#2 The Pew Charitable Trusts' State Home Visiting Promising Practices Brief Series highlights state initiatives that can serve as models for improving the efficiency and efficacy of state home visiting investments in order to expand the availability of high-quality services to more at-risk families. State policy and early childhood leaders can learn more about home visiting best practices by visiting Pew's home visiting Web page at http://www.pewstates.org/homevisiting.

MASSACHUSETTS

Developing Capacity for Data-Driven Home Visiting Programs in Massachusetts

Overview

Dedicated to the prevention of child abuse and neglect, the Massachusetts Children's Trust Fund, or MCTF, offers a variety of resources to help families provide healthy, nurturing homes for their children. For more than a decade, the Trust Fund has promoted high-quality services for the thousands of new and expectant parents participating in the Healthy Families Massachusetts, or HFM, home visiting program. In 2001, MCTF pioneered an innovation in evidence-based home visiting when it began building the data collection and analysis capacity to both monitor the delivery of home visiting services and track whether those services were contributing to healthier, more secure families.

After overcoming a variety of obstacles early on, the Trust Fund developed a comprehensive data strategy that includes both home visiting program data and independent, rigorous evaluation. These efforts serve complementary purposes and inform each other to support service delivery, to facilitate performance and outcome monitoring across sites, to foster quality improvement statewide, and to cultivate political support for home visiting services.

Ideally, home visiting data should be part of a broader framework for monitoring early childhood services and outcomes. Such an integrated approach allows for comparisons among different types of home visiting programs and linkages with other early childhood services, including child care, pre-k education, and primary health care. Common performance measures and data standards encourage a holistic understanding of the multiple social, educational, and medical services that contribute to optimal development in early childhood.

Massachusetts is taking steps to develop this type of integrated early childhood data system, building on the Trust Fund's strong foundation and following a vision of a comprehensive early childhood information system. The state is implementing enhancements to strengthen benchmark reporting by HFM and other home visiting services funded through the federal Maternal, Infant, and Early Childhood Home Visiting program, commonly known as MIECHV.

This case study examines the process that the Trust Fund and Healthy Families Massachusetts went through, the choices they made, and the challenges they encountered. Overall, this study has found that objective performance and outcome data are at the heart of efforts to document and improve the effectiveness of home visiting services. These findings are detailed in the pages that follow, but here is a synopsis:

- Home visiting programs and individual home visitors need timely, accurate data on families served and services provided.
- Performance and outcome data are most valuable when they can be shared across program sites and service models.
- Collection and analysis of performance data should be paired with robust, rigorous independent evaluation to ensure that outcomes are monitored and findings inform program improvement.
- Data collection related to participating families and services should be part of a broader vision for comprehensive early childhood information systems.

The experiences of HFM suggest that dedicated resources and focused attention from program leaders and home visitors are critically important to the development of useful data systems and evaluation efforts. These investments are needed

to support program management and to document and improve child and family outcomes. Understanding HFM's data development efforts can help other states devise and implement robust home visitation data systems that support continuous quality improvement, meet state and federal requirements, and ensure services are delivering real results for children, families, and taxpayers.

Data-driven home visiting: High touch meets high tech

Home visiting programs focus on developing trusting, supportive relationships between visitors and new and expectant families. Ensuring the success of these decidedly "high-touch" services depends on sophisticated, "high-tech" capabilities related to data collection, aggregation, and analysis. Massachusetts continues to refine these efforts. The state's experiences offer lessons to other states striving to collect reliable, relevant data that support program management and quality improvement and that allow policymakers to make data-informed decisions.

In 2010, the availability of new federal MIECHV funding, tied to the adoption of evidence-based and promising home visiting practices, magnified the importance of robust data systems for states. Routine performance monitoring is crucial for assessing whether home visiting services are being delivered as intended and whether anticipated outcomes are being achieved.[1] Ideally, these efforts are based on current, readily accessible, participant-level data that minimize the need for burdensome data collection techniques. Several evidence-based home visiting models—including Healthy Families America, or HFA, which is used by HFM—have long recognized the need to ensure fidelity to the model through ongoing performance monitoring, but the nature and scope of the different models' data reporting systems vary substantially.[2]

Massachusetts officials have established reporting expectations for MIECHV-funded[3] home visiting programs and are working to develop integrated accountability mechanisms and data standards to better monitor performance across multiple home visiting models.[4] The reliability of state-level performance indicators is determined by the quality of the data upon which they are constructed. Broader adoption of electronic data systems, such as those used by Healthy Families Massachusetts, promises to speed the development of accurate, timely, and uniform performance data for home visiting. Efforts to aggregate service-based performance data will be coupled with a formal program evaluation that examines outcomes for participating families using a rigorous methodological design.

