



## Supporting Evidence-Based Home Visiting to Prevent Child Maltreatment



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In 2008, the Children's Bureau (CB) in the Administration for Children and Families (ACF) in the U.S. Department of Health and Human Services (DHHS) entered into cooperative agreements with 17 organizations in 15 states to support the implementation of home visiting programs that have potential to prevent child maltreatment. The 17 subcontractors selected one or more of five evidence-based home visiting models for expansion or replication during the study period.

Three goals were identified:

1. Support implementation with fidelity to the home visiting program models
2. Support scale-up of the home visiting models—replicating the program model in a new service area, adapting the model for a new target population, or increasing the enrollment capacity in an existing service area
3. Support sustainability of the home visiting model beyond the end of the funding period

Mathematica Policy Research and its partner, Chapin Hall at the University of Chicago, conducted a national cross-site evaluation of the Supporting Evidence-Based Home Visiting to Prevent Child Maltreatment (EBHV) initiative. This is the fifth in a series of briefs from the cross-site evaluation.

For more information about EBHV, including earlier evaluation briefs and reports, go to <http://www.supportingebhv.org/>

## Implementation Fidelity in Early Childhood Home Visiting: Successes Meeting Staffing Standards, Challenges Hitting Dosage and Duration Targets

by Deborah Daro, Kimberly Boller, and Bonnie Hart

*This brief summarizes the EBHV fidelity analysis findings and highlights the key policy and practice implications for policymakers and direct service providers. The centrality of implementation fidelity as a goal of the EBHV initiative focused the national evaluation on this topic and resulted in development of a fidelity framework that guided data collection and analysis and a related design brief (Daro 2010), an interim report on fidelity in the first two years of the initiative based on fidelity data collected from subcontractors and their implementing agencies (Daro et al. 2012), and the analyses presented in the study's final report (Boller et al. 2014). The EBHV evaluation is the first to collect similar data on fidelity across five different home visiting models operated in almost 50 agencies. The resulting analyses provide a snapshot of the characteristics of almost 400 home visitors, 5,000 families, and 90,000 home visits. This brief provides findings and draws implications that can be used to inform implementation of the Maternal, Infant, and Early Childhood Home Visiting Program and state and local efforts to replicate with fidelity to model requirements and good practice standards.*

The basic idea behind replication of evidence-based programs is that high fidelity to program requirements and standards increases the likelihood of achieving targeted outcomes. As greater emphasis is placed on replication of programs with demonstrated effectiveness, it has become more important to document the extent to which such programs are replicated according to each model's original program design (Fixsen et al. 2005; Wasik et al. 2013). The EBHV initiative provided a unique opportunity for communities and states to build infrastructure to support the implementation with fidelity, scale-up, and sustainability of home visiting programs that have potential to prevent child maltreatment. The grounding of the EBHV initiative in implementation with fidelity emphasized the importance of effective replication and the use of data by program administrators, supervisors, and home visitors to achieve high quality implementation, and ultimately family and child outcomes. As such, the initiative paid particular



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attention to the coordination of services and partnerships among individuals and institutions contributing to each subcontractor’s performance and the degree to which these relationships facilitated the ability to address the complex needs of families. The EBHV national cross-site evaluation captured lessons learned regarding implementation of evidence-based home visiting programs that can inform the field as stakeholders continue to explore home visiting’s role in the broader context of early childhood services.

### Research Questions Focused on Fidelity

The EBHV fidelity study addressed three core research questions with respect to program replication:

- Were the evidence-based home visiting programs selected by the subcontractors implemented and delivered with fidelity?
- To what extent do fidelity levels differ within and across the five evidence-based models?
- What participant factors account for variations in service dosage and duration?

Central to the evaluation was the development of a fidelity framework that would apply across all models and would capture two important aspects of fidelity—structural fidelity and dynamic fidelity (see Table 1). Structural fidelity refers to the relatively easy-to-measure program elements that a national model can require an implementing agency (IA) to comply with and monitor on an ongoing basis, such as staff education and hours of completed model-specific training. Dynamic fidelity is the degree to which the service delivery process captures the intended collaborative and interactive nature of the home visitor-participant relationship.<sup>1</sup> Increasingly, many program evaluations embrace this dual understanding of fidelity and focus on documenting the service delivery process, as well as the more standard benchmarks of service dosage and duration (Bagnato et al. 2011; Paulsell et al. 2010; Riley et al. 2008; Lee et al. 2008; Chen 2005; Hebbeler and Gerlach-Downie 2002). The standards and related indicators incorporated in the EBHV fidelity framework reflect a mix of performance measures that can be used to describe staff, families, and services and serve as performance benchmarks (see Box A).

