional staff were excluded because, while they had the potential to contribute 12 months' worth of logs, their first logs were submitted more than 12 months after they were expected to begin submitting logs.

⁵This number differs slightly from the number of staff with both home visitor and supervisor responsibilities who completed surveys. The different sample sizes arise because of differences in timing between staff surveys and training log completions.

Supervision Logs

Supervisors provided data on the dosage, topics, and methods of supervision provided to individual home visitors on a weekly basis. These supervision logs were expected to be completed each week, irrespective of whether individual supervision occurred. Supervisors were expected to begin reporting on supervision provided to individual home visitors on their caseloads in the first week that their local program started participating in MIHOPE research activities. For home visitors that were hired after their local program's study start date, their supervisors were expected to begin reporting on supervision the week these home visitors were registered to start participating in MIHOPE research activities.

In order to standardize the timeframe for constructing measures from supervision data, the analyses in this report were limited to home visitors who had the potential to have their supervisors contribute 52 weeks (12 months) of data on them before their local program's participation in the study ended.⁶ The time period of 52 weeks was selected to take into account any seasonal dips or changes that might occur throughout the calendar year. Home visitors had the potential to contribute 52 weeks of data if they entered the study at least 52 weeks prior to the end of their local program's participation in the study; home visitors who met this criterion were included in the sample irrespective of whether they actually participated for 52 weeks. Ninety-three staff joined the study too late and were thus excluded because they did not have the potential to have their supervisors contribute 52 weeks of supervision logs on them within the given window at their local program.⁷

For each individual home visitor, their analytical data period — or duration of participation — began with the first week that their supervisor was expected to start reporting on their supervision (as defined above) and ended with the last week a supervision log from their supervisor was submitted. For those home visitors who had more than 52 weeks of data provided on their supervision experience, the analyses only included their first 52 weeks of data and only weeks where data were submitted (unless otherwise specified in the tables). For those who participated in MIHOPE for less than 52 weeks (for example, because they left their position), their calculations reflect an analytical data period shorter than 52 weeks and only weeks in which data were submitted (unless otherwise specified in the tables).

The final analytical sample for the individual supervision logs is 596 home visitors.⁸ On average, home visitors had 42 weeks of data provided on their experience with supervision.

⁶This date varies by local program.

⁷Two additional staff were excluded because, while they had the potential to contribute 12 months' worth of logs, their first logs were submitted more than 12 months after they were expected to begin submitting logs.

⁸These logs were submitted by 166 unique supervisors.

Qualitative Semi-Structured Interviews

Staff perspectives on implementation processes were collected from all available home visitors present at the local program on the dates that pre-scheduled site visits occurred. This effort resulted in qualitative interviews conducted with a subsample of 104 home visitors in 24 local programs across seven states.

Local Program Characteristics

Program Manager Surveys

Program managers at each of the 88 local programs provided information on characteristics of local programs such as service plan elements, policies and protocols, presence and types of implementation system supports, and networks of referral agencies. Program manager surveys were collected at two points in time: baseline (when the local program entered MIHOPE) and 12-month follow-up. If program managers only responded to one survey, this information was used irrespective of the timing of the survey. If program managers responded to both surveys, the survey collected most proximal to when the local program began randomly assigning families was chosen, in order to more closely align the experiences at the local programs with the timing of when the home visiting services were delivered to families.

The final analytical sample for the program manager survey is 88 program managers representing 88 local programs.

Reviews of Program Documents

Additional documents were collected from 83 local programs regarding implementation system elements for staff recruitment (such as home visitor and supervisor job descriptions).

Reviews of the Most Commonly Used Parenting Curricula

The MIHOPE research team reviewed and summarized the three most common parenting curricula used by local programs, as reported in the program manager surveys.

Evidence-Based Models

Evidence-Based Model Developer Surveys, Interviews, and Document Reviews

All four evidence-based models participating in MIHOPE provided information via a survey, a series of four qualitative semi-structured interviews, and additional documents (such as home visitor and supervisor job descriptions). These data sources provided information on

the service plan and the implementation system. Training materials were also available for some evidence-based models.

Community Characteristics

Community Services Inventories

Three months after the local program entered MIHOPE, program managers at each of the 88 local programs were asked to provide data on the availability and accessibility of home visiting services and other services in the community.

The final analytical sample for the community services inventories is 86 local programs.

Census Tract Data from the 2014 American Community Survey Five-Year Estimates

Valid addresses were obtained from 4,195 families (2,092 in the program group; 2,103 in the control group). Each address was geocoded by assigning latitude and longitude coordinates to identify the community within which a family lived. The community location was then linked to publicly available data to associate census tract-level measures to individual families. The census tract-level measures were averaged to create local program-level composites using both program and control group members to characterize the communities where sample members lived, not just the local program catchment areas. Of the 23 families whose addresses were not geocoded, 3 had missing address information, 1 had incomplete address information (missing street name and number), and 19 had address information that did not yield a match.

Services for Individual Families

Family Service Logs

Home visitors provided data on services delivered to individual families on a weekly basis. These family service logs were expected to be completed each week, irrespective of whether an individual home visit occurred.

In order to standardize the timeframe for constructing measures from family service delivery data, the analyses in this report were limited to families who had the potential to contribute 52 weeks (12 months) of data based on the date of their first home visit and the date when data collection ended for the MIHOPE implementation research analysis. Families who had their first home visit by the week of July 5, 2015 met this criterion and were included in the sample irrespective of whether they actually participated for 52 weeks. The time period of 52 weeks was selected to take into account any seasonal dips or changes that might occur through-

out the calendar year. Eighty-three families joined the study or received their first visit too late and thus were excluded because they did not have the potential to contribute 52 weeks' worth of family service logs.

For each individual family, the analytical data period — or duration of participation — began with the week a log was submitted for their first home visit and ended with the week a log was submitted for their last home visit. For those families who had more than 52 weeks of data provided on their service receipt, the analyses only included the first 52 weeks of data. For those who participated in MIHOPE for less than 52 weeks (for example, because they exited the home visiting program), their calculations reflect an analytical data period shorter than 52 weeks.

The final analytical sample for the family service logs is 1,671 families with visits. On average, families had 33 weeks of data provided on their service experience. For measures calculated among all families, irrespective of whether a visit was received, the analytical sample is 2,021.

Observations of Home Visitor-Family Interactions

Videos recorded with a subsample of 200 home visitor-family dyads provided data on what occurred during home visits, representing 186 unique families (14 families were represented twice). More information about the subsample is presented in Appendix E.

Response and Match Rates of Data Sources

The response and match rates presented in Appendix Table A.1 reflect those for the analytical samples included in the MIHOPE implementation research report. Response rates for family and staff surveys are calculated among those who consented to be in the study. Response rates for training and supervision logs are calculated for staff who were included in the final analytical sample; response rates for family service logs are calculated for families with visits who were included in the final analytical sample.⁹ The match rate for the census tract data represents the percentage of sample members with a geocodable address that could be matched to a census tract. The response and match rates across the various data sources ranged from 84 percent to 100 percent.

⁹There were circumstances that arose during the course of MIHOPE in which logs were not expected, for instance, due to staff maternal or medical leave, or staff or family temporary departure. However, because local programs did not always communicate these situations, the completion rates reflect months or weeks in which logs were coded as missing data, but would have otherwise been removed from the calculations. Despite the inclusion of months or weeks in which logs were not expected in the calculation, the completion rates were high.

Appendix Table A.1 also presents the percentage of staff with 12 training logs in a 12-month period, staff with 52 individual supervision logs in a 52-week period, and families with 52 service logs in a 52-week period. These rates are lower because most staff and families did not participate in MIHOPE for a full 12 months or 52 weeks so could not provide logs at each expected time point.

Aggregation of Individual Content Areas onto Outcome-Specific Areas in MIHOPE

As discussed in Chapter 1 of this report, the MIHOPE implementation research analysis highlighted 18 outcome-specific areas when discussing outcome-specific measures of service delivery, training content, and home visitor perceptions. These 18 outcome-specific areas are based on the outcome domains specified in the legislation authorizing the MIECHV program and discussed in the MIHOPE revised design report.¹⁰ These outcome-specific areas largely align with those reported on in the MIHOPE report to Congress, plus four areas that reflect local programs' access to community resources and public services (which were not available for the MIHOPE report to Congress).¹¹

Individual items from the family service logs, training logs, and home visitor surveys are referred to as “individual content areas” in the MIHOPE implementation research analysis and are drawn from the logic models presented in the MIHOPE revised design report.¹² As depicted in those logic models, information may be provided and activities may be carried out across these individual content areas in order to achieve the outcomes intended by the MIECHV program; some of the individual content areas can be grouped together to address a certain outcome while others are applicable to more than one outcome. In order to present findings from the implementation research analysis, the individual content areas from the surveys and logs were aggregated up to the 18 outcome-specific areas to align with the MIHOPE report to Congress, as well as to create composite measures for use in the multiple regression analyses predicting outcome-specific service delivery in Chapter 5.

Appendix Table A.2 presents the individual content areas for: (1) the training topics on the MIHOPE training logs; (2) the topics discussed on the MIHOPE family service logs; (3) referrals provided on the MIHOPE family service logs; and (4) home visitor perceptions from

¹⁰SEC. 511 [42 U.S.C. 711] (d) (1) (A) (i-vi); SEC 511 [42 U.S.C. 711] (d)(2)(B)(i-vii); Michalopoulos et al. (2013).

¹¹Michalopoulos et al. (2015) presented information on mental health and substance use as a combined area. The current report separates them into two areas to align more closely with the explanatory variables included in the multiple regression analyses of factors associated with service delivery.

¹²Michalopoulos et al. (2013).

the MIHOPE home visitor survey. Appendix Table A.2 presents how the individual content areas were aggregated based on the broader outcome-specific areas:

- Half of the outcome-specific areas had a one-to-one correspondence with the individual content areas. (For example, referral for mental health treatment maps onto the “mental health” outcome-specific area.)
- The following outcome-specific areas were constructed from more than one individual content area: prenatal health, birth outcomes, intimate partner violence, positive parenting behavior, child maltreatment, child preventive care, child development, economic self-sufficiency, and health insurance.
- Some outcome-specific areas had more than one item contributing to the average value for that general outcome-specific area (for example, home visitor training on parent-child interaction, co-parenting, discipline and behavior management, and developmentally appropriate care and routines mapped onto the “positive parenting behavior” outcome-specific area constructed from the training logs).
- If an individual content area was relevant to more than one outcome, it was mapped onto more than one outcome-specific area (for example, discussion topics on discipline or behavior management mapped onto both “positive parenting behavior” and “child maltreatment” outcome-specific areas).
- Individual home visitor perception variables are not shown separately because the survey items asked about the same individual content areas, thus the aggregation to the outcome-specific areas is the same.

Though most tables in MIHOPE present these variables aggregated to the outcome-specific areas, some appendix tables present findings for the individual content areas listed in Appendix Table A.2. These appendixes include:

- **Appendix Tables C.4 through C.5 and C.7 through C.8**, which provide findings for the individual content areas from the home visitor and supervisor training logs, respectively.
- **Appendix Tables D.6 through D.8**, which provide findings for the individual content areas from the topics discussed and referrals provided on the family service logs.

Coding Responses for “Other” Log Write-Ins

The family service and training logs permitted staff to select the answer option “other, specify” and write-in a response. A review of the write-in responses revealed that a number of staff used the “other, specify” option when an existing response category would have been appropriate. Additionally, certain write-in responses were entered a significant number of times, which warranted the creation of new response categories. As such, the MIHOPE research team re-coded the write-in responses into either an existing individual content area or newly created content area.

This effort involved developing a codebook with definitions and inclusion and exclusion criteria for each individual content area. Next, the codebook was tested informally using a sample of the responses. One coder coded a sample of responses according to the codebook while a second coder coded the same sample. The coders’ responses were then compared. Updates were made to the codebook as necessary, based on the results of this comparison and feedback from the coders. Next, the codebook was formally tested using a random sample of 100 responses. Three coders independently coded the random sample. Coders aimed to achieve an inter-rater reliability Kappa score of at least 0.80. If that threshold was not met, then the coders were re-trained. The process of coding a random sample of 100 responses and testing for inter-rater reliability was repeated until reaching the threshold of a Kappa score of at least 0.80. The final Kappa scores on this initial training were between 0.84 and 0.89. Inter-rater reliability on a sample of 50 responses halfway through the coding process resulted in Kappa scores between 0.92 and 0.98.

Coding of Staff Recruitment Documents

Local programs provided copies of two types of documents: home visitor job descriptions and supervisor job descriptions. Otherwise, local programs indicated that they used the respective form provided by their evidence-based model. The evidence-based models also provided copies of these forms when available. The MIHOPE research team developed a codebook using the evidence-based model forms as the foundation for developing codes. This codebook included definitions, inclusion criteria, and actual examples for each code.

Next, the codebook was tested informally using a sample of the local program documents. One coder coded the sample according to the codebook and while a second coder coded the same sample. The coders’ responses were then compared. Updates were made to the codebook as necessary, based on the results of this comparison and feedback from the coders in collaboration with the research team. Next, the coding scheme was formally tested using a sample of 20 percent of the local program forms for each document type, with representation of all evidence-based models. Two coders independently coded the random sample and percent

agreement was calculated for each form. Coders aimed to achieve agreement on 80 percent of individual codes for each form. In the sample of double-coded job descriptions, initial agreement was 79 percent, on average, with a range of 60 percent to 91 percent. About 60 percent of double-coded job descriptions scored above the 80 percent goal. The process to resolve discrepancies included both coders, an independent reviewer, and a research team member when necessary.

Appendix Table A.1
Response and Match Rates for MIHOPE Data Sources

Source	Response or Match Rate
<u>Family characteristics</u>	
Family baseline survey	100.0
Observer ratings of the family home and external environment	99.8
<u>Staff characteristics and experiences</u>	
Staff surveys	
Home visitor	83.6
Supervisor	90.2
Training logs	
Completion rate ^a	
Home visitor	94.6
Supervisor	95.4
Staff with 12 logs submitted in a 12-month period ^b	
Home visitor	51.5
Supervisor	66.9
Supervision logs	
Completion rate ^a	92.3
Staff with 52 logs submitted in a 52-week period ^c	28.2
<u>Local programs</u>	
Program manager surveys	100.0
Reviews of program documents	94.3
<u>Evidence-based models</u>	
Evidence-based model developer surveys, interviews, and document reviews	100.0
<u>Community characteristics</u>	
Community services inventories	97.7
Census tract data, 2014 American Community Survey 5-year estimates	99.5
<u>Services for individual families</u>	
Family service logs (families with visits)	
Completion rate ^d	96.8
Families with 52 logs submitted in a 52-week period ^e	11.2

(continued)

Appendix Table A.1 (continued)

NOTES: ^aThe calculation for completion rate is an average of each staff member's number of submitted logs divided by that individual's analytical data period (or duration of participation).

^bTraining logs were expected to be completed each month, irrespective of whether training occurred.

^cIndividual supervision logs were expected to be completed each week, irrespective of whether individual supervision occurred.

^dThe calculation for completion rate is an average of each family's number of submitted logs divided by that family's analytical data period (or duration of participation).

^eFamily service logs were expected to be completed each week, irrespective of whether an individual home visit occurred.

Appendix Table A.2

Aggregation of MIHOPE Log and Survey Individual Content Areas onto Outcome-Specific Areas

Outcome-Specific Area	Individual Content Area Mapping onto Outcome-Specific Area			
	MIHOPE Training Log: Training Topic	MIHOPE Family Service Log: Topic Discussed	MIHOPE Family Service Log: Referral Provided	MIHOPE Home Visitor Survey: Perception Variables ^a
<u>Maternal and newborn health and well-being</u>				
Prenatal health	• Prenatal health behaviors/ prenatal care ^b	• Prenatal health behaviors/ prenatal care ^{b,c}	• Prenatal care ^{b,c} • Childbirth education ^{b,c}	• Prenatal care/ health habits ^b
Birth outcomes	• Prenatal health behaviors/ prenatal care ^b	• Prenatal health behaviors/ prenatal care ^{b,c} • Child health ^{b,c}	• Prenatal care ^{b,c} • Childbirth education ^{b,c}	• Prenatal care/ health habits ^b
Maternal physical health	• Postpartum physical health	• Maternal physical health (outside of pregnancy)	• Maternal preventive care	• Physical health habits/ preventive health care
Family planning and birth spacing	• Family planning	• Family planning	• Family planning and reproductive health care	• Birth spacing (family planning)
Tobacco use	• Tobacco, alcohol, and other drug use ^b	• Tobacco, alcohol, and other drug use ^b	• Substance use (alcohol and other drugs) treatment ^{b,d}	• Tobacco use [□]
Substance use	• Tobacco, alcohol, and other drug use ^b	• Tobacco, alcohol, and other drug use ^b	• Substance use (alcohol and other drugs) treatment ^{b,d}	• Problem alcohol and other substance use
Mental health	• Mental health or stress	• Mental health or stress	• Mental health treatment	• Mental health
Intimate partner violence	• Intimate partner violence or anger management	• Intimate partner violence or anger management	• Intimate partner violence counseling/anger management • Intimate partner violence shelter	• Partner violence

(continued)

Appendix Table A.2 (continued)

Outcome-Specific Area	Individual Content Area Mapping onto Outcome-Specific Area			
	MIHOPE Training Log: Training Topic	MIHOPE Family Service Log: Topic Discussed	MIHOPE Family Service Log: Referral Provided	MIHOPE Home Visitor Survey: Perception Variables ^a
<u>Parenting</u>				
Breastfeeding	• Breastfeeding/feeding/nutrition	• Breastfeeding/feeding/nutrition	• Breastfeeding/feeding/nutrition	• Breastfeeding
Positive parenting behavior	• Parent-child interaction ^b • Co-parenting • Discipline/behavior management ^b • Developmentally appropriate care/routines	• Parent-child interaction ^b • Co-parenting • Discipline/behavior management ^b • Developmentally appropriate care/routines	• Parenting/family classes/education ^{b,c}	• Positive child behavior management techniques ^b
Child maltreatment	• Discipline/behavior management ^b • Child/home safety ^b • Child abuse/neglect/maltreatment	• Discipline/behavior management ^b • Child/home safety ^b	• Injury prevention/safety ^{b,e} • Child abuse and neglect/child abuse and neglect prevention ^c	• Positive child behavior management techniques ^b • Baby-proof home ^b
<u>Child health and development</u>				
Child preventive care	• Child health • Child/home safety ^b • Lead exposure in home	• Child health • Child/home safety ^b • Lead exposure in home	• Pediatric primary care • Injury prevention/safety ^{b,e}	• Up to date on vaccinations and well-child care • Baby-proof home ^b
Child development	• Parent-child interaction ^b • Child development	• Parent-child interaction ^b • Child development	• Parenting/family classes/□ education ^{b,e} • Child development ^c • Early intervention services/Part C services	• Support children’s cognitive and language development • Support children’s social-emotional development

(continued)

Appendix Table A.2 (continued)

Outcome-Specific Area	Individual Content Area Mapping onto Outcome-Specific Area			
	MIHOPE Training Log: Training Topic	MIHOPE Family Service Log: Topic Discussed	MIHOPE Family Service Log: Referral Provided	MIHOPE Home Visitor Survey: Perception Variables ^a
<u>Family economic self-sufficiency</u>				
Economic self-sufficiency	<ul style="list-style-type: none"> • Education • Job training and employment • Economic management/ financial self-sufficiency 	<ul style="list-style-type: none"> • Education • Job training and employment • Economic management/ financial self-sufficiency 	<ul style="list-style-type: none"> • Adult education services • Job training and employment • Economic management/ financial self-sufficiency^c 	<ul style="list-style-type: none"> • Economic self-sufficiency
<u>Access to community resources and public services</u>				
Child care	<ul style="list-style-type: none"> • Finding alternative caregivers/child care 	<ul style="list-style-type: none"> • Finding alternative caregivers/child care 	<ul style="list-style-type: none"> • Child care 	<ul style="list-style-type: none"> • Secure high-quality child care
Public assistance	<ul style="list-style-type: none"> • Public/governmental assistance 	<ul style="list-style-type: none"> • Public/governmental assistance 	—	<ul style="list-style-type: none"> • Public benefits
Health insurance/Medicaid/CHIP	<ul style="list-style-type: none"> • Medicaid/CHIP • Health insurance^e 	<ul style="list-style-type: none"> • Health insurance/Medicaid/CHIP 	—	<ul style="list-style-type: none"> • Health care coverage/ access to clinic^f
Public assistance and/or health insurance/Medicaid/CHIP	—	—	<ul style="list-style-type: none"> • Health insurance/Medicaid/CHIP^e • Public assistance (Medicaid, SNAP, WIC, CHIP, TANF, etc.) 	—
Housing	<ul style="list-style-type: none"> • Housing 	<ul style="list-style-type: none"> • Housing 	<ul style="list-style-type: none"> • Housing 	—

(continued)

Appendix Table A.2 (continued)

SOURCES: MIHOPE home visitor monthly training logs, MIHOPE family service logs, and MIHOPE home visitor survey.

NOTES: Dashes indicate that data are not available.

This table presents 19 outcome-specific areas rather than 18 outcome-specific areas (as outlined in Box 1.2) due to the aggregation process for the “Public assistance” and “Health insurance/Medicaid/CHIP” outcome-specific areas. Because referrals for the “Public assistance (Medicaid, SNAP, WIC, CHIP, TANF, etc.)” individual content area include Medicaid, “Public assistance” and “Health insurance/Medicaid/CHIP” were combined into one outcome-specific area for referrals. Training topics, topics discussed in visits, and home visitor perceptions all present public assistance and health insurance separately.

^aHome visitor perception variables include home visitors’ perceptions of role expectations, adequacy of training, availability of useful tools and strategies, receipt of positive and constructive supervisory feedback, and their comfort and effectiveness.

^bThis individual content area is mapped onto more than one outcome-specific category.

^cLimited to women who were pregnant at study entry and to topics discussed and referrals provided during the prenatal period (for example, before the birth of the child or the week of the birth of the child). Calculations for “average number of topics discussed” are an exception to this rule and include discussions of these topics regardless of whether they were discussed during the prenatal period or the postnatal period.

^dTobacco cessation was not explicitly mentioned as a referral option on the MIHOPE family service logs. However, it is likely that referrals for tobacco use were marked as “Substance use (alcohol and other drugs) treatment.” Additionally, any open-ended write-in responses for tobacco use were combined with “Substance use (alcohol and other drugs) treatment.”

^eThis individual content area was coded from open-ended write-in responses. See section titled “Coding Responses for ‘Other’ Log Write-Ins” in Appendix A for more information on this coding process.

^fThis individual content area only includes home visitors’ perceptions of role expectations, adequacy of training, and availability of useful tools and strategies. Home visitors were not asked about receipt of positive and constructive supervisory feedback or their comfort and effectiveness regarding health insurance. Questions regarding home visitors’ perceptions of health insurance were asked separately for mothers and children.

Appendix B

Supplemental Exhibits for Chapter 2

This appendix provides supplemental tables for the information included in Chapter 2, including findings on:

- Home visiting staff characteristics
- Family characteristics by pregnancy status at study entry, and parity at study entry

Home Visiting Staff Characteristics

- **Appendix Table B.1** provides information on the evidence-based models' expectations regarding home visitor qualifications.
- **Appendix Tables B.2 and B.3** mirror Table 2.2 of the main report, but present sociodemographic characteristics and education and employment background of home visitors and supervisors, by evidence-based model.

Recipients of Home Visiting Services in MIHOPE

- **Appendix Table B.4** describes the intended recipients of home visiting services provided by local programs.
- **Appendix Table B.5** provides information on local programs' formal agreements with referral sources in order to recruit families into their programs.
- **Appendix Tables B.6 through B.12** provide additional information on the characteristics of the program group families studied in MIHOPE. The family characteristics tables mirror Tables 2.5 through 2.8 of the main report, but present family characteristics by pregnancy status at study entry (Appendix Tables B.6 through B.8) and parity at study entry (Appendix Tables B.9 through B.12). These subgroups are also analyzed in the service delivery section of Appendix D.

Appendix Table B.1

Planned Services of the Evidence-Based Home Visiting Models in MIHOPE: Home Visitor Qualifications

Requirement/ Qualification	EHS	HFA	NFP	PAT
Educational requirements	Home visitor must have knowledge and experience in: <ul style="list-style-type: none"> • Child development and early childhood education • Principles of child health, safety, and nutrition • Adult learning principles • Family dynamics 	Home visitors must have a minimum of a high school diploma or equivalent	Home visitors must be baccalaureate-prepared registered nurses	Parent educators must have a minimum of a high school diploma or GED certificate It is preferable for parent educators to have at least: <ul style="list-style-type: none"> • A 4-year degree in early childhood education or a related field, or • At least a 2-year degree or 60 college hours in early childhood education or a related field

(continued)

Appendix Table B.1 (continued)

Requirement/ Qualification	EHS	HFA	NFP	PAT
Other requirements/ qualifications	<p>Home visitors must be able to:</p> <ul style="list-style-type: none"> • Effectively communicate with children and families with no or limited English proficiency directly or through an interpreter • Be familiar with the ethnic/cultural backgrounds of these families 	<p>Home visitors are selected based on:</p> <ul style="list-style-type: none"> • Personal characteristics and experience in working with families with multiple needs • Experience working with or providing services to children and families • Ability to establish trusting relationships • Acceptance of individual differences • Experience in working with culturally diverse communities • Knowledge of infant and child development • Ability to maintain boundaries between personal and professional lives <p align="center">Infant Mental Health endorsement preferred</p>	<p>It is preferable that home visitors have 2 years of recent experience in maternal/child health, public health, home visiting, or mental/behavioral nursing</p>	<p>Parent educators must have a minimum of 2 years of supervised work experience with young children or parents</p>

SOURCES: Evidence-based model websites (Early Head Start Home-based option: <https://eclkc.ohs.acf.hhs.gov/hslc>; Healthy Families America: <http://www.healthyfamiliesamerica.org>; Nurse-Family Partnership: <http://www.nursefamilypartnership.org>; Parents as Teachers: <http://parentsasteachers.org>) and the U.S. Department of Health and Human Services HomVEE website (<http://homvee.acf.hhs.gov/programs.aspx>).

NOTE: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Appendix Table B.2

Sociodemographic Characteristics of Home Visitors and Supervisors, by Evidence-Based Model

Characteristic (%)	Home Visitors					Supervisors				
	Overall	EHS	HFA	NFP	PAT	Overall	EHS	HFA	NFP	PAT
Age ^a					**					***
29 years or younger	27.6	33.9	34.9	19.7	22.0	8.0	7.7	9.6	3.3	10.0
30 to 39 years	29.6	31.3	31.5	25.5	30.1	37.0	57.7	50.0	10.0	23.3
40 to 49 years	23.0	20.5	18.8	31.4	21.1	19.6	19.2	15.4	33.3	13.3
50 years or older	19.8	14.3	14.8	23.4	26.8	35.5	15.4	25.0	53.3	53.3
Race/ethnicity ^{a,b}										***
Hispanic	21.5	15.2	22.1	23.4	24.4	8.7	0.0	19.2	3.3	3.3
White, non-Hispanic	57.6	66.1	51.7	57.7	56.9	73.2	84.6	63.5	66.7	86.7
Black, non-Hispanic	15.5	15.2	20.8	11.7	13.8	13.0	11.5	17.3	13.3	6.7
Other/multiracial	5.4	3.6	5.4	7.3	4.9	5.1	3.8	0.0	16.7	3.3
Bilingualism										
English-Spanish ^c	21.0	14.4	22.1	23.5	22.8	—	—	—	—	—
English-other ^c	3.1	3.6	4.7	1.5	2.4	—	—	—	—	—
Sample size	521	112	149	137	123	138	26	52	30	30

SOURCES: Calculations based on data from the MIHOPE home visitor survey and the MIHOPE supervisor survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. Dashes indicate that data are not available.

For all categorical variables that include multiple categories except those with any cell size equal to 0, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local programs. See notes “a” and “b” below for further information on statistical tests used with categorical variables with single categories and categorical variables with cell sizes equal to 0. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aPercentages may not sum to 100 because of rounding.

^bSince this variable had a cell size equal to 0 for supervisor characteristics, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Fisher’s exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^cSince this variable is a single category, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table B.3

Education and Employment Background of Home Visitors and Supervisors, by Evidence-Based Model

Characteristic (%)	Home Visitors					Supervisors				
	Overall	EHS	HFA	NFP	PAT	Overall	EHS	HFA	NFP	PAT
Highest education level ^a										
High school diploma or General Educational Development (GED) certificate or less	2.3	0.9	4.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0
Vocational or technical training or some college	10.6	5.4	18.8	0.0	17.1	3.6	0.0	5.8	0.0	6.7
Associate's degree or training program degree	12.3	15.2	14.8	6.6	13.0	1.4	0.0	1.9	0.0	3.3
Bachelor's degree	61.6	64.3	54.4	78.1	49.6	56.5	76.9	55.8	60.0	36.7
Master's degree or higher	13.2	14.3	8.1	15.3	16.3	38.4	23.1	36.5	40.0	53.3
Field of study ^b										
Child development	25.0	30.6	25.9	8.8	37.3 ***	16.7	26.9	17.3	3.3	20.0
Early childhood education ^c	20.4	28.8	23.1	3.6	28.8 ***	22.5	34.6	25.0	0.0	30.0 ***
Education ^c	14.3	22.5	15.4	5.1	16.1 **	18.8	26.9	11.5	0.0	43.3 ***
Psychology ^c	24.0	27.0	34.3	6.6	28.8 ***	20.3	26.9	25.0	0.0	26.7 ***
Social work or social welfare ^c	27.3	39.6	39.2	2.9	29.7 ***	32.6	38.5	51.9	0.0	26.7 ***
Nursing ^{c,d}	30.8	2.7	9.8	100.0	2.5 ***	24.6	0.0	7.7	100.0	0.0 ***
Other ^{c,e}	19.3	15.3	27.3	8.0	26.3 ***	17.4	34.6	17.3	0.0	20.0 ***
Experienced in home visiting field ^f	49.9	45.4	46.2	56.3	51.3	70.1	42.3	76.9	75.9	76.7 **
Sample size	521	112	149	137	123	138	26	52	30	30

(continued)

Appendix Table B.3 (continued)

SOURCES: Calculations based on data from the MIHOPE home visitor survey and the MIHOPE supervisor survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

For all categorical variables except those with multiple categories and those with any cell size equal to 0, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local programs. Each category was tested separately. See notes “a,” “c,” and “d” below for further information on the statistical tests used with categorical variables with multiple categories and variables with cell sizes equal to 0, respectively. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aPercentages may not sum to 100 because of rounding. Statistical significance is not reported for this variable for home visitor characteristics due to invalid p-values from both a Rao-Scott second-order chi-square test and Fisher’s exact test. Since this variable had a cell size equal to 0 for supervisor characteristics, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Fisher’s exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^bResponse categories are not mutually exclusive, so percentages may total more than 100.

^cSince this variable had a cell size equal to 0 for supervisor characteristics, differences across evidence-based models were tested for statistical significance using a Fisher’s exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^dSince this variable had a cell size equal to 0 for home visitor characteristics, differences across evidence-based models were tested for statistical significance using a Fisher’s exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^eOther fields of study include human services, sociology, criminal justice, business administration, and accounting, among others.

^f“Experienced” is defined as either having at least three years of prior experience providing home visiting services to families or at least three years in their current position. For supervisors, their current position is defined as their supervisor role.

Appendix Table B.4

Individuals for Whom Program Assumes Major Responsibility for Improving Outcomes, by Evidence-Based Model

Individuals Targeted for Improved Outcomes	Evidence-Based Model Developer				Percentage of Local Programs				
	EHS	HFA	NFP	PAT	Overall	EHS	HFA	NFP	PAT
Child	Yes	Yes	Yes	Yes	93.2	100.0	96.2	90.9	85.7
Mother	—	Yes	Yes	Yes	84.1	57.9	88.5	100.0	85.7 ***
Biological father	—	Yes	—	Yes	25.6	36.8	26.9	9.5	30.0
Other father figure	—	—	—	Yes	19.5	21.1	26.9	4.8	23.8
Child’s other family caregivers	—	—	—	—	11.6	21.1	3.8	4.8	20.0
Mother’s other children	—	—	—	Yes	6.0	10.5	3.8	0.0	10.0
Pregnancies and subsequent children	—	—	—	—	33.7	31.6	23.1	28.6	55.0
Sample size	1	1	1	1	88	19	26	22	21

SOURCES: Calculations based on data from the MIHOPE evidence-based model developer survey and the MIHOPE program manager survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Fisher’s exact test. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table B.5

Local Programs' Formal Agreements with Referral Sources for the Recruitment of Families, by Evidence-Based Model

Referral Partner (%)	Local Programs with Formal Referral Agreements				
	Overall	EHS	HFA	NFP	PAT
Central intake system	44.8	31.6	61.5	22.7	60.0 **
Any organization excluding central intake system	46.0	52.6	53.8	40.9	35.0
<u>Maternal and newborn health and well-being</u>					
Hospitals	23.0	10.5	38.5	13.6	25.0
Health departments	18.4	26.3	15.4	9.1	25.0
Prenatal clinics	18.4	21.1	11.5	22.7	20.0
<u>Parenting</u>					
Child welfare services	20.7	42.1	15.4	18.2	10.0 *
<u>Child health and development</u>					
Pediatric clinics	11.5	26.3	7.7	9.1	5.0
<u>Family economic self-sufficiency</u>					
Women, Infants, and Children (WIC) program	25.3	26.3	34.6	18.2	20.0
Schools	19.5	31.6	19.2	9.1	20.0
Other ^a	9.2	10.5	3.8	18.2	5.0
Sample size	88	19	26	22	21

SOURCE: Calculations based on data from the MIHOPE program manager survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Response categories are not mutually exclusive, so percentages may total more than 100.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Fisher's exact test. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aOther referral partners with formal agreements include early intervention services, homeless services, federally qualified health centers, juvenile detention centers, family success centers, residential drug-treatment programs, intimate partner violence shelters, correction centers, and nonprofit community partners.

Appendix Table B.6

Selected Family Sociodemographic Characteristics and Economic Self-Sufficiency at Study Entry, by Pregnancy Status at Study Entry

Characteristic	Overall	Pregnant	Not Pregnant
<u>Maternal and household sociodemographic characteristics</u>			
Average maternal age ^a (years)	23.6 (5.7)	22.8 (5.4)	25.4 *** (5.9)
Maternal age 15 to 20 years (%)	36.2	42.6	22.5 ***
First-time mother (%)	63.8	73.0	44.6 ***
Race/ethnicity ^b (%)			**
Hispanic	36.6	39.0	31.5
Mexican	23.9	25.2	21.2
Other Hispanic	12.7	13.9	10.4
White, non-Hispanic	24.7	21.4	31.9
Black, non-Hispanic	30.5	31.2	28.9
Other/multiracial	8.2	8.4	7.8
Language other than English spoken in the home (%)	36.2	37.4	33.6
Mother is married to child's father (%)	18.3	15.8	23.5 ***
Child's father figure is present in the home ^c (%)	42.1	38.2	50.2 ***
Other adult relative lives in the home ^d (%)	49.3	55.5	36.5 ***
Nonadult sibling of the child lives in the home ^e (%)	36.1	26.9	55.3 ***
<u>Maternal and household economic self-sufficiency (%)</u>			
No high school diploma ^f	43.2	45.0	39.3 *
Age 20 years and younger ^g	58.1	59.9	50.7 **
Age 21 years and older ^h	34.6	33.8	35.9
Currently taking education or training classes	24.7	28.6	16.5 ***
Age 20 years and younger ^g	43.5	45.3	36.2 *
Age 21 years and older ^h	14.1	16.3	10.7 ***
Ever employed during past 3 years	79.5	78.7	81.2
Age 20 years and younger ^g	69.3	68.6	72.1
Age 21 years and older ^h	85.2	86.0	83.8

(continued)

Appendix Table B.6 (continued)

Characteristic	Overall	Pregnant	Not Pregnant
<u>Maternal and household economic self-sufficiency (%)</u>			
Any earnings in the last month	38.5	42.3	30.5 ***
Moved more than once in the past year	20.3	21.3	18.3
Household receipt of public assistance ⁱ	88.2	85.1	94.5 ***
Household experiences food insecurity ^j	54.0	54.2	53.6
Sample size	2,104	1,429	675

SOURCE: Calculations based on data from the MIHOPE family baseline survey.

