Supporting Evidence-Based Home Visiting to Prevent Child Maltreatment

Making Replication Work: Building Infrastructure to Implement, Scale Up, and Sustain Evidence-Based Early Childhood Home Visiting Programs

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January 15, 2014

EBHV Subcontractor Webinar
DRAFT – NOT FOR DISTRIBUTION
Acknowledgments

• The sponsoring agencies
  – Children’s Bureau (CB), Administration for Children and Families, U.S. Department of Health and Human Services
  – Maternal Child Health Bureau, Health Resources and Services Administration, U.S. Department of Health and Human Services
  – Doris Duke Charitable Foundation
  – Casey Family Programs

• Mathematica/Chapin Hall Team
  – Patricia Del Grosso, Russell Cole, Diane Paulsell, Bonnie Hart, Brandon Coffee-Borden, Debra Strong, Margaret Hargreaves

• 17 subcontractors, partners, local evaluators
• National model representatives
Overview of the Presentation

- Evidence-Based Home Visiting (EBHV) initiative and subcontractors
- Evaluation theory of change, research questions, main findings, and limitations
- Fidelity
- Cost
- Infrastructure capacity-building and goal attainment
- Main findings and recommendations for future research
Context of the EBHV Initiative

- Funded in 2008 by CB as a 5-year initiative
- Economic recession resulted in funding challenges
- Future of the EBHV funds uncertain in 2010
- With the passage of the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program, EBHV grantees entered into subcontracts with state lead agencies
  - 5 subcontractors were named the state lead agencies
  - 10 subcontractors received or anticipated receiving MIECHV funds to sustain or expand services
Subcontractors Selected One or More Home Visiting Models

<table>
<thead>
<tr>
<th>Home Visiting Program Model</th>
<th>Target Population</th>
<th>Number of Subcontractors Selecting Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse-Family Partnership (NFP)</td>
<td>First-time pregnant women &lt; 28 weeks gestation</td>
<td>11</td>
</tr>
<tr>
<td>Healthy Families America (HFA)</td>
<td>Pregnant women or new parents within two weeks of infant’s birth</td>
<td>5</td>
</tr>
<tr>
<td>Parents as Teachers (PAT)</td>
<td>Birth or prenatal to age 5</td>
<td>3</td>
</tr>
<tr>
<td>SafeCare</td>
<td>Birth to age 5</td>
<td>3</td>
</tr>
<tr>
<td>Triple P</td>
<td>Birth to age 12</td>
<td>1</td>
</tr>
</tbody>
</table>
Evaluation’s Theory of Change Links Inputs, Infrastructure Building, and Goals

**EBHV Inputs**
- Subcontractors
- Partners
  - Multiple levels
  - Multiple sectors
- National Model Developers

*Boundaries, Relationships, and Perspectives

**EBHV Infrastructure-Building Strategies and Activities**
- Collaborative Infrastructure-Building Activities at All Levels
- Local-Level Implementation

**EBHV Infrastructure-Building Outputs and Outcomes**
- Foundation Infrastructure
- Implementation Infrastructure
- Sustaining Infrastructure

**EBHV Initiative Goals**
- Implementation of EBHV Model with Fidelity
- Scale-Up
- Sustainability
- Family and Child Outcomes

*External Environment*
A Multicomponent Evaluation

• **Fidelity**
  – Were home visiting programs implemented and delivered with fidelity?

• **Cost**
  – How much does home visiting cost?

• **Infrastructure-Building**
  – What infrastructure capacity did subcontractors build to implement with fidelity, scale up, and sustain home visiting programs?

• **Goal Attainment**
  – Did building infrastructure and factors related to collaboration among partners influence subcontractors’ progress toward goals?
Main Findings

• **Fidelity**: Implementing agencies (IAs), regardless of the model being implemented, struggled to achieve structural fidelity standards

• **Cost**: Costs per family averaged $6,583, but varied widely by model and across agencies within models

• **Infrastructure-Building**: Although subcontractors’ strategies stayed consistent across the initiative, the order in which they carried them out deviated from initial expectations

• **Goal Attainment**: According to partners’ perceptions, building sustaining infrastructure and the quality of collaboration among partners were key factors in the extent to which subcontractors achieved their goals for the initiative
Limitations