**Table 1. Two Aspects of Fidelity**

Structural (Implementation) Fidelity	Dynamic (Intervention) Fidelity
<ul style="list-style-type: none"> <li>• Hiring qualified staff and providing sufficient training and supervision</li> </ul>	<ul style="list-style-type: none"> <li>• Nature of the provider-participant relationship</li> </ul>
<ul style="list-style-type: none"> <li>• Engaging the target population</li> </ul>	<ul style="list-style-type: none"> <li>• Manner of service delivery</li> </ul>
<ul style="list-style-type: none"> <li>• Achieving recommended dosage and duration</li> </ul>	
<ul style="list-style-type: none"> <li>• Maintaining caseload levels</li> </ul>	

<sup>1</sup> Some researchers refer to these two elements as (1) *implementation fidelity*, capturing the structural aspects of a program such as dosage and duration, and (2) *intervention fidelity*, focusing on how services are delivered (Carroll et al. 2007). O’Donnell (2008) refers to them as *fidelity to structure* and *fidelity to process*.

**F**orty-six IAs supported by the EBHV subcontractors provided at least partial fidelity data for families who were new to the home visiting programs between October 1, 2009, and June 30, 2012.

### A Large, Diverse Sample of Programs, Staff, and Families

Participating subcontractors implemented one of five evidence-based home visiting models: Healthy Families America (HFA), Nurse Family Partnership (NFP), Parents as Teachers (PAT), SafeCare, or Triple P. Four of these models have been included for replication under the federal Maternal, Infant and Early Childhood Home Visiting (MIECHV) program and are among those most frequently replicated by local service providers across the country. As such, the findings have implications for the expansion of home visiting investments at both the federal and state levels.

Forty-six IAs supported by the EBHV subcontractors provided at least partial fidelity data for families who were new to the home visiting programs between October 1, 2009, and June 30, 2012. In addition, these agencies provided descriptive information on their direct service staff and program operations. The study sample includes information on 392 home visitors and supervisors, 4,821 program participants, and 88,733 home visits.

IAs provided the national evaluation with descriptive information on staff characteristics and monthly caseloads; other program management data as required by the fidelity indicators were reported directly by the IAs. Descriptive information on program participants and key service data, such as the number of home visits and the content of these visits, were provided directly by IAs using the EBHV Fidelity Database managed by Mathematica or by allowing the study team to access the data entered into the NFP Efforts to Outcomes (ETO) system (Box 1). A subset of 18 IAs provided initial assessments of the service relationship from the perspective of 974 participants and their respective home visitors. Although not all IAs provided data on all of the fidelity indicators, the response was sufficiently robust to offer a useful snapshot of the extent to which home visiting services were replicated with fidelity to their respective models.

#### Box 1. Fidelity Data Sources

- **Participant profile**  
Intake and termination data reported by home visiting staff or obtained from NFP's ETO system
- **Home visitor profile**  
Intake data reported by home visiting staff
- **IA staff caseloads and supervisory activity**  
Monthly reporting forms submitted by home visit program manager
- **Home visits offered and completed**  
Number of planned visits and summary of all completed visits provided by home visiting staff or obtained from NFP's ETO system
- **Working Alliance Inventory (WAI)**  
Completed by home visitors and participants twice during the service period

## Key Findings

**IAs successfully met structural fidelity indicators in the areas of participant targeting, staff education and training, and program content.**

The study observed the greatest consistency in fidelity indicators related to the targeting of the appropriate service population, the hiring of appropriate staff, the provision of model-specific training to all home visitors and supervisors prior to enrolling families, and the capacity to provide the content recommended by the relevant model developers (see Table 2). On average, home visitors reported covering over 96 percent of all planned content during their visits. This level of performance was consistent across most IAs in the sample, and no significant differences were observed on any of these indicators across the five models.

Fidelity Indicator	Percentage Across All Models	Number of IAs Reporting
Total referrals that met model standards	81.3	45
Home visitors with at least a B.A.	75.9	44
Staff receiving initial model training	99.5	45
Planned content covered during visits	96.7	29

Source: EBHV Cross-Site Fidelity Data, October 1, 2009, through June 30, 2012.

## Home visitors and participants reported generally positive perceptions of the service experience.

More than half of the home visitors in the sample of 18 IAs that provided data on the nature of the service experience consistently rated initial perceptions of their relationships with participants as positive. They reported feeling capable of moving the participant toward desired goals. At least two-thirds of the participants in the sample viewed their relationships with their home visitors positively.