NOTES: Standard deviations for continuous variables are shown in parentheses.

For all categorical variables except those with multiple categories, differences between women who were pregnant with the focal children at study entry and women who were not pregnant with the focal children at study entry were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. See notes “a” and “b” below for further information on statistical tests used with continuous variables and categorical variables with multiple categories, respectively. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aSince this variable is continuous, differences between women who were pregnant with the focal children at study entry and women who were not pregnant with the focal children at study entry were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^bPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories between women who were pregnant with the focal children at study entry and women who were not pregnant with the focal children at study entry were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^cChild’s father figure includes the child’s biological father as well as the child’s adoptive father or stepfather. In eight households, the father figure was an adoptive father or stepfather. One household included both the biological father and the stepfather.

^dOther adult relative includes any relative who is age 18 or older, other than child’s biological mother, biological father, adoptive father, or stepfather.

^eNonadult sibling includes stepsiblings.

^fNo high school diploma includes individuals who received a General Educational Development (GED) certificate.

^gSample sizes for women age 20 years and younger are: overall = 761; pregnant = 609; not pregnant = 152.

^hSample sizes for women age 21 years and older are: overall = 1,343; pregnant = 820; not pregnant = 523.

ⁱPublic assistance includes Temporary Assistance for Needy Families (TANF), Supplemental Nutrition Assistance Program (SNAP), Supplemental Security Income (SSI), Social Security Disability Insurance (SSDI), and Women, Infants, and Children (WIC).

^jRespondents were asked two screening items from the U.S. Department of Agriculture’s Household Food Security Survey Module and were classified as food insecure if they indicated any experience with food not lasting or worry about food running out in the past year.

Appendix Table B.7
Selected Maternal and Household Risk Factors at Study Entry,
by Pregnancy Status at Study Entry

Characteristic	Overall	Pregnant	Not Pregnant
Health self-rated as “poor” or “fair” (%)	11.4	10.6	13.1 *
Smoking (%)			
Any smoking in the 3 months prior to pregnancy	28.2	27.8	29.0
Any current smoking	14.5	11.4	20.9 ***
Smoking is permitted in the home	16.9	20.1	10.1 ***
Binge alcohol use or illegal use of drugs prior to pregnancy ^{a,b} (%)	31.1	32.8	27.4 **
Depression symptoms score at or above cutoff ^c (%)	37.6	39.3	34.2 **
Anxiety symptoms score at or above cutoff ^d (%)	21.4	23.5	16.9 ***
Attachment style ^e (%)			
Relationship anxiety score above cutoff	15.5	15.7	15.1
Relationship avoidance score above cutoff	45.7	45.4	46.3
Average mastery score ^{f,g}	22.2	22.0	22.5 **
	(3.4)	(3.2)	(3.6)
Maternal verbal intelligence ^{h,i} (%)			
A weakness or below average	63.2	62.8	63.9
Average	34.8	35.0	34.5
A strength or above average	2.0	2.2	1.6
Mother has never breastfed or does not intend to breastfeed her child ^j (%)	18.5	16.3	23.1 **
Mother has weak empathy skills ^k (%)	22.5	23.3	21.0
Home environment for learning ^l (%)			
Mother has weak conversational skills ^m	6.3	6.1	6.7
Home is cluttered or unclean	14.7	14.2	15.7
Household has fewer than 10 books visible in the home	48.9	49.9	47.0
Evidence of recent alcohol or nonprescription drug use in the home	7.7	7.2	8.6
Maternal experience with or perpetration of intimate partner violence in the past year ⁿ (%)	26.1	27.8	22.5 **
Arrested in the past year (%)	6.5	7.2	5.2
Sample size	2,104	1,429	675

(continued)

Appendix Table B.7 (continued)

SOURCES: Calculations based on data from the MIHOPE family baseline survey and the research team's baseline home observations.

NOTES: Standard deviations for continuous variables are shown in parentheses.

For all categorical variables except those with multiple categories, differences between women who were pregnant with the focal children at study entry and women who were not pregnant with the focal children at study entry were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. See notes "g" and "i" below for further information on statistical tests used with continuous variables and categorical variables with multiple categories, respectively. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aBinge alcohol use is defined as having four drinks or more in one sitting and was reported for the three months prior to pregnancy.

^bIllegal use of drugs was reported for the month prior to pregnancy. This measure includes using prescription drugs in ways other than intended.

^cA score of 8 or higher on the Center for the Epidemiological Studies-Depression (CES-D) 10-item scale (Kohout, Berkman, Evans, and Cornoni-Huntley, 1993) indicates clinically significant symptoms of depression.

^dA score of 10 or higher on the Generalized Anxiety Disorder (GAD-7) 7-item scale (Spitzer, Kroenke, Williams, and Löwe, 2006) indicates moderate or severe anxiety symptoms.

^eMeasured using the Attachment Style Questionnaire-Short Form (ASQ-SF) (Karantzas, Feeney, and Wilkinson, 2010). Anxiety is measured using 13 items, and avoidance is measured using 16 items. Relationship anxiety and avoidance scores "above cutoff" are defined as those scoring above the theoretical median (scores > 45 for relationship anxiety; scores > 56 for relationship avoidance).

^fScore is measured using the Pearlin Mastery Scale (Pearlin and Schooler, 1978). Mastery refers to the extent to which one perceives control and autonomy over various aspects of life. Scores can range from 7 to 28, with higher scores indicating greater levels of mastery.

^gSince this variable is continuous, differences between women who were pregnant with the focal children at study entry and women who were not pregnant with the focal children at study entry were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^hMeasured using the similarities subscale of the Wechsler Adult Intelligence Scale-Third Edition (WAIS-III) (Wechsler, 1997). Respondents who took the Spanish version of the survey took the equivalent subscale of the *Escala de Inteligencia de Wechsler-Tercera Edición* (EIWA-III) (Wechsler, 2008). Below average = scores 1-7, average = scores 8-12, above average = scores 13-19.

ⁱPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories between women who were pregnant with the focal children at study entry and women who were not pregnant with the focal children at study entry were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^jThis measure is combined. Women who were not pregnant at study entry were asked whether they had ever breastfed the focal child, while women who were pregnant were asked whether they intend to breastfeed the focal child.

^kEmpathy skills were measured using a subscale of the Adult Adolescent Parenting Inventory-2 (AAPI) (Bavolek and Keene, 1999). For English-speaking women, the cutoff score for low empathy was less than or equal to 32 for adolescents and less than or equal to 38 for adults. For Spanish-speaking women, the cutoff score for low empathy was less than or equal to 29 for adolescents and less than or equal to 28 for adults.

^lThis was measured using the Home Observation for Measurement of the Environment (HOME) Inventory (Caldwell and Bradley, 1984).

^mThis means that the mother did not converse in a free and easily audible manner.

ⁿOnly women who had a spouse or were in a relationship with a partner at the time of study entry were asked about experiences of intimate partner violence (overall = 1,538; pregnant = 1,054; not pregnant = 484). Acts included in this measure are throwing something at one's spouse or partner; pushing, shoving, hitting, slapping, or grabbing one's spouse or partner; using a knife, gun, or weapon on one's spouse or partner; choking, slamming, kicking, burning, or beating one's spouse or partner; and, in cases of maternal victimization, using threats of force to make the mother have sex.

Appendix Table B.8

Selected Health Insurance and Service Utilization Characteristics at Study Entry, by Pregnancy Status at Study Entry

Characteristic (%)	Overall	Pregnant	Not Pregnant
<u>Maternal health care access and insurance coverage</u>			
Initiated prenatal care in the 1st trimester	81.2	81.5	80.7
Has usual source of general health care ^a	62.8	57.7	73.6 ***
Insurance type ^b			
Uninsured	18.4	17.7	19.8
Public coverage	74.1	75.5	71.1
Private insurance	12.2	10.6	15.6 ***
<u>Mental health, substance use, and intimate partner violence (IPV) services</u>			
In the past year, ever received help or treatment for... ^b			
Mental health	17.2	16.5	18.7
Alcohol or substance use	9.8	9.1	11.4 *
IPV or anger management	3.7	4.0	3.0
Sample size (number of mothers)	2,104	1,429	675
<u>Child health care access and insurance coverage^c</u>			
Has usual source of well-child care	93.3	NA	93.3
Insurance type ^d			
Uninsured	12.4	NA	12.4
Medicaid/Children's Health Insurance Program	77.5	NA	77.5
Other	9.6	NA	9.6
<u>Child care^c</u>			
Child receives care from someone other than mother on a regular basis	16.4	NA	16.4
Sample size (number of children)	675	NA	675

SOURCE: Calculations based on data from the MIHOPE family baseline survey.

NOTES: NA = not applicable.

For all categorical variables, differences between women who were pregnant with the focal children at study entry and women who were not pregnant with the focal children at study entry were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aMother's usual source of general health care includes all care except prenatal care and family planning.

^bResponse categories are not mutually exclusive, so percentages may total more than 100.

^cChild measures are for focal children born before the mother's entry into the study. Because there are no data for women pregnant at study entry for these measures, no statistical significance tests were conducted.

^dPercentages do not sum to 100 because 20 women indicated the focal child had health insurance coverage but did not specify the type of insurance.

Appendix Table B.9

**Selected Family Sociodemographic Characteristics and Economic Self-Sufficiency
at Study Entry, by Parity at Study Entry**

Characteristic	Overall	First-Time Mothers	Mothers with Prior Children
<u>Maternal and household sociodemographic characteristics</u>			
Average maternal age ^a (years)	23.6 (5.7)	21.7 (4.9)	27.0 *** (5.3)
Maternal age 15 to 20 years (%)	35.9	51.6	8.3 ***
Pregnant at study entry (%)	67.7	77.4	50.5 ***
Pregnant at study entry and under 21 years old (%)	28.7	42.0	5.1 ***
Race/ethnicity ^b (%)			
Hispanic	36.6	37.8	34.5
Mexican	24.0	24.8	22.5
Other Hispanic	12.6	13.0	12.0
White, non-Hispanic	24.9	23.5	27.5
Black, non-Hispanic	30.6	29.8	32.0
Other/multiracial	7.9	9.0	6.1
Language other than English spoken in the home (%)	36.2	36.1	36.4
Mother is married to child's father (%)	18.5	11.9	30.1 ***
Child's father figure is present in the home ^c (%)	42.0	34.0	56.1 ***
Other adult relative lives in the home ^d (%)	49.2	62.9	25.0 ***
Nonadult sibling of the child lives in the home ^e (%)	36.1	0.0	99.9
<u>Maternal and household economic self-sufficiency (%)</u>			
No high school diploma ^f	43.0	44.0	41.3
Age 20 years and younger ^g	58.0	58.2	56.5
Age 21 years and older ^h	34.5	28.6	39.9 ***
Currently taking education or training classes	24.6	30.7	14.0 ***
Age 20 years and younger ^g	43.6	44.6	32.3 *
Age 21 years and older ^h	14.0	15.9	12.3 *
Ever employed during past 3 years	79.6	78.2	82.2 *
Age 20 years and younger ^g	69.6	69.0	75.8
Age 21 years and older ^h	85.2	87.9	82.8 **

(continued)

Appendix Table B.9 (continued)

Characteristic	Overall	First-Time Mothers	Mothers with Prior Children
Maternal and household economic self-sufficiency (%)			
Any earnings in the last month	38.6	41.8	32.9 ***
Moved more than once in the past year	20.1	21.4	17.8 **
Household receipt of public assistance ⁱ	88.3	83.7	96.4 ***
Household experiences food insecurity ^j	54.0	52.4	56.9 *
Sample size ^k	2,059	1,314	745

SOURCE: Calculations based on data from the MIHOPE family baseline survey.

NOTES: Standard deviations for continuous variables are shown in parentheses.

For all categorical variables except those with multiple categories, differences between women who were first-time mothers at study entry and women with prior children at study entry were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. See notes “a” and “b” below for further information on statistical tests used with continuous variables and categorical variables with multiple categories, respectively. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aSince this variable is continuous, differences between women who were first-time mothers at study entry and women with prior children at study entry were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^bPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories between women who were first-time mothers at study entry and women with prior children at study entry were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^cChild’s father figure includes the child’s biological father as well as the child’s adoptive father or stepfather. In eight households, the father figure was an adoptive father or stepfather. One household included both the biological father and the stepfather.

^dOther adult relative includes any relative who is age 18 or older, other than child’s biological mother, biological father, adoptive father, or stepfather.

^eNonadult sibling includes stepsiblings. Since this variable had a cell size equal to 0, no statistical significance test was run.

^fNo high school diploma includes individuals who received a General Educational Development (GED) certificate.

^gSample sizes for women age 20 years and younger are: overall = 740; first-time mothers = 678; mothers with prior children = 62.

^hSample sizes for women age 21 years and older are: overall = 1,319; first-time mothers = 636; mothers with prior children = 683.

ⁱPublic assistance includes Temporary Assistance for Needy Families (TANF), Supplemental Nutrition Assistance Program (SNAP), Supplemental Security Income (SSI), Social Security Disability Insurance (SSDI), and Women, Infants, and Children (WIC).

^jRespondents were asked two screening items from the U.S. Department of Agriculture’s Household Food Security Survey Module and were classified as food insecure if they indicated any experience with food not lasting or worry about food running out in the past year.

^kInformation on parity is missing for 45 women due to survey item nonresponse. The sample size in this table is thus lower than the sample sizes in equivalent tables presented by evidence-based model and pregnancy status at study entry.

Appendix Table B.10

Selected Maternal and Household Risk Factors at Study Entry, by Parity at Study Entry

Characteristic	Overall	First-Time Mothers	Mothers with Prior Children
Health self-rated as “poor” or “fair” (%)	11.5	10.0	14.1 ***
Smoking (%)			
Any smoking in the 3 months prior to pregnancy	28.2	27.5	29.6
Any current smoking	14.5	12.4	18.3 ***
Smoking is permitted in the home	16.8	18.9	12.9 ***
Binge alcohol use or illegal use of drugs prior to pregnancy ^{a,b} (%)	31.2	32.8	28.3 *
Depression symptoms score at or above cutoff ^c (%)	38.0	37.8	38.3
Anxiety symptoms score at or above cutoff ^d (%)	21.4	21.5	21.2
Attachment style ^e (%)			
Relationship anxiety score above cutoff	15.5	16.1	14.4
Relationship avoidance score above cutoff	45.4	44.8	46.5
Average mastery score ^{f,g}	22.2 (3.4)	22.2 (3.3)	22.0 (3.5)
Maternal verbal intelligence ^{h,i} (%)			
A weakness or below average	63.1	61.9	65.3
Average	34.9	35.8	33.1
A strength or above average	2.1	2.3	1.6
Mother has never breastfed or does not intend to breastfeed her child ^j (%)	18.5	16.5	21.8 **
Mother has weak empathy skills ^k (%)	22.4	22.7	21.9
Home environment for learning ^l (%)			
Mother has weak conversational skills ^m	6.2	7.0	4.7
Home is cluttered or unclean	14.7	15.2	13.8
Household has fewer than 10 books visible in the home	48.8	49.9	46.8
Evidence of recent alcohol or nonprescription drug use in the home	7.5	7.7	7.1
Maternal experience with or perpetration of intimate partner violence in the past year ⁿ (%)	26.2	27.8	23.5 *
Arrested in the past year (%)	6.4	7.4	4.7 **
Sample size ^o	2,059	1,314	745

(continued)

Appendix Table B.10 (continued)

SOURCES: Calculations based on data from the MIHOPE family baseline survey and the research team's baseline home observations.

NOTES: Standard deviations for continuous variables are shown in parentheses.

For all categorical variables except those with multiple categories, differences between women who were first-time mothers at study entry and women with prior children at study entry were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. See notes "g" and "i" below for further information on statistical tests used with continuous variables and categorical variables with multiple categories, respectively. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aBinge alcohol use is defined as having four drinks or more in one sitting and was reported for the three months prior to pregnancy.

^bIllegal use of drugs was reported for the month prior to pregnancy. This measure includes using prescription drugs in ways other than intended.

^cA score of 8 or higher on the Center for the Epidemiological Studies-Depression (CES-D) 10-item scale (Kohout, Berkman, Evans, and Cornoni-Huntley, 1993) indicates clinically significant symptoms of depression.

^dA score of 10 or higher on the Generalized Anxiety Disorder (GAD-7) 7-item scale (Spitzer, Kroenke, Williams, and Löwe, 2006) indicates moderate or severe anxiety symptoms.

^eMeasured using the Attachment Style Questionnaire-Short Form (ASQ-SF) (Karantzas, Feeney, and Wilkinson, 2010). Anxiety is measured using 13 items, and avoidance is measured using 16 items. Relationship anxiety and avoidance scores "above cutoff" are defined as those scoring above the theoretical median (scores > 45 for relationship anxiety; scores > 56 for relationship avoidance).

^fScore is measured using the Pearlin Mastery Scale (Pearlin and Schooler, 1978). Mastery refers to the extent to which one perceives control and autonomy over various aspects of life. Scores can range from 7 to 28, with higher scores indicating greater levels of mastery.

^gSince this variable is continuous, differences between women who were first-time mothers at study entry and women with prior children at study entry were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^hMeasured using the similarities subscale of the Wechsler Adult Intelligence Scale-Third Edition (WAIS-III) (Wechsler, 1997). Respondents who took the Spanish version of the survey took the equivalent subscale of the *Escala de Inteligencia de Wechsler-Tercera Edición* (EIWA-III) (Wechsler, 2008). Below average = scores 1-7, average = scores 8-12, above average = scores 13-19.

ⁱPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories between women who were first-time mothers at study entry and women with prior children at study entry were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^jThis measure is combined. Women who were not pregnant at study entry were asked whether they had ever breastfed the focal child, while women who were pregnant were asked whether they intend to breastfeed the focal child.

^kEmpathy skills were measured using a subscale of the Adult Adolescent Parenting Inventory-2 (AAPI) (Bavolek and Keene, 1999). For English-speaking women, the cutoff score for low empathy was less than or equal to 32 for adolescents and less than or equal to 38 for adults. For Spanish-speaking women, the cutoff score for low empathy was less than or equal to 29 for adolescents and less than or equal to 28 for adults.

^lThis was measured using the Home Observation for Measurement of the Environment (HOME) Inventory (Caldwell and Bradley, 1984).

^mThis means that the mother did not converse in a free and easily audible manner.

ⁿOnly women who had a spouse or were in a relationship with a partner at the time of study entry were asked about experiences of intimate partner violence (overall = 1,514; first-time mother = 949; mothers with prior children = 565). Acts included in this measure are throwing something at one's spouse or partner; pushing, shoving, hitting, slapping, or grabbing one's spouse or partner; using a knife, gun, or weapon on one's spouse or partner; choking, slamming, kicking, burning, or beating one's spouse or partner; and, in cases of maternal victimization, using threats of force to make the mother have sex.

^oInformation on parity is missing for 45 women due to survey item non-response. The sample size in this table is thus lower than the sample sizes in equivalent tables presented by evidence-based model and pregnancy status at study entry.

Appendix Table B.11

Selected Child Risk Factors at Study Entry, by Parity at Study Entry

Characteristic (%)	Overall	First-Time Mothers	Mothers with Prior Children
Child had low birth weight, <2,500 grams or 5.5 pounds	11.7	11.4	12.0
Preterm birth (<37 weeks)	18.8	17.2	20.1
Child was placed in Neonatal Intensive Care Unit	12.8	9.2	15.7 **
Sample size ^a	666	297	369

SOURCE: Calculations based on data from the MIHOPE family baseline survey.

NOTES: Measures are for focal children born before the mother's entry into the study.

For all categorical variables, differences between women who were first-time mothers at study entry and women with prior children at study entry were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aInformation on parity is missing for 9 women who had a child prior to study entry due to item nonresponse. The sample size in this table is thus lower than the sample size in the equivalent table presented by evidence-based model.

Appendix Table B.12

**Selected Health Insurance and Service Utilization Characteristics at Study Entry,
by Parity at Study Entry**

Characteristic (%)	Overall	First-Time Mothers	Mothers with Prior Children
<u>Maternal health care access and insurance coverage</u>			
Initiated prenatal care in the 1st trimester	81.3	81.9	80.3
Has usual source of general health care ^a	62.9	59.5	68.9 ***
Insurance type ^b			
Uninsured	18.3	18.6	17.7
Public coverage	74.2	73.3	75.7
Private insurance	12.2	12.6	11.5
<u>Mental health, substance use, and intimate partner violence (IPV) services</u>			
In the past year, ever received help or treatment for... ^b			
Mental health	17.1	17.0	17.3
Alcohol or substance use	9.9	10.1	9.5
IPV or anger management	3.6	3.5	3.7
Sample size (number of mothers) ^c	2,059	1,314	745
<u>Child health care access and insurance coverage^d</u>			
Has usual source of well-child care	93.2	91.9	94.3
Insurance type ^e			
Uninsured	12.3	14.3	10.7
Medicaid/Children's Health Insurance Program	77.6	75.3	79.5
Other	9.7	9.8	9.6
<u>Child care^d</u>			
Child receives care from someone other than mother on a regular basis	16.6	16.6	16.6
Sample size (number of children) ^e	666	297	369

SOURCE: Calculations based on data from the MIHOPE family baseline survey.

NOTES: For all categorical variables, differences between women who were first-time mothers at study entry and women with prior children at study entry were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aMother's usual source of general health care includes all care except prenatal care and family planning.

^bResponse categories are not mutually exclusive, so percentages may total more than 100.

^cInformation on parity is missing for 45 women and 9 children due to survey item nonresponse. The sample sizes in this table are thus lower than the sample sizes in equivalent tables presented by evidence-based model and pregnancy status at study entry.

^dChild measures are for focal children born before the mother's entry into the study.

^ePercentages do not sum to 100 because 18 women indicated the focal child had health insurance coverage but did not specify the type of insurance.

Appendix C

Supplemental Exhibits for Chapter 3

This appendix chapter provides supplemental tables for the information included in Chapter 3, including findings on:

- Local programs' qualifications for hire for supervisors and home visitors, and recruitment and training compliance
- Amount and content of home visitor and supervisor training and supervision
- Implementation system factors, including:
 - Detailed summaries of parenting curricula
 - Perceptions of consultant access
 - Organizational dynamics and caseloads at local programs
- Home visitor perceptions
- Community service environment

Recruitment and Training

- **Appendix Table C.1** provides information on local programs' qualifications for hire for supervisors and home visitors using data from local programs and evidence-based model sample job descriptions. This information provides a snapshot of the types of skills and backgrounds local programs look for when hiring home visiting staff.
- **Appendix Table C.2** provides information on the difficulty of staff recruitment (for programs that hired new staff in the year prior to survey administration) and the training compliance of staff working at the time of the survey.
- **Appendix Tables C.3 through C.5** provide information on home visitor training content by outcome-specific area and individual content area. (See Appendix A for more information on outcome-specific areas and individual content areas.)
- **Appendix Tables C.6 through C.8** provide information on amount of general training supervisors received, and supervisor training content by individual content area. (See Appendix A for more information on individual content areas.)

Supervision

- **Appendix Table C.9** provides information on the amount of informal individual supervision received by home visitors. (Informal supervision is defined as supervision occurring in non-scheduled contacts with a home visitor, such as during informal conversation, phone calls, e-mails, and texts.)
- **Appendix Table C.10** provides information on the specific topics discussed in individual supervision sessions with supervisors.

Clinical Supports

- **Appendix Tables C.11 through C.13** present more detailed summaries of the three parenting curricula that are briefly summarized in Table 3.7 of the main report. These curricula include the Parents as Teachers (PAT) Foundational Curriculum, Partners in Parenting Education (PIPE) Curriculum, and Partners for a Healthy Baby (PHB) Home Visiting Curriculum. The MIHOPE research team summarized the content and structure of these parenting curricula in the appendix tables using language stated in the curricula whenever possible.
- **Appendix Table C.14** provides information on local program managers' reports of the availability of consultants in various service areas.

Organizational Dynamics and Caseloads

- **Appendix Table C.15** provides information on the organizational dynamics, and caseloads and staffing at local programs. Organizational dynamics are captured from home visitors' and supervisors' perceptions of the organizational culture and climate at local programs.

Home Visitor Perceptions

The following tables provide findings on home visitor perceptions by evidence-based model.

- **Appendix Tables C.16 through C.19** present evidence-based model findings for the variables included in Table 3.9 of the main report. These variables include perceptions of local program expectations for addressing each outcome, support from local program implementation systems to address

each outcome, and home visitors' comfort and effectiveness in addressing outcomes.

- **Appendix Table C.20** provides information on home visitors' perceptions of their self-efficacy in challenging situations that address certain outcomes.
- **Appendix Table C.21** provides information on home visitors' perceptions of programmatic changes resulting from the MIECHV program.

Community Service Environment

The following tables provide information on the home visitors' and local program managers' perceptions of the community service providers available in their community.

- **Appendix Tables C.22 through C.24** provide information on home visitors' perceptions of accessibility, their recent access, and helpfulness of consultants, along with the availability, accessibility, and effectiveness of external community service providers, by evidence-based model.
- **Appendix Tables C.25 through C.28** provide evidence-based model findings for the variables in Table 3.10 of the main report. These variables include local program managers' perceptions of availability, accessibility, and effectiveness of community service providers.
- **Appendix Tables C.29 through C.32** provide evidence-based model findings for the variables in Table 3.11 of the main report. These variables include local program managers' reports of whether or not the local program has at least one community service provider with a memorandum of understanding or in-agency provider, a designated point of contact, and good or excellent coordination.
- **Appendix Table C.33** provides information on the frequency of referrals to the community service providers described in the previous tables.
- **Appendix Table C.34** provides information on the availability of other early childhood services in the local programs' communities.

Appendix Table C.1

Local Programs' Qualifications for Hiring Home Visitors and Supervisors, by Evidence-Based Model

Qualification (%)	Qualification Specified for Home Visitors					Qualification Specified for Supervisors				
	Overall	EHS	HFA	NFP	PAT	Overall	EHS	HFA	NFP	PAT
<u>Experience</u>										
Minimum degree required										
Associate's degree ^{a,b}	16.9	47.4	4.0	0.0	21.1 ***	1.2	5.3	0.0	0.0	0.0
Bachelor's degree or higher	42.2	26.3	16.0	85.0	47.4 ***	73.5	68.4	68.0	80.0	78.9
Experience working with families	67.5	73.7	80.0	55.0	57.9	69.9	94.7	60.0	60.0	68.4 *
<u>Skills</u>										
Interpersonal skills ^b	71.1	89.5	72.0	70.0	52.6 *	74.7	84.2	80.0	75.0	57.9
Organizational skills	54.2	63.2	60.0	55.0	36.8	39.8	68.4	32.0	35.0	26.3 **
Technological skills	51.8	63.2	56.0	60.0	26.3 *	38.6	57.9	48.0	20.0	26.3 **
Leadership skills	NA	NA	NA	NA	NA	48.2	52.6	68.0	35.0	31.6 *
<u>Knowledge beyond formal degree^c</u>										
Maternal and newborn health and well-being ^{a,b}	8.4	0.0	24.0	5.0	0.0 ***	21.7	10.5	48.0	10.0	10.5 ***
Parenting ^{a,b}	20.5	21.1	40.0	5.0	10.5 **	22.9	21.1	52.0	0.0	10.5 ***
Child health and development	31.3	31.6	52.0	5.0	31.6 ***	42.2	57.9	60.0	10.0	36.8 ***
Economic self-sufficiency ^{a,b}	1.2	0.0	0.0	0.0	5.3	1.2	5.3	0.0	0.0	0.0
Access to community resources ^{a,b}	22.9	31.6	24.0	15.0	21.1	25.3	42.1	40.0	10.0	5.3 ***

(continued)

Appendix Table C.1 (continued)

Qualification (%)	Qualification Specified for Home Visitors					Qualification Specified for Supervisors				
	Overall	EHS	HFA	NFP	PAT	Overall	EHS	HFA	NFP	PAT
Family health, empowerment, and well-being ^{a,b}	4.8	15.8	0.0	5.0	0.0 *	9.6	15.8	16.0	5.0	0.0
Nursing ^{a,b}	16.9	0.0	4.0	65.0	0.0 ***	7.2	0.0	4.0	25.0	0.0 ***
Sample size	83	19	25	20	19	83	19	25	20	19

SOURCES: Calculations based on data from review of the MIHOPE local program job descriptions and the MIHOPE evidence-based model developer sample job descriptions.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. NA = not applicable.

For all categorical variables except those with cell sizes less than 5, differences across evidence-based models were tested for statistical significance using a chi-square test. Each category was tested separately. See notes “a” and “b” below for further information on the statistical test used with categorical variables with cell sizes less than 5. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aSince this variable had a cell size less than 5 for home visitor qualifications, differences across evidence-based models were tested for statistical significance using a Fisher’s exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^bSince this variable had a cell size less than 5 for supervisor qualifications, differences across evidence-based models were tested for statistical significance using a Fisher’s exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^cThe coding of knowledge reflects when job descriptions explicitly requested knowledge in these areas beyond requirements for formal degrees.

Appendix Table C.2
Staff Recruitment and Training Compliance at Local Programs,
by Evidence-Based Model

Recruitment and Training Compliance (%)	Overall	EHS	HFA	NFP	PAT
<u>Recruitment^a</u>					
Very or somewhat difficult to recruit qualified candidates	65.3	77.8	65.0	64.7	52.9
Reasons for recruiting difficulty ^b					
Interest in home visiting	18.2	11.1	23.5	13.3	25.0
Required education/degree	43.9	61.1	17.6	46.7	50.0 *
Bilingual in English and Spanish	68.2	77.8	88.2	60.0	43.8 **
Own transportation	4.5	5.6	5.9	0.0	6.3
Other ^c	18.2	11.1	17.6	20.0	25.0
Sample size (number of local programs that hired new home visitors in the 12 months preceding study participation)	72	18	20	17	17
<u>Training compliance of staff</u>					
Home visitors are compliant with training requirements ^d					***
All	63.6	42.1	46.2	90.9	76.2
Most	35.2	52.6	53.8	9.1	23.8
Some	1.1	5.3	0.0	0.0	0.0
None	0.0	0.0	0.0	0.0	0.0
Supervisors are compliant with training requirements ^d					
All	88.5	89.5	84.6	90.9	90.0
Most	9.2	0.0	15.4	9.1	10.0
Some	1.1	5.3	0.0	0.0	0.0
None	1.1	5.3	0.0	0.0	0.0
Sample size (number of local programs)	88	19	26	22	21

SOURCE: Calculations based on data from the MIHOPE program manager survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

For all categorical variables except those with multiple categories, differences across evidence-based models were tested for statistical significance using a Fisher's exact test. Each category was tested separately. See note "d" below for further information on the statistical test used with categorical variables with multiple categories. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aRecruitment measures are only reported for local programs that hired new home visitors in the 12 months preceding participation in MIHOPE.

^bResponse categories are not mutually exclusive, so percentages may total more than 100.

^cOther includes availability to travel and work in rural or hard-to-reach areas, finding staff diverse in ethnicity, home visiting experience or experience working with maternal and child health issues, ability to work in urban settings, finding staff with emotional intelligence and time management skills, living in proximity to open positions, and salary.

^dPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Fisher's exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table C.3

**Percentage of Months in Which Home Visitors Attended Training
on Outcome-Specific Areas, by Evidence-Based Model**

Outcome-Specific Area (%)	Months Attending Training ^a				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal health/birth outcomes	18.8	14.3	15.4	27.6	17.4 ***
Maternal physical health	11.2	8.9	10.7	15.8	8.6 **
Family planning and birth spacing	10.0	10.4	11.2	9.7	8.1
Tobacco use/substance use	9.8	7.5	12.7	9.2	9.4 *
Mental health or stress	33.1	32.1	33.6	31.4	36.0
Intimate partner violence	15.1	11.5	17.1	15.8	15.6 *
<u>Parenting</u>					
Breastfeeding, feeding, and nutrition	10.4	8.0	8.1	17.1	7.8 ***
Positive parenting behavior	42.3	42.4	41.5	46.7	37.5
Child maltreatment	36.9	39.0	39.4	31.8	37.9
<u>Child health and development</u>					
Child preventive care	33.8	35.9	33.8	33.2	32.4
Child development	46.5	49.2	43.8	49.6	42.8
<u>Family economic self-sufficiency</u>					
Economic self-sufficiency	16.4	25.4	14.5	11.0	16.0 ***
<u>Access to community resources and public services</u>					
Child care	2.1	1.8	3.1	1.9	1.3
Public assistance	8.4	7.3	9.2	8.7	8.0
Health insurance	4.7	4.2	4.7	5.3	4.5
Housing	3.8	3.4	4.3	3.3	4.4

(continued)

Appendix Table C.3 (continued)

Outcome-Specific Area (%)	Months Attending Training ^a				
	Overall	EHS	HFA	NFP	PAT
General home visitor training					
General clinical and communication skills	26.8	26.0	30.3	24.9	25.3
Stress management	16.8	17.9	18.4	12.0	19.7 **
Administrative activities	21.0	24.3	21.9	16.1	22.6
Cultural sensitivity/diversity	19.7	20.3	24.3	16.1	17.0
Initial/core and continuing training for evidence-based model	15.9	17.1	19.3	13.8	12.3 *
Occupational health/safety ^b	2.5	2.6	3.1	2.3	1.7
Sample size	594	140	172	161	121

SOURCE: Calculations based on data from the MIHOPE home visitor monthly training logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Sample includes home visitors who had a potential to contribute 12 months of training logs, and represents a maximum of 12 monthly logs per home visitor. Training logs were expected monthly, regardless of whether a training occurred. Calculations are based on the number of training logs submitted that indicated a training occurred, divided by the number of months from first log submitted to last log submitted, up to a maximum of 12 months.

For all percentage variables, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of home visitors within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aVariable is calculated among months when logs were submitted and they indicated training occurred.

^bThis area was coded from open-ended write-in responses. See Appendix A for more information on this coding process.

Appendix Table C.4

**Percentage of Months in Which Home Visitors Attended Training
on Individual Content Areas, by Evidence-Based Model**

Individual Content Area (%)	Months Attending Training ^a				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal health behaviors/prenatal care	18.8	14.3	15.4	27.6	17.4 ***
Postpartum physical health	11.2	8.9	10.7	15.8	8.6 **
Family planning	10.0	10.4	11.2	9.7	8.1
Tobacco, alcohol, and drug use	9.8	7.5	12.7	9.2	9.4 *
Mental health or stress	33.1	32.1	33.6	31.4	36.0
Social support	19.0	17.5	22.2	17.1	19.0
Intimate partner violence or anger management	15.1	11.5	17.1	15.8	15.6 *
<u>Parenting</u>					
Breastfeeding/feeding/nutrition	10.4	8.0	8.1	17.1	7.8 ***
Parent-child interaction	35.4	32.9	34.3	42.3	30.8 *
Co-parenting	6.1	5.4	8.9	3.8	5.8
Discipline/behavior management	15.3	17.2	16.5	12.5	15.0
Developmentally appropriate care/routines	18.7	19.0	18.8	20.6	15.8
Child abuse/neglect/maltreatment	17.9	16.3	21.5	15.3	18.1
<u>Child health and development</u>					
Child health	22.7	24.4	22.3	22.4	21.8
Child development	32.9	39.8	32.2	27.6	32.9 **
Child/home safety	19.7	20.9	21.7	18.0	17.6
Lead exposure in home	2.3	3.3	2.0	2.5	1.4
<u>Family economic self-sufficiency</u>					
Education	10.8	17.5	9.0	6.5	11.2 ***
Job training and employment	7.2	10.2	7.6	5.0	5.9 **
Economic management/financial self-sufficiency	5.1	6.5	6.5	4.0	3.1 *

(continued)

Appendix Table C.4 (continued)

Individual Content Area (%)	Months Attending Training ^a				
	Overall	EHS	HFA	NFP	PAT
<u>Access to community resources and public services</u>					
Child care	2.1	1.8	3.1	1.9	1.3
Public/governmental assistance	8.4	7.3	9.2	8.7	8.0
Health insurance	4.7	4.2	4.7	5.3	4.5
Health care services (not otherwise specified) ^{b,c}	3.7	2.9	1.7	7.5	2.6 ***
Housing	3.8	3.4	4.3	3.3	4.4
<u>General home visitor training</u>					
General clinical and communication skills	26.8	26.0	30.3	24.9	25.3
Stress management	16.8	17.9	18.4	12.0	19.7 **
Administrative activities	21.0	24.3	21.9	16.1	22.6
Cultural sensitivity/diversity	19.7	20.3	24.3	16.1	17.0
Initial/core and continuing training for evidence-based model	15.9	17.1	19.3	13.8	12.3 *
Occupational health/safety ^b	2.5	2.6	3.1	2.3	1.7
<u>Other</u>	11.6	13.2	11.9	8.8	13.1 **
Sample size	594	140	172	161	121

SOURCE: Calculations based on data from the MIHOPE home visitor monthly training logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Sample includes home visitors who had a potential to contribute 12 months of training logs, and represents a maximum of 12 monthly logs per home visitor. Training logs were expected monthly, regardless of whether a training occurred. Calculations are based on the number of training logs submitted that indicated a training occurred, divided by the number of months from first log submitted to last log submitted, up to a maximum of 12 months.