• Included a sample of IAs with considerable variability
  – Tenure and familiarity with the model, model enhancements and adaptations
• Relied on self-reported data
• Did not measure family and child outcomes
• Cannot draw causal conclusions
Fidelity
## Assessed Two Aspects of Fidelity

<table>
<thead>
<tr>
<th>Structural (implementation fidelity)</th>
<th>Dynamic (intervention fidelity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Hiring qualified staff/providing sufficient training and supervision</td>
<td>• Nature of the provider-participant relationship</td>
</tr>
<tr>
<td>• Engaging the target population</td>
<td>• Manner of service delivery</td>
</tr>
<tr>
<td>• Achieving recommended dosage and duration</td>
<td></td>
</tr>
</tbody>
</table>
Indicator Selection Criteria

• Standards were applicable across all models or could be modified to capture model-specific criteria
• Supporting data placed minimal burden on home visiting staff and program participants
• Framework captured both the core elements of program implementation and a set of participants’ characteristics to guide data interpretation
• Final set of indicators:
  – Seven structural domains (supported by 21 indicators)
  – Four dynamic domains (supported by 14 indicators)
Data Elements and Sources

- **Participant profile**
  - Intake and termination data completed by HV staff or obtained from NFP National Service Office (NSO) Efforts to Outcomes (ETO) system

- **Provider profile**
  - Intake data completed by HV staff

- **IA staff caseloads and supervisory activity**
  - Monthly reporting forms submitted by HV program manager

- **Home visits offered and completed**
  - Number of planned visits and summary of all completed visits provided by HV staff and obtained from NFP-NSO ETO

- **Working Alliance Inventory (WAI)**
  - Completed by providers and participants twice during the service period
## Sample Sizes

<table>
<thead>
<tr>
<th>HV Model</th>
<th>Participants</th>
<th>Staff</th>
<th>Home Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HFA</td>
<td>575</td>
<td>117</td>
<td>11,907</td>
</tr>
<tr>
<td>NFP</td>
<td>2,960</td>
<td>120</td>
<td>58,475</td>
</tr>
<tr>
<td>PAT</td>
<td>601</td>
<td>79</td>
<td>9,519</td>
</tr>
<tr>
<td>SafeCare</td>
<td>491</td>
<td>72</td>
<td>6,617</td>
</tr>
<tr>
<td>Triple P</td>
<td>194</td>
<td>17</td>
<td>2,215</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,821</strong></td>
<td><strong>392</strong></td>
<td><strong>88,733</strong></td>
</tr>
<tr>
<td># IAs represented</td>
<td><strong>36</strong></td>
<td><strong>47</strong></td>
<td><strong>36</strong></td>
</tr>
</tbody>
</table>

Source: EBHV Cross-Site Fidelity Database, October 1, 2009, through June 2012.
Select Home Visitor and Participant Characteristics

• Home visitors
  – 79 percent of home visitors had at least a B.A.
  – IAs implementing HFA, PAT, and SafeCare hired a more racially and ethnically diverse workforce

• Participants
  – 44 percent of participants had less than a high school diploma; 69 percent were unemployed; 94 percent were receiving public assistance
  – HFA and PAT participants presented with a significantly higher number of socioeconomic risk factors
## High-Fidelity Performance Areas

<table>
<thead>
<tr>
<th>Fidelity Indicator</th>
<th>Percentage Across All Models</th>
<th>Number of IAs Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Visitors with at Least a B.A.</td>
<td>75.5</td>
<td>45</td>
</tr>
<tr>
<td>Staff Receiving Initial Model Training</td>
<td>99.5</td>
<td>47</td>
</tr>
<tr>
<td>Total Referrals that Met Model Standards</td>
<td>82.1</td>
<td>47</td>
</tr>
<tr>
<td>Planned Home Visits Completed</td>
<td>82.1</td>
<td>36</td>
</tr>
<tr>
<td>Planned Content Covered During Visits</td>
<td>96.7</td>
<td>29</td>
</tr>
</tbody>
</table>

Source: EBHV Cross-Site Fidelity Data, October 1, 2009, through June 30, 2012.
## Lower Fidelity Performance Areas: Caseloads