Home visitors and participants, both overall and within models, provided the highest ratings to elements of the relationship relating to bonding such as liking each other, confidence in the skills and commitment of both parties to make needed changes, and appreciating and trusting each other. Although the home visitor and participant ratings were still very positive, respondents were somewhat less confident in aspects of the relationship related to goal setting (for example, formulating what type of change is needed and mutually agreeing on the target goals and outcomes being sought). There were no significant differences in these ratings across the national models.

**Achieving model guidelines in the areas of home visitor and supervisor caseloads, dosage, and duration proved challenging for most IAs regardless of the model being implemented.**

- **Caseloads.** Sustaining full caseloads, as defined by each of the respective models, proved problematic. The majority of home visitors consistently

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carried caseloads below those recommended by the national model being implemented (Table 3).<sup>2</sup>

We found that 56 percent of home visitors consistently had mean monthly weighted caseloads below the levels recommended by their respective models. Less than 6 percent of the workforce consistently maintained caseloads above these levels. The patterns were similar for supervisor caseloads, with twice as



many supervisors attaining home visitor caseloads below standards than above standards. These numbers may reflect the potential for excess capacity for serving families.

**Table 3. Lower Fidelity Performance Areas: Caseloads<sup>a</sup>**

	Percentage Consistently Below Model Expectations	Percentage Consistently Above Model Expectations	Percentage Consistently at Model Expectations	Number of IAs
Home Visitor Caseloads	56.1	5.5	0.4	43
Supervisor Caseloads	40.7	19.4	0.0	36

Source: EBHV Cross-Site Fidelity Data, October 1, 2009, through June 30, 2012.

<sup>a</sup> Some home visitors and supervisors fluctuated from being consistently below, above, or at the model expectations throughout the reporting period. As such the distribution of caseloads across the three conditions listed in the table does not equal 100 percent.

- Duration.** Among the participants who enrolled in and terminated services during the study observation period from the two shorter-term models in our sample (SafeCare and Triple P), 47 percent were identified by their home visitors as successful case closures; 53 percent were identified as leaving services early. While we cannot accurately assess the full proportion of families enrolled in the multiyear models (HFA, NFP, PAT) that will successfully complete the full course of service given the duration of our observation period (33 months), the study design did allow for reliable estimates of the proportion of cases that remain enrolled for at least 6 months and for 12 months (Table 4). HFA participants had the highest retention rates (82 percent retained at 6 months and 73 percent retained at 12 months), followed by PAT (77 percent retained at 6 months and 61 percent retained at 12 months), and NFP (78 percent retained at 6 months and 58 percent retained at 12 months).

Nearly half (49 percent) of those not completing the full course of treatment were “passive refusals”—individuals removed from caseloads by staff after missing an excessive number of appointments or having no contact with the program for more than 180 days. An additional 21 percent

<sup>2</sup> The cross-site evaluation defined consistently as every month during the study period.

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actively declined further services. Other reasons staff noted for early exit from a program included the family moving out of the service area (20 percent); miscarriage, or infant or maternal death (3 percent); structural issues within the program such as staff changes, program closures, or inability to accommodate family needs (3 percent); child being removed from the home (2 percent); and other unspecified reasons (2 percent).

- Dosage.** Regular contact with families is a primary recommendation across all the models, although the manner and timing of this contact varied. All models provide replication sites with guidance on establishing expectations for appropriate dosage, but they also remind IAs and home visitors that these services are voluntary and, therefore, subject to the willingness of participants to accept visits. To measure dosage, the national evaluation team worked with the model developers to identify an average number of recommended home visits for participants to receive during the first 6 and 12 months of enrollment. The analyses examined the proportion of participants who received the full dosage, 80 percent, and 60 percent of the recommended number of visits. The sample included participants enrolled for the full 6- or 12-month periods.

**Table 4. Lower Fidelity Performance Areas: Duration and Dosage**

Indicator	HFA	NFP	PAT	SafeCare	Triple P
<b>Duration</b>					
% Retained 6 Months	82.3	77.7	76.5	39.5	44.6
% Retained 12 Months	73.0	57.6	61.1	16.4	3.9
Number of IAs	8	16	4	6	1
<b>Dosage – 12 Months</b>					
Full Dosage (%)	19.6	5.3	26.4	n.a	n.a.
80% Dosage	42.8	41.2	51.6	n.a	n.a.
60% Dosage	65.4	78.5	64.0	n.a	n.a.
Number of IAs	8	16	4	n.a	n.a.

Source: EBHV Cross-Site Fidelity Data, October 1, 2009, through June 30, 2012.