For all percentage variables, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of home visitors within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aVariable is calculated among months when logs were submitted and they indicated training occurred.

^bThis content area was coded from open-ended write-in responses. See Appendix A for more information on this coding process.

^cHealth care services “not otherwise specified” include general health topics not linked to a particular target population, such as diseases, health equity/inequity, dental care, fitness, health literacy, and medical or physical disabilities, among other topics.

Appendix Table C.5

Percentage of Home Visitors Who Attended Any Training on Individual Content Areas, by Evidence-Based Model

Individual Content Area (%)	Home Visitors Who Attended Any Training ^a				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal health behaviors/prenatal care	60.9	55.0	52.9	78.3	56.2 ***
Postpartum physical health	46.0	41.4	43.6	61.5	33.9 ***
Family planning	43.6	45.7	44.8	48.4	33.1
Tobacco, alcohol, and drug use	44.6	45.7	49.4	42.2	39.7
Mental health or stress	80.8	80.0	79.1	80.1	85.1
Social support	57.7	57.9	58.1	55.9	59.5
Intimate partner violence or anger management	62.8	56.4	66.3	66.5	60.3
<u>Parenting</u>					
Breastfeeding/feeding/nutrition	44.9	42.1	37.2	65.8	31.4 ***
Parent-child interaction	81.3	81.4	76.2	91.9	74.4 **
Co-parenting	25.3	25.0	32.6	18.0	24.8
Discipline/behavior management	53.7	59.3	49.4	53.4	53.7
Developmentally appropriate care/routines	63.1	65.0	58.1	70.8	57.9
Child abuse/neglect/maltreatment	67.2	65.7	74.4	62.7	64.5
<u>Child health and development</u>					
Child health	68.2	75.0	64.0	68.3	66.1
Child development	81.8	87.1	79.1	78.9	83.5
Child/home safety	69.7	74.3	69.8	72.0	61.2
Lead exposure in home	13.5	19.3	11.6	14.3	8.3
<u>Family economic self-sufficiency</u>					
Education	38.6	53.6	36.0	28.6	38.0 ***
Job training and employment	31.8	38.6	36.6	26.7	24.0 *
Economic management/financial self-sufficiency	24.7	30.0	28.5	22.4	16.5

(continued)

Appendix Table C.5 (continued)

Individual Content Area (%)	Home Visitors Who Attended Any Training ^a				
	Overall	EHS	HFA	NFP	PAT
<u>Access to community resources and public services</u>					
Child care	9.1	7.1	13.4	7.5	7.4
Public/governmental assistance	37.0	34.3	39.5	41.6	30.6
Health insurance	25.6	20.7	25.6	34.2	19.8 *
Health care services (not otherwise specified) ^{b,c}	20.7	17.9	10.5	39.8	13.2 ***
Housing	21.7	18.6	25.0	21.1	21.5
<u>General home visitor training</u>					
General clinical and communication skills	76.9	76.4	82.0	75.8	71.9
Stress management	57.9	55.7	58.7	55.9	62.0
Administrative activities	67.3	72.1	72.1	59.0	66.1
Cultural sensitivity/diversity	65.7	70.7	72.7	59.6	57.9
Initial/core and continuing training for evidence-based model	58.2	60.0	65.7	58.4	45.5 **
Occupational health/safety ^b	17.3	20.0	21.5	15.5	10.7
<u>Other</u>	48.3	55.7	46.5	42.9	49.6
Sample size	594	140	172	161	121

SOURCE: Calculations based on data from the MIHOPE home visitor monthly training logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Sample includes home visitors who had a potential to contribute 12 months of training logs, and represents a maximum of 12 monthly logs per home visitor. Training logs were expected monthly, regardless of whether a training occurred. The analysis window for each home visitor spans the time from their first log submitted to the last log submitted, up to a maximum of 12 months. As such, these measures only capture whether the home visitor attended a training for each individual content area within this analysis window.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local programs. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aSample is limited to staff who submitted at least one log indicating training occurred.

^bThis content area was coded from open-ended write-in responses. See Appendix A for more information on this coding process.

^cHealth care services “not otherwise specified” include general health topics not linked to a particular target population, such as diseases, health equity/inequity, dental care, fitness, health literacy, and medical or physical disabilities, among other topics.

Appendix Table C.6

Dosage and Modality of Training for Supervisors, by Evidence-Based Model

Training Measure	Overall	EHS	HFA	NFP	PAT
<u>Dosage^a</u>					
Months attending any training (%)	76.0	78.8	73.9	82.4	69.6
Average number of training sessions per month	1.9 (1.2)	2.5 (1.4)	2.0 (1.2)	1.9 (1.0)	1.3 *** (0.7)
Average training per month (hours)	10.3 (7.3)	12.0 (8.8)	10.4 (7.3)	11.1 (5.7)	7.6 (7.0)
Sample size	142	30	47	34	31
<u>Modality^b (%)</u>					
Training involving role play	34.4	37.5	35.1	32.3	32.5
Training involving role play and there was an observation of role play	23.7	26.8	25.7	16.5	25.9
Sample size ^c	141	29	47	34	31

SOURCE: Calculations based on data from the MIHOPE supervisor monthly training logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Sample includes supervisors who had a potential to contribute 12 months of training logs, and represents a maximum of 12 monthly logs per supervisor. Training logs were expected monthly, regardless of whether a training occurred.

Standard deviations for continuous variables are shown in parentheses.

For all percentage variables and continuous variables, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of supervisors within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aDosage is calculated among months when training logs were submitted.

^bModality is calculated among months when training logs were submitted and they indicated training occurred.

^cSample is limited to staff who submitted at least one log indicating training occurred.

Appendix Table C.7

Percentage of Months in Which Supervisors Attended Training on Individual Content Areas, by Evidence-Based Model

Individual Content Area (%)	Months Attending Training ^a				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal health behaviors/prenatal care	15.7	13.8	15.0	23.6	10.1 *
Postpartum physical health	10.0	7.1	9.9	15.3	6.9
Family planning	6.6	4.2	6.9	9.6	5.0
Tobacco, alcohol, and drug use	7.6	5.5	10.5	5.1	7.8
Mental health or stress	33.9	31.8	35.7	33.6	33.6
Social support	18.3	17.7	19.5	22.0	13.1
Intimate partner violence or anger management	12.2	8.7	16.2	12.1	9.4 *
<u>Parenting</u>					
Breastfeeding/feeding/nutrition	6.9	7.4	6.8	9.1	4.4
Parent-child interaction	28.7	27.7	26.8	39.4	20.6 **
Co-parenting	3.8	2.3	5.4	1.7	5.0
Discipline/behavior management	12.8	16.6	13.8	11.7	9.0
Developmentally appropriate care/routines	14.6	19.8	14.1	15.8	9.4
Child abuse/neglect/maltreatment	15.1	13.1	20.9	12.6	10.9 ***
<u>Child health and development</u>					
Child health	16.5	12.7	17.5	21.3	13.2
Child development	26.7	31.8	26.3	26.4	22.7
Child/home safety	15.6	13.7	18.8	17.7	10.4
Lead exposure in home	0.7	2.1	0.2	0.5	0.5
<u>Family economic self-sufficiency</u>					
Education	10.2	16.5	6.7	7.1	12.8 *
Job training and employment	4.6	5.6	5.8	2.9	3.8
Economic management/financial self-sufficiency	4.4	2.9	6.7	3.2	3.6

(continued)

Appendix Table C.7 (continued)

Individual Content Area (%)	Months Attending Training ^a				
	Overall	EHS	HFA	NFP	PAT
<u>Access to community resources and public services</u>					
Child care	1.9	2.4	2.2	1.5	1.6
Public/governmental assistance	7.8	5.9	8.8	8.7	7.0
Health insurance	4.9	3.5	3.8	8.7	3.7
Health care services (not otherwise specified) ^{b,c}	3.5	2.5	2.7	7.5	1.5 **
Housing	3.5	1.9	5.3	2.5	3.1
<u>General supervisor training</u>					
General clinical and communication skills	29.6	33.1	29.6	27.7	28.6
Stress management	15.0	13.8	17.1	14.9	13.3
Supervisory methods	18.5	24.2	20.0	18.2	11.5 *
Administrative activities	38.3	43.0	37.8	34.1	39.0
Cultural sensitivity/diversity	15.1	12.8	18.8	16.7	9.9
Initial/core and continuing training for evidence-based model	14.1	15.4	17.0	12.3	10.5
Occupational health/safety ^b	2.5	2.9	3.0	1.9	1.8
<u>Other</u>	17.0	16.6	18.9	15.9	15.8
Sample size	141	29	47	34	31

SOURCE: Calculations based on data from the MIHOPE supervisor monthly training logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Sample includes supervisors who had a potential to contribute 12 months of training logs, and represents a maximum of 12 monthly logs per supervisor. Training logs were expected monthly, regardless of whether a training occurred. Calculations are based on the number of training logs submitted that indicated a training occurred, divided by the number of months from first log submitted to last log submitted, up to a maximum of 12 months.

For all percentage variables, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of supervisors within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aVariable is calculated among months when logs were submitted and they indicated training occurred.

^bThis content area was coded from open-ended write-in responses. See Appendix A for more information on this coding process.

^cHealth care services “not otherwise specified” include general health topics not linked to a particular target population, such as diseases, health equity/inequity, dental care, fitness, health literacy, and medical or physical disabilities, among other topics.

Appendix Table C.8
Percentage of Supervisors Who Attended Any Training on Individual Content Areas,
by Evidence-Based Model

Individual Content Area (%)	Supervisors Who Attended Any Training ^a				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal health behaviors/prenatal care	59.6	55.2	59.6	79.4	41.9 **
Postpartum physical health	46.8	41.4	44.7	67.6	32.3 **
Family planning	34.0	17.2	36.2	52.9	25.8 **
Tobacco, alcohol, and drug use	43.3	44.8	51.1	32.4	41.9
Mental health or stress ^b	87.2	86.2	91.5	88.2	80.6
Social support	70.9	79.3	70.2	79.4	54.8
Intimate partner violence or anger management	58.9	44.8	66.0	73.5	45.2 *
<u>Parenting</u>					
Breastfeeding/feeding/nutrition	36.2	51.7	36.2	41.2	16.1 *
Parent-child interaction	78.0	75.9	80.9	88.2	64.5
Co-parenting	19.1	20.7	29.8	8.8	12.9
Discipline/behavior management	48.2	51.7	48.9	52.9	38.7
Developmentally appropriate care/routines	56.0	69.0	53.2	58.8	45.2
Child abuse/neglect/maltreatment	63.1	62.1	78.7	58.8	45.2 **
<u>Child health and development</u>					
Child health	56.7	55.2	61.7	67.6	38.7
Child development	78.0	93.1	70.2	79.4	74.2
Child/home safety	63.1	69.0	74.5	64.7	38.7 **
Lead exposure in home ^b	5.7	13.8	2.1	5.9	3.2
<u>Family economic self-sufficiency</u>					
Education	42.6	65.5	29.8	41.2	41.9 *
Job training and employment	22.0	17.2	27.7	23.5	16.1
Economic management/financial self-sufficiency	27.0	17.2	42.6	23.5	16.1 **
<u>Access to community resources and public services</u>					
Child care ^b	11.3	20.7	12.8	8.8	3.2

(continued)

Appendix Table C.8 (continued)

Individual Content Area (%)	Supervisors Who Attended Any Training ^a				
	Overall	EHS	HFA	NFP	PAT
Public/governmental assistance	37.6	34.5	42.6	41.2	29.0
Health insurance	24.1	24.1	19.1	41.2	12.9 *
Health care services (not otherwise specified) ^{c,d}	22.0	17.2	17.0	44.1	9.7 **
Housing	19.9	17.2	25.5	20.6	12.9
<u>General supervisor training</u>					
General clinical and communication skills	82.3	82.8	91.5	79.4	71.0
Stress management	61.0	55.2	70.2	64.7	48.4
Supervisory methods	63.1	82.8	66.0	64.7	38.7 ***
Administrative activities ^b	90.1	96.6	89.4	88.2	87.1
Cultural sensitivity/diversity	63.1	55.2	70.2	76.5	45.2 *
Initial/core and continuing training for evidence-based model	58.2	65.5	66.0	50.0	48.4
Occupational health/safety ^{b,c}	17.0	17.2	19.1	17.6	12.9
<u>Other</u>	64.5	65.5	63.8	67.6	61.3
Sample size	141	29	47	34	31

SOURCE: Calculations based on data from the MIHOPE supervisor monthly training logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Sample includes supervisors who had a potential to contribute 12 months of training logs, and represents a maximum of 12 monthly logs per supervisor. Training logs were expected monthly, regardless of whether a training occurred. The analysis window for each supervisor spans the time from their first log submitted to the last log submitted, up to a maximum of 12 months. As such, these measures only capture whether the supervisor attended a training for each individual content area within this analysis window.

For all categorical variables except those with cell sizes less than 5, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local programs. Each category was tested separately. See note “b” below for further information on the statistical test used with categorical variables with cell sizes less than 5. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aSample is limited to staff who submitted at least one log indicating training occurred.

^bSince this variable had a cell size less than 5, differences across evidence-based models were tested for statistical significance using a Fisher’s exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^cThis content area was coded from open-ended write-in responses. See Appendix A for more information on this coding process.

^dHealth care services “not otherwise specified” include general health topics not linked to a particular target population, such as diseases, health equity/inequity, dental care, fitness, health literacy, and medical or physical disabilities, among other topics.

Appendix Table C.9

Informal Individual Supervision, by Evidence-Based Model

Dosage Measure ^a	Overall	EHS	HFA	NFP	PAT
Weeks attending any informal individual supervision sessions (%)	74.5	72.1	79.1	72.7	72.9
Average number of minutes spent in informal individual supervision per week	30.4 (32.0)	31.1 (47.2)	33.6 (30.4)	23.7 (16.6)	33.9 (25.1)
Sample size	596	145	176	161	114

SOURCE: Calculations based on data from the MIHOPE weekly supervision logs completed by supervisors of individual home visitors.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Sample includes home visitors who had a potential to contribute 52 weeks of supervision logs, and represents a maximum of 52 weeks of logs per home visitor. Supervision logs were expected weekly, regardless of whether supervision occurred.

Standard deviations for continuous variables are shown in parentheses.

For all percentage variables and continuous variables, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of home visitors within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aDosage measures are calculated among weeks when supervision logs were submitted.

Appendix Table C.10

Percentage of Home Visitor Individual Supervision Sessions in Which Specific Supervision Topics Were Discussed, by Evidence-Based Model

Supervision Topic ^a (%)	Overall	EHS	HFA	NFP	PAT
Client status	86.8	67.4	95.8	92.9	87.7 ***
Planning or problem-solving client issues	62.2	49.1	72.7	65.9	56.4 ***
Planning or problem-solving home visitor logistical/ concrete issues	31.9	33.2	36.5	27.8	28.9
Planning or problem-solving home visitor burnout/ emotional exhaustion	11.9	9.7	16.9	9.4	10.4
General home visitor performance review	23.1	30.0	27.0	15.2	20.0
General administrative topics/issues	58.3	63.2	55.9	51.5	65.9
Sample size	586	138	176	161	111

SOURCE: Calculations based on data from the MIHOPE weekly supervision logs completed by supervisors of individual home visitors.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Sample includes home visitors who had a potential to contribute 52 weeks of supervision logs, and represents a maximum of 52 weeks of logs per home visitor. Supervision logs were expected weekly, regardless of whether supervision occurred.

For all percentage variables, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of home visitors within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aMeasures are specific to formal supervision and reflect weeks when a formal individual supervision session occurred. Sample is thus limited to staff with at least one log indicating formal individual supervision occurred. (Ten home visitors were excluded from these analyses because they never received an individual supervision session.)

Appendix Table C.11

Overview of Parents as Teachers (PAT) Foundational Curriculum

PAT Foundational Curriculum Component	Description
Target population	Families with young children ages 0-3 and expectant families
Developmental stages covered	Prenatal through age 3
Theoretical foundation or approach	<p>Approach based on 4 theories:</p> <ol style="list-style-type: none"> (1) Human ecology theory (2) Family systems theory (3) Attribution theory (4) Self-efficacy theory <p>Also based on construct of empowerment, development-centered parenting, strengthening families approach, and 5 basic tenets of child development, including:</p> <ol style="list-style-type: none"> (1) Learning is integrated across domains (2) Learning takes place in context of child's perspective (3) Learning takes place through hands-on experience (4) Children have an intrinsic desire to understand their environment (5) Learning takes place in the context of relationships
Total number of pages and organization	<p>3, 270 pages. Sequenced by topic. Child development topic sequenced by the following child ages:</p> <ul style="list-style-type: none"> • Prenatal • Birth to 1½ months • 1½ to 3½ months • 3½ to 5½ months • 5½ to 8 months • 8 to 14 months • 14 to 24 months • 24 to 36 months • 3 years

(continued)

Appendix Table C.11 (continued)

PAT Foundational Curriculum Component	Description
Common home visit activities or structure	<p>Each visit has the following sequence of activities:</p> <ol style="list-style-type: none"> (1) Opening: Connect with families on intent of visit; reflect with family on their experiences and perspectives; agree on what will happen during visit. (2) Parent-Child Interaction: Introduce parent-child activity and explain rationale; encourage parent participation; recognize and affirm parent efforts; connect discussion to key points in parent educator resource. (3) Development-Centered Parenting Topic: Introduce/discuss topic; ask questions or prompts to gain family perspective on topic; connect discussion to key points in parent educator resource. (4) Family Well-Being Topic: Introduce/discuss topic; ask questions or prompts to gain family perspective on topic; connect discussion to key points in parent educator resource. (5) Closing: Review what was discussed; revisit parent’s and parent educator’s actions/next steps; evaluate time spent together; share information about upcoming program or community events; affirm family strengths; look ahead and plan next visit. <p>For the first 8 visits with families, the curriculum identifies specific topics that should be covered at each visit. Following the 8 foundational visits, parent educators choose which parent-child interaction, child development, and family well-being topics to focus on during visits and pick related parent educator resources, parent handouts, and parent-child activities.</p>
Common instructional strategies	<ul style="list-style-type: none"> • Partnering with parents to agree on what will happen during visits • Questioning and prompting to encourage parent reflection and gain information about family • Observing and encouraging parent efforts • Providing relevant parent handouts • Connecting observations and/or discussions to key ideas about a given topic
Content	<p>Child development: developmental milestones; what to expect from baby/child during stage of development; language development; cognitive development; social-emotional development; motor development</p> <p>Developmental concerns: prematurity; differences and delays in development; speech development and common problems</p> <p>Parenting behaviors: nurturing; designing/guiding; responding; communicating; supporting learning</p> <p>Development-centered parenting/developmental topics: attachment; discipline; health: dental, vision, hearing, physical activity, childhood mental health; nutrition: feeding babies (breastfeeding, formula), feeding older children; safety: home safety, lead safety, child abuse and neglect; sleep: safe sleep, sleep routines; transition/routines; healthy births: fetal development, prenatal care, prenatal nutrition, childbirth preparation</p>

(continued)

Appendix Table C.11 (continued)

PAT Foundational Curriculum Component	Description
Content (continued)	<p>Young children’s approaches to learning</p> <p>Parent-child interaction: reading; sharing songs/rhymes; playing</p> <p>The importance of play</p> <p>Family well-being</p> <p>Basic essentials: government assistance programs; community resources</p> <p>Education and employment</p> <p>Physical health of family</p> <p>Mental health and wellness: postpartum; stress and resilience; substance abuse; death and loss</p> <p>Early care and education</p> <p>Relationships with family and friends: fatherhood; foster families; family structure and culture; siblings; multiples; domestic violence)</p> <p>Recreation and enrichment</p>
Included materials	<p>All materials are provided in both English and Spanish, additional select parent handouts available in Arabic, Burmese, Chinese, French, and Nepali</p> <p>Foundational Curriculum:</p> <ul style="list-style-type: none"> • 8 Visit Plans • 304 Parent Handouts • 202 Activity Pages • 155 Parent Educator Resources

SOURCE: Parents as Teachers (PAT) Foundational curriculum.

NOTE: PAT also utilizes the Foundational 2 curriculum for families with young children ages 3 through kindergarten (age 6), not described herein.

Appendix Table C.12

Overview of Partners in Parenting Education (PIPE) Curriculum

Partners in Parenting Education Component	Description
Target population	Parents
Developmental stages covered	Prenatal through age 3
Theoretical foundation or approach	<p>Focused on 8 core concepts, which are rooted in children’s emotional development, are biologically based and universally applicable, and are supported by research and good practice:</p> <ol style="list-style-type: none"> (1) Shared positive emotions (2) Regulation (3) Temperament (4) Autonomy (5) Communication skills (6) Emotional refueling (7) Trust (8) Interdependence <p>Theoretical framework based on models developed by Liz Bates, T. Berry Brazelton, Robert Emde, Stanley Greenspan, Louis Sanders, Alan Sroufe, Edward Tronic, and Lev Vygotsky.</p>
Total number of pages and organization	600 pages, including appendix materials. Sequenced according to 28 topics within 3 instructional units centered on emotional communication, attachments/relationships, and play.
Common home visit activities or structure	<p>Home visitors present 1 or 2 major concepts based on their assessment of parent-child interactions and areas for growth and must include the following instructional steps:</p> <ol style="list-style-type: none"> (1) Presentation of concepts: providing a knowledge base (2) Demonstration: showing what a behavior or interaction looks like (3) Supervised parent-child interaction: coaching (4) Evaluation: checking for integration <p>Home visitors have flexibility in selecting topics within and across units to create individualized instructional plans.</p>
Common instructional strategies	<ul style="list-style-type: none"> • Explaining concepts through discussion • Completing structured parent-child activities using PIPE activity cards • Parent completion of handouts • Prompting parent reflection or discussion through inquiry questions • Checks for parent understanding/integration

(continued)

Appendix Table C.12 (continued)

Partners in Parenting Education Component	Description
Content	<p>Unit 1. Listen: Emotional communication, regulation, and respect</p> <ul style="list-style-type: none"> • Topic 1: States of baby’s awareness • Topic 2: Biorhythms and establishing a daily routine • Topic 3: How baby uses cues to communicate • Topic 4: Baby’s engagement and disengagement cues • Topic 5: Guidelines for playing within baby’s focus • Topic 6: Developmental stages of language and parent role in expanding language • Topic 7: Using music and rhythm to regulate baby • Topic 8: Reading to baby to help baby learn <p>Unit 2. Love: Attachment and relationship building</p> <ul style="list-style-type: none"> • Topic 1: Baby’s first relationship is with parents • Topic 2: Temperament concepts and sensitivity to another’s uniqueness • Topic 3: A safe base, how baby learns trust • Topic 4: Sharing positive emotions builds relationships; negative emotions cause caution and alert • Topic 5: Communicating emotions through touch • Topic 6: Attachment • Topic 7: Respecting separation and autonomy • Topic 8: Quiet discipline and emotional regulation • Topic 9: Ambivalent feelings are normal; problem-solving techniques • Topic 10: Emotional refueling; need for personal identity, space, and support systems <p>Unit 3. Play: Play as learning, role of emotional stability to support play</p> <ul style="list-style-type: none"> • Topic 1: Learning through play • Topic 2: Developmental stages; appropriate expectations; temperament differences • Topic 3: Parent modeling; routines; teachable moments • Topic 4: Teaching styles; stabilization; socialization • Topic 5: The “Do’s” of behavior; sharing fun can regulate and communicate • Topic 6: Negative emotions can sidetrack learning; limit setting • Topic 7: Children learn through their senses • Topic 8: Playing is imitation and turn taking; guidance; modeling; give and take of interaction • Topic 9: Communication through play: play sets communication patterns • Topic 10: Problem solving through play: experimentation; autonomy
Included materials	<ul style="list-style-type: none"> • Educator’s Guide (instructional format and curriculum content) • Parent handouts (total of 305 handouts) • Activity Cards (English and Spanish) (total of 54 activities)

SOURCE: Partners in Parenting Education curriculum.

Appendix Table C.13

Overview of Partners for a Healthy Baby (PHB) Home Visiting Curriculum

Partners for a Healthy Baby Home Visiting Curriculum Component	
Curriculum Component	Description
Target population	Parents
Developmental stages covered	Prenatal through age 3
Theoretical foundation or approach	No clear theoretical framework presented in curriculum. Relevant research review for the content in each volume.
Total number of pages and organization	Sequenced according to child’s age within 5 instructional volumes: (1) Before Baby Arrives (395 pages, including appendixes) (2) Baby’s First 6 Months (577 pages, including appendixes) (3) Baby’s Months 7 to 12 (298 pages, including appendixes) (4) Baby’s Months 13 to 18 (357pages, including appendixes) (5) Toddler’s Months 19-36 (580 pages, including appendixes)
Common home visit activities or structure	<ul style="list-style-type: none"> • Each visit is structured around the topics selected for that visit. • Topics are sequenced according to gestational age and child age. • Home visitors select topics to address in each home visit based on the family’s most pressing needs, circumstances, and interests. • Each topic has a purpose that defines the home visit, suggested follow-up activities, and recommended resources (including handouts and worksheets). • Use of The Creative Curriculum Learning Games series is recommended to supplement the Baby’s/Toddler’s Development topic area. Learning Games is a 5-volume series of research-based developmental activities, with 1 book for each of the first 5 years of life.
Common instructional strategies	<ul style="list-style-type: none"> • Asking questions to elicit information and prompt a discussion • Providing education or information through discussion and/or handouts • Completing worksheets with parents
Content	Volume 1: Before Baby Arrives <ul style="list-style-type: none"> • Topic 1: Family Development. Empowerment; Relationships and Support; Fatherhood; Career Development and Finances • Topic 2: Maternal and Family Health. Diet and Nutrition; Exercise and Physical Activity; Alcohol, Drugs and Tobacco; Sex, STDs, and Family Planning; Family Health Care and Safety; Physical Changes and Discomforts; Childbirth Preparation; Preterm Labor; Postpartum Care; Emotional Health • Topic 3: Preparing for Baby/Caring for Baby. Nutrition and Feeding; Daily Care Routines; Health and Safety • Topic 4: Baby’s Development. Fetal Development; Infant Mental Health

(continued)

Appendix Table C.13 (continued)

Partners for a Healthy Baby Home Visiting Curriculum Component	Description
Content (continued)	<p>Volume 2: Baby’s First Six Months</p> <ul style="list-style-type: none"> • Topic 1: Family Development. Same content as Volume 1 • Topic 2: Family Health. Diet and Nutrition; Exercise and Physical Activity; Alcohol, Drugs, and Tobacco; Sex, STDs, and Family Planning; Family Health Care and Safety; Physical Changes and Discomforts; Emotional Health • Topic 3: Caring for Baby. Same content as Volume 1 • Topic 4: Baby’s Development. Developmental Skills; Emerging Language and Literacy; Infant Mental Health; Guidance; Play and Learning <p>Volume 3: Baby’s Months 7 to 12</p> <ul style="list-style-type: none"> • Topic 1: Family Development. Empowerment; Relationships and Support; Planning and Problem Solving; Career Development and Finances • Topic 2: Mother’s Needs. Diet and Exercise; Alcohol, Drugs, and Medications; Sex and STDs; Family Planning; Health Care; Depression; Emotional Changes • Topic 3: Caring for Baby. Bottle Feeding; Breastfeeding; Nutrition; Sleeping; Daily Care Routines; Health Care; Common Concerns • Topic 4: Baby’s Development. Bonding and Attachment; Responding to Baby’s Cues; Infant Development <p>Volume 4: Baby’s Months 13 to 18</p> <ul style="list-style-type: none"> • Topic 1: Family Development. Same content as Volume 1 • Topic 2: Family Health. Diet and Nutrition; Exercise and Physical Activity; Alcohol, Drugs, and Tobacco; Sex, STDs, and Family Planning; Family Health Care and Safety; Emotional Health • Topic 3: Caring for Baby. Same content as Volume 1 • Topic 4: Baby’s Development. Same content as Volume 2 <p>Volume 5: Toddler’s Months 19 to 36</p> <ul style="list-style-type: none"> • Topic 1: Family Development. Same content as Volume 1 • Topic 2: Family Health. Same content as Volume 4 • Topic 3: Caring for Toddler. Same content as Volume 1 • Topic 4: Toddler’s Development. Same content as Volume 2
Included materials	<ul style="list-style-type: none"> • Handouts for families corresponding to the topics in each volume (total of 656 handouts) • Resources: references for finding additional information; includes books, hotline/helpline numbers, pamphlets/booklets, videos/DVDs, websites (total of 45 resource pages) • Tools: Home Visit Record, Home Visit Planning Form

SOURCE: Partners for a Healthy Baby Home Visiting curriculum.

Appendix Table C.14

**Local Programs' Availability of Consultants and Types of Supports Provided,
by Service Area and Evidence-Based Model**

Consultant Service Area and Types of Support (%)	Overall	EHS	HFA	NFP	PAT
No access to professional consultants	27.3	0.0	38.5	22.7	42.9 ***
<u>Prenatal health</u>					
Local program has access to consultants who provide					
Direct services to families only	6.8	5.3	3.8	9.1	9.5
Advice to home visitors only	14.8	10.5	23.1	9.1	14.3
Both	48.9	78.9	34.6	54.5	33.3 **
No access to professional prenatal health consultants	29.5	5.3	38.5	27.3	42.9 **
<u>Maternal physical health</u>					
Local program has access to consultants who provide					
Direct services to families only	10.2	15.8	7.7	9.1	9.5
Advice to home visitors only	12.5	21.1	15.4	9.1	4.8
Both	47.7	57.9	38.5	54.5	42.9
No access to professional maternal physical health consultants	29.5	5.3	38.5	27.3	42.9 **
<u>Substance use</u>					
Local program has access to consultants who provide					
Direct services to families only	13.6	26.3	3.8	18.2	9.5
Advice to home visitors only	8.0	15.8	11.5	0.0	4.8
Both	44.3	47.4	38.5	54.5	38.1
No access to professional substance use consultants	34.1	10.5	46.2	27.3	47.6 **
<u>Mental health</u>					
Local program has access to consultants who provide					
Direct services to families only	6.8	10.5	0.0	13.6	4.8
Advice to home visitors only	6.8	5.3	7.7	9.1	4.8
Both	58.0	84.2	50.0	54.5	47.6 *
No access to professional mental health consultants	28.4	0.0	42.3	22.7	42.9 ***

(continued)

Appendix Table C.14 (continued)

Consultant Service Area and Types of Support (%)	Overall	EHS	HFA	NFP	PAT
<u>Intimate partner violence</u>					
Local program has access to consultants who provide					
Direct services to families only	12.5	21.1	3.8	22.7	4.8 *
Advice to home visitors only	5.7	10.5	11.5	0.0	0.0
Both	50.0	57.9	46.2	45.5	52.4
No access to professional intimate partner violence consultants	31.8	10.5	38.5	31.8	42.9
<u>Parenting to support child health</u>					
Local program has access to consultants who provide					
Direct services to families only	11.4	15.8	0.0	27.3	4.8 ***
Advice to home visitors only	11.4	15.8	15.4	9.1	4.8
Both	46.6	63.2	42.3	36.4	47.6
No access to professional parenting/child health consultants	30.7	5.3	42.3	27.3	42.9 **
<u>Parenting to support child development</u>					
Local program has access to consultants who provide					
Direct services to families only	4.5	0.0	3.8	4.5	9.5
Advice to home visitors only	8.0	15.8	11.5	0.0	4.8
Both	56.8	78.9	46.2	63.6	42.9 *
No access to professional parenting/child development consultants	30.7	5.3	38.5	31.8	42.9 **
<u>Family economic self-sufficiency</u>					
Local program has access to consultants who provide					
Direct services to families only	9.2	15.8	0.0	14.3	9.5
Advice to home visitors only	6.9	15.8	3.8	4.8	4.8
Both	49.4	47.4	53.8	52.4	42.9
No access to professional economic self-sufficiency consultants	34.1	21.1	42.3	27.3	42.9
Sample size	88	19	26	22	21

SOURCE: Calculations based on data from the MIHOPE program manager survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Percentages may not sum to 100 because of rounding.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Fisher's exact test. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table C.15

Organizational Dynamics and Caseloads at Local Programs, by Evidence-Based Model

Organizational Dynamics and Caseloads	Overall	EHS	HFA	NFP	PAT
<u>Organizational social context (OSC)^a</u>					
Organizational culture ^b (average score)					
Rigidity	58.0 (10.1)	63.7 (8.8)	60.1 (7.4)	52.3 (10.2)	56.2 *** (11.0)
Proficiency	54.8 (8.1)	52.8 (8.8)	56.2 (8.0)	55.6 (7.1)	54.2 (8.7)
Resistance	56.8 (10.1)	62.0 (9.5)	58.7 (9.4)	52.1 (9.3)	54.8 *** (10.2)
Organizational climate ^c (average score)					
Engagement	57.7 (9.6)	52.8 (11.1)	58.5 (9.7)	59.3 (7.3)	59.7 * (9.1)
Functionality	65.8 (8.3)	63.4 (9.1)	66.1 (7.7)	69.3 (7.8)	63.7 * (7.9)
Stress	48.7 (7.1)	52.4 (8.6)	48.4 (7.1)	47.4 (6.2)	47.1 * (5.7)
Sample size (number of local programs with OSC data)	85	19	25	22	19
<u>Caseloads and staffing</u>					
Average number of families in home visitor's caseload ^d	13.6 (6.4)	9.5 (3.0)	13.1 (5.5)	17.2 (6.9)	14.1 *** (6.8)
Average number of home visitors overseen by supervisor ^d	5.4 (2.7)	6.2 (3.1)	4.4 (1.9)	6.2 (2.0)	5.8 *** (3.5)
Sample size (number of home visitors)	516	110	148	135	123
Sample size (number of supervisors)	138	26	52	30	30

SOURCES: Calculations based on data from the MIHOPE home visitor survey and the MIHOPE supervisor survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Standard deviations for continuous variables are shown in parentheses.

For continuous variables, differences across evidence-based models were tested for statistical significance using a one-way ANOVA. See note "d" below for further information on the statistical test used with continuous variables that adjust for clustering. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aMeasured using the Organizational Social Context measurement system (Glisson et al., 2008). Reported here are the organization-level, second-order scales as standardized T-scores with a mean of 50 and standard deviation of 10. Higher scores represent greater levels of the construct.

(continued)

Appendix Table C.15 (continued)

^bRigidity refers to service providers having little discretion and flexibility, limited input into management decisions, and operating under controlled rules and regulations. Proficiency refers to service providers being expected to place the well-being of clients first and service providers being competent and having up-to-date knowledge and skills. Resistance refers to service providers showing little interest in change or new innovations in service provision and suppressing efforts for change through criticism and apathy.