HEALTHY FAMILIES MASSACHUSETTS AT A GLANCE

In Massachusetts, home visiting services are available through 21 different programs, four of which use federally approved, evidence-based models (Early Head Start, Healthy Families America, Healthy Steps, and Parents as Teachers). Among programs employing these models, Healthy Families Massachusetts is the largest and the only one operating statewide.[i]

Capacity: Healthy Families serves approximately 3,000 families each year, accounting for roughly 70 percent of total capacity among evidence-based models.[ii]

Eligibility: All first-time parents under the age of 21 are eligible for HFM services, but the program has never received the level of funding necessary to serve all eligible families. The program serves roughly 20 percent of eligible families.[iii]

Populations Targeted: Parent age and first pregnancy are the only formal criteria used to target services. Referral sources, however, focus limited resources on young, high-risk families perceived to be most in need of services.

Organization: The Massachusetts Children's Trust Fund (a public-private partnership created and funded by state statute in 1988 and governed by an independent board) administers Healthy Families statewide through contracts with 15 lead agencies. These contractors (e.g., hospitals, child care centers, and social services agencies) provide home visiting services through 25 program sites. Each site is responsible for a defined geographic area.

Staffing: Home visitors are typically paraprofessionals with prior experience working with young children and their families. They must complete 126 hours of training sponsored by the Trust Fund. Supervisors must have at least a bachelor's degree in human services and must complete training requirements (156 hours), and most participate in regional supervisory support forums on a quarterly basis.[iv]

Financing: Each year the Massachusetts Legislature makes an appropriation to the Trust Fund for the program through a budget line item. State funds are drawn from the general fund, and the state receives federal matching dollars through the Children's Health Insurance Program, or CHIP. Federal rules allow states to spend up to 10 percent of total CHIP expenditures on activities not directly linked to enrollee benefits, including administrative costs, outreach and enrollment, and health services initiatives designed to broadly promote the health of low-income children.[v]

(Continues on page 5)

HEALTHY FAMILIES MASSACHUSETTS AT A GLANCE

(CONT.)

Massachusetts has received federal approval to include costs for HFM services under this health services initiatives category. The federal government awarded the Massachusetts Department of Public Health $9 million in grants in fiscal 2011 and $11 million in fiscal 2012 for home visiting services through the MIECHV program.[vi] Massachusetts is exploring the use of Medicaid financing to support home visiting services in the future.

i Commonwealth of Massachusetts, "Massachusetts Maternal, Infant, Early Childhood Home Visiting Initiative: Competitive Funding Opportunity Annoucement Application for HRSA-11-179 Cfda # 93.505," Executive Office of the U.S. Department of Health and Human Services, 2011, http://www.mass.gov/eohhs/docs/eohhs/healthcare-reform/sec-2951-narrative.pdf.

ii Ibid.

iii Eileen Salinsky interview with Suzin Bartley, MCTF executive director, and Sarita Rogers, assistant director of programs at MCTF, on behalf of The Pew Charitable Trusts, 2011.

iv Ibid.

v See: http://downloads.cms.gov/cmsgov/archived-downloads/SMDL/downloads/sho080698.pdf.

vi U.S. Department of Health and Human Services, "Active Grants for Affordable Care Act (ACA) Maternal, Infant and Early Childhood Home Visiting Program (X02)," http://ersrs.hrsa.gov/ReportServer/Pages/ReportViewer.aspx?/HGDW_Reports/FindGrants/GRANT_FIND&ACTIVITY=X02&rs:Format=HTML4.0; U.S. Department of Health and Human Services, "Active Grants for Affordable Care Act—Maternal, Infant and Early Childhood Home Visiting Program (D89)," http://ersrs.hrsa.gov/ReportServer/Pages/ReportViewer.aspx?/HGDW_Reports/FindGrants/GRANT_FIND&ACTIVITY=D89&rs:Format=HTML4.0.

Envisioning a robust data infrastructure

The Trust Fund began providing Healthy Families services statewide in 1997, with funding from Massachusetts in order to: (a) prevent child abuse and neglect by supporting positive, effective parenting; (b) achieve optimal health, growth, and development in infancy and early childhood; (c) encourage educational attainment, job, and life skills among parents; (d) prevent repeat pregnancies during the teen years; and (e) promote parental health and well-being.

A firm commitment to evidence-based decision-making drove the Trust Fund's stewardship since the program's inception. "The threshold decision to launch a home visiting program based on the Healthy Families model was informed by a very deliberate and thorough review of the research available at the time," recalls MCTF Executive Director Suzin Bartley. "Massachusetts chose to implement a home visiting model that had been tested and was proven to be effective. But we felt we had to take it a step or two further. We wanted to develop our own evidence base in order to answer some very fundamental

questions: Are services being delivered as designed? Are families actually achieving the outcomes we expect? And are there ways we can improve what we're doing to support these young families?"