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Considering the performance of all the models (both short- and long-term), less than one-fifth of participants in our sample received the expected number of home visits six months after enrollment. Just over one-third received 80 percent of the expected number of visits, and about two-thirds received 60 percent. Sites implementing SafeCare performed significantly better on this indicator, providing the recommended number of home visits to almost two-thirds of their participants during the first 6 months of enrollment (not shown). Among the three multiyear programs, dosage levels at 12 months also fell below model expectations, with only 5 percent of NFP enrollees, 20 percent of HFA enrollees, and 26 percent of PAT enrollees receiving all of the recommended visits. Close to two-thirds or more of these participants received at least 60 percent of the recommended dosage (see Table 4).

**Participants' level of socioeconomic risk and ethnicity were associated with early exit, but the relative level of risk did not predict the number of home visits completed among those who remained enrolled for more than six months.**



Younger, more economically disadvantaged, and potentially more socially isolated participants (as suggested by their single-parent status) received fewer home visits during their initial six months of enrollment. These higher-risk participants also left multiyear home visiting programs early or, if enrolled in short-term programs, did not successfully complete them. However, high-risk families retained in the program longer than six months received as many home visits as those with fewer socioeconomic risk factors, suggesting home visitors are able to successfully engage and serve families with notable socioeconomic risk, providing they can keep them in the program during the first few months after enrollment.

Relative to African American and White participants, those who identified themselves as Hispanic or indicated that their primary language was Spanish were more likely to remain enrolled in the home visiting programs, successfully complete short-term home visiting programs, and receive at least 80 percent of the recommended number of home visits. While enrollment during pregnancy (as opposed to enrolling after the birth of the child) was not associated with overall retention rates, enrollment status did predict a greater number of home visits at the 12-month observation period.

**Replicating proven programs in a manner consistent with their original intent requires focused attention on the model itself, on the receptivity of and challenges presented by program participants, and on the organization and community hosting the replication site.**

Multiple factors contribute to fidelity and the EBHV findings underscore the complexity inherent in replicating evidence-based programs. None of the models were consistently replicated in the manner suggested by the model developers. This pattern reflects, in part, the diversity of the families enrolling in these programs and the variability in the community context and local organizations implementing them. Successful replication of home visiting programs, even when they are conceptually clear and well documented, requires a keen understanding of the intervention's purpose, the extent to which the target population might respond to the program, and the degree to which the host organization and community infrastructure complement model objectives and needs.

### **Practice and Policy Implications**

The EBHV initiative provides a rich learning environment for those implementing complex programmatic reforms, as well as for those evaluating them. These findings have important implications for states, implementers, and researchers as they carry out the unprecedented expansion of evidence-based home visiting programs through the federal MIECHV initiative as well as state and local efforts.

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### Practice Implications

- **Measuring and monitoring fidelity should be part of practice.** Even the best-designed data systems require dedicated staff time to collect and record information on staff, participants, home visits, and home visitor-participant relationships. Establishing these activities as part of everyday practice among home visitors and supervisors increases the likelihood that data will be collected promptly and accurately, and increases the usefulness of the data for program planning.
- **Participant retention is a necessary, although insufficient, criterion for achieving program objectives.** Enhancing parental capacity cannot occur unless families are enrolled and retained in programs long enough to establish the trust necessary to ensure the consistent delivery of home visits. As such, home visitors need to carefully monitor participants' acceptance of home visits and adjust the intervention if families appear to lose interest in the program or feel their needs are not being met.
- **Engaging participants in determining common service goals requires more than a positive relationship.** Home visitors and participants often like and respect each other but may not agree on service goals and priorities with respect to change. Greater attention needs to be paid to the critical components of this relationship and how it can better support the development of mutually agreed-upon service goals and their accomplishment.
- **For replication, greater attention is needed to the broader organizational and community context in which programs reside.** Model guidelines are only one factor in framing the replication process. Equally important is ensuring that the program's values and service delivery system are fully supported by the host agency's organizational culture and the community's service network.

### Policy Implications

- **Investing in evidence-based models is the first—but not the only—step required to ensure a strong social service response system and improved population-level outcomes.** Equal investments need to be made in core infrastructure elements such as robust data collection systems and interagency cooperation and data sharing. Policymakers need to provide evidence-based programs the resources and time to determine the best fit between model fidelity criteria, local participant needs and interests, and community supports.
- **In addition to expanding investments in evidence-based service models, policymakers also need to target reforms within the social systems in which such services are embedded.** Evidence-based programs often represent new practice standards and workforce expectations. Introducing these interventions into a social service system at odds with these standards can complicate the replication process and undermine the ability to achieve program fidelity. Policymakers need to identify and address these systemic barriers in order to maximize the benefits of evidence-based programs.