^cEngagement refers to the extent to which service providers perceive that they are able to experience personal accomplishment in their jobs, are personally involved in their work, and have concern for their families. Functionality refers to the extent to which service providers perceive that they receive support from their coworkers and program leadership and have a clear understanding of how they fit within the organization. Stress refers to the extent to which service providers experience emotional exhaustion and overload in their jobs.

^dFor continuous variables, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of home visitors or supervisors within local program. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table C.16

Home Visitors' Perceptions of Role Expectations, by Evidence-Based Model

Outcome-Specific Area (%)	Home Visitors Feel They Are Expected to...				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Improve prenatal health/birth outcomes	89.0	81.8	89.9	96.2	86.6 **
Improve maternal physical health	84.8	78.9	87.2	90.2	81.4
Improve family planning and birth spacing	72.7	56.9	80.5	88.0	60.2 ***
Reduce tobacco use	76.5	58.7	85.7	87.0	69.8 ***
Address substance use	83.9	72.7	92.6	88.6	78.2 ***
Address mental health	87.8	82.6	93.3	89.4	83.9
Address intimate partner violence	87.4	80.9	91.8	91.0	84.0 **
<u>Parenting</u>					
Improve breastfeeding	77.1	64.2	80.4	89.5	70.7 ***
Promote positive parenting behavior	93.5	90.7	95.3	94.7	92.4
Reduce risk of child maltreatment	90.7	87.0	95.9	88.6	89.8 *
<u>Child health and development</u>					
Improve child preventive care	92.1	88.1	96.6	90.9	91.5
Promote child development	95.3	92.7	97.3	95.4	94.9
<u>Family economic self-sufficiency</u>					
Improve economic self-sufficiency	81.9	74.5	89.2	88.7	72.0 ***
<u>Access to community resources and public services</u>					
Secure high-quality child care	76.2	67.3	83.7	72.7	79.0 ***
Increase access to public benefits	88.8	86.9	92.6	90.2	84.0
Help mothers find health care coverage or access to a free or low-cost clinic for themselves	77.0	85.6	74.3	80.5	68.9 *
Help mothers find health care coverage or access to a free or low-cost clinic for their children	86.5	89.9	87.8	89.5	78.5
Sample size	521	112	149	137	123

(continued)

Appendix Table C.16 (continued)

SOURCE: Calculations based on data from the MIHOPE home visitor survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Percentages reflect respondents who reported that they “agreed” or “strongly agreed.”

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local program. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table C.17

**Home Visitors' Perceptions of the Implementation System at Their Local Programs,
by Evidence-Based Model**

Outcome-Specific Area (%)	Home Visitors Feel They Are Supported by Their Implementation System to... ^a				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Improve prenatal health/birth outcomes	71.8	60.6	76.7	85.0	61.3 ***
Improve maternal physical health	69.8	57.4	74.7	82.3	61.2 ***
Improve family planning and birth spacing	56.6	39.3	64.8	81.9	34.5 ***
Reduce tobacco use	54.5	43.4	63.4	71.5	34.5 ***
Address substance use	52.3	41.7	61.6	62.4	38.8 ***
Address mental health	56.3	48.6	66.9	58.3	47.9 **
Address intimate partner violence	58.6	43.1	66.9	71.4	47.8 ***
<u>Parenting</u>					
Improve breastfeeding	69.4	57.9	79.7	81.5	53.5 ***
Promote positive parenting behavior	75.5	65.7	78.1	79.7	76.7
Reduce risk of child maltreatment	71.3	58.7	79.1	75.9	68.1 **
<u>Child health and development</u>					
Improve child preventive care	74.1	62.4	83.1	78.2	68.9 ***
Promote child development	79.9	73.4	83.1	83.5	78.0
<u>Family economic self-sufficiency</u>					
Improve economic self-sufficiency	60.0	48.6	70.1	66.4	50.4 **
<u>Access to community resources and public services</u>					
Secure high-quality child care	63.0	54.7	73.2	58.3	63.2 *
Increase access to public benefits	62.8	54.7	71.1	61.4	61.5
Help mothers find health care coverage or access to a free or low-cost clinic for themselves ^b	59.6	58.9	56.7	66.4	55.8
Help mothers find health care coverage or access to a free or low-cost clinic for their children ^b	63.0	65.4	63.6	64.3	58.4
Sample size	521	112	149	137	123

(continued)

Appendix Table C.17 (continued)

SOURCE: Calculations based on data from the MIHOPE home visitor survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Percentages reflect respondents who reported that they “agreed” or “strongly agreed.”

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local program. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aMeasure combines home visitor ratings on the adequacy of their training, the availability of useful tools and strategies, and the receipt of positive and constructive supervisory feedback.

^bExcludes information on supervisory feedback.

Appendix Table C.18

Home Visitors' Perceptions of Their Own Effectiveness, by Evidence-Based Model

Outcome-Specific Area (%)	Home Visitors Feel Comfortable and Effective Working to... ^a				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Improve prenatal health/birth outcomes	84.7	75.2	89.0	91.0	81.0 ***
Improve maternal physical health	80.2	70.0	87.5	85.8	74.8 ***
Improve family planning and birth spacing	62.2	47.3	70.1	84.3	42.3 ***
Reduce tobacco use	59.8	40.5	67.6	76.1	50.0 ***
Address substance use	62.1	51.4	72.4	67.9	52.9 ***
Address mental health	72.8	64.9	78.6	72.4	73.6
Address intimate partner violence	65.8	50.0	75.2	70.9	63.1 ***
<u>Parenting</u>					
Improve breastfeeding	74.3	56.4	79.2	88.5	69.0 ***
Promote positive parenting behavior	87.8	83.6	90.8	87.2	88.5
Reduce risk of child maltreatment	85.0	76.6	91.1	84.3	86.2 **
<u>Child health and development</u>					
Improve child preventive care	89.5	82.0	93.2	90.3	91.1 **
Promote child development	92.4	89.2	93.8	92.5	93.5
<u>Family economic self-sufficiency</u>					
Improve economic self-sufficiency	72.7	60.9	82.4	77.4	66.7 ***
<u>Access to community resources and public services</u>					
Secure high-quality child care	75.3	66.7	86.9	66.9	78.7 ***
Increase access to public benefits	84.9	80.9	91.0	84.3	81.8
Sample size	521	112	149	137	123

SOURCE: Calculations based on data from the MIHOPE home visitor survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Percentages reflect respondents who reported that they “agreed” or “strongly agreed.”

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local program. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aMeasure combines home visitor ratings on how comfortable they feel talking with mothers and how effective they are in helping mothers in these areas.

Appendix Table C.19

Home Visitors' Perceptions of Role Expectations, the Implementation System at Their Local Programs, and Their Own Effectiveness, by Evidence-Based Model

Outcome-Specific Area (%)	Home Visitors Feel They Are Expected to, Are Supported by Their Implementation System to, ^a and Are Comfortable and Effective Working to ^b ...				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Improve prenatal health/birth outcomes	66.4	52.3	71.3	81.2	56.4 ***
Improve maternal physical health	62.8	47.2	70.9	76.2	52.2 ***
Improve family planning and birth spacing	44.6	24.8	53.9	70.1	23.3 ***
Reduce tobacco use	42.3	24.8	50.7	61.7	26.1 ***
Address substance use	42.1	30.2	54.2	50.0	28.9 ***
Address mental health	50.0	43.5	60.7	50.4	42.2 *
Address intimate partner violence	47.7	35.2	55.7	58.6	36.8 ***
<u>Parenting</u>					
Improve breastfeeding	54.9	36.2	63.8	72.7	40.4 ***
Promote positive parenting behavior	70.9	61.0	75.7	74.2	70.2
Reduce risk of child maltreatment	64.5	52.3	76.4	64.4	61.0 **
<u>Child health and development</u>					
Improve child preventive care	69.3	57.4	81.1	71.2	63.6 ***
Promote child development	77.1	70.6	82.2	78.6	75.2
<u>Family economic self-sufficiency</u>					
Improve economic self-sufficiency	51.3	39.0	62.0	60.0	39.8 ***
<u>Access to community resources and public services</u>					
Secure high-quality child care	50.5	40.6	65.0	43.1	50.9 ***
Increase access to public benefits	57.8	49.5	69.6	55.3	53.9 **
Help mothers find health care coverage or access to a free or low-cost clinic for themselves ^c	53.2	56.1	49.6	58.0	49.1

(continued)

Appendix Table C.19 (continued)

Outcome-Specific Area (%)	Home Visitors Feel They Are Expected to, Are Supported by Their Implementation System to, ^a and Are Comfortable and Effective Working to ^b ...				
	Overall	EHS	HFA	NFP	PAT
Help mothers find health care coverage or access to a free or low-cost clinic for their children ^c	59.8	64.1	59.7	61.2	54.1
Sample size	521	112	149	137	123

SOURCE: Calculations based on data from the MIHOPE home visitor survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Percentages reflect respondents who reported that they “agreed” or “strongly agreed.”

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local program. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aMeasure combines home visitor ratings on the adequacy of their training, the availability of useful tools and strategies, and the receipt of positive and constructive supervisory feedback.

^bMeasure combines home visitor ratings on how comfortable they feel talking with mothers and how effective they are in helping mothers in these areas.

^cThis outcome-specific area excludes home visitor ratings of comfort and effectiveness. Values for home visitor ratings of support by the implementation system at their local program exclude information on supervisory feedback for this outcome-specific area.

Appendix Table C.20

**Home Visitors' Perceptions of Self-Efficacy in Challenging Situations,
by Evidence-Based Model**

Outcome-Specific Area (Average Score)	Home Visitors Are Confident When Faced with a Challenging Situation Working on... ^a				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Improving prenatal health/birth outcomes	7.5	7.2	7.7	7.5	7.4
Improving family planning and birth spacing	6.9	6.5	7.4	7.3	6.1 ***
Addressing substance use	6.4	6.0	7.1	6.2	6.0 ***
Addressing mental health	6.5	6.1	7.2	6.0	6.3 ***
Addressing intimate partner violence	7.0	6.7	7.5	6.9	6.8 ***
<u>Parenting</u>					
Promoting positive parenting behavior	8.0	7.9	8.2	7.7	8.2 **
<u>Child health and development</u>					
Improving child preventive care	8.0	7.9	8.3	7.8	8.0
<u>Family economic self-sufficiency</u>					
Improving economic self-sufficiency	7.4	7.3	7.7	7.0	7.4 *
<u>Global indices</u>					
Risk-focused challenging situations ^b	6.6	6.2	7.3	6.3	6.4 ***
Non-risk-focused challenging situations ^c	7.7	7.6	8.0	7.5	7.8 *
All challenging situations	7.2	6.9	7.7	7.1	7.0 ***
Sample size	521	112	149	137	123

SOURCE: Calculations based on data from the MIHOPE home visitor survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

For all continuous variables, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of home visitors within local program. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aThe numbers reflect the average score of home visitor ratings of their confidence in carrying out activities with families in challenging situations. Scores can range from 0 to 10, with higher scores representing greater confidence.

^bRisk-focused challenging situations include situations addressing substance use, mental health, and intimate partner violence.

^cNon-risk-focused challenging situations include situations addressing prenatal health, economic self-sufficiency, positive parenting behavior, and child's health.

Appendix Table C.21

Home Visitors' Perceptions of Programmatic Changes
Resulting from Receipt of MIECHV Funding, by Evidence-Based Model

Home Visitor Perception (%)	Overall	EHS	HFA	NFP	PAT
My work is... ^a					
Easier than before	5.2	8.2	4.0	4.4	5.2
The same as before	37.7	46.9	38.2	31.9	36.2
Harder than before	57.1	44.9	57.9	63.8	58.6
My role is... ^a					***
Clearer than before	10.0	20.4	9.3	1.5	12.1
The same as before	70.1	69.4	70.7	78.3	60.3
Less clear than before	19.9	10.2	20.0	20.3	27.6
My responsibilities are...					
Less than before	12.9	6.1	12.3	20.3	10.3
The same as before	34.1	36.7	35.6	37.7	25.9
Greater than before	53.0	57.1	52.1	42.0	63.8
My program site operates...					*
More efficiently than before	16.4	16.3	17.3	5.9	27.6
The same as before	61.2	63.3	58.7	76.5	44.8
Less efficiently than before	22.4	20.4	24.0	17.7	27.6
The time I spend on documentation is...					
Less than before	10.8	8.2	9.2	17.4	7.1
The same as before	21.2	26.5	18.4	21.7	19.6
Greater than before	68.0	65.3	72.4	60.9	73.2
The quality of services program provides is... ^a					***
Higher than before	29.4	40.8	31.6	7.3	43.1
The same as before	64.3	53.1	63.2	85.5	50.0
Lower than before	6.4	6.1	5.3	7.3	6.9
My program benefits for families are... ^a					**
Broader than before	34.9	34.7	38.2	20.3	48.3
The same as before	59.9	63.3	57.9	72.5	44.8
Narrower than before	5.2	2.0	4.0	7.3	6.9
Sample size	257	50	78	71	58

(continued)

Appendix Table C.21 (continued)

SOURCE: Calculations based on data from the MIHOPE home visitor survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Numbers are based only on responses from home visitors who were hired prior to their local program's receipt of MIECHV funding: n = 257 overall.

Percentages may not sum to 100 because of rounding.

For all categorical variables that include multiple categories except those with any cell size equal to 0, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local programs. See note "a" below for further information on the statistical test used with categorical variables with cell sizes equal to 0. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aSince this variable had a cell size equal to 0, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Fisher's exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table C.22

Home Visitors' Perceptions of Accessibility, Recent Access, and Helpfulness of Professionals, by Service Area and Evidence-Based Model

Home Visitor Perception (%)	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal health/birth outcomes					
Have easy access to professionals to consult with	75.5	85.5	76.4	82.8	57.7 ***
Accessed consultant in the past six months ^a (Overall n = 395)	72.5	71.3	72.6	82.9	57.8 **
Rated as helpful ^b (Overall n = 288)	86.9	89.6	82.9	92.4	78.1 *
Maternal physical health					
Have easy access to professionals to consult with	66.7	78.2	70.1	71.6	47.2 ***
Accessed consultant in the past six months ^a (Overall n = 350)	65.0	69.8	59.2	72.9	55.2
Rated as helpful ^b (Overall n = 230)	86.6	91.7	85.3	88.6	75.0
Substance use					
Have easy access to professionals to consult with	62.0	60.9	65.1	64.2	56.9
Accessed consultant in the past six months ^a (Overall n = 326)	44.0	40.3	42.1	51.2	41.4
Rated as helpful ^b (Overall n = 148)	80.6	88.9	85.0	76.7	72.4
Mental health					
Have easy access to professionals to consult with	75.4	88.2	69.9	72.4	74.0 **
Accessed consultant in the past six months ^a (Overall n = 395)	65.1	63.9	59.8	74.2	62.6
Rated as helpful ^b (Overall n = 260)	83.3	74.2	85.3	86.1	87.7
Intimate partner violence					
Have easy access to professionals to consult with	51.3	57.3	52.7	56.0	39.0 **
Accessed consultant in the past six months ^a (Overall n = 271)	58.2	61.9	61.0	61.3	43.8
Rated as helpful ^b (Overall n = 161)	80.8	76.9	82.6	82.2	81.0
<u>Child health and development</u>					
Parenting to support child health					
Have easy access to professionals to consult with	61.8	80.0	64.4	56.7	48.0 ***
Accessed consultant in the past six months ^a (Overall n = 325)	64.7	75.0	63.8	55.3	62.7
Rated as helpful ^b (Overall n = 213)	86.8	87.9	85.0	90.5	83.8
Parenting to support child development					
Have easy access to professionals to consult with	69.0	79.1	68.5	61.2	69.1 **
Accessed consultant in the past six months ^a (Overall n = 362)	65.8	67.8	66.0	65.9	63.5
Rated as helpful ^b (Overall n = 241)	85.8	84.8	81.5	92.6	85.2

(continued)

Appendix Table C.22 (continued)

Home Visitor Perception (%)	Overall	EHS	HFA	NFP	PAT
<u>Family economic self-sufficiency</u>					
Have easy access to professionals to consult with	47.4	57.3	53.4	41.8	37.4 **
Accessed consultant in the past six months ^a (Overall n = 251)	60.9	60.3	62.8	73.2	43.5 *
Rated as helpful ^b (Overall n = 156)	74.7	76.3	76.6	75.6	65.0
Sample size	521	112	149	137	123

SOURCE: Calculations based on data from the MIHOPE home visitor survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local program. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aMeasure is calculated among home visitors who indicated that they had easy access to professionals for consultation. Sample size thus varies for each item.

^bMeasure is calculated among home visitors who indicated that they accessed a consultant in the past six months. Sample size thus varies for each item.

Appendix Table C.23

**Home Visitors' Perceptions of Service Availability at Their Local Programs,
by Evidence-Based Model**

Service Type (%)	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal care/birth outcomes					
No service provider	1.2	0.9	1.3	0.7	1.6
At least one but do not know name of service provider	20.2	23.2	18.1	17.0	23.6
At least one and know name of service provider	78.6	75.9	80.5	82.2	74.8
Maternal preventive care ^a					
No service provider	10.8	13.4	9.4	8.2	13.0
At least one but do not know name of service provider	35.8	38.4	34.2	37.8	33.3
At least one and know name of service provider	53.4	48.2	56.4	54.1	53.7
Family planning and reproductive health care					
No service provider	4.4	4.5	4.0	1.5	8.1
At least one but do not know name of service provider	21.6	25.9	22.8	15.6	22.8
At least one and know name of service provider	74.0	69.6	73.2	83.0	69.1
Substance use treatment					
No service provider	4.1	3.6	3.4	3.7	5.7
At least one but do not know name of service provider	32.0	36.6	24.2	43.7	24.4
At least one and know name of service provider	64.0	59.8	72.5	52.6	69.9
Mental health treatment					
No service provider	2.1	0.9	2.0	2.2	3.3
At least one but do not know name of service provider	16.0	17.9	13.4	22.2	10.6
At least one and know name of service provider	81.9	81.3	84.6	75.6	86.2
Shelter for intimate partner violence					
No service provider	3.9	6.3	4.0	1.5	4.1
At least one but do not know name of service provider	21.0	25.0	20.1	24.4	14.6
At least one and know name of service provider	75.1	68.8	75.8	74.1	81.3
Intimate partner violence counseling/anger management ^a					
No service provider	6.9	7.1	7.4	4.4	8.9
At least one but do not know name of service provider	36.8	43.8	30.9	46.7	26.8
At least one and know name of service provider	56.3	49.1	61.7	48.9	64.2

(continued)

Appendix Table C.23 (continued)

Service Type (%)	Overall	EHS	HFA	NFP	PAT
<u>Child health and development</u>					
Pediatric primary care					
No service provider	3.1	6.3	1.3	0.7	4.9
At least one but do not know name of service provider	22.2	23.2	20.1	23.0	22.8
At least one and know name of service provider	74.8	70.5	78.5	76.3	72.4
Early intervention services					
No service provider	3.3	2.7	4.0	3.0	3.3
At least one but do not know name of service provider	20.4	18.8	19.5	21.5	22.0
At least one and know name of service provider	76.3	78.6	76.5	75.6	74.8
<u>Family economic self-sufficiency</u>					
Adult education or employment services ^b					
No service provider	0.4	0.0	0.7	0.7	0.0
At least one but do not know name of service provider	11.4	7.1	9.4	14.8	13.8
At least one and know name of service provider	88.3	92.9	89.9	84.4	86.2
<u>Access to community resources and public services</u>					
Child care					
No service provider	3.3	6.3	0.7	5.2	1.6
At least one but do not know name of service provider	31.8	25.0	28.2	42.2	30.9
At least one and know name of service provider	64.9	68.8	71.1	52.6	67.5
Sample size	521	112	149	137	123

SOURCE: Calculations based on data from the MIHOPE home visitor survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Percentages may not sum to 100 because of rounding.

Statistical significance is not reported for a majority of these variables due to invalid p-values from both a Rao-Scott second-order chi-square test and Fisher's exact test. See note "a" below for further information on the variables where statistical significance is reported.

^aSince this categorical variable includes multiple categories, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^bThis includes adult education services (including GED and ESL) and job training and employment.

Appendix Table C.24

Home Visitors' Perceptions of Accessibility and Effectiveness of the Service Environment at Their Local Programs, by Evidence-Based Model

Service Type (%)	Accessibility of Provider ^a					Effectiveness of Provider ^b				
	Overall	EHS	HFA	NFP	PAT	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>										
Prenatal care/birth outcomes (Overall n = 410)	92.9	88.2	96.7	97.3	87.0 **	85.9	85.9	91.5	86.5	78.3
Maternal preventive care (Overall n = 279)	89.1	83.0	94.0	91.8	84.9	75.7	81.1	80.3	75.0	66.7
Family planning and reproductive health care (Overall n = 386)	89.5	85.7	96.3	93.8	78.6 ***	76.3	75.6	83.8	82.6	59.5 ***
Substance use treatment (Overall n = 334)	65.7	71.6	71.3	54.9	62.8	52.2	59.1	54.3	52.2	44.2
Mental health treatment (Overall n = 427)	66.8	74.7	65.1	59.8	68.9	56.8	65.9	58.2	42.0	61.5 **
Shelter for intimate partner violence (Overall n = 392)	77.1	68.0	82.3	77.0	78.0	68.1	60.0	74.8	67.4	67.7
Intimate partner violence counseling/anger management (Overall n = 294)	75.5	70.9	80.4	78.8	70.1	64.6	59.3	74.7	60.6	60.3
<u>Child health and development</u>										
Pediatric primary care (Overall n = 390)	92.8	96.2	94.0	93.2	87.6	86.8	89.6	90.3	89.2	77.3 **
Early intervention services (Overall n = 398)	89.9	94.3	87.6	89.2	89.1	83.7	85.2	84.6	86.3	78.3
<u>Family economic self-sufficiency</u>										
Adult education or employment services ^c (Overall n = 435)	88.2	84.6	91.0	85.1	91.4	74.7	77.9	74.2	71.7	75.5
<u>Access to community resources and public services</u>										
Child care (Overall n = 339)	70.5	75.3	69.5	69.0	68.7	70.6	82.9	68.6	62.0	69.1

(continued)

Appendix Table C.24 (continued)

SOURCE: Calculations based on data from the MIHOPE home visitor survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Numbers are based only on responses from home visitors who reported a name of a service provider for the corresponding service type. Sample size thus varies for each item and is presented in parentheses next to each service type.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local program. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aPercentages reflect respondents who reported that it was “relatively” or “very” easy for families to get services from this agency.

^bPercentages reflect respondents who reported that the agency is “quite” or “very” effective in meeting families’ need for services.

^cThis includes adult education services (including GED and ESL) and job training and employment.

Appendix Table C.25

**Availability of Community Service Providers to Which Families Could Be Referred
Across All Local Programs, by Evidence-Based Model**

Service Type (%)	Community Service Provider Is Available				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal care	91.9	88.9	96.2	95.2	85.7
Family planning and reproductive health care	88.4	88.9	84.6	95.2	85.7
Substance use and mental health treatment	94.2	88.9	92.3	95.2	100.0
Shelter for intimate partner violence	93.0	94.4	92.3	95.2	90.5
Intimate partner violence counseling/anger management	80.2	83.3	92.3	71.4	71.4
<u>Child health and development</u>					
Pediatric primary care	88.4	88.9	96.2	76.2	90.5
Early intervention services	98.8	100.0	100.0	95.2	100.0
<u>Family economic self-sufficiency</u>					
Adult education or employment services	95.3	100.0	100.0	85.7	95.2 *
<u>Access to community resources and public services</u>					
Child care	89.5	94.4	96.2	76.2	90.5
Sample size	86	18	26	21	21

SOURCE: Calculations based on data from the community services inventory completed by program managers.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

All local programs that responded to the MIHOPE community services inventory were included in the calculation of the service provider measures. Respondents answering “don’t know” and “no” were treated as non-yes responses.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Fisher’s exact test. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table C.26

Accessibility of Community Service Providers to Which Families Could Be Referred Across All Local Programs, by Evidence-Based Model

Service Type (%)	Community Service Provider Is Available and Has No Access Difficulties				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal care	70.9	61.1	80.8	71.4	66.7
Family planning and reproductive health care	65.1	72.2	61.5	57.1	71.4
Substance use and mental health treatment	58.1	55.6	65.4	52.4	57.1
Shelter for intimate partner violence	59.3	55.6	57.7	76.2	47.6
Intimate partner violence counseling/anger management	55.8	61.1	65.4	42.9	52.4
<u>Child health and development</u>					
Pediatric primary care	67.4	66.7	73.1	57.1	71.4
Early intervention services	74.1	83.3	80.0	61.9	71.4
<u>Family economic self-sufficiency</u>					
Adult education or employment services	64.0	50.0	84.6	52.4	61.9 **
<u>Access to community resources and public services</u>					
Child care	46.5	50.0	50.0	28.6	57.1
Sample size	86	18	26	21	21

SOURCE: Calculations based on data from the community services inventory completed by program managers.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

All local programs that responded to the MIHOPE community services inventory were included in the calculation of the service provider measures. Respondents answering “don’t know” and “no” were treated as non-yes responses.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Fisher’s exact test. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table C.27

**Effectiveness of Community Service Providers to Which Families Could Be Referred
Across All Local Programs, by Evidence-Based Model**

Service Type (%)	Community Service Provider Is Available and Is Rated Very or Quite Effective				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal care	77.9	72.2	88.5	85.7	61.9
Family planning and reproductive health care	67.4	55.6	69.2	81.0	61.9
Substance use and mental health treatment	57.0	61.1	53.8	61.9	52.4
Shelter for intimate partner violence	69.8	66.7	76.9	76.2	57.1
Intimate partner violence counseling/anger management	52.3	55.6	69.2	38.1	42.9
<u>Child health and development</u>					
Pediatric primary care	73.3	72.2	84.6	61.9	71.4
Early intervention services	80.0	72.2	80.0	95.2	71.4
<u>Family economic self-sufficiency</u>					
Adult education or employment services	75.6	66.7	88.5	66.7	76.2
<u>Access to community resources and public services</u>					
Child care	52.3	61.1	57.7	28.6	61.9
Sample size	86	18	26	21	21

SOURCE: Calculations based on data from the community services inventory completed by program managers.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

All local programs that responded to the MIHOPE community services inventory were included in the calculation of the service provider measures. Respondents answering “don’t know” and “no” were treated as non-yes responses.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Fisher’s exact test. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table C.28

**Availability, Accessibility, and Effectiveness of Community Service Providers
to Which Families Could Be Referred Across All Local Programs,
by Evidence-Based Model**

Service Type (%)	Community Service Provider Is Available, Has No Access Difficulties, and Is Rated Very or Quite Effective				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal care	64.0	55.6	76.9	71.4	47.6
Family planning and reproductive health care	54.7	55.6	57.7	52.4	52.4
Substance use and mental health treatment	46.5	50.0	50.0	42.9	42.9
Shelter for intimate partner violence	53.5	50.0	57.7	71.4	33.3 *
Intimate partner violence counseling/anger management	45.3	55.6	50.0	33.3	42.9
<u>Child health and development</u>					
Pediatric primary care	61.6	61.1	69.2	52.4	61.9
Early intervention services	63.5	66.7	68.0	61.9	57.1
<u>Family economic self-sufficiency</u>					
Adult education or employment services	60.5	44.4	76.9	52.4	61.9
<u>Access to community resources and public services</u>					
Child care	36.0	44.4	34.6	19.0	47.6
Sample size	86	18	26	21	21

SOURCE: Calculations based on data from the community services inventory completed by program managers.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

All local programs that responded to the MIHOPE community services inventory were included in the calculation of the service provider measures. Respondents answering “don’t know” and “no” were treated as non-yes responses.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Fisher’s exact test. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table C.29

Formal Agreements with Community Service Providers Across All Local Programs, by Evidence-Based Model

Service Type (%)	Local Program Has at Least One In-Agency Provider or One Outside Provider with an MOU				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal care	40.7	38.9	50.0	52.4	19.0 *
Family planning and reproductive health care	32.6	27.8	38.5	47.6	14.3
Substance use and mental health treatment	39.5	61.1	30.8	42.9	28.6
Shelter for intimate partner violence	22.1	27.8	23.1	19.0	19.0
Intimate partner violence counseling/anger management	20.9	27.8	19.2	9.5	28.6
<u>Child health and development</u>					
Pediatric primary care	32.6	33.3	30.8	42.9	23.8
Early intervention services	42.4	72.2	24.0	28.6	52.4 ***
<u>Family economic self-sufficiency</u>					
Adult education or employment services	27.9	38.9	11.5	23.8	42.9 *
<u>Access to community resources and public services</u>					
Child care	29.1	38.9	26.9	14.3	38.1
Sample size	86	18	26	21	21

SOURCE: Calculations based on data from the community services inventory completed by program managers.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. MOU = memorandum of understanding.

All local programs that responded to the MIHOPE community services inventory were included in the calculation of the service provider measures. Respondents answering “don’t know” and “no” were treated as non-yes responses.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Fisher’s exact test. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table C.30

**Designated Point of Contact with Community Service Providers
Across All Local Programs, by Evidence-Based Model**

Service Type (%)	Local Program Has at Least One Provider with a Designated Point of Contact				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal care	64.0	66.7	73.1	66.7	47.6
Family planning and reproductive health care	46.5	50.0	50.0	57.1	28.6
Substance use and mental health treatment	53.5	83.3	46.2	38.1	52.4 **
Shelter for intimate partner violence	44.2	55.6	57.7	33.3	28.6
Intimate partner violence counseling/anger management	44.2	61.1	53.8	23.8	38.1 *
<u>Child health and development</u>					
Pediatric primary care	37.2	44.4	38.5	38.1	28.6
Early intervention services	62.4	83.3	56.0	42.9	71.4 **
<u>Family economic self-sufficiency</u>					
Adult education or employment services	48.8	61.1	42.3	28.6	66.7 *
<u>Access to community resources and public services</u>					
Child care	41.9	50.0	50.0	23.8	42.9
Sample size	86	18	26	21	21

SOURCE: Calculations based on data from the community services inventory completed by program managers.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

All local programs that responded to the MIHOPE community services inventory were included in the calculation of the service provider measures. Respondents answering “don’t know” and “no” were treated as non-yes responses.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Fisher’s exact test. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table C.31

Coordination with Community Service Providers Across All Local Programs, by Evidence-Based Model

Service Type (%)	Local Program Has at Least One Provider with Good or Excellent Coordination				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal care	74.4	66.7	88.5	81.0	57.1 *
Family planning and reproductive health care	64.0	61.1	69.2	71.4	52.4
Substance use and mental health treatment	64.0	55.6	65.4	66.7	66.7
Shelter for intimate partner violence	62.8	66.7	65.4	61.9	57.1
Intimate partner violence counseling/anger management	54.7	66.7	65.4	33.3	52.4
<u>Child health and development</u>					
Pediatric primary care	72.1	72.2	76.9	66.7	71.4
Early intervention services	83.5	77.8	88.0	76.2	90.5
<u>Family economic self-sufficiency</u>					
Adult education or employment services	65.1	66.7	69.2	47.6	76.2
<u>Access to community resources and public services</u>					
Child care	59.3	72.2	61.5	38.1	66.7
Sample size	86	18	26	21	21

SOURCE: Calculations based on data from the community services inventory completed by program managers.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

All local programs that responded to the MIHOPE community services inventory were included in the calculation of the service provider measures. Respondents answering “don’t know” and “no” were treated as non-yes responses.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Fisher’s exact test. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table C.32

**Formal Agreements, Contacts, and Coordination with Community Service Providers
Across All Local Programs, by Evidence-Based Model**

Service Type (%)	Local Program Has at Least One In-Agency Provider or One Outside Provider with an MOU, Designated Point of Contact, and Good or Excellent Coordination				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal care	31.4	38.9	30.8	42.9	14.3
Family planning and reproductive health care	24.4	22.2	26.9	38.1	9.5
Substance use and mental health treatment	25.6	27.8	23.1	28.6	23.8
Shelter for intimate partner violence	16.3	16.7	19.2	14.3	14.3
Intimate partner violence counseling/anger management	17.4	22.2	19.2	4.8	23.8
<u>Child health and development</u>					
Pediatric primary care	18.6	16.7	23.1	23.8	9.5
Early intervention services	34.1	61.1	24.0	23.8	33.3 *
<u>Family economic self-sufficiency</u>					
Adult education or employment services	23.3	33.3	11.5	14.3	38.1 *
<u>Access to community resources and public services</u>					
Child care	23.3	33.3	23.1	9.5	28.6
Sample size	86	18	26	21	21

SOURCE: Calculations based on data from the community services inventory completed by program managers.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. MOU = memorandum of understanding.

All local programs that responded to the MIHOPE community services inventory were included in the calculation of the service provider measures. Respondents answering “don’t know” and “no” were treated as non-yes responses.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Fisher’s exact test. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table C.33

**Frequency of Referrals to Community Service Providers Across All Local Programs,
by Evidence-Based Model**

Service Type (%)	Referrals Provided Once a Month or More				
	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal care	51.2	38.9	46.2	90.5	28.6 ***
Family planning and reproductive health care	59.3	44.4	65.4	95.2	28.6 ***
Substance use or mental health treatment	40.7	22.2	46.2	57.1	33.3
Shelter for intimate partner violence	22.1	16.7	23.1	38.1	9.5
Intimate partner violence counseling/anger management	15.1	5.6	15.4	19.0	19.0
<u>Child health and development</u>					
Pediatric primary care	60.5	55.6	73.1	66.7	42.9
Early intervention services	41.2	55.6	28.0	28.6	57.1 *
<u>Family economic self-sufficiency</u>					
Adult education or employment services	59.3	61.1	73.1	71.4	28.6 ***
<u>Access to community resources and public services</u>					
Child care	54.7	72.2	61.5	42.9	42.9
Sample size	86	18	26	21	21

SOURCE: Calculations based on data from the community services inventory completed by program managers.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

All local programs that responded to the MIHOPE community services inventory were included in the calculation of the service provider measures. Respondents answering “don’t know” and “no” were treated as non-yes responses.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Fisher’s exact test. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table C.34

Availability of Other Early Childhood Services in the Community

Early Childhood Service Type (%)	Overall
Number of other early childhood home visiting and parenting programs available in the community	
Did not provide community program names	23.3
1-2	25.6
3-4	25.6
5 or more	25.6
Sample size	86
Availability of other <i>evidence-based</i> early childhood home visiting programs in the community ^a	
No	9.1
Yes	90.9
Sample size ^b	66

SOURCE: Calculations based on data from the community services inventory completed by program managers.

NOTES: All local programs that responded to the MIHOPE community services inventory were included in the calculations on the availability of other early childhood services. Respondents missing data as a result of item nonresponse in the inventory were treated as if they had answered “no.”

Local programs indicated early childhood home visiting and parenting programs available in their communities (not including their own). These other programs may include EHS, HFA, NFP, and PAT programs.

^aWhether early childhood home visiting programs are evidence-based was determined using the criteria defined by the Department of Health and Human Services’ Home Visiting Evidence of Effectiveness (HomVEE) study. See Sama-Miller et al. (2017).

^bLimited to local programs that provided names of community programs.

Appendix D

Supplemental Exhibits for Chapter 4

This appendix provides supplemental tables for the information included in Chapter 4, including findings on:

- General and outcome-specific service delivery measures by evidence-based model, pregnancy status at study entry, and parity at study entry
- Home visitor and program managers' prioritization of intended outcomes
- Evidence-based model and local program policies

Services Delivered to Families

The following tables provide additional information on services delivered to families by evidence-based model, pregnancy status at study entry, and parity at study entry.

Services Delivered to Families by Evidence-Based Model

Since the tables in Chapter 4 only show dosage for families with visits, this appendix includes a table on the general dosage for all families, regardless of whether or not they had a visit. This appendix also includes findings for topics discussed and referrals provided split out by evidence-based model, as well as participant responsiveness.