<table>
<thead>
<tr>
<th></th>
<th>Consistently Below Model Expectations</th>
<th>Consistently Over Model Expectations</th>
<th>Consistently At Model Expectations</th>
<th>Number of IAs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Home Visitor Caseloads</strong></td>
<td>48.8</td>
<td>16.6</td>
<td>0.4</td>
<td>47</td>
</tr>
<tr>
<td><strong>Supervisor Caseloads</strong></td>
<td>35.0</td>
<td>28.6</td>
<td>0.0</td>
<td>48</td>
</tr>
</tbody>
</table>

Source: EBHV Cross-Site Fidelity Data, October 1, 2009, through June 30, 2012.
## Lower-Fidelity Performance Areas: Dosage and Duration

<table>
<thead>
<tr>
<th>Indicator</th>
<th>HFA</th>
<th>NFP</th>
<th>PAT</th>
<th>SafeCare</th>
<th>Triple P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Retention</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Retained 3 Months</td>
<td>91.5</td>
<td>90.1</td>
<td>89.4</td>
<td>76.6</td>
<td>80.7</td>
</tr>
<tr>
<td>% Retained 6 Months</td>
<td>82.3</td>
<td>77.7</td>
<td>76.5</td>
<td>39.5</td>
<td>44.6</td>
</tr>
<tr>
<td>% Retained 12 Months</td>
<td>73.0</td>
<td>57.6</td>
<td>61.1</td>
<td>16.4</td>
<td>3.9</td>
</tr>
<tr>
<td>Number of IAs</td>
<td>8</td>
<td>16</td>
<td>4</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td><strong>Dosage – 12 Months</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full Dosage (%)</td>
<td>19.6</td>
<td>5.3</td>
<td>26.4</td>
<td>n.a</td>
<td>n.a.</td>
</tr>
<tr>
<td>80% Dosage</td>
<td>42.8</td>
<td>41.2</td>
<td>51.6</td>
<td>n.a</td>
<td>n.a.</td>
</tr>
<tr>
<td>60% Dosage</td>
<td>65.4</td>
<td>78.5</td>
<td>64.0</td>
<td>n.a</td>
<td>n.a.</td>
</tr>
<tr>
<td>Number of IAs</td>
<td>8</td>
<td>16</td>
<td>4</td>
<td>n.a</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Source: EBHV Cross-Site Fidelity Data, October 1, 2009, through June 30, 2012.
Participants’ Characteristics Related to Dosage and Duration

- Hispanic participants more likely than white or African American participants to remain enrolled longer and receive a greater number of visits.
- Younger, more economically disadvantaged and socially isolated participants often leave multiyear home visiting programs before 12 months or, if enrolling in short-term programs, do not successfully complete them.
- Among those who remain in multiyear programs at least 6 months, however, socioeconomic risk level is not a predictor of service dosage.
Wide variability in structural fidelity within each model; multiple contextual factors contributed to how a model was replicated in a given community.

Findings raise questions about appropriate caseload levels, service dosage, and service duration.

Fidelity framework identified both common as well as distinct service elements across models, underscoring important differences in each model's intent and theory of change.

Just directing investments to evidence-based models does not guarantee consistent program replication; continuous attention to implementation is critical.
Cost
Cost Study Research Questions

• What are the total annual costs of operating home visiting programs?
• How are resources allocated among cost categories and program activities?
• What does each program cost per exiting family?
• How do average costs vary across program models and programs operated by different types of agencies and in various geographic locations?
• Analyzed costs from IA perspective
  – Estimate resources needed to replicate program at similar scale in similar context
• Used “ingredient” method to calculate total costs
• Focused on a one-year period of “steady-state” operations
  – Typical operations relative to the number of participants enrolled and home visitors’ caseloads
  – July 1, 2011 through June 30, 2012
Data Sources

- **IA cost survey**
  - Identified resources used and their value
- **IA staff time-use survey**
  - Collected data on how staff spent their time across program activities in a typical week
  - Used to allocate costs across program activities
- **EBHV cross-site fidelity data**
  - Provided the number of families served, duration of participation, and number of home visits delivered
  - Used to estimate the cost to serve a family
Types of Costs

- **Total cost at agency level**
  - Allocated to resource (or cost) categories
  - Allocated to program activities

- **Cost per family**
  - Step 1:
    Cost per family week of enrollment = total cost / total number of weeks of family enrollment
  - Step 2:
    Average cost per family = cost per family week of enrollment * average number of weeks for exiting family

- **Cost per completed home visit**
  - Average cost per home visit = total annual cost / total number of home visits completed
Annual Costs Averaged $580,972

• Ranged from $206,426 to $1,207,054
• Program scale was not a consistent predictor of costs
• Personnel expenses comprised 72 percent of total, on average
  – NFP IAs spent larger share of costs on personnel
Most Costs Allocated to Direct Services

Source: Cost Survey of Implementing Agencies and Implementing Agency Staff Time-Use Survey.