### Limitations

All studies have limitations, and the EBHV national cross-site evaluation is no different. First, because this is a descriptive study, although findings may suggest associations, we cannot draw causal conclusions. Second, the cross-site evaluation team was not directly involved in collecting fidelity data from the home visitors, home visitor supervisors, or participants. Therefore, variations might exist in how data were collected, the timing of data collection, and the extent to which data are missing. Although the cross-site team provided many training and technical assistance opportunities to the EBHV subcontractors and IAs to minimize the potential for data inconsistencies, we cannot be certain that the data collection guidelines were consistently followed. Third, not all fidelity indicators were monitored by all IAs in our sample. Therefore, the numbers of subcontractors, IAs, home visitors, supervisors, and participants contributing to each analysis differ, making direct comparisons across fidelity indicators difficult. Finally, the majority of the study measures relied on respondent self-reports, which can be a source of additional bias and error.



These data are based on a sample of IAs that had varying degrees of experience in implementing these models. While our analysis found no systematic difference in performance on the indicators in terms of an IA's tenure, it is possible that this group of IAs may overestimate or underestimate the implementation status of all organizations adapting these home visiting national models.

### Conclusion

The core components of these evidence-based models are well specified. IAs understood and met the basic requirements for replicating these programs in terms of staff qualifications, required training, and program content. IAs also, as a group, provided home visits in a manner consistent with the relationship-based nature of these services, working with families to establish a positive relationship. Despite this clarity, we observed wide variability in the degree to which IAs achieved comparable fidelity, particularly in the structural areas of caseload, dosage, and duration. As policymakers place greater emphasis on evidence-based decision making and the implementation of programs that have been proven effective through rigorous evaluation, research will be needed to understand how these high quality interventions can best be replicated, adapted to diverse populations, and incorporated into existing service delivery systems.

### Box A. EBHV Fidelity Framework Indicators

#### Structural Fidelity Indicators

Structural fidelity indicators provide information on core implementation parameters explicitly articulated or implicitly communicated by the home visiting models. Such indicators as fit of referrals received with characteristics of families to be served by the model, staff education and completion of model training, supervisory structures, caseloads, service duration, and service dosage provide clear parameters for comparing a program's service delivery to expectations. Structural indicators provide replication sites with objective standards against which they can compare their performance. Although these elements are only part of what constitutes a given model's overall approach, model developers and funders commonly track them to provide an indication of implementation quality. We examined the following structural fidelity indicators:

- Percentage of home visitors with bachelor's-level education
- Percentage of supervisors with bachelor's-level education
- Percentage of direct service staff completing model-specific training
- Mean home visitor caseloads (the number of families with which each visitor works)
- Mean supervisor caseloads (the number of home visitors who report to each supervisor)
- Percentage of total referrals meeting model standards
- Percentage of participants enrolled for at least 3 months, 6 months, and 12 months
- Percentage of those leaving services during the observation period who successfully completed the recommended course of service
- Mean duration of enrollment for those leaving the program during our observation period
- Service intensity (mean number of visits per weeks of enrollment, mean length of time between visits)
- Percentage of participants who received 100, 80, or 60 percent of intended model dosage at 6 and 12 months postenrollment
- Percentage of planned visits completed
- Percentage of participants completing at least 50 or 75 percent of planned visits
- Percentage of home visits lasting at least one hour

#### Dynamic Fidelity Indicators

The second component of the EBHV fidelity framework focused on assessing the degree to which the IAs replicated the intent and manner of the evidence-based home visiting program they elected to implement. We focused on documenting the extent to which planned content was provided in a consistent manner. We also conducted exploratory analyses of indicators that measure participant and provider perspectives on their relationship as measured by the Working Alliance Inventory (WAI). The specific indicators monitored under this domain included:

- Percentage of planned content covered during each visit
- Percentage of all visits that covered 80 percent or more of planned content
- Participant rating of overall service direction (WAI tasking scale)
- Participant rating of personal relationship with home visitor (WAI bonding scale)
- Participant rating of specific service goals (WAI goal setting scale)
- Home visitor rating of overall service direction (WAI tasking scale)
- Home visitor rating of personal relationship with the participant (WAI bonding scale)
- Home visitor rating of specific service goals (WAI goal setting scale)
- Participant-home visitor level of agreement on WAI tasking scale
- Participant-home visitor level of agreement on WAI bonding scale
- Participant-home visitor level of agreement on WAI goal setting scale

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