- **Appendix Table D.1** provides information on dosage for all families, regardless of whether or not they had a visit.
- **Appendix Figures D.1 and D.2** show the percentage of families still enrolled in home visiting services over 12 months. Appendix Figure D.1 represents all families; Appendix Figure D.2 only represents families with visits.
- **Appendix Tables D.2 through D.4** provide findings by evidence-based model for the variables in Table 4.9 of the main report.
- **Appendix Table D.5** provides information on participant responsiveness by evidence-based model.

Because the logs provided more content areas than those listed in the 18 outcome-specific areas, the following tables also present the visit content measures by individual content area. (See Appendix A for more information on the process of aggregating the individual content areas to the outcome-specific areas identified in MIHOPE, as well as the log write-in coding process.)

- **Appendix Tables D.6 through D.8** provide values for each individual content area. **Appendix D.8** also provides values for selected log write-ins for referrals provided.

Services Delivered to Families by Pregnancy Status at Study Entry and Parity at Study Entry

The following tables present findings on services delivered to families by pregnancy status at study entry and parity at study entry. The below information is presented by pregnancy status at study entry (**Appendix Tables D.9 through D.12**) and parity at study entry (**Appendix Tables D.13 through D.16**):

- General Dosage Measures
- Visit Topics and Referrals
- Visit Topics and Referrals in Outcome-Specific Areas
- Participant Responsiveness

Intended Outcomes

Table 4.7 of the main report provided priority ratings for intended outcomes as rated by the four evidence-based model developers participating in MIHOPE. The following tables provide information on priority ratings by program managers and home visitors.

- **Appendix Table D.17** provides information on the percentage of local programs that reported raising the priority of each intended outcome as a result of receipt of MIECHV funding.
- **Appendix Table D.18** provides information on the percentage of program managers and the percentage of home visitors that rated each outcome as high priority.

Evidence-Based Model and Local Program Policies

The following tables provide information on evidence-based model and local program policies and expectations that may influence the services delivered to families by home visitors.

- **Appendix Table D.19** provides information on local program expectations upon hire for supervisors and home visitors.
- **Appendix Tables D.20 through D.24** provide information on local program policies on information gathering, education and support, and referrals by evidence-based model for the following outcome-specific areas:
 - Maternal mental health

- Maternal substance use
- Intimate partner violence
- Parenting behavior
- Developmental delay

These outcome-specific areas were assessed because they reflect either important child outcomes or influences on child outcomes that all evidence-based models endorse. In addition, identifying the presence of and need for services in these areas requires sensitivity and skill in gathering information and responding to results (in comparison with a more straightforward task, such as screening a family for eligibility for a safety-net program). Finally, valid and reliable screening tools exist in each of these outcome-specific areas that home visitors can readily use to identify needs and risks.

- **Appendix Table D.25** provides information on evidence-based model and local program policies regarding home visitor and supervisor caseloads.
- **Appendix Table D.26** provides information on evidence-based model and local program policies regarding parent training techniques and supportive strategies.
- **Appendix Table D.27** provides information on local programs' perceptions of evidence-based model developer and state MIECHV agencies' clarity of communication regarding intended recipients and dosage requirements, as well as the influence of other organizations and funders on the prioritization of families and intended outcomes.

Appendix Table D.1

Dosage of Services Provided to All Families, by Evidence-Based Model

Service Delivery Measure	Overall	EHS	HFA	NFP	PAT
Expected number of visits in the first 12 months ^a	NA	50	34	30	24
<u>Duration of participation</u>					
Average number of months of participation ^b	6.6 (5.1)	7.4 (4.7)	6.2 (5.0)	7.3 (5.1)	5.8 (5.0) ***
Families still... (%)					
Active at birth of child ^c	65.8	79.7	66.7	64.8	59.4 **
Enrolled when child was 12 months old ^d (%)	39.2	42.6	34.5	46.4	35.0 **
<u>Visit frequency</u>					
Average number of visits received	14.9 (13.4)	20.7 (14.8)	16.6 (15.8)	13.5 (10.1)	11.0 (10.4) ***
Families with... ^c (%)					***
No visits	17.3	6.5	18.5	17.8	21.1
1-11 visits	28.6	26.9	29.1	24.1	34.7
12-23 visits	27.7	22.7	17.8	38.4	32.0
24-35 visits	19.0	22.7	23.0	19.6	10.0
36 visits or more	7.4	21.2	11.7	0.2	2.2
Families who received at least 50% of the expected visits ^a (%)	47.1	42.7	47.5	50.7	44.2
Families who received at least 75% of the expected visits ^a (%)	29.4	20.0	33.4	29.2	28.7
<u>Visit rate</u>					
Average number of visits per month ^b	1.8 (1.2)	2.5 (1.0)	2.0 (1.4)	1.5 (0.9)	1.5 (1.1) ***
Families with... ^c (%)					***
No visits	17.3	6.5	18.5	17.8	21.1
≤ 0.9 visits per month enrolled	2.6	0.8	1.3	3.7	4.4
1.0-1.9 visits per month enrolled	32.0	17.7	21.3	43.5	41.8
2.0-2.9 visits per month enrolled	32.1	38.8	36.8	30.2	23.3
≥ 3.0 visits per month enrolled	15.9	36.2	22.1	4.8	9.3
<u>Threshold measure of high dosage (%)</u>					
Enrolled at least 6 months and received at least half of expected visits for 6 months ^c	51.4	53.1	48.7	57.1	46.9
Enrolled at least 12 months and received at least half of expected visits for 12 months ^c	35.6	37.3	33.0	41.9	30.2 *
Sample size	2,021	260	709	602	450

(continued)

Appendix Table D.1 (continued)

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. NA = not applicable.

Sample includes families who had a potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit for families with visits, or the date of random assignment for families whose home visitor either never submitted a log or whose logs never indicated that a visit occurred. Represents a maximum of 52 weeks of logs per family.

Standard deviations for continuous variables are shown in parentheses.

For all categorical variables except those with multiple categories, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. See notes “b” and “e” below for further information on statistical tests used with continuous variables and categorical variables with multiple categories, respectively. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aFor analysis purposes, the MIHOPE team used the following assumptions to identify a specific number of expected visits by model: EHS is based on an expectation of weekly visits, but typically does not expect visits during the winter holidays, hence an expected 50 visits instead of 52 visits. HFA is based on an assumption of 8 weeks of services prenatally with biweekly visits until the birth of the child, then weekly visits through the first 6 months post-birth followed by biweekly visits. NFP is based on an assumption of 20 weeks of services prenatally. Using the standard visit schedule, this entails weekly visits for the first 4 weeks followed by biweekly visits until the birth of the child, then weekly visits for the first 6 weeks post-birth followed by biweekly visits. PAT is based on an expectation of two visits per month. The number of visits expected for a given family, particularly in HFA or NFP, could be higher or lower than the “typical” expectation used in these calculations, depending on when the family enrolled and the identified strengths and risks of the client. In addition, the expected number of visits for PAT families could be lower if they were on a monthly schedule.

^bSince this variable is continuous, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^cLimited to women who were pregnant at study entry (overall = 1,383; EHS = 133; HFA = 399; NFP = 602; PAT = 249). A family is considered still active at the birth of the child if they receive a home visit 4 weeks before the birth of the child, the week of the birth of the child, or 4 weeks after the birth of the child.

^dSample includes families who had the potential to be enrolled when the child was 12 months of age based on the date of the first log documenting a home visit for families with visits, or the date of random assignment for families whose home visitor either never submitted a log or whose logs never indicated that a visit occurred. Overall = 1,918; EHS = 244; HFA = 681; NFP = 567; PAT = 426. A family is considered still enrolled if they received a home visit the week of the child’s 12-month birthday or any time after.

^ePercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table D.2

**Percentage of Visits in Which Topic in an Outcome-Specific Area Was Discussed,
by Evidence-Based Model**

Topics by Outcome-Specific Area (%)	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal health ^a	43.5	30.8	34.1	56.2	35.4 ***
Birth outcomes ^a	44.9	33.0	35.5	57.2	37.0 ***
Maternal physical health	25.5	16.2	20.0	42.7	17.1 ***
Family planning and birth spacing	18.8	14.8	18.4	24.2	14.8 ***
Tobacco use/substance use	10.3	7.0	9.1	13.8	9.5 ***
Mental health or stress	34.9	29.7	30.2	44.5	32.6 ***
Intimate partner violence	6.4	4.4	7.4	6.9	5.6 *
<u>Parenting</u>					
Breastfeeding, feeding, and nutrition	30.4	23.7	27.4	40.9	25.2 ***
Positive parenting behavior	61.5	65.8	67.9	48.2	66.8 ***
Child maltreatment	31.1	29.7	36.0	26.6	30.5 **
<u>Child health and development</u>					
Child preventive care	47.6	48.5	53.2	42.5	44.8 **
Child development	66.8	74.3	72.9	51.5	72.9 ***
<u>Family economic self-sufficiency</u>					
Economic self-sufficiency	44.3	44.6	44.0	48.9	38.3
<u>Access to community resources and public services</u>					
Child care	7.4	9.4	6.4	8.1	6.5
Public assistance	17.8	13.6	18.8	20.3	15.8
Health insurance/Medicaid/CHIP	15.6	11.3	12.9	22.3	13.5 ***
Housing	20.1	20.8	20.7	18.4	21.1
Sample size	1,671	243	578	495	355

(continued)

Appendix Table D.2 (continued)

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. CHIP = Children's Health Insurance Program.

Sample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family. Calculations are based on the number of family service logs submitted (indicating each topic was discussed), divided by the number of visits from the first log (documenting a home visit occurred) to the last log (documenting a home visit occurred), up to a maximum of 52 weeks.

For all continuous variables, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aThis is limited to women who were pregnant at study entry (overall = 1,143; EHS = 125; HFA = 329; NFP = 495; PAT = 194) and to topics discussed during the prenatal period (for example, before the birth of the child or the week of the birth of the child).

Appendix Table D.3

Percentage of Families with Whom Topic in an Outcome-Specific Area Was Ever Discussed, by Evidence-Based Model

Topics by Outcome-Specific Area (%)	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal health ^a	89.3	80.0	83.9	98.6	80.9 ***
Birth outcomes ^a	90.2	83.2	84.8	98.8	82.0 ***
Maternal physical health	73.9	70.4	71.3	87.1	62.3 ***
Family planning and birth spacing	68.8	65.0	70.4	74.5	60.6 **
Tobacco use/substance use	48.1	42.0	43.9	62.8	38.6 ***
Mental health or stress	81.1	82.7	77.2	87.7	77.5 *
Intimate partner violence	38.7	35.0	44.6	40.6	29.0 **
<u>Parenting</u>					
Breastfeeding, feeding, and nutrition	79.3	76.5	79.6	86.3	71.0 **
Positive parenting behavior	89.3	95.5	91.5	84.8	87.9 *
Child maltreatment	78.3	81.9	82.0	76.4	72.7
<u>Child health and development</u>					
Child preventive care	86.8	91.8	88.4	84.4	84.2
Child development	91.1	97.5	91.9	86.7	91.8 ***
<u>Family economic self-sufficiency</u>					
Economic self-sufficiency	85.7	88.5	83.4	90.5	80.8 *
<u>Access to community resources and public services</u>					
Child care	42.1	50.6	39.4	45.7	35.5
Public assistance	64.2	56.4	67.1	69.7	56.9 *
Health insurance/Medicaid/CHIP	58.9	52.3	53.3	74.9	50.4 ***
Housing	64.2	70.0	64.2	63.4	61.4
Sample size	1,671	243	578	495	355

(continued)

Appendix Table D.3 (continued)

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. CHIP = Children's Health Insurance Program.

Sample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit to the end of data collection. It represents a maximum of 52 weeks of logs per family. The analysis window for each family spans the time from their first log documenting a home visit occurred to the last log documenting a home visit occurred, up to a maximum of 52 weeks. As such, these measures only capture whether the family ever discussed each topic within this analysis window.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aThis is limited to women who were pregnant at study entry (overall = 1,143; EHS = 125; HFA = 329; NFP = 495; PAT = 194) and to topics discussed during the prenatal period (for example, before the birth of the child or the week of the birth of the child).

Appendix Table D.4

**Percentage of Families Who Ever Received a Referral in an Outcome-Specific Area,
by Evidence-Based Model**

Referrals by Outcome-Specific Area (%)	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal health/birth outcomes ^a	46.1	36.8	40.4	56.2	36.1 ***
Maternal physical health	19.5	13.2	18.5	30.7	9.9 ***
Family planning and birth spacing	23.6	16.0	28.2	28.3	14.6 ***
Tobacco use/substance use ^b	4.4	3.3	4.5	4.8	4.2
Mental health or stress	22.3	19.8	22.7	25.5	18.9
Intimate partner violence	8.9	8.2	10.9	7.1	8.7
<u>Parenting</u>					
Breastfeeding, feeding, and nutrition	33.5	24.7	34.3	39.4	29.9
Positive parenting behavior	8.5	8.2	12.3	4.2	8.5
Child maltreatment	9.6	13.2	7.6	14.5	3.7 **
<u>Child health and development</u>					
Child preventive care	29.9	30.9	32.9	36.6	14.9 ***
Child development	12.8	14.8	16.4	6.3	14.6 *
<u>Family economic self-sufficiency</u>					
Economic self-sufficiency	38.8	44.9	43.9	30.5	37.7 *
<u>Access to community resources and public services</u>					
Child care	23.8	26.7	27.5	14.3	29.0 ***
Public assistance and/or health insurance/ Medicaid/CHIP	45.8	35.8	51.7	55.4	29.6 ***
Housing	31.3	30.5	37.5	24.6	31.0 *
Sample size	1,671	243	578	495	355

(continued)

Appendix Table D.4 (continued)

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. CHIP = Children's Health Insurance Program.

Sample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family. The analysis window for each family spans the time from their first log documenting a home visit occurred to the last log documenting a home visit occurred, up to a maximum of 52 weeks. As such, these measures only capture whether the family ever received a referral in each outcome-specific area within this analysis window.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aThis is limited to women who were pregnant at study entry (overall = 1,143; EHS = 125; HFA = 329; NFP = 495; PAT = 194) and to referrals provided during the prenatal period (for example, before the birth of the child or the week of the birth of the child).

^bTobacco cessation was not explicitly mentioned as a referral option on the MIHOPE family service logs. However, it is likely that referrals for tobacco use were marked as "Substance use (alcohol and other drugs) treatment." Additionally, any open-ended write-in responses for tobacco use were combined with "Substance use (alcohol and other drugs) treatment."

Appendix Table D.5

Participant Responsiveness, by Evidence-Based Model

Service Delivery Measure (Rating)	Overall	EHS	HFA	NFP	PAT
Responsiveness during visit ^a	4.2 (0.7)	4.3 (0.7)	4.1 (0.8)	4.4 (0.7)	4.2 *** (0.8)
Sample size	1,671	243	578	495	355
Responsiveness between visits ^b	3.4 (0.6)	3.5 (0.6)	3.5 (0.6)	3.4 (0.6)	3.4 (0.6)
Sample size ^c	1,428	222	463	437	306

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Sample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family.

Standard deviations for continuous variables are shown in parentheses.

For all continuous variables, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aThe home visitor's rating on a scale of 1 to 5 of the mother's responsiveness, as defined by her involvement during the week's visits.

^bThe home visitor's rating on a scale of 1 to 4 of the mother's responsiveness since the last week's visit, as defined by her follow-through on actions agreed upon since prior visit.

^cSample excludes families whose log(s) indicated that no follow-through was expected; 243 families were excluded because each of their weekly logs indicated that no follow-through was expected.

Appendix Table D.6

**Percentage of Visits in Which Topic in an Individual Content Area Was Discussed,
by Evidence-Based Model**

Topics by Individual Content Area (%)	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal health behaviors/prenatal care ^a	43.5	30.8	34.1	56.2	35.4 ***
Maternal physical health	25.5	16.2	20.0	42.7	17.1 ***
Family planning	18.8	14.8	18.4	24.2	14.8 ***
Tobacco, alcohol, and other drug use	10.3	7.0	9.1	13.8	9.5 ***
Mental health or stress	34.9	29.7	30.2	44.5	32.6 ***
Social support	40.1	33.1	38.8	46.9	37.7
Intimate partner violence or anger management	6.4	4.4	7.4	6.9	5.6 *
<u>Parenting</u>					
Breastfeeding/feeding/nutrition	30.4	23.7	27.4	40.9	25.2 ***
Parent-child interaction	53.1	55.1	59.8	39.4	59.9 ***
Co-parenting	13.3	16.5	13.9	11.5	12.8
Discipline/behavior management	9.7	10.7	12.3	3.9	12.9 ***
Developmentally appropriate care/routines	30.4	28.0	33.3	27.0	31.9
<u>Child health and well-being</u>					
Child health	38.8	40.3	44.3	34.6	34.5 **
Child development	52.7	62.2	58.1	38.0	57.8 ***
Child/home safety	27.0	24.0	31.1	25.5	24.4
Lead exposure in home	1.5	1.9	1.4	1.8	1.0
<u>Family economic self-sufficiency</u>					
Education	26.1	26.8	23.7	31.5	21.8 **
Job training and employment	25.8	28.9	26.9	25.3	22.7
Economic management/financial self-sufficiency	16.2	12.7	18.3	19.5	10.4 ***

(continued)

Appendix Table D.6 (continued)

Topics by Individual Content Area (%)	Overall	EHS	HFA	NFP	PAT
<u>Access to community resources and public services</u>					
Finding alternative caregivers/child care	7.4	9.4	6.4	8.1	6.5
Public/governmental assistance	17.8	13.6	18.8	20.3	15.8
Health insurance/Medicaid/CHIP	15.6	11.3	12.9	22.3	13.5 ***
Housing	20.1	20.8	20.7	18.4	21.1
Sample size	1,671	243	578	495	355

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. CHIP = Children’s Health Insurance Program.

Sample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family. Calculations are based on the number of family service logs submitted (indicating each topic was discussed), divided by the number of visits from the first log (documenting a home visit occurred) to the last log (documenting a home visit occurred), up to a maximum of 52 weeks.

For all continuous variables, differences across evidence-based models were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aThis is limited to women who were pregnant at study entry (overall = 1,143; EHS = 125; HFA = 329; NFP = 495; PAT = 194) and to discussions of prenatal health behaviors/prenatal care during the prenatal period (for example, before the birth of the child or the week of the birth of the child).

Appendix Table D.7

**Percentage of Families with Whom Topic in an Individual Content Area
Was Ever Discussed, by Evidence-Based Model**

Topics by Individual Content Area (%)	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal health behaviors/prenatal care ^a	89.3	80.0	83.9	98.6	80.9 ***
Maternal physical health	73.9	70.4	71.3	87.1	62.3 ***
Family planning	68.8	65.0	70.4	74.5	60.6 **
Tobacco, alcohol, and other drug use	48.1	42.0	43.9	62.8	38.6 ***
Mental health or stress	81.1	82.7	77.2	87.7	77.5 *
Social support	83.7	84.8	82.0	86.5	82.0
Intimate partner violence or anger management	38.7	35.0	44.6	40.6	29.0 **
<u>Parenting</u>					
Breastfeeding/feeding/nutrition	79.3	76.5	79.6	86.3	71.0 **
Parent-child interaction	87.7	93.8	90.0	82.4	87.3 **
Co-parenting	49.0	56.8	49.5	47.7	44.5
Discipline/behavior management	45.1	54.3	53.3	28.5	48.5 ***
Developmentally appropriate care/routines	75.6	77.0	78.7	75.4	70.1
<u>Child health and well-being</u>					
Child health	82.6	88.1	83.9	80.8	79.2
Child development	87.3	95.1	87.5	82.6	88.2 ***
Child/home safety	74.8	76.5	78.2	75.2	67.6
Lead exposure in home	16.0	23.0	17.0	16.6	8.7 *
<u>Family economic self-sufficiency</u>					
Education	72.5	77.8	70.9	79.6	61.4 **
Job training and employment	70.5	77.4	68.0	75.2	63.4 *
Economic management/financial self-sufficiency	56.4	53.1	59.3	64.2	42.8 **

(continued)

Appendix Table D.7 (continued)

Topics by Individual Content Area (%)	Overall	EHS	HFA	NFP	PAT
<u>Access to community resources and public services</u>					
Finding alternative caregivers/child care	42.1	50.6	39.4	45.7	35.5
Public/governmental assistance	64.2	56.4	67.1	69.7	56.9 *
Health insurance/Medicaid/CHIP	58.9	52.3	53.3	74.9	50.4 ***
Housing	64.2	70.0	64.2	63.4	61.4
Sample size	1,671	243	578	495	355

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. CHIP = Children’s Health Insurance Program.

Sample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family. The analysis window for each family spans the time from their first log documenting a home visit occurred to the last log documenting a home visit occurred, up to a maximum of 52 weeks. As such, these measures only capture whether the family ever discussed each topic within this analysis window.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aThis is limited to women who were pregnant at study entry (overall = 1,143; EHS = 125; HFA = 329; NFP = 495; PAT = 194) and to discussions of prenatal health behaviors/prenatal care during the prenatal period (for example, before the birth of the child or the week of the birth of the child).

Appendix Table D.8

Percentage of Families Who Ever Received a Referral in an Individual Content Area, by Evidence-Based Model

Referrals by Individual Content Area (%)	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal care ^a	34.5	25.6	32.8	38.8	32.0
Child birth education ^a	27.7	25.6	22.5	37.0	14.4 ***
Maternal preventive care	19.5	13.2	18.5	30.7	9.9 ***
Family planning and reproductive health care	23.6	16.0	28.2	28.3	14.6 ***
Substance use (alcohol and other drugs) treatment ^b	4.4	3.3	4.5	4.8	4.2
Mental health treatment	22.3	19.8	22.7	25.5	18.9
Social support ^c	4.1	7.8	2.6	2.6	6.2
Intimate partner violence counseling/anger management	7.1	5.8	8.8	6.3	6.5
Intimate partner violence shelter	4.1	4.5	5.2	3.2	3.4
<u>Parenting</u>					
Breastfeeding/feeding/nutrition	33.5	24.7	34.3	39.4	29.9
Parenting/family classes/support/education ^c	8.5	8.2	12.3	4.2	8.5
Child abuse and neglect/ child abuse and neglect prevention ^{c,d}	0.7	0.0	0.7	0.8	0.8
<u>Child health and development</u>					
Pediatric primary care	25.5	20.2	30.3	31.7	12.7 ***
Injury prevention/safety ^c	9.2	13.2	6.9	14.1	3.1 **
Child development ^{c,d}	0.4	1.6	0.0	0.0	0.6
Early intervention services/Part C services	4.5	5.3	5.0	2.0	6.8 ***
<u>Family economic self-sufficiency</u>					
Adult education services	19.8	21.8	23.7	13.7	20.6 *
Job training and employment	29.2	35.4	34.4	23.0	25.1 *
Economic management/financial self-sufficiency ^c	3.1	4.1	4.7	2.4	0.8

(continued)

Appendix Table D.8 (continued)

Referrals by Individual Content Area (%)	Overall	EHS	HFA	NFP	PAT
<u>Access to community resources and public services</u>					
Child care	23.8	26.7	27.5	14.3	29.0 ***
Public assistance (Medicaid, SNAP, WIC, CHIP, TANF, etc.)	45.3	35.0	51.6	54.9	28.7 ***
Health insurance/Medicaid/CHIP ^{c,e}	2.3	2.5	2.4	2.4	1.7
Health care services (not otherwise specified) ^c	10.2	7.8	11.2	14.3	4.5 **
Housing	31.3	30.5	37.5	24.6	31.0 *
Legal services ^c	7.2	4.1	8.1	8.3	6.5
Community events/activities/recreation ^c	9.5	13.2	13.7	2.0	10.7 **
Concrete goods/materials/support ^c	22.5	29.2	24.9	16.6	22.3
<u>Other</u>	18.6	18.9	22.3	14.7	17.7
Sample size	1,671	243	578	495	355

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. SNAP = Supplemental Nutrition Assistance Program; WIC = Women, Infants, and Children; CHIP = Children’s Health Insurance Program; TANF = Temporary Assistance for Needy Families.

Sample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family. The analysis window for each family spans the time from their first log documenting a home visit occurred to the last log documenting a home visit occurred, up to a maximum of 52 weeks. As such, these measures only capture whether the family ever received a referral in each individual content area within this analysis window.

For all categorical variables except those with cell counts equal to 0, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. See note “d” below for further information on the statistical test used with categorical variables with 0 cell sizes. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aThis is limited to women who were pregnant at study entry (overall = 1,143; EHS = 125; HFA = 329; NFP = 495; PAT = 194) and to referrals provided during the prenatal period (for example, before the birth of the child or the week of the birth of the child).

^bTobacco cessation was not explicitly mentioned as a referral option on the MIHOPE family service logs. However, it is likely that referrals for tobacco use were marked as “Substance use (alcohol and other drugs) treatment.” Additionally, any open-ended write-in responses for tobacco use were combined with “Substance use (alcohol and other drugs) treatment.”

^cThis content area was coded from open-ended write-in responses. See Appendix A for more information on this coding process.

^dSince there were cell counts equal to 0 for this variable, tests of statistical significance were not calculated.

^eThe majority of health insurance referrals are captured in the “public assistance” content area.

Appendix Table D.9

Dosage of Services Provided to Families, by Pregnancy Status at Study Entry

Service Delivery Measure	All Families			Families with Visits		
	Overall	Pregnant	Not Pregnant	Overall	Pregnant	Not Pregnant
<u>Duration of participation</u>						
Average number of months of participation ^a	6.6 (5.1)	6.7 (5.0)	6.5 (5.1)	8.0 (4.4)	8.1 (4.4)	7.8 (4.5)
Families still... (%)						
Active at birth of child ^b	65.8	65.8	NA	79.6	79.6	NA
Enrolled when child was 12 months old ^c	39.2	36.5	44.5 **	47.1	43.7	53.8 ***
<u>Visit frequency</u>						
Average number of visits received ^a	14.9 (13.4)	14.1 (12.3)	16.7 *** (15.2)	18.1 (12.6)	17.1 (11.6)	20.2 *** (14.5)
Families with... ^d (%)			***			***
No visits	17.3	17.4	17.2	NA	NA	NA
1-11 visits	28.6	28.3	29.2	34.5	34.2	35.2
12-23 visits	27.7	31.2	20.2	33.5	37.7	24.4
24-35 visits	19.0	18.7	19.9	23.0	22.6	24.1
36 visits or more	7.4	4.6	13.5	8.9	5.5	16.3
Families who received at least 50% of expected visits ^e (%)	47.1	46.6	48.1	57.0	56.4	58.1
Families who received at least 75% of expected visits ^e (%)	29.4	28.3	31.8	35.5	34.2	38.4
<u>Visit length</u>						
Average visit length ^a (minutes)	NA	NA	NA	67.2 (17.9)	67.5 (18.0)	66.7 (17.7)
<u>Visit rate</u>						
Average number of visits per month ^a	1.8 (1.2)	1.7 (1.1)	2.1 *** (1.4)	2.2 (0.9)	2.1 (0.8)	2.5 *** (1.1)
Families with... ^d (%)			***			***
No visits	17.3	17.4	17.2	NA	NA	NA
≤ 0.9 visits per month enrolled	2.6	3.0	1.9	3.2	3.6	2.3
1.0-1.9 visits per month enrolled	32.0	35.7	24.0	38.7	43.2	29.0
2.0-2.9 visits per month enrolled	32.1	32.2	31.8	38.8	39.0	38.4
≥ 3.0 visits per month enrolled	15.9	11.7	25.1	19.3	14.2	30.3

(continued)

Appendix Table D.9 (continued)

Service Delivery Measure	All Families			Families with Visits		
	Overall	Pregnant	Not Pregnant	Overall	Pregnant	Not Pregnant
<u>Threshold measure of high dosage (%)</u>						
Enrolled at least 6 months and received at least half of expected visits for 6 months ^c	51.4	51.7	50.6	62.1	62.6	61.2
Enrolled at least 12 months and received at least half of expected visits for 12 months ^c	35.6	34.8	37.3	43.0	42.1	45.1
<u>Continuity of home visitor assignment^f (%)</u>						
Number of home visitors to visit a family ^d						
One home visitor	NA	NA	NA	79.5	80.1	78.2
Two home visitors	NA	NA	NA	16.3	16.4	16.1
Three home visitors or more	NA	NA	NA	4.2	3.6	5.7
Continuity of care as experienced by families ^{a,g} (score)	NA	NA	NA	0.92 (0.17)	0.92 (0.17)	0.92 (0.17)
Sample size	2,021	1,383	638	1,671	1,143	528

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: NA = not applicable. Because “All Families” includes families without visits, variables that require a visit are NA for this sample.

Sample includes families who had a potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit for families with visits, or the date of random assignment for families whose home visitor either never submitted a log or whose logs never indicated that a visit occurred. It represents a maximum of 52 weeks of logs per family.

Standard deviations for continuous variables are shown in parentheses.

For all categorical variables except those with multiple categories, differences between women who were pregnant with the focal children at study entry and women who were not pregnant with the focal children at study entry were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. See notes “a” and “d” below for further information on statistical tests used with continuous variables and categorical variables with multiple categories, respectively. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aSince this variable is continuous, differences between women who were pregnant with the focal children at study entry and women who were not pregnant with the focal children at study entry were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

(continued)

Appendix Table D.9 (continued)

^bThis is limited to women who were pregnant at study entry (All families: overall = 1,383; women pregnant at study entry = 1,383; women not pregnant at study entry = NA. Families with visits: overall = 1,143; women pregnant at study entry = 1,143; women not pregnant at study entry = NA). A family is considered still active at the birth of the child if they receive a home visit 4 weeks before the birth of the child, the week of the birth of the child, or 4 weeks after the birth of the child.

^cSample includes families who had the potential to be enrolled when the child was 12 months of age based on the date of the first log documenting a home visit for families with visits, or the date of random assignment for families whose home visitor either never submitted a log or whose logs never indicated that a visit occurred. Sample sizes for all families are: overall = 1,918; women pregnant at study entry = 1,280; women not pregnant at study entry = 638. Sample sizes for families with visits are: overall = 1,596; women pregnant at study entry = 1,068; women not pregnant at study entry = 528. A family is considered still enrolled if they received a home visit the week of the child's 12-month birthday or any time after.

^dPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories between women who were pregnant with the focal children at study entry and women who were not pregnant with the focal children at study entry were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^eFor analysis purposes, the MIHOPE team used the following assumptions to identify a specific number of expected visits by model: EHS is based on an expectation of weekly visits, but typically does not expect visits during the winter holidays, hence an expected 50 visits instead of 52 visits. HFA is based on an assumption of 8 weeks of services prenatally with biweekly visits until the birth of the child, then weekly visits through the first 6 months post-birth followed by biweekly visits. NFP is based on an assumption of 20 weeks of services prenatally. Using the standard visit schedule, this entails weekly visits for the first 4 weeks followed by biweekly visits until the birth of the child, then weekly visits for the first 6 weeks post-birth followed by biweekly visits. PAT is based on an expectation of two visits per month. The number of visits expected for a given family, particularly in HFA or NFP, could be higher or lower than the "typical" expectation used in these calculations, depending on when the family enrolled and the identified strengths and risks of the client. In addition, the expected number of visits for PAT families could be lower if they were on a monthly schedule. The total number of expected visits in the first 12 months were as follows: EHS, 50; HFA, 34; NFP, 30; and PAT, 24.

^fThis measure may include staff not registered as a home visitor, such as a supervisor or specialist.

^gThis was measured using the Continuity of Care Index (Bice and Boxerman, 1977). A score of 0 represents maximum dispersion (a different home visitor for every visit) while a score of 1 represents minimum dispersion (the same home visitor for every visit). Because continuity of care is arguably only relevant for families who engaged in home visitation for more than a few visits, this measure includes families who had at least four visits (Christakis et al., 2000). Sample sizes are: overall = 1,427; women pregnant at study entry = 969; women not pregnant at study entry = 458.

Appendix Table D.10

Visit Topics and Referrals, by Pregnancy Status at Study Entry

Service Delivery Measure	Overall	Pregnant	Not Pregnant
Average number of topics discussed per visit ^a	5.4 (2.2)	5.5 (2.3)	5.1 ** (2.2)
Average number of unique referrals provided across outcome-specific areas ^b	3.4 (2.8)	3.6 (2.8)	3.0 *** (2.6)
Sample size	1,671	1,143	528

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: Sample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family.

Standard deviations for continuous variables are shown in parentheses.

For all continuous variables, differences between women who were pregnant with the focal children at study entry and women who were not pregnant with the focal children at study entry were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aThis is based on a potential of 17 outcome-specific topic areas (since the family service log combined tobacco use and substance use onto a single item). See Appendix Table D.2 and Appendix Table D.3 for a full list of topic areas.

^bThis is based on a potential of 15 outcome-specific referral areas for women who were pregnant at study entry and 14 outcome-specific referral areas for women who were not pregnant at study entry (since the family service log combined prenatal health and birth outcomes onto a single item, tobacco use and substance use onto a single item, and public assistance/health insurance onto a single item). Referrals related to prenatal health/birth outcomes are limited to those made during the prenatal period (for example, before the birth of the child or the week of the birth of the child), and as such they are not counted for women who were not pregnant at study entry. See Appendix Table D.4 for a full list of referral areas.

Appendix Table D.11

Visit Topics and Referrals in Outcome-Specific Areas, by Pregnancy Status at Study Entry

Outcome-Specific Area (%)	Visits in Which Topic Was Discussed ^{a,b}		Families with Whom Topic Was Ever Discussed ^c		Families Who Ever Received a Referral ^c	
	Pregnant	Not Pregnant	Pregnant	Not Pregnant	Pregnant	Not Pregnant
<u>Maternal and newborn health and well-being</u>						
Prenatal health ^d	43.5	NA	89.3	NA	—	—
Birth outcomes ^d	44.9	NA	90.2	NA	—	—
Prenatal health/birth outcomes ^d	—	—	—	—	46.1	NA
Maternal physical health	29.4	17.1 ***	78.5	64.0 ***	21.7	14.8 **
Family planning and birth spacing	20.5	15.3 ***	70.4	65.2 *	26.0	18.4 **
Tobacco use/substance use ^c	11.7	7.2 ***	52.5	38.6 ***	5.1	2.8 *
Mental health or stress	37.2	29.8 ***	82.8	77.7 *	23.6	19.3 *
Intimate partner violence	6.6	5.9	38.7	38.8	8.1	10.6
<u>Parenting</u>						
Breastfeeding, feeding, and nutrition	34.7	21.1 ***	83.9	69.3 ***	38.4	22.7 ***
Positive parenting behavior	54.8	76.0 ***	86.5	95.5 ***	8.0	9.7
Child maltreatment	26.9	40.3 ***	75.1	85.4 ***	10.9	6.8 **
<u>Child health and development</u>						
Child preventive care	42.4	58.6 ***	84.2	92.6 ***	30.0	29.5
Child development	59.3	83.0 ***	88.7	96.4 ***	11.0	16.7 **
<u>Family economic self-sufficiency</u>						
Economic self-sufficiency	43.5	46.1	84.7	87.9	36.1	44.5 **

(continued)

Appendix Table D.11 (continued)

Outcome-Specific Area (%)	Visits in Which Topic Was Discussed ^{a,b}		Families with Whom Topic Was Ever Discussed ^c		Families Who Ever Received a Referral ^e	
	Pregnant	Not Pregnant	Pregnant	Not Pregnant	Pregnant	Not Pregnant
<u>Access to community resources and public services</u>						
Child care	7.3	7.4	41.7	42.8	19.7	32.8 ***
Public assistance	18.3	16.9	65.4	61.4	—	—
Health insurance/Medicaid/CHIP	17.0	12.3 ***	62.3	51.7 ***	—	—
Public assistance and/or health insurance/Medicaid/CHIP ^f	—	—	—	—	48.0	40.9 **
Housing	20.2	19.9	64.4	63.8	31.4	31.1
Sample size	1,143	528	1,143	528	1,143	528

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: NA = not applicable. Dashes indicate that data are not available. CHIP = Children’s Health Insurance Program.