Efforts to build this evidence base focused largely on early and ongoing investments in two interrelated data resources:

- The participant data system, or PDS, an electronic, Web-based system for managing and storing family service records.
- Independent program evaluations conducted by the Eliot-Pearson Department of Child Development and the Department of Urban and Environmental Policy and Planning at Tufts University.

Routine analyses of PDS data and findings from the Tufts evaluations inform each other and directly affect home visiting management and implementation.

While embracing an ambitious approach to performance monitoring, the Trust Fund wanted to ensure that the data development strategy would not distract home visitors from their primary responsibility—serving families. To promote efficiency, state-level program administrators carefully considered their own data needs relative to those of other users, such as home visitors, supervisors, program site coordinators, HFA accreditors, and policymakers. Sarita Rogers, the Trust Fund's assistant director of programs, notes, "Data is very valuable if it's being used. You can't collect everything you might want. We have to set some priorities, and then we try hard to figure out the most efficient way to get that information. Not that everything has always gone smoothly; we learned a lot of lessons the hard way."

Building a data system from the ground up

Developing a strong data infrastructure requires patience as well as a willingness to make midcourse corrections. When Healthy Families Massachusetts first launched, data collection efforts were fraught with problems. Each site maintained its own stand-alone database of family records, data entry was cumbersome, and software errors resulted in substantial data losses. These technical deficiencies undermined program management, frustrated home visitors, and caused long delays for the Tufts University team charged with evaluating the program.

The Trust Fund's leadership believed the long-term viability of the home visiting program depended on robust data that could provide meaningful accountability, and they also understood that creating a new, more functional system would require significant resources. They developed PDS in 2001 with an initial investment of $300,000 and average annual operating costs of roughly $50,000 to support software upgrades.

Administrators also recognized that the new data system had to be designed around the needs and priorities of the end users: the home visitors. If the system was neither easy for home visitors to use nor clearly relevant to their work, data quality would suffer. With that in mind, MCTF Executive Director Bartley stressed actively engaging home visitors and other program staff. "We enlisted our providers in a think tank that advised the technical experts. That input was essential for developing a user-friendly system that would be seen as a value-added tool, not an administrative burden," she says.

The participant data system is, first and foremost, an information management tool for home visitors that facilitates delivery of services to parents and children. It stores key data on family characteristics, the services families receive, and the progress made toward their individualized goals. Home visitors access the system to plan upcoming home visits, and supervisors use it to monitor caseloads and conduct case reviews. While most of each family's service record is stored within PDS, some information is captured only on paper forms. In the future, the Trust Fund plans to provide home visitors with mobile technology, including tablets and laptop computers that will enable them to capture all service data electronically and in real time.

Using service data to improve model fidelity and program performance

In addition to supporting service delivery, the data system helps the Trust Fund monitor the performance of program sites across the state to ensure they are adhering to proven Healthy Families practices. This complements the formal program evaluations conducted by Tufts University. "A randomized, controlled research study is needed to establish solid evidence for program impact," notes Jessica Goldberg, project director for the Tufts evaluation, "but the PDS is well equipped to identify whether families are getting the services they are supposed to be receiving."

The Trust Fund's administrators mine PDS data to assess the compliance of program sites with HFM standards, to inform technical assistance priorities, to identify high performers to lead peer-learning activities, and to prepare for accreditation

by Healthy Families America.[5] They also develop detailed annual reports for each site, that synthesize data for 27 performance indicators. While these include a limited number of child and family outcome measures (e.g., access to health care services, educational attainment, and avoidance of repeat pregnancies), the annual reports largely focus on gauging fidelity to the HFA model. (See sidebar on page 9 for a full list of indicators used in annual performance reports.)

Site coordinators use the annual reports to compare their performance to program goals. They also compare their performance to the average at all sites, as well as sites that perform particularly well and particularly poorly. The reports summarize longitudinal trends and highlight areas where a site improved. Quarterly reports supplement the annual assessments, with emphasis on high-priority goals, including decreasing the time between initial referrals and first visits and increasing completion rates.

The reports allow Trust Fund administrators to assess whether sites are fulfilling their contractual obligations and to analyze performance across all sites to identify priorities for improving program quality. But these reports primarily serve as catalysts for identifying quality improvement opportunities. Site coordinators analyze their own data and develop improvement plans based on the findings. In addition to the annual and quarterly reports, enhancements are underway that will allow near real-time performance tracking.