Note: Averages are at agency level. N = 24 agencies. One agency was removed from this analysis because data on staff time use were not available.
Cost Per Family Averaged $6,583

<table>
<thead>
<tr>
<th>Program Model</th>
<th>Average Cost Per Exiting Family</th>
<th>Weighted Average Cost</th>
<th>Number of IAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>All IAs</td>
<td>$6,583</td>
<td>$5,962</td>
<td>19</td>
</tr>
<tr>
<td>HFA</td>
<td>$5,615</td>
<td>$5,270</td>
<td>4</td>
</tr>
<tr>
<td>NFP</td>
<td>$8,003</td>
<td>$7,596</td>
<td>10</td>
</tr>
<tr>
<td>PAT</td>
<td>$2,372</td>
<td>$2,415</td>
<td>2</td>
</tr>
<tr>
<td>SafeCare</td>
<td>$6,263</td>
<td>$5,982</td>
<td>2</td>
</tr>
<tr>
<td>Triple P</td>
<td>$5,306</td>
<td>$5,306</td>
<td>1</td>
</tr>
</tbody>
</table>

Sources: Cost Study of EBHV Programs Survey of Implementing Agencies and EBHV Cross-Site Fidelity Data.
Notes: Costs are in 2012 dollars. Analysis includes IAs with more than 10 families exiting during the cost study period and excludes as an outlier the IA implementing an enhanced version of PAT that provides access to mental health services. Averages and ranges pertain to the agency level within each category. Average cost per exiting family is not adjusted for participation before the cost study period. Average cost per family = Average cost per week of participation for each IA * Average number of weeks of participation for families served by the IA and exiting during the cost period. Weighted average cost is based on the number of families that exited each IA’s program during the cost study period.
Per-Family Cost Varied Widely

Average Cost Per Family

Sources:  Cost Survey of Implementing Agencies and EBHV Cross-Site Fidelity Data.
Note:  Figures are in 2012 dollars. Averages are at agency level within each program model. Includes programs with more than 10 families exiting during the cost period.
### Average Cost Differed by Some Agency Characteristics

<table>
<thead>
<tr>
<th>Location</th>
<th>Average Cost Per Exiting Family</th>
<th>Weighted Average Cost</th>
<th>Number of IAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>$5,459</td>
<td>$5,697</td>
<td>4</td>
</tr>
<tr>
<td>Suburban</td>
<td>$7,145</td>
<td>$6,104</td>
<td>4</td>
</tr>
<tr>
<td>Urban</td>
<td>$6,787</td>
<td>$6,039</td>
<td>11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Agency</th>
<th>Average Cost Per Exiting Family</th>
<th>Weighted Average Cost</th>
<th>Number of IAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>$8,211</td>
<td>$7,438</td>
<td>6</td>
</tr>
<tr>
<td>Medical center</td>
<td>$9,226</td>
<td>$11,163</td>
<td>2</td>
</tr>
<tr>
<td>Private nonprofit</td>
<td>$5,214</td>
<td>$4,717</td>
<td>11</td>
</tr>
</tbody>
</table>

Sources: Cost Study of EBHV Programs Survey of Implementing Agencies and EBHV Cross-Site Fidelity Data.

Notes: Costs are in 2012 dollars. Analysis includes IAs with more than 10 families exiting during the cost study period and excludes an outlier the IA implementing an enhanced version of PAT that provides access to mental health services. Averages and ranges pertain to the agency level within each category. Average cost per exiting family is not discounted for participation before the cost study period. Average cost per family = Average cost per week of participation for each IA * Average number of weeks of participation for families served by the IA and exiting during the cost period. Weighted average cost is based on the number of families that exited each IA’s program during the cost study period.
Ranged from $201 to $1,397 (23 agencies)

Standard PAT programs (2 agencies) had the lowest average cost per visit: $210

HFA programs (7 agencies) had the highest average cost per visit: $673

Note: Average costs per home visit for two IAs (one implementing an enhanced version of PAT and one implementing SafeCare) were determined to be outliers and excluded from the calculation of average cost per home visit.
Cost: Implications