Sample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family.

For all categorical variables, differences between women who were pregnant with the focal children at study entry and women who were not pregnant with the focal children at study entry were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aCalculations are based on the number of family service logs submitted (indicating each topic was discussed), divided by the number of visits from the first log (documenting a home visit occurred) to the last log (documenting a home visit occurred), up to a maximum of 52 weeks.

^bFor all continuous variables, differences between women who were pregnant with the focal children at study entry and women who were not pregnant with the focal children at study entry were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^cThe analysis window for each family spans the time from their first log documenting a home visit occurred to the last log documenting a home visit occurred, up to a maximum of 52 weeks. As such, these measures only capture whether the family ever discussed each topic or ever received a referral in each outcome-specific area within this analysis window.

^dThis is limited to women who were pregnant at study entry (n = 1,143) and to topics discussed and referrals provided during the prenatal period (for example, before the birth of the child or the week of the birth of the child). Since the sample only includes women who were pregnant at study entry, tests of statistical significance were not calculated.

^eTobacco cessation was not explicitly mentioned as a referral option on the MIHOPE family service logs. However, it is likely that referrals for tobacco use were marked as “Substance use (alcohol and other drugs) treatment.” Additionally, any open-ended write-in responses for tobacco use were combined with “Substance use (alcohol and other drugs) treatment.”

^fReferrals for “Public assistance” and “Health insurance/Medicaid/CHIP” are combined in this table because the MIHOPE family service log response option combined referrals for these outcome-specific areas: “Public assistance (Medicaid, SNAP, WIC, CHIP, TANF, etc.).” See Appendix A for more information.

Appendix Table D.12

Participant Responsiveness, by Pregnancy Status at Study Entry

Service Delivery Measure (Rating)	Overall	Pregnant	Not Pregnant
Responsiveness during visit ^a	4.2 (0.7)	4.3 (0.7)	4.2 (0.8)
Sample size	1,671	1,143	528
Responsiveness between visits ^b	3.4 (0.6)	3.4 (0.6)	3.5 (0.6)
Sample size ^c	1,428	975	453

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: Sample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family.

Standard deviations for continuous variables are shown in parentheses.

For all continuous variables, differences between women who were pregnant with the focal children at study entry and women who were not pregnant with the focal children at study entry were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aThe home visitor's rating on a scale of 1 to 5 of the mother's responsiveness, as defined by her involvement during the week's visits.

^bThe home visitor's rating on a scale of 1 to 4 of the mother's responsiveness since the last week's visit, as defined by her follow-through on actions agreed upon since prior visit.

^cSample excludes families whose log(s) indicated that no follow-through was expected; 243 families were excluded because each of their weekly logs indicated that no follow-through was expected.

Appendix Table D.13

Dosage of Services Provided to Families, by Parity at Study Entry

Service Delivery Measure	All Families			Families with Visits		
	Overall	Mothers		Overall	Mothers	
		First-Time Mothers	with Prior Children		First-Time Mothers	with Prior Children
<u>Duration of participation</u>						
Average number of months of participation ^a	6.6 (5.1)	6.6 (5.1)	6.8 (5.0)	8.0 (4.5)	8.1 (4.4)	7.9 (4.5)
Families still... (%)						
Active at birth of child ^b	66.0	65.3	68.2	79.5	79.4	80.0
Enrolled when child was 12 months old ^c	39.5	38.8	40.7	47.3	47.4	47.0
<u>Visit frequency</u>						
Average number of visits received ^a	15.0 (13.4)	14.2 (12.9)	16.5 ** (14.1)	18.1 (12.7)	17.5 (12.2)	19.2 ** (13.4)
Families with... ^d (%)			***			***
No visits	17.1	18.9	13.9	NA	NA	NA
1-11 visits	28.7	27.4	30.9	34.6	33.8	35.9
12-23 visits	27.8	30.1	23.5	33.5	37.1	27.3
24-35 visits	19.0	18.5	20.0	22.9	22.8	23.2
36 visits or more	7.5	5.1	11.8	9.0	6.3	13.7
Families who received at least 50% of expected visits ^e (%)	47.3	46.1	49.3	57.0	56.9	57.2
Families who received at least 75% of expected visits ^e (%)	29.4	28.5	31.2	35.5	35.1	36.2
<u>Visit length</u>						
Average visit length ^a (minutes)	NA	NA	NA	67.4 (17.8)	67.8 (17.9)	66.6 (17.8)
<u>Visit rate</u>						
Average number of visits per month ^a	1.8 (1.2)	1.7 (1.2)	2.0 *** (1.2)	2.2 (0.9)	2.1 (0.9)	2.3 *** (1.0)

(continued)

Appendix Table D.13 (continued)

Service Delivery Measure	All Families			Families with Visits		
	Overall	Mothers		Overall	Mothers	
		First-Time Mothers	with Prior Children		First-Time Mothers	with Prior Children
Families with... ^d (%)			***			***
No visits	17.1	18.9	13.9	NA	NA	NA
≤ 0.9 visits per month enrolled	2.6	2.5	2.8	3.2	3.1	3.3
1.0-1.9 visits per month enrolled	32.3	34.7	28.0	39.0	42.7	32.6
2.0-2.9 visits per month enrolled	31.9	31.1	33.1	38.4	38.4	38.5
≥ 3.0 visits per month enrolled	16.1	12.8	22.1	19.5	15.8	25.7
<u>Threshold measure of high dosage (%)</u>						
Enrolled at least 6 months and received at least half of expected visits for 6 months ^e	51.5	51.1	52.1	62.1	63.0	60.5
Enrolled at least 12 months and received at least half of expected visits for 12 months ^e	35.7	34.7	37.5	43.1	42.8	43.6
<u>Continuity of home visitor assignment^f (%)</u>						
Number of home visitors to visit a family ^d						
One home visitor	NA	NA	NA	79.2	78.8	79.9
Two home visitors	NA	NA	NA	16.5	17.1	15.5
Three home visitors or more	NA	NA	NA	4.3	4.2	4.6
Continuity of care as experienced by families ^{a,g} (score)	NA	NA	NA	0.92 (0.17)	0.92 (0.17)	0.92 (0.17)
Sample size ^h	1,978	1,272	706	1,640	1,032	608

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: NA = not applicable. Because “All Families” includes families without visits, variables that require a visit are NA for this sample.

Sample includes families who had a potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit for families with visits, or the date of random assignment for families whose home visitor either never submitted a log or whose logs never indicated that a visit occurred. It represents a maximum of 52 weeks of logs per family.

Standard deviations for continuous variables are shown in parentheses.

(continued)

Appendix Table D.13 (continued)

For all categorical variables except those with multiple categories, differences between women who were first-time mothers at study entry and mothers with prior children at study entry were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. See notes “a” and “d” below for further information on statistical tests used with continuous variables and categorical variables with multiple categories, respectively. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aSince this variable is continuous, differences between women who were first-time mothers at study entry and mothers with prior children at study entry were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^bThis is limited to women who were pregnant at study entry (All families: overall = 1,348; first-time mothers = 990; mothers with prior children = 358. Families with visits: overall = 1,119; first-time mothers = 814; mothers with prior children = 305). A family is considered still active at the birth of the child if they receive a home visit 4 weeks before the birth of the child, the week of the birth of the child, or 4 weeks after the birth of the child.

^cSample includes families who had the potential to be enrolled when the child was 12 months of age based on the date of the first log documenting a home visit for families with visits, or the date of random assignment for families whose home visitor either never submitted a log or whose logs never indicated that a visit occurred. Sample sizes for all families are: overall = 1,878; first-time mothers = 1,200; mothers with prior children = 678. Sample sizes for families with visits are: overall = 1,567; first-time mothers = 980; mothers with prior children = 587. A family is considered still enrolled if they received a home visit the week of the child’s 12-month birthday or any time after.

^dPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories between women who were first-time mothers at study entry and mothers with prior children at study entry were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^eFor analysis purposes, the MIHOPE team used the following assumptions to identify a specific number of expected visits by model: EHS is based on an expectation of weekly visits, but typically does not expect visits during the winter holidays, hence an expected 50 visits instead of 52 visits. HFA is based on an assumption of 8 weeks of services prenatally with biweekly visits until the birth of the child, then weekly visits through the first 6 months post-birth followed by biweekly visits. NFP is based on an assumption of 20 weeks of services prenatally. Using the standard visit schedule, this entails weekly visits for the first 4 weeks followed by biweekly visits until the birth of the child, then weekly visits for the first 6 weeks post-birth followed by biweekly visits. PAT is based on an expectation of two visits per month. The number of visits expected for a given family, particularly in HFA or NFP, could be higher or lower than the “typical” expectation used in these calculations, depending on when the family enrolled and the identified strengths and risks of the client. In addition, the expected number of visits for PAT families could be lower if they were on a monthly schedule. The total number of expected visits in the first 12 months were as follows: EHS, 50; HFA, 34; NFP, 30; and PAT, 24.

^fThis measure may include staff not registered as a home visitor, such as a supervisor or specialist.

^gThis was measured using the Continuity of Care Index (Bice and Boxerman, 1977). A score of 0 represents maximum dispersion (a different home visitor for every visit) while a score of 1 represents minimum dispersion (the same home visitor for every visit). Because continuity of care is arguably only relevant for families who engaged in home visitation for more than a few visits, this measure includes families who had at least four visits (Christakis et al., 2000). Sample sizes for families with visits are: overall = 1,401; first-time mothers = 878; mothers with prior children = 523.

^hFirst-time mother status is missing for 43 families in the sample (31 families with visits and 12 without visits). Thus the sample size in this table is lower than the sample size in Tables 4.1, 4.3, 4.5, 4.6, and Appendix Table D.1 showing dosage by evidence-based model, and Appendix Table D.9 showing dosage by pregnancy status.

Appendix Table D.14

Visit Topics and Referrals, by Parity at Study Entry

Service Delivery Measure	Overall	First-Time Mothers	Mothers with Prior Children
Average number of topics discussed per visit ^a	5.4 (2.2)	5.6 (2.2)	5.0 *** (2.2)
Average number of unique referrals provided across outcome-specific areas ^b	3.4 (2.8)	3.6 (2.8)	3.1 *** (2.7)
Sample size	1,640	1,032	608

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: Sample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family.

Standard deviations for continuous variables are shown in parentheses.

For all continuous variables, differences between women who were first-time mothers at study entry and mothers with prior children at study entry were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aThis is based on a potential of 17 outcome-specific topic areas (since the family service log combined tobacco use and substance use onto a single item). See Appendix Table D.2 and Appendix Table D.3 for a full list of topic areas.

^bThis is based on a potential of 15 outcome-specific referral areas for women who were pregnant at study entry and 14 outcome-specific referral areas for women who were not pregnant at study entry (since the family service log combined prenatal health and birth outcomes onto a single item, tobacco use and substance use onto a single item, and public assistance/health insurance onto a single item). Referrals related to prenatal health/birth outcomes are limited to those made during the prenatal period (for example, before the birth of the child or the week of the birth of the child), and as such they are not counted for women who were not pregnant at study entry. See Appendix Table D.4 for a full list of referral areas.

Appendix Table D.15

Visit Topics and Referrals in Outcome-Specific Areas, by Parity at Study Entry

Outcome-Specific Area (%)	Visits in Which Topic Was Discussed ^{a,b}		Families with Whom Topic Was Ever Discussed ^c		Families Who Ever Received a Referral ^c	
	First-Time Mothers	Mothers with Prior Children	First-Time Mothers	Mothers with Prior Children	First-Time Mothers	Mothers with Prior Children
<u>Maternal and newborn health and well-being</u>						
Prenatal health ^d	47.8	32.5 ***	91.8	83.6 ***	—	—
Birth outcomes ^d	49.0	34.3 ***	92.4	85.2 ***	—	—
Prenatal health/birth outcomes ^d	—	—	—	—	50.5	35.1 ***
Maternal physical health	29.6	18.7 ***	77.0	68.8 ***	22.3	14.1 ***
Family planning and birth spacing	20.2	16.5 **	71.2	64.6 ***	25.9	20.2 **
Tobacco use/substance use ^e	12.1	7.2 ***	54.5	37.3 ***	4.9	3.6
Mental health or stress	37.3	30.8 ***	83.1	77.8 **	23.6	20.2
Intimate partner violence	6.9	5.5	40.8	35.4	8.6	9.7
<u>Parenting</u>						
Breastfeeding, feeding, and nutrition	33.9	24.5 ***	81.8	75.3 ***	36.3	29.1 **
Positive parenting behavior	57.5	68.5 ***	87.7	92.4 ***	7.6	9.9
Child maltreatment	29.8	33.5 *	77.3	80.4	10.8	7.7
<u>Child health and development</u>						
Child preventive care	46.3	49.8	85.9	88.8	32.3	25.8 **
Child development	62.4	74.5 ***	90.0	93.6 **	10.6	16.4 ***

(continued)

Appendix Table D.15 (continued)

Outcome-Specific Area (%)	Visits in Which Topic Was Discussed ^{a,b}		Families with Whom Topic Was Ever Discussed ^c		Families Who Ever Received a Referral ^e	
	First-Time Mothers	Mothers with Prior Children	First-Time Mothers	Mothers with Prior Children	First-Time Mothers	Mothers with Prior Children
	<u>Family economic self-sufficiency</u>					
Economic self-sufficiency	47.0	40.0 ***	87.5	82.9 **	38.7	39.3
<u>Access to community resources and public services</u>						
Child care	7.5	7.0	42.3	41.6	20.7	29.1 ***
Public assistance	18.6	16.3	65.9	61.2 *	—	—
Health insurance/Medicaid/CHIP	17.3	12.8 **	63.3	51.6 ***	—	—
Public assistance and/or health insurance/Medicaid/CHIP ^f	—	—	—	—	49.9	38.5 ***
Housing	20.8	19.1	65.8	61.5	30.3	32.6
Sample size	1,032	608	1,032	608	1,032	608

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: CHIP = Children’s Health Insurance Program.

Sample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family. Dashes indicate that data are not available.

For all categorical variables, differences between women who were first-time mothers at study entry and mothers with prior children at study entry were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of families within local programs. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aCalculations are based on the number of family service logs submitted (indicating each topic was discussed), divided by the number of visits from the first log (documenting a home visit occurred) to the last log (documenting a home visit occurred), up to a maximum of 52 weeks.

^bFor all continuous variables, differences between women who were first-time mothers at study entry and mothers with prior children at study entry were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^cThe analysis window for each family spans the time from their first log documenting a home visit occurred to the last log documenting a home visit occurred, up to a maximum of 52 weeks. As such, these measures only capture whether the family ever discussed each topic or ever received a referral in each outcome-specific area within this analysis window.

^dThis is limited to women who were pregnant at study entry (first-time mothers = 814; mothers with prior children = 305) and to topics discussed and referrals provided during the prenatal period (for example, before the birth of the child or the week of the birth of the child).

^eTobacco cessation was not explicitly mentioned as a referral option on the MIHOPE family service logs. However, it is likely that referrals for tobacco use were marked as “Substance use (alcohol and other drugs) treatment.” Additionally, any open-ended write-in responses for tobacco use were combined with “Substance use (alcohol and other drugs) treatment.”

^fReferrals for “Public assistance” and “Health insurance/Medicaid/CHIP” are combined in this table because the MIHOPE family service log response option combined referrals for these outcome-specific areas: “Public assistance (Medicaid, SNAP, WIC, CHIP, TANF, etc.).” See Appendix A for more information.

Appendix Table D.16

Participant Responsiveness, by Parity at Study Entry

Service Delivery Measure (Rating)	Overall	First-Time Mothers	Mothers with Prior Children
Responsiveness during visit ^a	4.2 (0.7)	4.3 (0.7)	4.2 (0.7)
Sample size	1,640	1,032	608
Responsiveness between visits ^b	3.4 (0.6)	3.4 (0.6)	3.5 (0.6)
Sample size ^c	1,400	877	523

SOURCE: Calculations based on data from the MIHOPE family service logs.

NOTES: Sample includes families who had at least one visit and had the potential to contribute 52 weeks of logs based on the date of the first log documenting a home visit through the end of data collection. It represents a maximum of 52 weeks of logs per family.

Standard deviations for continuous variables are shown in parentheses.

For all continuous variables, differences between women who were first-time mothers at study entry and women with prior children at study entry were tested for statistical significance using a one-way ANOVA, adjusting for clustering of families within local programs. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aThe home visitor's rating on a scale of 1 to 5 of the mother's responsiveness, as defined by her involvement during the week's visits.

^bThe home visitor's rating on a scale of 1 to 4 of the mother's responsiveness since the last week's visit, as defined by her follow-through on actions agreed upon since prior visit.

^cSample excludes families whose log(s) indicated that no follow-through was expected; 240 families were excluded because each of their weekly logs indicated that no follow-through was expected.

Appendix Table D.17

Percentage of Local Programs That Raised the Priority of Intended Outcomes as a Result of Receipt of MIECHV Funding, by Evidence-Based Model

Outcome (%)	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>					
Prenatal health	28.4	31.6	26.9	13.6	42.9
Birth outcomes	24.1	36.8	19.2	13.6	30.0
Maternal physical health	23.9	31.6	30.8	4.5	28.6 *
Family planning and birth spacing	29.5	31.6	30.8	9.1	47.6 **
Tobacco use	33.0	42.1	38.5	4.5	47.6 ***
Mental health and substance use	36.4	36.8	46.2	18.2	42.9
Intimate partner violence	43.7	36.8	53.8	19.0	61.9 **
<u>Parenting</u>					
Breastfeeding	22.7	15.8	26.9	18.2	28.6
Positive parenting behavior	11.5	0.0	11.5	18.2	15.0
Child maltreatment	17.0	15.8	15.4	4.5	33.3
<u>Child health and development</u>					
Child preventive care	16.1	0.0	19.2	18.2	25.0
Child development	13.6	0.0	15.4	9.1	28.6 *
<u>Family economic self-sufficiency</u>					
Economic self-sufficiency	16.1	5.3	24.0	9.1	23.8
Sample size	88	19	26	22	21

SOURCE: Calculations based on data from the MIHOPE program manager survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Fisher's exact test. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table D.18

**Percentage of Local Program Managers and Home Visitors Who Gave a High Priority to Intended Outcomes,
by Evidence-Based Model**

Outcome (%)	High Priority Rating by Local Program Manager					High Priority Rating by Home Visitor				
	Overall	EHS	HFA	NFP	PAT	Overall	EHS	HFA	NFP	PAT
<u>Maternal and newborn health and well-being</u>										
Prenatal health ^a	81.8	68.4	80.8	95.5	81.0	84.0	76.8	84.6	96.3	76.4 ***
Birth outcomes ^a	85.2	73.7	84.6	100.0	81.0 *	80.6	69.4	83.1	95.5	71.5 ***
Maternal physical health	63.2	44.4	65.4	77.3	61.9	63.1	60.7	66.2	63.9	60.7
Family planning and birth spacing	67.1	36.8	80.8	100.0	42.9 ***	61.1	44.1	66.9	84.4	43.9 ***
Tobacco use	64.0	33.3	80.0	86.4	47.6 ***	58.5	50.9	61.1	70.9	48.8 **
Mental health and substance use ^a	79.8	72.2	80.0	100.0	63.2 ***	75.5	66.1	79.2	84.4	69.7 ***
Intimate partner violence ^a	80.5	57.9	92.3	100.0	65.0 ***	76.3	60.4	81.8	85.2	74.2 ***
<u>Parenting</u>										
Breastfeeding ^a	75.6	68.4	80.0	95.2	57.1 **	70.3	62.7	71.6	87.4	56.6 ***
Positive parenting behavior ^a	97.7	100.0	92.3	100.0	100.0	94.8	90.0	96.6	95.5	95.9
Child maltreatment ^a	97.7	100.0	100.0	100.0	90.5 *	94.0	86.4	97.3	95.5	95.0 **
<u>Child health and development</u>										
Child preventive care ^a	95.5	100.0	96.2	95.5	90.5	93.2	90.9	94.6	97.0	89.3 *
Child development ^a	97.7	100.0	96.2	100.0	95.2	93.6	90.9	94.6	94.0	94.3
<u>Family economic self-sufficiency</u>										
Economic self-sufficiency ^a	83.0	73.7	88.5	90.9	76.2	79.9	79.3	83.2	86.7	68.9 **
Sample size	88	19	26	22	21	521	112	149	137	123

(continued)

Appendix Table D.18 (continued)

SOURCES: Calculations based on data from the MIHOPE program manager survey and the MIHOPE home visitor survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Numbers represent the percentage of respondents who rated the outcome as a high priority for their program as defined by a score of 8 or higher on a 10-point scale.

For all categorical variables except those with any cell size equal to 0, differences across evidence-based models were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local program for those variables reported by home visitors. Each category was tested separately. See note “a” below for further information on the statistical test used with categorical variables with cell sizes equal to 0. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aSince this variable had a cell size equal to 0 for program manager ratings, differences across evidence-based models were tested for statistical significance using a Fisher’s exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table D.19

Local Programs' Expectations Upon Hire for Home Visitors and Supervisors

Local Programs' Expectations for Job Responsibility (%)	Home Visitors	Supervisors
Adheres to evidence-based model policy	53.0	30.9
Documents service delivery	80.7	39.8
Provides reflective supervision	NA	27.7
Provides field supervision	NA	49.4
Develops program and policy	NA	62.7
Addresses staff morale	NA	62.7
Develops and monitors service plans ^a	81.9	25.3
Performs screening and assessment ^a	81.9	24.1
Provides family education and support ^a	95.2	31.3
Provides referrals ^a	73.5	42.2
Facilitates access to other services ^a	38.6	2.4
Communicates with other providers ^a	37.3	4.8
Sample size	88	88

SOURCES: Calculations based on data from review of the MIHOPE local program job descriptions and the MIHOPE evidence-based model developer sample job descriptions.

NOTES: NA = not applicable.

Local programs provided a sample job description for home visitor and supervisor positions. In some cases, local programs indicated that they used a job description that was provided to them by their evidence-based model. In these situations, the model descriptions (provided by the model developers themselves) were coded and applied to the local programs for whom it was relevant.

^aFor supervisors, these job responsibilities relate to the supervision of staff in carrying out these job responsibilities.

Appendix Table D.20

Local Programs' Policies for Information Gathering, Education and Support, and Referrals: Maternal Mental Health

Program Policy (%)	Overall	EHS	HFA	NFP	PAT
<u>Information gathering</u>					
Formal screening tool is required ^a	93.1	100.0	92.3	90.9	90.0
At a specified time before or after a child's birth or enrollment ^b	89.7	94.7	92.3	90.9	80.0
When home visitor or parent has a concern ^b	40.2	42.1	23.1	45.5	55.0
<u>Education and support</u>					
Family education and support when screening detects a problem					
Specified in written protocol or determined in consultation with supervisor ^b	78.2	89.5	88.5	59.1	75.0 *
Home visitors can decide on their own how to act ^b	8.0	0.0	0.0	22.7	10.0 ***
No policy ^b	13.8	10.5	7.7	13.6	25.0
Sample size	87	19	26	22	20
<u>Referral^c</u>					
Role of home visitor in making referral ^d					
Provide information to families	35.0	26.3	41.7	36.8	33.3
Help family gain access to the resource	53.8	73.7	50.0	47.4	44.4
No policy	11.3	0.0	8.3	15.8	22.2
Role of home visitor in following through on a referral ^d					
Home visitor expected to monitor	92.5	100.0	95.8	84.2	88.9
Home visitor not expected to monitor	0.0	0.0	0.0	0.0	0.0
No policy	7.5	0.0	4.2	15.8	11.1
Sample size	81	19	24	20	18

SOURCE: Calculations based on data from the MIHOPE program manager survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

For all categorical variables except those with multiple categories, differences across evidence-based models were tested for statistical significance using a Fisher's exact test. Each category was tested separately. See note "d" below for further information on the statistical test used with categorical variables with multiple categories. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aPossible screening tools included options for many commonly used tools, state- or model-specific tools or screening questions, and respondent write-in options.

^bResponse categories are not mutually exclusive, so percentages may total more than 100. Since local programs could respond for more than one tool within each domain, some reported on more than one tool and might have different policies for each tool.

^cOnly for local programs where formal screening is required.

^dPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Fisher's exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table D.21

Local Programs' Policies for Information Gathering, Education and Support, and Referrals: Maternal Substance Use

Program Policy (%)	Overall	EHS	HFA	NFP	PAT
<u>Information gathering</u>					
Formal screening tool is required ^a	69.0	63.2	61.5	90.9	60.0 *
At a specified time before or after a child's birth or enrollment ^b	67.8	63.2	61.5	90.9	55.0 **
When home visitor or parent has a concern ^b	18.4	26.3	3.8	27.3	20.0 *
<u>Education and support</u>					
Family education and support when screening detects a problem					
Specified in written protocol or determined in consultation with supervisor ^b	49.4	52.6	57.7	45.5	40.0
Home visitors can decide on their own how to act ^b	8.0	0.0	0.0	27.3	5.0 ***
No policy ^b	11.5	10.5	3.8	18.2	15.0
Sample size	87	19	26	22	20
<u>Referral^c</u>					
Role of home visitor in making referral ^d					
Provide information to families	50.0	27.3	62.5	50.0	54.5
Help family gain access to the resource	43.1	72.7	37.5	35.0	36.4
No policy	6.9	0.0	0.0	15.0	9.1
Role of home visitor in following through on a referral ^d					
Home visitor expected to monitor	91.5	100.0	93.8	84.2	91.7
Home visitor not expected to monitor	0.0	0.0	0.0	0.0	0.0
No policy	8.5	0.0	6.3	15.8	8.3
Sample size	60	12	16	20	12

SOURCE: Calculations based on data from the MIHOPE program manager survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

For all categorical variables except those with multiple categories, differences across evidence-based models were tested for statistical significance using a Fisher's exact test. Each category was tested separately. See note "d" below for further information on the statistical test used with categorical variables with multiple categories. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aPossible screening tools included options for many commonly used tools, state- or model-specific tools or screening questions, and respondent write-in options.

^bResponse categories are not mutually exclusive, so percentages may total more than 100. Since local programs could respond for more than one tool within each domain, some reported on more than one tool and might have different policies for each tool.

^cOnly for local programs where formal screening is required.

^dPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Fisher's exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table D.22

Local Programs' Policies for Information Gathering, Education and Support, and Referrals: Intimate Partner Violence

Program Policy (%)	Overall	EHS	HFA	NFP	PAT
<u>Information gathering</u>					
Formal screening tool is required ^a	70.1	63.2	69.2	86.4	60.0
At a specified time before or after a child's birth or enrollment ^b	70.1	63.2	69.2	86.4	60.0
When home visitor or parent has a concern ^b	21.8	26.3	19.2	22.7	20.0
<u>Education and support</u>					
Family education and support when screening detects a problem					
Specified in written protocol or determined in consultation with supervisor ^b	55.2	57.9	65.4	50.0	45.0
Home visitors can decide on their own how to act ^b	8.0	0.0	3.8	22.7	5.0 **
No policy ^b	9.2	5.3	3.8	18.2	10.0
Sample size	87	19	26	22	20
<u>Referral^c</u>					
Role of home visitor in making referral ^d					**
Provide information to families	44.3	16.7	66.7	42.1	41.7
Help family gain access to the resource	49.2	83.3	33.3	42.1	50.0
No policy	6.6	0.0	0.0	15.8	8.3
Role of home visitor in following through on a referral ^d					
Home visitor expected to monitor	91.8	91.7	100.0	84.2	91.7
Home visitor not expected to monitor	1.6	8.3	0.0	0.0	0.0
No policy	6.6	0.0	0.0	15.8	8.3
Sample size	61	12	18	19	12

SOURCE: Calculations based on data from the MIHOPE program manager survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

For all categorical variables except those with multiple categories, differences across evidence-based models were tested for statistical significance using a Fisher's exact test. Each category was tested separately. See note "d" below for further information on the statistical test used with categorical variables with multiple categories. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aPossible screening tools included options for many commonly used tools, state- or model-specific tools or screening questions, and respondent write-in options.

^bResponse categories are not mutually exclusive, so percentages may total more than 100. Since local programs could respond for more than one tool within each domain, some reported on more than one tool and might have different policies for each tool.

^cOnly for local programs where formal screening is required.

^dPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Fisher's exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table D.23

Local Programs' Policies for Information Gathering, Education and Support, and Referrals: Parenting Behavior

Program Policy (%)	Overall	EHS	HFA	NFP	PAT
<u>Information gathering</u>					
Formal screening tool is required ^a	79.3	73.7	69.2	95.5	80.0
At a specified time before or after a child's birth or enrollment ^b	79.3	73.7	69.2	95.5	80.0
When home visitor or parent has a concern ^b	13.8	10.5	0.0	22.7	25.0 **
<u>Education and support</u>					
Family education and support when screening detects a problem					
Specified in written protocol or determined in consultation with supervisor ^b	58.6	68.4	65.4	54.5	45.0
Home visitors can decide on their own how to act ^b	9.2	0.0	0.0	22.7	15.0 ***
No policy ^b	13.8	5.3	3.8	27.3	20.0 *
Sample size	87	19	26	22	20
<u>Referral^c</u>					
Role of home visitor in making referral ^d					
Provide information to families	36.8	35.7	38.9	38.1	33.3
Help family gain access to the resource	52.9	64.3	50.0	47.6	53.3
No policy	10.3	0.0	11.1	14.3	13.3
Role of home visitor in following through on a referral ^d					
Home visitor expected to monitor	89.9	100.0	88.9	81.0	93.8
Home visitor not expected to monitor	0.0	0.0	0.0	0.0	0.0
No policy	10.1	0.0	11.1	19.0	6.3
Sample size	69	14	18	21	16

SOURCE: Calculations based on data from the MIHOPE program manager survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

For all categorical variables except those with multiple categories, differences across evidence-based models were tested for statistical significance using a Fisher's exact test. Each category was tested separately. See note "d" below for further information on the statistical test used with categorical variables with multiple categories. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aPossible screening tools included options for many commonly used tools, state- or model-specific tools or screening questions, and respondent write-in options.

^bResponse categories are not mutually exclusive, so percentages may total more than 100. Since local programs could respond for more than one tool within each domain, some reported on more than one tool and might have different policies for each tool.

^cOnly for local programs where formal screening is required.

^dPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Fisher's exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table D.24

Local Programs' Policies for Information Gathering, Education and Support, and Referrals: Developmental Delay

Program Policy (%)	Overall	EHS	HFA	NFP	PAT
<u>Information gathering</u>					
Formal screening tool is required ^a	98.9	100.0	100.0	95.5	100.0
At a specified time before or after a child's birth or enrollment ^b	98.9	100.0	100.0	95.5	100.0
When home visitor or parent has a concern ^b	56.3	57.9	46.2	72.7	50.0
<u>Education and support</u>					
Family education and support when screening detects a problem					
Specified in written protocol or determined in consultation with supervisor ^b	86.2	89.5	100.0	68.2	85.0 ***
Home visitors can decide on their own how to act ^b	10.3	0.0	3.8	27.3	10.0 **
No policy ^b	6.9	10.5	0.0	9.1	10.0
Sample size	87	19	26	22	20
<u>Referral^c</u>					
Role of home visitor in making referral ^d					
Provide information to families	29.8	21.1	40.0	35.0	20.0
Help family gain access to the resource	65.5	78.9	60.0	55.0	70.0
No policy	4.8	0.0	0.0	10.0	10.0
Role of home visitor in following through on a referral ^d					**
Home visitor expected to monitor	91.8	100.0	96.0	76.2	95.0
Home visitor not expected to monitor	2.4	0.0	4.0	4.8	0.0
No policy	5.9	0.0	0.0	19.0	5.0
Sample size	86	19	26	21	20

SOURCE: Calculations based on data from the MIHOPE program manager survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

For all categorical variables except those with multiple categories, differences across evidence-based models were tested for statistical significance using a Fisher's exact test. Each category was tested separately. See note "d" below for further information on the statistical test used with categorical variables with multiple categories. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aPossible screening tools included options for many commonly used tools, state- or model-specific tools or screening questions, and respondent write-in options.

^bResponse categories are not mutually exclusive, so percentages may total more than 100. Since local programs could respond for more than one tool within each domain, some reported on more than one tool and might have different policies for each tool.

^cOnly for local programs where formal screening is required.

^dPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Fisher's exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table D.25

Family and Supervision Caseload-Size Policies of Evidence-Based Models and Local Programs

Caseload Policy	Overall	EHS	HFA	NFP	PAT
<u>Home visitor caseloads</u>					
Evidence-based model policy on the maximum caseload size of families per home visitor ^{a,c}	NA	12	25	25	—
Local programs' alignment with evidence-based model policy on the maximum caseload size of families per home visitor (%)					***
Local programs with same policy as evidence-based model	58.2	57.9	34.6	86.4	—
Local programs with lower maximum caseload size	41.8	42.1	65.4	13.6	—
Sample size (number of local programs)	67	19	26	22	—
<u>Supervisor caseloads</u>					
Evidence-based model policy on the maximum caseload size of home visitors per supervisor ^{b,c}	NA	—	6	8	12
Local programs' alignment with evidence-based model policy on the maximum caseload size of full-time home visitors per full-time supervisor (%)					**
Local programs with same policy as evidence-based model	72.2	—	55.0	90.0	71.4
Local programs with lower maximum caseload size	27.8	—	45.0	10.0	28.6
Sample size (number of local programs)	54	—	20	20	14

SOURCES: Calculations based on data from the MIHOPE evidence-based model developer survey, the MIHOPE program manager survey, and the MIHOPE site-selection team.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers. NA = not applicable.

Dashes indicate that data are not available.

Percentages that are the same as and that are lower than the evidence-based model reflect the share of local programs whose program manager's report is in agreement with or lower than the maximums specified by their evidence-based model. No local programs reported having caseload limits higher than their evidence-based model maximums.

Percentages may not sum to 100 because of rounding. Since each categorical variable includes multiple categories, differences in the distribution of categories across evidence-based models were tested for statistical significance using a Fisher's exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aHFA: maximum of 15 when visits are weekly; no more than 25 on any schedule. While PAT does not have a policy on the maximum caseload size of families per home visitor, it does limit visits to 48 visits per month for first-year parent educators and 60 visits per month for second-year (or beyond) parent educators.

^bEHS does not have a policy on the maximum caseload size of home visitors per supervisor.

^cNo significance tests were run on evidence-based model policy variables.

Appendix Table D.26

Parent Training Techniques and Supportive Strategies Encouraged by Evidence-Based Models and Local Programs

Technique or Strategy	Evidence-Based Model Developer ^a				Percentage of Local Programs That Encouraged Techniques				
	EHS	HFA	NFP	PAT	Overall	EHS	HFA	NFP	PAT
<u>Parent training techniques</u>									
Demonstrating positive parenting practices	E	D	E	D	95.3	94.7	96.2	90.5	100.0
Directing parent-child activities	E	E	E	D	72.6	63.2	96.0	35.0	90.0 ***
Observing and giving positive feedback on parent-child interactions	E	E	E	E	100.0	100.0	100.0	100.0	100.0
Observing and giving constructive feedback on parent-child interaction (noting ways parents could improve their behavior)	E	E	E	E	87.5	78.9	96.2	72.7	100.0 ***
Playing with child/direct interaction with child	E	N	E	D	73.6	68.4	88.5	63.6	70.0
<u>Supportive strategies</u>									
Caregiver goal setting	E	E	E	E	98.9	94.7	100.0	100.0	100.0
Caregiver problem solving	E	E	E	E	98.9	94.4	100.0	100.0	100.0
Crisis intervention	E	E	E	N	84.9	77.8	84.0	81.8	95.2
Emotional support	E	E	E	E	96.6	94.7	100.0	95.5	95.2
Sample size	1	1	1	1	88	19	26	22	21

SOURCES: Calculations based on data from the MIHOPE evidence-based model developer survey and the MIHOPE program manager survey.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Fisher's exact test. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aE = encouraged, D = discouraged, N = neither encouraged nor discouraged.