- Substantial funds spent on activities beyond home visits
  - Delivery of home visits is supported by investment in other functions and activities
- Both model and agency circumstances appear to influence costs
  - Costs varied widely for some program models
  - Caseload dynamics, target populations, and service enhancements can affect costs
Infrastructure-Building and Goal Attainment
Data Sources

• Infrastructure-Building
  – Site visits and telephone interview data collected at multiple points in time
  – Subcontractor logic models updated at multiple points in time

• Goal attainment
  – Partner survey data collected in early 2012
  – Sent to 322 respondents, ranging from 8 to 32 partners
  – Response rate 75 percent, ranging from 53 to 100 percent
# Infrastructure Capacities and Examples

<table>
<thead>
<tr>
<th><strong>Foundation Area</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning</td>
<td>Strategic planning, tactical planning, decision making</td>
</tr>
<tr>
<td>Collaboration</td>
<td>Leadership, alignment of goals and strategies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Implementation Area</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations</td>
<td>Outreach, intake, screening, assessment, home visiting, referral services</td>
</tr>
<tr>
<td>Workforce Development</td>
<td>Training, coaching, supervision, technical assistance, staff recruitment and retention</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Sustaining Area</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal Capacity</td>
<td>Fiscal partnering, planning, fund raising, leveraging support</td>
</tr>
<tr>
<td>Community and Political Support</td>
<td>Building community awareness and political support</td>
</tr>
<tr>
<td>Communications</td>
<td>Information sharing, policy advocacy</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Program evaluation, monitoring, and quality improvement</td>
</tr>
</tbody>
</table>
Planning and collaboration activities were a primary focus during years 1 and 2, mostly ended by year 3, except for those activities related to MIECHV.

- By year 4, planning activities decreased substantially, while collaboration activities were ongoing.

All subcontractors engaged in building implementation infrastructure throughout the initiative, with activity highest in year 3.

- In year 4, activities were focused on improving service delivery, addressing challenges, and providing supplemental trainings to home visitors.
Building Infrastructure Capacity in the Sustaining Area

• Subcontractors accelerated their activities in the sustaining area in year 3 to address the possible disruption in EBHV funds and in response to MIECHV
  – By year 4, activity in the sustaining area was lower than in year 3, except for activities related to evaluation
• Partners and subcontractors reported being most involved in building foundation infrastructure
• Partners and subcontractors reported the greatest progress in implementing home visiting programs with fidelity
• On average, partners and subcontractors rated quality of collaboration as high
Infrastructure-Building and Contextual Factors Influence Goal Attainment

• Involvement in building sustaining infrastructure significantly related to partners’ perceptions of whether EBHV goals were achieved
• Subcontractors’ and partners’ reports of the quality of collaboration were significantly associated with achieving EBHV goals
Infrastructure-Building and Goal Attainment: Implications

- Stakeholders have to be flexible in the timing and approach to conducting infrastructure-building activities
- Maintaining positive relationships among partners might be an important factor in the ability of initiatives to achieve their goals
- Program leadership, funders, and other partners might not have an accurate picture of the strengths and weaknesses of implementation
Key Findings and Recommendations for Future Research
Main Findings

- **Fidelity**: IAs, regardless of the model being implemented, struggled to achieve structural fidelity standards.
- **Cost**: Costs per family averaged $6,583, but varied widely by model and across agencies within models.
- **Infrastructure-Building**: Although subcontractors’ strategies stayed consistent across the initiative, the order in which they carried them out deviated from initial expectations.
- **Goal Attainment**: According to partners’ perceptions, building sustaining infrastructure and the quality of collaboration among partners were key factors in the extent to which subcontractors achieved their goals.
Recommendations for Future Research

• Future studies should examine:
  – Implications of varying levels of service delivery on the ability of programs to achieve targeted outcomes with families and children
  – Relationship quality, including the role of relationship quality in take-up and engagement in services
  – Cost-effectiveness and cost-benefits of different levels of service
  – Features of partner collaboration that lead to outcomes for families and children
  – Leadership qualities, including the degree to which administrators create an organizational culture and climate that reduce barriers to implementation
For More Information

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http://www.supportingebhv.org/crossite