Appendix Table D.27

Clarity of Communication from Model Developers and State MIECHV Agencies, and Influence of Other Organizations, by Evidence-Based Model

Local Program’s Assessment of Communication and Influence (%)	Overall	EHS	HFA	NFP	PAT
Receives clear communication about intended recipients					
From evidence-based model developers	84.1	89.5	80.8	95.5	71.4
From state MIECHV agency	79.5	68.4	88.5	95.5	61.9 **
Receives clear communication about dosage requirements					
From evidence-based model developers	92.0	94.7	92.3	90.9	90.0
From state MIECHV agency	68.2	63.2	80.8	77.3	47.6 *
Other organizations influence prioritization of... ^a					
Families seeking services	27.6	10.5	26.9	31.8	40.0
Intended outcomes	29.5	31.6	38.5	18.2	28.6
Sample size	88	19	26	22	21

SOURCE: Calculations based on data from the MIHOPE program manager survey.

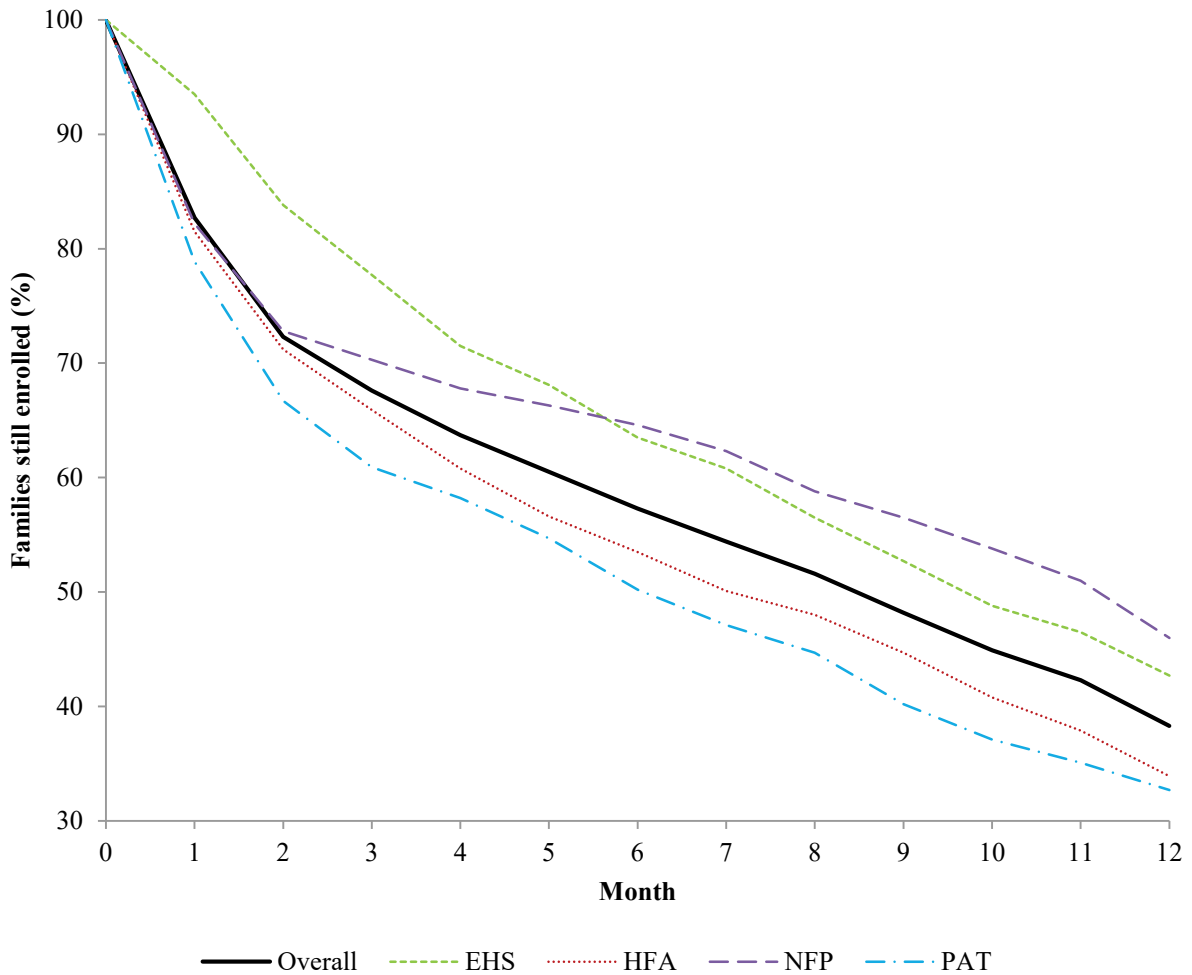
NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

For all categorical variables, differences across evidence-based models were tested for statistical significance using a Fisher’s exact test. Each category was tested separately. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aOther organizations include other agencies (excluding the local program’s state MIECHV agency), funders, and models. Write-in responses included organizations such as local school districts, nonprofit organizations, local and federal health departments, and private or local funders, among others.

Appendix Figure D.1

Family Retention in Home Visiting Programs Over 12 Months, All Families



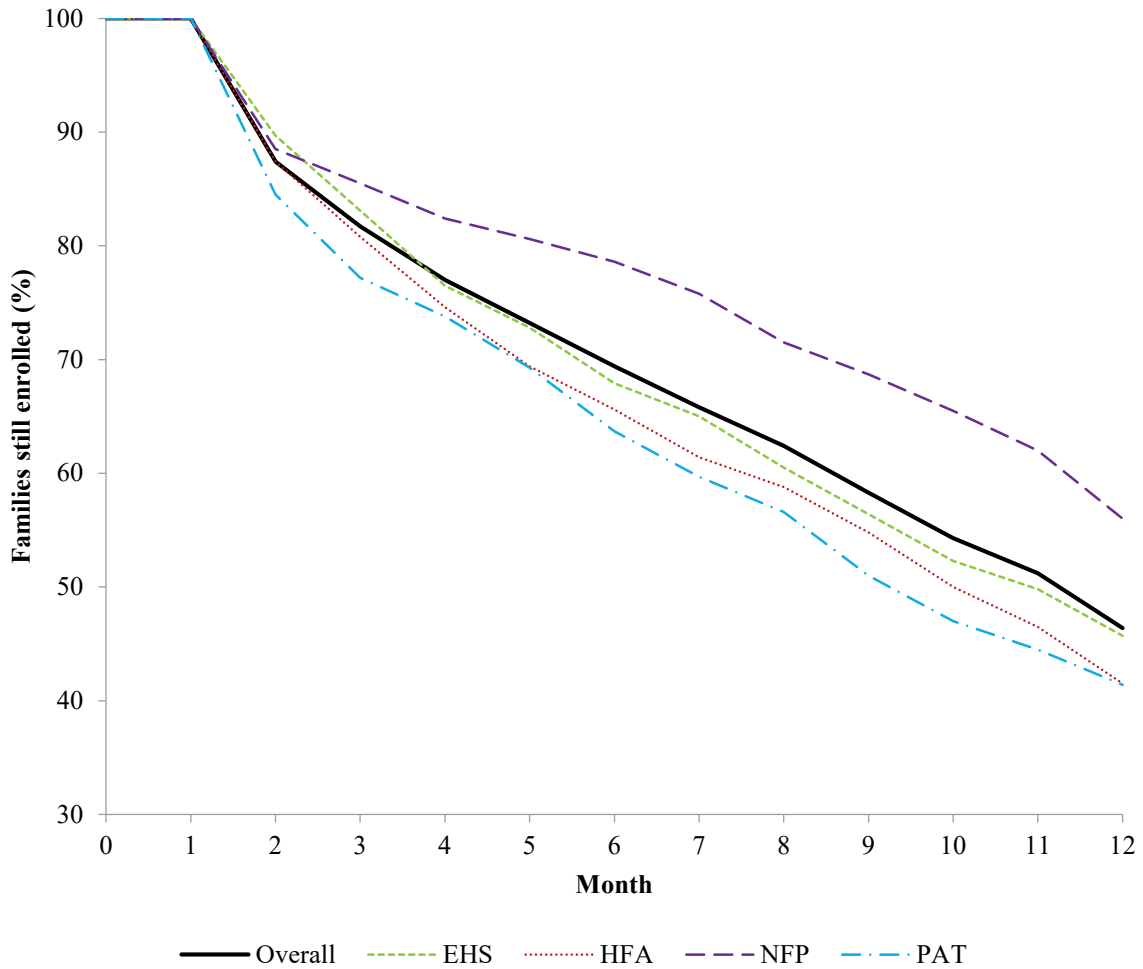
SOURCE: MIHOPE family service logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Sample includes all families, regardless of whether they received services or not (overall = 2,021). The timespan of 0 to 1 month represents the first month of family participation in home visiting services. The drop from 0 to 1 month represents the 17.3 percent of families who ultimately did not participate in home visiting. A family is considered still enrolled at each month if their next or last home visit occurs in a subsequent month.

Appendix Figure D.2

Family Retention in Home Visiting Programs Over 12 Months, Families with Visits



SOURCE: MIHOPE family service logs.

NOTES: EHS = Early Head Start Home-based option, HFA = Healthy Families America, NFP = Nurse-Family Partnership, PAT = Parents as Teachers.

Sample restricted to families that received at least one home visit (overall = 1,671). The timespan of 0 to 1 month represents any visits that occurred during the first month of family participation in home visiting services. A family is considered still enrolled at each month if their next or last home visit occurs in a subsequent month.

Appendix E

MIHOPE Video Sub-Study: Methods and Results

Early childhood home visiting is a service strategy with the goal of improving outcomes for children by improving outcomes for parents, including parenting knowledge and skills. Improving outcomes for parents requires motivating, enabling, and reinforcing parents to adopt positive behaviors. This pertains to parenting behaviors but also extends beyond this, for example, to work, school, relationships, family functioning, and to physical, behavioral, and emotional health.

How a home visitor communicates with family members is one of the most fundamental “active ingredients” of home visiting. A home visitor’s decisions about what to focus on and how to talk with family members during visits define the motivating, enabling, and reinforcing nature of what happens in visits and, thereby, define home visiting’s impact on family outcomes.

Understandably, then, local home visiting programs have high expectations for how home visitors communicate with families. For example, a recent national survey of local programs found that most local programs expect home visitors to communicate with families in ways that show warmth and respect; tailor services to family needs, concerns, understanding, and preferences; and engage families in behavior change to reduce risks and build on strengths.¹

Communication is complex. Home visitors communicate with families to accomplish tasks such as gathering information and providing education and support. They communicate on a social-emotional level to build a relationship with the family, for example by providing support and reassurance, engaging in social rapport, and avoiding criticism of the family. Finally, home visitors build a bridge between the tasks and affective aspects of their work with families through communication that fosters partnership with the family. Home visitors do this by first helping parents express their expectations, preferences, and perspectives, and then tailoring services accordingly.

The home visiting field’s understanding of what happens during visits is based much more on data from management information systems than on the observation of live or recorded visits. As noted earlier in this report, all local programs participating in MIHOPE had management information systems to track some aspects of services delivered. All local programs also reported using visit observation as part of supervision, but infrequently — about a third of home visitors were observed during two to four of their home visits annually and almost a third were not observed at all. (See Table 3.5 in Chapter 3.)

Extensive research on communication in health services and more limited research in home visiting underscore the importance of communication content and style. Health care providers’ communication style and efforts to address family concerns have been shown to

¹Duggan and O’Neill (2016).

influence client satisfaction and engagement, adherence to appointments, and achievement of outcomes.² For example, pediatricians' communication style has been shown to influence parents' disclosure of concerns about their children.³ In home visiting, the mother's satisfaction with the local program's efforts to address her reasons for enrolling and her ratings of agreement with her home visitor on goals are positively associated with duration of enrollment in home visiting.⁴ Observational studies of home visiting have shown that home visitors' prior training may be associated with what they focus on in visits,⁵ and that the quality of their communication strategies around parent-child interaction is positively associated with child development.⁶

Purpose and Research Questions of the Video Sub-Study

MIHOPE included a sub-study using video recordings of home visits for a subsample of states, local programs, home visitors, and families. The sub-study had two purposes: (1) to explore and describe the content and nature of communication in visits; and (2) to assess the completeness and accuracy of the family service log data that MIHOPE uses to describe the content of visits.

The sub-study addressed three research questions:

1. How much time do home visitors spend discussing specific topics?
2. How do home visitors and mothers communicate during visits to elicit and share information, provide support and reassurance, and build partnership?
3. How much do the MIHOPE family service logs agree with the content areas discussed in observed visits?

Key Findings

- **Visits varied in the time spent discussing specific topics.** Some topics were discussed in nearly all visits while other topics were rarely discussed. For example, positive parenting was discussed in over 97 percent of postnatal visits, while the mother's physical health was discussed in slightly less than half of these visits. In visits where a specific topic was discussed, the time devoted to it varied greatly. For example, across all visits where positive

²Roter and Larson (2002).

³Wissow, Wilson, and Roter (1994).

⁴Burrell et al. (forthcoming).

⁵McBride and Peterson (1997).

⁶Roggman, Boyce, and Innocenti (2008).

parenting was discussed, the time devoted to this topic ranged from less than 1 percent to 73 percent.

- **Visits varied in how home visitors emphasized gathering information, providing information, providing support and reassurance, and partnership building.** For example, across all visits, 16 percent of the home visitor’s conversations with families was about partnership building, but this ranged from 3 percent to 38 percent. This finding is important because research has shown that partnership building is associated with client satisfaction, follow-through on provider recommendations, and positive impacts on outcomes.
- **The home visitor’s and mother’s communication styles were inter-related in ways likely to influence family engagement.** For example, as the home visitor’s communication directed at building partnership increased, mothers shared more information about the family, engaged more in conversation, played a more active role in the conversation, and talked less about purely social topics unrelated to the purpose of home visiting. When home visitors expressed criticism of others, mothers also engaged more in criticism.
- **For a majority of topics, there was a good level of agreement between the video recordings of visits and the family service logs.** Agreement was usually greater for narrow, concrete topics such as tobacco use than for broad, abstract topics such as mental health. Visits included conversation on an average of 8.3 topics; conversation on about half of the topics discussed was very brief, lasting only a few minutes on average. Conversation often integrated multiple topics. These features — the high number of topics discussed, the brief time devoted to some topics, and the integration of topics — likely contributed to instances of disagreement between video recordings of visits and family service logs.

Sample of Video Recordings of Visits

MIHOPE aimed to record two visits for each home visitor-mother pair. On average, the first and second visits were recorded at about eight weeks and eight months, respectively, after the family’s first visit.

Overall, 390 visits were video recorded. Of these, 200 videos were selected for coding for the analyses reported here. The subsample of coded visits was purposefully selected to be

uniformly distributed across the evidence-based models and across the first and second rounds of visits, to be limited to visits for which a corresponding family service log had been completed, to be limited to visits whose home visitor had completed a home visitor survey close in time to the recorded visit, and to maximize the number of home visitors represented in the sample.

The sample of 200 visits included 129 home visitors and 186 families from 46 local programs in nine of the states participating in MIHOPE. It comprised 50 visits for each of the evidence-based models with 100 visits from each of the two rounds. There were 55 prenatal first round visits, 45 postnatal first round visits, and 100 second round postnatal visits. The mother participated in all of the video recorded visits. The child participated in 137 of the postnatal visits; in the other visits, the child was either absent or sleeping. Family members other than the mother or child were present in 47 percent of the visits.

Mothers participating in the video sub-study were comparable to other mothers participating in MIHOPE on a select set of sociodemographic characteristics and risk factors at study entry, with a few exceptions. Mothers in the video sub-study were less likely to have enrolled in the study prenatally, less likely to have symptoms of depression, and more likely to have the child's father figure present in the home (results not shown in table). Home visitors participating in the sub-study were similar to other home visitors participating in MIHOPE on all but one baseline characteristic; those in the video sub-study had slightly lower scores for emotional exhaustion (results not shown in table).

In the analysis, it was determined that 37 (26 percent) of the 145 postnatal visits included administration of the Ages and Stages child development screening tool. This finding suggests that the sample of visits was biased toward visits in which this screening was to be carried out and thus might have resulted in a sample where more time was devoted to child development than in visits overall. However, analysis of postnatal visits with and without administration of this screening tool found no significant differences as measured by the time spent on child development topics or global ratings of conversation. Visits with administration of the screening tool involved slightly more statements by the home visitor that gathered information and provided education and support, and statements by the mother that gave information, which is consistent with the nature of the tool.

Video Recording Coding Schemes

Each visit was coded using three different schemes to capture both the content and nature of communication in visits. The specifics of each coding scheme are described right before the presentation of results, which were derived from ratings using the scheme.

Visit Content in Video Recordings of Visits

How the Content of Conversation Was Measured

The Home Visiting Conversation Analysis Measure (HV-CAM) was used to measure the topics discussed in visits. HV-CAM is a micro-coding scheme developed by the Home Visiting Applied Research Collaborative (HARC) with grant funding from the Heising-Simons Foundation.⁷

HV-CAM is a flexible coding scheme with codes that can be adapted to the specifics of the research context. For MIHOPE, HV-CAM was defined with 27 content codes that mapped to the individual content areas of the MIHOPE family service log. The family service log individual content areas, in turn, were aggregated into MIHOPE's 18 outcome-specific areas. Appendix Table E.1 shows how HV-CAM content codes align with the family service log individual content areas and the outcome-specific areas. In this appendix, the term "content codes" refers to MIHOPE's 27 HV-CAM codes for this study and the term "topics" refers to MIHOPE's outcome-specific areas.

HV-CAM content codes were applied using toggle keys to signal the shift in conversation from one content area to the next, second by second. The time allotted to each content code can be calculated by adding the duration of segments with the same content code. Thus, it is possible to determine whether a particular content code was used at all to signal conversation on a particular topic, the exact periods in which it was used, and the total time it was used. One can express the amount of time in seconds or as the proportion of the visit in which the topic was discussed. Visits vary considerably in length and so the total time devoted to a particular topic is expressed as a proportion of visit time rather than the number of minutes.

How Often Specific Topics Were Discussed Across All Visits

Participants discussed an average of 8.3 topics per visit. The number of topics discussed ranged from 2 to 14.

Because participants discussed many different topics during a visit, it is not surprising that every area was discussed in at least some visits, as shown in Appendix Table E.2. Seven topics were discussed in over half of all visits, and six were discussed in one-fourth to a half of all visits. Five topics were discussed in less than one-fourth of all visits: family planning, tobacco use, substance use, intimate partner violence, and access to health insurance.

⁷Development of the measure was supported by grants from the Heising-Simons Foundation. Details are available at the HARC website: hvresearch.org.

Discussion time typically varied across topics within a visit, from a brief mention for some topics to lengthy discussion for others. The above analysis was repeated, differentiating topics that were discussed for at least 5 percent of total visit time from those discussed for a shorter time. Home visitors and mothers discussed an average of 4.6 topics for at least 5 percent of total visit time, and an average of 3.8 topics for less than 5 percent of visit time (results not shown).

How Often Topics Were Discussed in Prenatal and Postnatal Visits

As shown in Appendix Table E.2, seven topics were discussed in over half of both prenatal and postnatal visits: birth outcomes, breastfeeding, positive parenting behavior, child maltreatment, child preventive care, child development, and economic self-sufficiency. Four topics were discussed significantly more often in postnatal than prenatal visits, likely because they were more salient once the child was born: positive parenting behavior, child preventive care, child development, and child care. Five topics were discussed significantly less often in postnatal than prenatal visits: prenatal health, birth outcomes, maternal physical health, tobacco use, substance use, and mental health. It is unclear whether these aspects of the mother's health were, in fact, less salient after the child was born.

How Long Topics Were Discussed During Visits

The percentage of visit time devoted to particular topics varied greatly across visits, as shown in Appendix Table E.3. Across all visits, only two topics were discussed on average for over a third of visit time: prenatal health and child development. For most other topics, in contrast, discussion comprised less than one-tenth of visit time.

How Long Topics Were Discussed in Prenatal and Postnatal Visits

The percentage of visit time devoted to particular topics varied greatly within prenatal and postnatal visits, as shown in Appendix Table E.3. Several topics were discussed for a significantly greater percentage of visit time in prenatal than postnatal visits while two topics were discussed for a significantly greater percentage of visit time in postnatal than prenatal visits: positive parenting and child development.

How Home Visitors Communicated with Mothers in Video Recordings of Visits

Global Ratings of Conversation

The preceding section described what home visitors and families talked about in visits. This section focuses on global ratings of how home visitors interacted with mothers. Global ratings were assigned using the Home Visit Rating Observation Scales – Adapted and Extended (HOVRS-A+). This rating system has seven subscales that align with home visiting as a strengths-based, family-centered approach to support developmental parenting.⁸ Appendix Table E.4 describes each subscale. The following can be seen from the table:

- Four of the subscales focus on strategies used by the home visitor during a visit. They focus on the home visitor’s responsiveness to the family, relationship with the family, facilitation of parent-child interaction, and non-intrusiveness during the visit.
- Three of the subscales assess the effectiveness of the home visitor’s actions in engaging family members’ participation in activities. These three subscales focus on how the parent and child related with each other during the visit, the parent’s engagement in visit activities, and the child’s engagement in visit activities.
- Two of the strategy subscales and two of the effectiveness subscales are applicable only in visits where the child was present and awake because they depend in part on the child’s behavior. The other three subscales are applicable to all visits.

The HOVRS-A+ rating scales have 4 to 8 indicators for each subscale for a total of 41 indicators. The coder chooses from four possible scores for each indicator: 1 (needs training); 3 (adequate); 5 (good); or 7 (excellent). The form defines observable behaviors for each of these scoring options. The HOVRS-A+ User’s Guide specifies that, after scoring the indicators, the coder decides on an overall rating for each subscale, from 1 to 7, based on the pattern of the subscale’s indicator scores. Indicators scored as 1 carry more weight.⁹ In the analyses reported here, an overall subscale score of 1 or 2 indicated that training was needed, a score of 3 was considered adequate, and scores of 4 through 7 were considered better than adequate.

Developers of the HOVRS-A+ trained the MIHOPE coders to reliability and confirmed that coders maintained reliability by monitoring throughout the course of coding.

⁸Roggman et al. (2014).

⁹Roggman et al. (2012); Roggman et al. (2014).

Subscale Ratings

Over 97 percent of visits were rated as adequate or as better than adequate on the relationship with the family subscale and on all three of the effectiveness subscales, as shown in Appendix Table E.5. A slightly smaller percentage of visits (93 percent) were rated as adequate or better on the home visitors' responsiveness to the family. Thus, a very small percentage of visits were rated as suggesting the need for training to improve home visitors' relationship-building skills, home visitor responsiveness, or family engagement. In contrast, a fourth of the visits were rated as indicating a need for home visitor training in non-obtrusiveness and nearly a third for training in facilitation of parent-child interaction.

Ratings for individual indicators of home visitors' strategies help explain the subscale results. There are 24 indicators across the four home visitor strategies. In 15 percent or more of visits, home visitors were rated as "needs training" for 10 of these indicators. These 10 indicators included 1 of the 6 indicators of responsiveness to the family, 1 of the 7 indicators of relationship with the family, 5 of the 6 indicators of strategies to facilitate parent-child interaction, and 3 of the 5 indicators of non-intrusive collaboration with the family around parent-child interaction. Accordingly, home visitors were more likely to be rated as needing training for the subscales that pertained specifically to promoting positive parent-child interaction.

How should one interpret these results? One possibility is that home visitors actually perform less well in promoting positive parent-child interaction than in responding to families and building relationships with them. Another possibility is that the instrument, similar to the implementation system for home visiting overall, is more highly developed for strategies that promote positive parent-child interaction than for specific non-intrusive strategies for home visitors to partner with families in identifying and responding to issues and concerns relevant to outcomes beyond child development and parent-child interaction per se. In other words, standards for assessing strategies to promote positive parent-child interaction might be more explicit than those for assessing partnering with families, making it easier to identify areas for improvement for the former. It is also possible that the instrument's measurement of strategies reflects a philosophy that the quality of parent-child interaction is paramount and should be the main focal point of visits. The extent to which this philosophy is embraced across the evidence-based models, local programs, and home visitors is unclear.

Patterns in Subscale Ratings

It is instructive to examine differences in subscale scores by whether a visit was prenatal or postnatal and by whether it occurred soon after versus later in a family's enrollment in home visiting, that is, in the first versus the second round of video recorded visits.

Among first round visits, home visitor responsiveness to the family was significantly higher in prenatal visits than in postnatal visits, as shown in Appendix Table E.6. Ratings for the two other subscales that are applicable for all visits were also higher in first round prenatal versus postnatal visits but these differences — about a fourth to a third of a standard deviation — were not statistically significant. These differences might reflect that it is easier to elicit and respond to families’ broader interests, build relationships, and engage parents in visit activities before the child is born.

Ratings of home visitors’ strategies to facilitate and non-intrusively collaborate with the mother around positive parent-child interaction were significantly higher in first versus second round postnatal visits, although ratings of effectiveness in engaging the child were lower in first round visits, as shown in Appendix Table E.6. The reasons for this pattern are unclear. One possibility is that it is easier to focus on parent-child interaction when the family is new to the program and the family has not yet shared information about other salient issues.

Micro-Coding of Conversation in Video Recordings of Visits

The preceding section described global ratings of home visitors’ communication strategies and effectiveness. This section describes home visitors’ communication style as measured by coding everything that the visit participants actually said to one another.

Micro-coding was carried out using the Roter Interaction Analysis System (RIAS) adapted for home visiting (RIAS-HV). RIAS has been used extensively in research on communication between health care providers and patients.¹⁰ It codes each utterance by each participant. An utterance is the smallest unit of expression, which could be a full sentence but could also be a single word expressing a full thought. Three aspects of each utterance are coded: the speaker, the persons to whom the utterance is directed, and the nature of the utterance.

RIAS has 41 codes for the nature of an utterance. These codes can be combined to form categories aligned with Bales’ conceptualization of the functions of social interactions,¹¹ and traditional models of the functions of medical interviewing.¹² Broadly speaking, these categories include gathering and providing information, building rapport, and forging a partnership to work toward goals and objectives.

HARC researchers adapted the original RIAS coding scheme to align it with home visiting.¹³ The adapted coding scheme, RIAS-HV, has 44 utterance codes appropriate for home

¹⁰For example, see Cooper et al. (2003) and Roter et al. (1997).

¹¹Bales (1950).

¹²Cole and Bird (2014).

¹³Adaptation of the measure was supported in part by grants from the Heising-Simons Foundation. Details are available at the HARC website: www.hvresearch.org.

visits. The chief adaptations were to shift from issues relevant in health care — such as medical treatment and health conditions, to issues relevant in home visiting — such as the array of health, educational, and social services families might use, parenting, family life, and child health and development.

In the MIHOPE video sub-study, each utterance was coded and counts of each code were aggregated into categories as is usually done in research on communication in health care. Appendix Table E.7 briefly describes the categories.

On average, conversation between the home visitor and the mother comprised nearly 95 percent of all talk during visits; other individuals taking part in the visit contributed the remaining talk. For simplicity, this section focuses on measures of what the home visitor and the mother said. For each visit, the percentage of all of the home visitor's talk and all of the mother's talk within each of the categories in Appendix Table E.7 was calculated. Conversational dominance was calculated as the home visitor's talk as a percentage of all talk during the visit.

How Home Visitors and Mothers Communicated During Visits.

RIAS-HV measures are descriptive. Thus, it is not possible to make value judgments about means and ranges in scores. Still, the results reported here are useful for advancing the field's understanding of how home visitors and mothers talk to exchange information, partner in working toward outcomes, and provide support and reassurance to one another as research has shown that partnership building is associated with client satisfaction, follow-through on provider recommendations, and outcomes.¹⁴

On average across all visits, slightly over half of the home visitor's talk involved gathering or providing information, as shown in Appendix Table E.8. A substantial portion of talk was devoted to building partnership with the mother (16 percent) and providing support and reassurance (27 percent). Talk to build social rapport was a negligible part of most visits, as was criticism. Home visitors tended to talk more than other visit participants; their talk made up 60 percent of all talk during visits.

There was remarkable variation in home visitors' communication style. For example, the percentage of talk devoted to information gathering ranged from 3 percent to 53 percent across all visits. In the same way, visits varied in how much the home visitor promoted partnership through what she said (ranging from 3 percent to 38 percent of home visitor talk) and provided support and reassurance (ranging from less than 1 percent to 56 percent of all home visitor talk). On average, social talk unrelated to home visiting was rare, but the range

¹⁴Cooper et al. (2011).

extended to nearly one-fourth of all home visitor talk. The range in conversational dominance across visits was dramatic, with the home visitor's talk comprising as little as 28 percent to as much as 86 percent of all talk during a visit.

Mothers' communication style differed from that of home visitors, on average, across all visits. Mothers rarely asked questions. They devoted two-thirds of their talk to information sharing, far higher than did home visitors. They used conversational expressions to build partnership far less often than home visitors. Mothers were similar to home visitors in devoting about a fourth of their talk to providing support and reassurance, while rarely engaging in social rapport and criticism.

Mothers varied greatly in their communication style. The percentage of talk devoted to providing information ranged from 33 percent to 89 percent across all visits. Visits varied in how much the mother promoted partnership through what she said (ranging from 0 percent to 31 percent of the mother's talk) and provided support and reassurance (ranging from 4 percent to 60 percent of the mother's talk).

Patterns in the Distribution Of Home Visitors' Talk

First and second round visits varied somewhat in the distribution of home visitors' talk, as shown in Appendix Table E.8. First round visits had a larger percentage of home visitor talk to provide information, and slightly greater conversational dominance by the home visitor. Second round visits had a somewhat larger percentage of talk around partnership building and around support and reassurance.

Differences in Home Visitor Communication Across Topics

Analyses of home visitors' talk were repeated for segments of visits limited to selected content areas identified using the HV-CAM content coding scheme. Results are shown in Appendix Table E.9. Two of the content areas related directly to parenting and child development while the other three focused on psychosocial factors that may influence parenting: mental health, substance use, and intimate partner violence. Communication patterns — the average percentage of talk in each topic — were very similar for parenting and child development. Patterns of conversation about psychosocial factors differed from these, both in the average percentage of talk in each topic and in the variation within each topic. The emphasis on information gathering ranged from 14 percent of home visitor talk for parenting behavior and child development to over a third of home visitor talk about intimate partner violence. Home visitors provided much more information for parenting and child development than for psychosocial risks, particularly intimate partner violence. They devoted more of their talk to partnership building when discussing substance use and intimate partner violence than when discussing parenting and child development. On the other hand, they provided support and

reassurance more when discussing parenting and child development than substance use and intimate partner violence.

Associations Between Home Visitors' and Mothers' Communication

The MIHOPE implementation research analysis conceptual framework described in Chapter 1 makes explicit the interactive effects of home visitor and family characteristics. Associations between home visitors' and mothers' communication with one another during visits is one example of these effects. Some illustrative examples of such associations, not shown in tables, are as follows. First, as home visitor's talk related to building partnership increases, mothers share more information about the family (Spearman's $\rho = 0.25$, $p < .001$), engage more in conversation to build partnership ($\rho = 0.26$, $p < .001$), and play a more active role in visits as shown by an increase in their share of the conversation ($\rho = 0.15$, $p < .05$). Second, as home visitor's talk related to building partnership increases, mothers engage less in talk that is purely social and unrelated to the purpose of home visiting ($\rho = -0.23$, $p < .01$). However, when home visitors devote more of what they say during visits to purely social talk, so, too, do mothers ($\rho = 0.68$, $p < .001$). Finally, when home visitors express criticism of others, mothers engage more in criticism themselves ($\rho = 0.26$, $p < .001$). Such associations suggest that home visitors' communication style can influence mothers' engagement in visits.

Implications for Home Visiting Program Operations and Research

The patterns of family engagement reported in Table 4.1 of Chapter 4 of this report show that many families leave home visiting within the first year of enrollment. Research is needed to ascertain how home visitors' communication style is associated with family engagement, shared decision-making, and partnership in setting and achieving goals.

Comparison of Family Service Logs and Video Recordings of Visits

Number of Topics Discussed

It was noted earlier in this appendix that participants discussed an average of 8.3 topics per visit in video recordings, with 4.6 topics discussed for at least 5 percent of total visit time and 3.8 topics discussed only briefly, that is, for less than 5 percent of total visit time. On average, home visitors documented discussing 5.4 topics per visit according to the family service logs, as reported in Table 4.8 of Chapter 4. Thus, the family service logs yield a closer estimate of the number of topics discussed for at least 5 percent of visit time than total number of topics discussed at all.

How Agreement Between Family Service Logs and Video Recordings Was Calculated for Each Topic

It is important to know how closely the family service logs match what was actually observed in visits because the family service logs are MIHOPE's source of information on what happened during visits. There are two important aspects of agreement — agreement when discussion of a topic was observed, and agreement when discussion of the topic was not observed. In public health, these two types of agreement are referred to as sensitivity and specificity. Sensitivity is the proportion of visits in which the family service log correctly indicated that the topic had been discussed for those visits in which it was observed to have been discussed in the video recording. Specificity is the proportion of visits in which the family service log correctly indicated that the topic had not been discussed for those visits in which the video recording showed no evidence that it had been discussed.

Sensitivity and specificity give the percent agreement between whether a topic was checked off as discussed in the family service log and whether it was observed to have been discussed in the video recording. This involves comparing two binary “yes or no” variables — yes or no, according to the family service log, and yes or no, according to the video recording.

But as shown earlier, the video recordings showed that the time spent discussing a topic varied greatly across visits. Often, a topic was discussed very briefly, sometimes for just a few seconds. This finding is important because home visitors might be less likely to mark the log for topics they discussed very briefly, either because they forgot the topic had been mentioned at all, or because they felt the brief discussion was incidental and not of consequence.

In addition, the video recordings showed that conversation frequently flowed seamlessly across several topics. Consider the example of a conversation regarding a mother's angst about needing to return to work to make ends meet but wanting to continue breastfeeding, and ways to elicit family members' support so that she could continue breastfeeding after her imminent return to work. How might a home visitor mark the family service log to document this conversation? Should the home visitor mark economic self-sufficiency to reflect discussion of work, mental health because of the mother's expression of feeling stressed, breastfeeding as the real heart of the conversation, or social support?

In assessing agreement between the family service logs and the video recordings, it was not possible to discern the importance a home visitor attached to each topic discussed, but it was possible to take into account how long a topic was discussed. This was done through exploratory analyses to determine how much agreement there was when using five different cut points for whether a topic was discussed, based on how long the topic was discussed in the video recording — any discussion at all and discussion for at least 5, 10, 15, and 20 percent of

visit time.¹⁵ The optimal cut point varied by topic; 5 percent was the optimal cut point for most topics. That is, for most topics, agreement between what was seen in the video recording and what was documented in the visit log was greatest when discussion in the video recording was defined as discussion comprising at least 5 percent of the visit.

Sensitivity and specificity can range from 0 to 1; higher values indicate higher levels of agreement. Good agreement is context-specific; in these analyses, the MIHOPE research team considered values of 0.70 and greater to indicate good agreement. When the denominator is less than 20 visits, confidence intervals are extremely large and therefore conclusions are much more uncertain. Therefore, sensitivity and specificity are reported only for topics where the denominator is greater than 20 visits.

Agreement Between Family Service Logs and Video Recordings of Visits

Nine topics were discussed in at least 20 visits, as shown in Appendix Table E.10. There was good sensitivity for all but two of these topics: mental health and breastfeeding, feeding, and nutrition. In other words, for seven of these topics, but not these two topics, home visitors were very likely to check the family service log as having discussed the topic when they were observed to have done so in the video recording.

Specificity could be estimated for all 18 topics because there were over 20 visits with very little or no discussion for each of them. There was good specificity for 12 topics but not for the other 6: birth outcomes, mental health, positive parenting behavior, child preventive care, child development, and economic self-sufficiency. In other words, for 12 of these topics but not the other 6, home visitors were very likely not to have marked the log as having discussed the topic when they were observed not to have done so, or to have done so for less than 5 percent of the visit.

Sensitivity and specificity tended to be higher for topics that were narrower in scope and easier to define, such as conversation about tobacco use, intimate partner violence, and access to specific community resources. Lower levels of sensitivity, specificity, or both were found for broader, more complex topics such as mental health, parenting behavior, and child development. That is, measures of how often home visitors discussed particular topics per the family service log were likely to be more accurate for topics that were narrower and easier to define.

¹⁵These analyses used Receiver Operator Curves, as is commonly done when measuring sensitivity and specificity, as described, for example, in Gönen (2006). Receiver Operator Curves identify the point on a continuous measure (such as duration of discussion) where sensitivity and specificity are greatest. In the current context, it is duration of discussion of a topic in the video recordings where the family service logs correctly indicate whether a topic was discussed.

Why Agreement Between Family Service Logs and Video Recordings Varied Across Topic

On the face of it, whether a topic was discussed in a visit might seem straightforward, and so achieving agreement between family service logs and video recordings might also seem straightforward. However, the process of designing a video coding system and the research team's experience watching and listening intently to hundreds of visits made clear the complexity of communication between home visitors and families. Conversation during visits often flowed among and integrated multiple topics, as noted earlier.

The results show that agreement was good for some topics, but not others. It is important to consider possible explanations.

One possible explanation is that video coders varied in how they coded content. This is unlikely because considerable resources were devoted to building the video coding system to assure coding reliability. The coding manual was refined over many months — defining codes, applying them through independent coding of test videos, checking reliability, and refining definitions to improve clarity until coding staff could use the manual reliably. The hiring process for coders included testing skills to identify individuals likely to become reliable coders. Training was individualized. New coders had to achieve a score of 0.60 for Cohen's kappa before being allowed to code independently. Reliability was assessed weekly. If a coder failed to achieve reliability for a particular content code, the coder reviewed the content again and recoded all of the video recordings for the past week. Coders could replay video segments as often as needed to code reliably.

Another possible explanation is that home visitors varied in their decision making about whether to check a topic as having been discussed. This explanation is possible, even though MIHOPE used several strategies to promote consistency in log completion. The MIHOPE research team designed the logs with pop-up definitions for many of the topics, as well as provided in-person staff training when a local program entered the study. The research team also provided ongoing technical assistance around completing the logs throughout the course of fieldwork.

However, unlike the video coders, home visitors completed logs after the fact, perhaps several days later and without notes or other visit records to help recall what had been discussed. A home visitor's recollection would likely have been more accurate for visits in which only a few topics were discussed and more accurate for topics discussed at greater length. The analyses provide evidence of this. As the number of topics discussed in the video increased, the percentage of these topics correctly marked as discussed in the logs decreased. Each additional topic discussed for at least 5 percent of visit time per the video was associated with a 3 percent decrease in the proportion of topics correctly marked on the visit log ($p < .01$). And as

the time devoted to discussing a topic increased, so did the likelihood that it would have been marked as discussed in the log. For example, the likelihood of log documentation increased from 17 percent for topics discussed less than 5 percent of visit time, to 92 percent for topics discussed at least 20 percent of visit time.

But duration of conversation of a topic is a crude indicator of the salience of that conversation. It is possible that home visitors were more likely to check as discussed those topics where they felt that the conversation had been substantive and meaningful. Conversely, they might choose not to check a topic as discussed if they felt the topic was tangential to the main focus of a complex conversation. One can imagine different versions of the scenario described earlier about the mother returning to work, anxious about continuing breastfeeding, and wanting support from family members to accomplish her goals, with varying emphasis on each of the four topics. The HV-CAM coding scheme did not consider salience and meaning, only whether a topic was being discussed from moment to moment.

A third explanation for differences between the family service logs and video recording codes is that the recordings did not capture every minute of a visit. Visits were recorded by research staff who accompanied the home visitor to the home. The protocol was to record as much of the visit as possible. There was good agreement between visit length as documented in the logs and the length as time stamped in the video recordings. Even so, it was clear from the video recordings for most visits that the home visitor and family members had talked before the camera started and it is reasonable to assume that they continued to talk after the camera stopped. To the extent this happened, the sub-study's estimates of specificity are biased downward. This problem might be more pronounced for sensitive issues, if mothers or home visitors chose to defer discussing these issues while the camera was operating. It is likely this was only a minor problem, however, because the sample was limited to families and home visitors who specifically agreed to be video recorded. Still, it must be considered.

Implications of Agreement between Family Service Logs and Video Recordings of Visits for MIHOPE's Implementation Research Analysis

Where sensitivity and specificity could be measured, they were generally good but varied by topic. Sensitivity was good for most topics — if a topic was discussed, it was likely that the home visitor checked the family service log to document that it was. The exceptions were mental health and breastfeeding, feeding, and nutrition. Home visitors often failed to check the family service log when they had, in fact, discussed these topics, as defined by HV-CAM.

Specificity of the logs was good for 12 of the 18 topics. For these 12 topics, home visitors were unlikely to check the family service log to indicate discussion if, in fact, they had not been observed discussing it. For the other 6 topics, home visitors frequently checked the

family service log when, in fact, they had not been observed discussing the topic, as defined by HV-CAM.

The qualification “as defined by HV-CAM” is important. Sensitivity and specificity were higher for topics that were narrow and concrete, such as tobacco use, rather than broad and abstract, such as mental health. HV-CAM used highly explicit definitions to achieve reliability across video coders. But home visitors may have varied in their personal definitions for what constitutes discussion of abstract topics such as mental health.

Agreement between the family service log and the video recording was generally greater for topics that were discussed for a longer time during a visit. It was also greater in visits with discussion of a small rather than a large number of topics.

These results suggest that overall the family service logs are a good reflection of topics discussed for a substantial portion of visit time. Even so, the low sensitivity and specificity for mental health and the low specificity for child development underscore the need to exercise caution in interpreting results for these topics.

Conclusion

Study results from the visit video recordings show that home visitors’ communication with families varied greatly in ways that were likely to have influenced family engagement and outcomes. Both global and micro-coding of observed communication show variation in how home visitors communicated with families and how they built partnerships with families. This critical aspect of service delivery could not be assessed adequately through family service logs and management information systems alone.

For both research and program operations, there is a need for valid, reliable and efficient strategies to measure how home visitors communicate with families, since effective communication is an essential ingredient in successful home visiting.

Appendix Table E.1

Mapping of Visit Content Codes to Outcome-Specific Areas

Outcome-Specific Area	MIHOPE Family Service Log Individual Content Area	MIHOPE HV-CAM Content Code ^a
Prenatal health	• Prenatal health behaviors/prenatal care ^b	• Prenatal health ^b
Birth outcomes	• Prenatal health behaviors/prenatal care ^b • Child health ^b	• Prenatal health ^b • Child health ^b
Maternal physical health	• Maternal physical health (outside of pregnancy)	• Maternal physical health (outside of pregnancy)
Family planning and birth spacing	• Family planning	• Family planning/reproductive health
Tobacco use	• Tobacco, alcohol, and other drug use ^b	• Smoking ^b • Alcohol and other drug use ^b
Substance use	• Tobacco, alcohol, and other drug use ^b	• Smoking ^b • Alcohol and other drug use ^b
Mental health	• Mental health/stress	• Mental health/stress
Intimate partner violence	• Intimate partner violence or anger management	• Intimate partner violence or anger management
Breastfeeding	• Breastfeeding/feeding/nutrition	• Breastfeeding/feeding/nutrition
Positive parenting behavior	• Parent-child interaction ^b • Co-parenting • Discipline/behavior management ^b • Developmentally appropriate care/routines	• Parent-child interaction ^b • Co-parenting • Discipline/behavior management ^b • Developmentally appropriate care/routines
Child maltreatment	• Discipline/behavior management ^b • Child/home safety ^b	• Discipline/behavior management ^b • Child/home safety ^b
Child preventive care	• Child health ^b • Child/home safety ^b • Lead exposure in home	• Child health ^b • Child/home safety ^b • Lead exposure in home
Child development	• Parent-child interaction ^b • Child development	• Parent-child interaction ^b • Child development

(continued)

Appendix Table E.1 (continued)

Outcome-Specific Area	MIHOPE Family Service Log Individual Content Area	MIHOPE HV-CAM Content Code ^a
Family economic self-sufficiency	<ul style="list-style-type: none"> • Education • Job training and employment • Economic management/financial self-sufficiency 	<ul style="list-style-type: none"> • Education • Job training and employment • Economic management/financial self-sufficiency
Child care	<ul style="list-style-type: none"> • Finding alternate caregivers/child care 	<ul style="list-style-type: none"> • Finding alternate caregivers/child care
Public assistance	<ul style="list-style-type: none"> • Public/governmental assistance 	<ul style="list-style-type: none"> • Public/governmental assistance
Health insurance	<ul style="list-style-type: none"> • Health insurance 	<ul style="list-style-type: none"> • Health insurance
Housing	<ul style="list-style-type: none"> • Housing 	<ul style="list-style-type: none"> • Housing

SOURCES: The MIHOPE family service logs and the MIHOPE HV-CAM video observations.

NOTE: ^aFour HV-CAM codes were not mapped to an outcome-specific area. These include material goods and concrete supports, administrative/scheduling, other, and break.

^bItem is included in multiple outcome-specific areas.

Appendix Table E.2

Discussion During Visits, by Outcome-Specific Area and Timing of Visit

Outcome-Specific Area (%)	All Visits	Prenatal Visits	Postnatal Visits
<u>Maternal and newborn health and well-being</u>			
Prenatal health ^a	27.5	100.0	NA
Birth outcomes ^b	90.0	100.0	86.2 ***
Maternal physical health ^a	32.5	NA	44.8
Family planning and birth spacing	17.0	10.9	19.3
Tobacco use	12.5	32.7	4.8 ***
Substance use	12.5	32.7	4.8 ***
Mental health	36.5	49.1	31.7 **
Intimate partner violence ^b	6.0	9.1	4.8
<u>Parenting</u>			
Breastfeeding, feeding, and nutrition	77.5	72.7	79.3
Positive parenting behavior	90.5	72.7	97.2 ***
Child maltreatment	65.5	58.2	68.3
<u>Child health and development</u>			
Child preventive care	86.0	65.5	93.8 ***
Child development ^b	89.0	60.0	100.0 ***
<u>Family economic self-sufficiency</u>			
Economic self-sufficiency	70.0	69.1	70.3
<u>Access to community resources and public services</u>			
Child care	38.5	23.6	44.1 ***
Public assistance	37.5	45.5	34.5
Access to health insurance	18.0	20.0	17.2
Housing	27.0	20.0	29.7
Sample size	200	55	145

(continued)

Appendix Table E.2 (continued)

SOURCE: Calculations based on data from the MIHOPE HV-CAM video observations.

NOTES: Numbers represent the percentage of visits during which any discussion on the topic occurred.

NA = not applicable. Maternal health other than tobacco use, mental health, and substance use was coded using two different codes, depending on the timing of the visit. It was coded as “prenatal health” in prenatal visits and as “maternal physical health” in postnatal visits. Thus, the prenatal health code was not applicable in postnatal visits and the maternal physical health code was not applicable in prenatal visits.

For all categorical variables except those where expected cell sizes were less than 5, differences between prenatal visits and postnatal visits were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local program. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aDifference in percentage of prenatal visits with discussion of prenatal health and percentage of postnatal visits with discussion of maternal physical health was statistically significant, with a p-value < 0.01 (***).

^bSince this variable had cell size less than 5, differences between prenatal visits and postnatal visits were tested for statistical significance using a Fisher’s exact test. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

Appendix Table E.3
Distribution of Time During Video-Recorded Visits,
by Outcome-Specific Area and Timing of Visit

Outcome-Specific Area (%)	Mean			Range		
	All Visits	Prenatal Visits	Postnatal Visits	All Visits	Prenatal Visits	Postnatal Visits
<u>Maternal and newborn health and well-being</u>						
Prenatal health ^a	39.1 (20.2)	39.1 (20.2)	NA NA	4.4 - 90.8	4.4 - 90.8	NA
Birth outcomes	16.9 (20.0)	40.8 (20.1)	6.3 *** (6.1)	0.3 - 90.8	4.4 - 90.8	0.3 - 42.5
Maternal physical health ^a	3.0 (3.8)	NA NA	3.0 (3.8)	0.2 - 17.3	NA	0.2 - 17.3
Family planning and birth spacing	3.5 (3.5)	7.0 (5.9)	2.7 * (2.3)	0.3 - 15.4	1.6 - 15.4	0.3 - 11.4
Tobacco use	6.6 (13.8)	8.6 (15.8)	1.6 (2.2)	0.2 - 66.1	0.1 - 66.1	0.3 - 6.4
Substance use	6.6 (13.8)	8.6 (15.8)	1.6 (2.2)	0.2 - 66.1	0.1 - 66.1	0.3 - 6.4
Mental health	7.7 (9.1)	10.6 (12.4)	6.0 * (6.1)	0.2 - 66.6	1.1 - 66.6	0.2 - 27.2
Intimate partner violence	4.5 (3.5)	3.6 (2.7)	5.1 (4.1)	0.6 - 12.0	1.2 - 7.8	0.6 - 12.0
<u>Parenting</u>						
Breastfeeding, feeding, and nutrition	9.2 (10.8)	13.7 (16.8)	7.7 ** (7.2)	0.3 - 77.2	0.3 - 77.2	0.4 - 42.1
Positive parenting behavior	19.3 (16.6)	9.2 (11.9)	22.2 *** (16.6)	0.3 - 73.2	0.3 - 45.5	1.2 - 73.2
Child maltreatment	8.8 (11.0)	13.5 (14.6)	7.3 (9.1)	0.4 - 53.6	0.4 - 53.6	0.4 - 49.1

(continued)

Appendix Table E.3 (continued)

Outcome-Specific Area (%)	Mean			Range		
	All Visits	Prenatal Visits	Postnatal Visits	All Visits	Prenatal Visits	Postnatal Visits
<u>Child health and development</u>						
Child preventive care	11.6 (11.3)	14.2 (14.6)	10.9 (10.2)	0.6 - 60.0	0.6 - 55.8	0.6 - 60.0
Child development	41.8 (24.0)	13.1 (16.1)	48.4 *** (20.4)	0.3 - 98.2	0.3 - 63.0	8.9 - 98.2
<u>Family economic self-sufficiency</u>						
Economic self-sufficiency	6.4 (5.8)	5.6 (5.7)	6.6 (5.8)	0.3 - 29.7	0.5 - 27.6	0.3 - 29.7
<u>Access to community resources and public services</u>						
Child care	3.8 (4.0)	4.6 (5.0)	3.6 (3.8)	0.1 - 17.1	0.5 - 14.7	0.1 - 17.1
Public assistance	2.3 (1.9)	2.6 (1.6)	2.1 (2.0)	0.1 - 9.6	0.5 - 6.0	0.1 - 9.6
Access to health insurance	2.3 (3.3)	1.6 (1.3)	2.6 (3.9)	0.1 - 17.6	0.1 - 3.8	0.3 - 17.6
Housing	4.6 (5.8)	8.8 (7.9)	3.6 * (4.6)	0.3 - 25.2	1.0 - 25.2	0.3 - 20.5
Sample size ^b	200	55	145			

SOURCE: Calculations based on data from the MIHOPE HV-CAM video observations.

NOTES: Numbers represent the mean percentage of time during a visit spent on the topic across visits where any discussion occurred in the topic. Standard deviations are shown in parentheses.

NA = not applicable. Maternal health other than tobacco use, mental health, and substance use was coded using two different codes, depending on the timing of the visit. It was coded as “prenatal health” in prenatal visits and as “maternal physical health” in postnatal visits. Thus, the prenatal health code was not applicable in postnatal visits and the maternal physical health code was not applicable in prenatal visits.

For all continuous variables, differences between prenatal visits and postnatal visits were tested for statistical significance using a differences of means test, adjusting for clustering of families within local program. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^aDifference in mean percentage of time spent on discussion of prenatal health in prenatal visits and mean percentage of time spent on discussion of maternal physical health in postnatal visits was statistically significant, with a p-value < 0.01 (***).

^bSample size varies for each indicator as the sample for each is limited to those visits with any discussion on the topic.

Appendix Table E.4
Description of HOVRS-A+ Subscales

HOVRS-A+ Subscale	Description
<u>Strategy^a</u>	
Responsiveness to family	Extent to which the home visitor plans for, prepares for, and adapts activities during the visit in response to family input; elicits information about family strengths and child development; provides feedback on family strengths for supporting child development
Relationship with family	Extent to which the home visitor interacts sociably with family members, focusing on child development; shows warmth, respect, and acceptance; engages all who are present during the visit; and reflects on the family's life in relation to the child's development
Facilitation of parent-child interaction	Extent to which the home visitor elicits, promotes, and reinforces positive developmentally supportive parent-child interactions, including responding to child cues; engages the parent and child together; helps parents use available resources to support child development
Non-intrusiveness	Extent to which the home visitor encourages the parent's ideas for interactions with the child; keeps the parent in "teacher" role; follows the lead of parent and child; and avoids ignoring or interrupting parent-child interactions
<u>Effectiveness^b</u>	
Parent-child interaction	Extent to which the parent is attentive and responds positively to the child's cues and extent to which the parent and child interact in positive, developmentally supportive ways
Parent engagement	Extent to which the parent shows interest and participates in visit activities; engages in play and activities with the child; and initiates and participates in conversation in topics relevant to the child and family
Child engagement	Extent to which the child is interested in, initiates, and achieves sustained participation in visit activities and interactions during the visit

NOTES: ^aStrategies used by the home visitor in working with the family.

^bEffectiveness of the home visitor in engaging the parent and child in visit activities and in interactions with each other.

Appendix Table E.5

**Percent Distribution of Visits by Global Rating of Social Interaction Strategies and Effectiveness,
by Subscale, Timing of Visit, and Round of Visit**

Subscale (%)	All Visits (n = 200)			Prenatal Visits ^a (n = 55)			Postnatal Visits: First Round (n = 45)			Postnatal Visits: Second Round (n = 100)		
	Needs Training	Adequate	Better than Adequate	Needs Training	Adequate	Better than Adequate	Needs Training	Adequate	Better than Adequate	Needs Training	Adequate	Better than Adequate
Social interaction strategies												
Responsiveness to family	7.5	19.0	73.5	3.6	9.1	87.3	6.7	20.0	73.3	10.0	24.0	66.0
Relationship with family	2.5	10.0	87.5	1.8	1.8	96.4	0.0	17.8	82.2	4.0	11.0	85.0
Facilitation of parent-child interaction ^b	30.4	20.7	48.9	NA	NA	NA	18.4	23.7	57.9	35.1	19.6	45.4
Non-intrusiveness ^b	25.2	22.2	52.6	NA	NA	NA	15.8	29.0	55.3	28.9	19.6	51.6
Effectiveness of strategies												
Parent-child interaction ^b	1.5	15.6	83.0	NA	NA	NA	0.0	15.8	84.2	2.1	15.5	82.5
Parent engagement	1.0	7.5	91.5	1.8	1.8	96.4	2.2	6.7	91.1	0.0	11.0	89.0
Child engagement ^b	1.5	11.2	87.3	NA	NA	NA	5.4	21.6	73.0	0.0	7.2	92.8

SOURCE: Calculations based on data from the MIHOPE HOVRS-A+ video observations.

NOTES: NA = not applicable.

HOVRS-A+ scores can range from 1 to 7, with high scores being more desirable. Needs Training = scores from 1 to 2, Adequate = score of 3, Better than Adequate = scores from 4 to 7, as defined by the HOVRS-A+ User's Guide.

^aPrenatal visits were first-round visits.

^bThis subscale rated only if a child was present during the visit.

Appendix Table E.6

**Global Rating Scores for Social Interaction Strategies and Effectiveness in Visits,
by Rating Subscale, Timing of Visit, and Round of Visit**

Subscale	All Visits		Prenatal Visits ^a		Postnatal Visits: First Round		Postnatal Visits: Second Round		Stat Sig. ^b for	Stat Sig. ^c for
	Average	SD	Average	SD	Average	SD	Average	SD	Prenatal vs.	First-Round vs.
	Score		Score		Score		Score		Postnatal First- Round Visits	Second-Round Postnatal Visits
Social interaction strategies										
Responsiveness to family	4.2	1.2	4.8	1.2	4.1	1.1	4.0	1.2	***	
Relationship with family	5.0	1.2	5.3	1.0	5.0	1.3	4.9	1.3		
Facilitation of parent-child interaction ^d	3.5	1.8	NA	NA	4.0	1.9	3.3	1.7	NA	**
Non-intrusiveness ^d	3.6	1.6	NA	NA	4.1	1.7	3.5	1.5	NA	**
Effectiveness of strategies										
Parent-child interaction ^d	5.0	1.3	NA	NA	5.0	1.3	5.0	1.4	NA	
Parent engagement	5.4	1.3	5.6	1.2	5.2	1.2	5.3	1.3		
Child engagement ^d	5.6	1.4	NA	NA	5.1	1.7	5.7	1.3	NA	
Sample size	200		55		45		100			

SOURCE: Calculations based on data from the MIHOPE HOVRS-A+ video observations.

NOTES: SD = standard deviation. NA = not applicable.

Scores can range from 1 to 7, with high scores being more desirable.

^aPrenatal visits were first-round visits.

^bFor all continuous variables, differences between prenatal visits and postnatal visits were tested for statistical significance using a difference of means test, adjusting for clustering of families within local program. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^cFor all continuous variables, differences between first-round postnatal visits and second-round postnatal visits were tested for statistical significance using a difference of means test, adjusting for clustering of families within local program. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, * = 10 percent.

^dThis subscale rated only if a child was present during the visit.

Appendix Table E.7

RIAS-HV: Aspects of Visit Participants' Communication

Aspect of Communication	Example
<u>Category</u>	
Gathering information	Closed and open-ended questions to elicit information
Providing information	Statements that give information (for the home visitor, this includes education and counseling)
Partnership building	Conversation to help others express their expectations, preferences, and perspectives, for example by asking for another visit participant's opinion or permission, paraphrasing what another participant has said, or checking for another participant's understanding
Support and reassurance	Expressions of positive rapport such as laughter, direct approval, compliments, agreement or understanding, and expressions of emotional rapport such as empathy, legitimation, concern, reassurance, and self-disclosure
Social rapport	Greetings, goodbyes, and talk about matters unrelated to home visiting, such as gossip, the weather, and celebrity news
Criticism	Statements of disapproval and criticism
<u>Conversational dominance</u>	Talk by the home visitor as a percentage of talk by all visit participants

Appendix Table E.8

Nature of Home Visitors' and Mothers' Social Interactions in Visits, by Round of Visit

Construct (%)	All Visits			First Round of Visits			Second Round of Visits		
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range
<u>Home Visitor</u>									
Category ^a									
Gathering information	15.9	7.8	3.0 - 52.5	15.3	7.2	3.0 - 34.2	16.5	8.4	4.0 - 52.5
Providing information	40.0	13.5	12.7 - 80.8	44.3	14.0	16.3 - 80.8	35.8	11.6	12.7 - 71.4
Partnership building	16.3	7.1	2.8 - 38.3	14.2	6.5	2.8 - 35.8	18.3	7.1	4.8 - 38.3
Support and reassurance	27.2	10.3	0.7 - 56.3	25.7	9.8	4.9 - 52.3	28.6	10.6	0.7 - 56.3
Social rapport	0.4	1.8	0.0 - 24.4	0.4	0.7	0.0 - 3.5	0.4	2.5	0.0 - 24.4
Criticism	0.2	0.5	0.0 - 5.0	0.2	0.3	0.0 - 2.4	0.3	0.7	0.0 - 5.0
Conversational dominance ^b	60.0	11.0	28.2 - 85.6	62.2	11.5	28.2 - 85.6	57.7	10.1	31.5 - 84.5
<u>Mother</u>									
Category ^c									
Gathering information	2.7	2.7	0.0 - 13.4	2.9	2.8	0.0 - 13.2	2.5	2.6	0.0 - 13.4
Providing information	66.8	12.8	32.9 - 89.4	62.9	13.7	32.9 - 87.2	70.8	10.5	44.4 - 89.4
Partnership building	3.0	3.8	0.0 - 30.8	3.2	4.7	0.0 - 30.8	2.7	2.6	0.0 - 20.8
Support and reassurance	26.7	11.6	3.7 - 60.3	30.3	12.6	7.4 - 60.3	23.1	9.3	3.7 - 47.5
Social rapport	0.4	1.2	0.0 - 12.5	0.4	1.0	0.0 - 6.7	0.3	1.3	0.0 - 12.5
Criticism	0.4	1.0	0.0 - 8.8	0.3	0.5	0.0 - 2.8	0.6	1.3	0.0 - 8.8
Sample size	200			100			100		

SOURCE: Calculations based on data from the MIHOPE RIAS-HV video observations.

NOTES: SD = standard deviation.

^aNumbers represent the mean percentage of all home visitor talk.

^bReported as home visitor talk as a percentage of all talk during the visit.

^cNumbers represent the mean percentage of all mother talk.

Appendix Table E.9
Nature of Home Visitor Social Interactions
for Communication About Select Outcome-Specific Areas

Construct (%)	Positive Parenting Behavior		Child Development		Mental Health		Substance Use		Intimate Partner Violence	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
	Category ^a									
Gathering information	14.2	11.5	14.2	10.6	18.4	19.7	24.5	26.1	34.7	32.9
Providing information	44.7	21.8	46.8	18.7	38.8	29.9	38.2	29.9	26.9	25.5
Partnership building	13.5	12.5	12.0	7.3	16.6	17.5	18.1	21.8	19.9	20.3
Support and reassurance	27.4	15.1	26.8	13.8	26.0	18.5	19.1	19.1	18.5	16.6
Social rapport	0.1	0.5	0.1	0.4	0.0	0.3	0.0	0.0	0.0	0.0
Criticism	0.1	0.4	0.1	0.3	0.1	0.3	0.1	0.4	0.0	0.0
Conversational dominance ^b	59.1	14.5	61.0	13.2	58.8	19.8	67.3	17.5	58.8	12.4
Sample size ^c	179		176		72		25		12	

SOURCE: Calculations based on data from the MIHOPE HV-CAM and RIAS-HV video observations.

NOTES: SD = standard deviation.

^aNumbers represent the mean percentage of all home visitor talk.

^bReported as home visitor talk as a percentage of all talk during the visit.

^cSample size reflects the number of videos (out of 200) where there was any home visitor talk on the topic.

Appendix Table E.10

Agreement of Family Service Log Data with Visit Content, by Outcome-Specific Area

Outcome-Specific Area	Discussed in Video ^a			Not Discussed in Video ^b		
	Number of Videos	Family Service Log Indicated Topic Was Discussed (%)	95% Confidence Interval	Number of Videos	Family Service Log Indicated Topic Was NOT Discussed (%)	95% Confidence Interval
<u>Maternal health and well-being</u>						
Prenatal health	54	94.4	84.6 - 98.8	146	97.9	94.1 - 99.6
Birth outcomes	110	86.4	78.5 - 92.2	90	56.7	45.8 - 67.1
Maternal physical health	—	—	— —	190	76.3	69.6 - 82.2
Family planning and birth spacing	—	—	— —	195	88.7	83.4 - 92.8
Tobacco use	—	—	— —	193	98.4	95.5 - 99.7
Substance use	—	—	— —	193	98.4	95.5 - 99.7
Mental health	39	64.1	47.2 - 78.8	161	52.8	44.8 - 60.7
Intimate partner violence	—	—	— —	195	96.4	92.7 - 98.5
<u>Parenting</u>						
Breastfeeding, feeding, and nutrition	91	47.3	36.7 - 58.0	109	82.6	74.1 - 89.2
Positive parenting behavior	138	84.1	76.9 - 89.7	62	43.5	31.0 - 56.7
Child maltreatment	57	70.2	56.6 - 81.6	143	73.4	65.4 - 80.5

(continued)

Appendix Table E.10 (continued)

Outcome-Specific Area	Discussed in Video ^a			Not Discussed in Video ^b		
	Number of Videos	Family Service Log Indicated Topic Was Discussed (%)	95% Confidence Interval	Number of Videos	Family Service Log Indicated Topic Was NOT Discussed (%)	95% Confidence Interval
<u>Child health and development</u>						
Child preventive care	118	76.3	67.6 - 83.6	82	64.6	53.3 - 74.9
Child development	163	89.6	83.8 - 93.8	37	45.9	29.5 - 63.1
<u>Family economic self-sufficiency</u>						
Economic self-sufficiency	64	71.9	59.2 - 82.4	136	66.2	57.6 - 74.1
<u>Access to community resources and public services</u>						
Child care	—	—	— —	180	93.3	88.6 - 96.5
Public assistance	—	—	— —	191	91.6	86.8 - 95.1
Access to health insurance	—	—	— —	198	92.4	87.8 - 95.7
Housing	—	—	— —	187	84.5	78.5 - 89.4

SOURCES: Calculations based on data from the MIHOPE HV-CAM video observations and the MIHOPE family service logs.

NOTES: Videos included in this sample include prenatal and postnatal, first and second observed visits. Overall sample size is 200 videos.

Dashes indicate that agreement and confidence intervals were not calculated because there were fewer than 20 visits with conversation in the outcome-specific area.

^aDefined as having had the topic discussed for at least 5% of the visit

^bDefined as having had the topic discussed in less than 5% of the visit.

Appendix F

MIHOPE Qualitative Sub-Study: Sample and Methods

The information presented in this appendix provides more detail on the sample and methods used in the qualitative interview-based sub-study presented in Chapter 6.

Sample

As described in Chapter 6, the qualitative sub-study includes an analysis of in-depth semi-structured interviews conducted with home visitors working in 24 local programs in seven states that span the major regions of the country. Local programs were purposefully selected to provide a uniform number of sites for each evidence-based model in MIHOPE and to represent diversity in organizational culture and climate. Thus, evidence-based model and organizational culture and climate were selected as sampling variables because they were hypothesized sources of variation that might inform similarities and differences in services delivered to families across local programs and home visiting staff.¹

A total of 61 home visitors were interviewed in individual, one-on-one settings and 43 home visitors were interviewed in group-based formats. Interviews were conducted with all available staff that were present at the local program when researchers visited on pre-scheduled site visits.

Interview Logistics

The interviews averaged about 90 minutes in length. Almost all interviews were audio recorded and transcribed, although three individuals declined to be tape-recorded and one recording of a group-based interview (with two home visitors) was inaudible due to poor sound quality. This resulted in 76 transcripts available for coding; the interviewer's notes were used when transcripts were absent.

Development of Codebook

Transcriptions were uploaded and coded in Dedoose software by a team of six different coders. Each coder was trained in Dedoose and participated in the on-going development of the codebook, which was initially based on the interview guide topics and group reviews of early transcripts. Through applying the codebook to new transcripts, individual coders identified the need for new, emergent codes or for further clarification on the use of existing codes. The lead

¹Organizational culture and climate variables were measured using the Organizational Social Context measurement system (Glisson et al., 2008).

reviewer was responsible for compiling coders' assessments and for revising the codebook, and then communicating substantive changes in the codebook versions. In the end, there were four iterations of the codebook, with each one resulting in new codes, guidance on code definitions, and explicit examples of text excerpts under each code. The lead researcher was responsible for assigning transcripts and for ensuring consistency in application of codes throughout. Specifically, 20 percent of interviews were reviewed in full by the lead coder. Direct feedback was given to coders on areas where use of codes was not consistent.

Interview Content

The interviews were broad in scope and focused on a variety of different topics. Interview topics included common priorities or goals in home visitors' work with families; strategies used in their interactions with families and to sustain engagement; use of implementation system supports (consultants, community resources, supervision, and training); challenging situations or cases (including times when parents' behaviors or circumstances conflicted with home visitors' priorities); and rewarding cases or circumstances.

The MIHOPE research team focused on examining the relative prevalence of codes across transcripts and creating summaries across related codes. The research team focused in particular on codes that fell within two broad themes that illustrate commonalities and differences in service delivery approaches: (1) how home visitors describe their work with families; and (2) narration of families they identified as rewarding and challenging case studies from their caseload. The research team then developed comparisons or typologies across different respondents or circumstances described.

Comparison of Home Visitor Samples

Appendix Table F.1 displays the sociodemographic characteristics of the qualitative subsample, compared with the other home visitors participating in MIHOPE (sample size = 433). The information shown comes from MIHOPE home visitor staff surveys. Some home visitors who participated in the qualitative interviews did not complete staff surveys so are missing information on background characteristics (16 out of 104 home visitors). As a group, the home visitors that participated in the qualitative interviews were similar to the other home visitors in MIHOPE. (No statistically significant differences were found.)

Appendix Table F.1
Sociodemographic Characteristics of Home Visitors

Characteristic (%)	Qualitative Analysis Sample	Remaining MIHOPE Sample
<u>Staff sociodemographics</u>		
Age ^a		
29 years or younger	30.7	27.0
30 to 39 years	26.1	30.3
40 to 49 years	25.0	22.6
50 years or older	18.2	20.1
Race/ethnicity ^a		
Hispanic	22.7	21.2
White, non-Hispanic	43.2	60.5
Black, non-Hispanic	28.4	12.9
Other/multiracial	5.7	5.3
Bilingualism		
English-Spanish	23.9	20.4
English-other	4.5	2.8
<u>Education and employment background</u>		
Highest education level ^a		
High school diploma or General Educational Development (GED) certificate or less	8.0	1.2
Vocational or technical training or some college	17.0	9.2
Associate's degree or training program degree	9.1	12.9
Bachelor's degree	58.0	62.4
Master's degree or higher	8.0	14.3
Field of study ^b		
Child development	23.5	25.2
Early childhood education	19.8	20.6
Education	13.6	14.5
Psychology	18.5	25.0
Social work or social welfare	19.8	28.7
Nursing	32.1	30.6
Other ^c	18.5	19.4
Experienced in home visiting field ^d	48.9	50.1
Sample size	88	433

(continued)

Appendix Table F.1 (continued)

SOURCE: Calculations based on data from the MIHOPE home visitor survey.

NOTES: Percentages may not sum to 100 because of rounding.

For all categorical variables except those with multiple categories, differences between the qualitative analysis sample and the remaining MIHOPE sample were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local programs. Each category was tested separately. No statistically significant differences were found. See note “a” below for further information on the statistical test used with categorical variables with multiple categories.

^aPercentages may not sum to 100 because of rounding. Since this variable includes multiple categories, differences in the distribution of categories between the qualitative analysis sample and the remaining MIHOPE sample were tested for statistical significance using a Rao-Scott second-order chi-square test, adjusting for clustering of home visitors within local program. No statistically significant differences were found.

^bResponse categories are not mutually exclusive, so percentages may total more than 100.

^cOther fields of study include human services, sociology, criminal justice, business administration, and accounting, among others.

^d“Experienced” is defined as either having at least three years of prior experience providing home visiting services to families or at least three years in their current position.

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Earlier Publications on MIHOPE

Revised Design for the Mother and Infant Home Visiting Program Evaluation

2013. Charles Michalopoulos, Anne Duggan, Virginia Knox, Jill H. Filene, Helen Lee, Emily K. Snell, Sarah Crowne, Erika Lundquist, Phaedra S. Corso, Justin B. Ingels.

The Mother and Infant Home Visiting Program Evaluation: Early Findings on the Maternal, Infant, and Early Childhood Home Visiting Program — A Report to Congress.

2015. Charles Michalopoulos, Helen Lee, Anne Duggan, Erika Lundquist, Ada Tso, Sarah Crowne, Lori Burrell, Jennifer Somers, Jill H. Filene, and Virginia Knox.

Evidence on the Long-Term Effects of Home Visiting Programs: Laying the Groundwork for Long-Term Follow-Up in the Mother and Infant Home Visiting Program Evaluation (MIHOPE)

2017. Charles Michalopoulos, Kristen Faucetta, Anne Warren, and Robert Mitchell.

NOTE: A complete publications list is available from MDRC and on its website (www.mdrc.org), from which copies of reports can also be downloaded. Or see the MIHOPE project page for additional information (www.acf.hhs.gov/opre/research/project/maternal-infant-and-early-childhood-home-visiting-evaluation-mihope).