Evaluating outcomes

To ensure accountability and establish a scientific basis for improving quality, the Trust Fund determined that routine performance monitoring needed to be paired with a formal, independent program evaluation. Such studies, conducted by objective third parties who possess subject matter and methodological expertise, bring a high level of credibility and scientific rigor to performance assessments. Well-designed evaluations collect data on family characteristics and outcomes that may be difficult to gather through the routine interactions of the home visit, including validated measures of parenting attitudes and substantiated reports of abuse and neglect. Also, research studies can examine nuanced factors related to participants, community context, and home visiting practices that may influence observed outcomes.

Building an Effective Evaluation

Using a competitive selection process, the Trust Fund chose the in-state academic institution Tufts to conduct the Healthy Families Massachusetts evaluation in 1998, shortly after the program launched. Tufts crafted an evaluation design that would build on rather than duplicate HFM's routine data collection activities.

HEALTHY FAMILIES MASSACHUSETTS PERFORMANCE INDICATORS

The participant data system tracks the following 27 home visiting performance indicators, including data on fidelity to the Healthy Families America model and key family outcome measures:

1. Percent of children with a primary care provider.
2. Percent of children fully immunized by age 2.
3. Percent of participants with a primary care provider.
4. Percent of participants who have not completed high school and are enrolled in school or GED programs.
5. Percent of participants that have completed high school or GED programs who are enrolled in higher education, job training, or other training.
6. Percent of participants that have no subsequent births during their involvement in the program.
7. Program receives referrals for eligible parents from each city and town within the catchment area.
8. Program receives referrals for parents during their prenatal period.
9. Program makes first contact with new participants either prenatally or within two weeks of birth.
10. Program makes first contact with new participants, on average, within 10 days of the referral.
11. Program completes a first home visit with new participants, on average, within 20 days of referral.
12. Percent of eligible parents referred to the HFM program who accept services.
13. Participants receive weekly home visits for at least six months following the birth of their babies.*
14. Program provides intensive home visiting services with a minimum average of 18 visits per participant.*
15. Participants receive 75 percent of their visits according to their service level.*
16. Program provides home visits to participants with each participant receiving at least one home visit.*
17. Participants have an active individualized family support plan initiated within the last six months.
18. Program administers the ages and stages questionnaire, or ASQ, according to questionnaire guidelines.*

(Continues on page 10)

HEALTHY FAMILIES MASSACHUSETTS PERFORMANCE INDICATORS

CONTINUED

19. Participants receive at least one visit annually with both parents present.
20. Program provides group services, including a parent support group series, a parent-child interaction group, and a social activity group.
21. Participants receive long-term services with a minimum average of 18 months of service at discharge.*
22. Program meets capacity expectation for the number of families serviced.
23. Program supervisors provide home visitors with weekly supervision lasting 1.5 hours.*
24. HFM program abides by all policies as defined in the HFM policies and procedures manual.
25. HFM program submits all billing by the 10th of each month.
26. HFM program submits monthly service delivery reports by the 10th of each month.
27. HFM program participates in all required evaluation activities sponsored by HFM.

**Signifies measures that relate to sentinel standards established by Healthy Families America for practices especially significant in evaluating program quality*

The university relies primarily on PDS data[6] to document the nature, frequency, and duration of services families receive but goes further, gathering additional information through primary data collection activities (e.g., participant interviews based on standardized, validated instruments) and analyzing administrative data sets (e.g., child maltreatment reports substantiated by the Massachusetts Department of Social Services). Data assembled expressly for the evaluation offer a more complete picture of families and their outcomes, including what happens to participants after they leave the program. But unlike PDS data, only a limited sample of program families is subject to these supplemental collection activities.

Just as the data system has evolved, so too has Tufts' evaluation efforts. The first phase of the evaluation was conducted between 1998 and 2005 using a quasi-experimental design. It found that program families:

- Expressed high levels of satisfaction with and perceived benefits from home visiting services.
- Showed improvements over time, particularly more positive parenting attitudes, increased knowledge

of child development, decreased levels of stress, increased levels of informal social support, and less frequent reports of health risk behaviors, such as drinking alcohol and carrying weapons.

- Achieved better educational and economic outcomes, healthier child development, and lower incidence of child abuse and neglect relative to state and national norms for teen mothers.[7]

While promising, these findings could not establish a causal link between home visiting services and the outcomes observed due to limitations of the study design. Because program participants were not randomly selected, some other meaningful differences between study participants and nonparticipants, rather than program interventions, could have led to the positive outcomes.

The Trust Fund wanted more definitive proof that Healthy Families Massachusetts was making a difference and contracted with Tufts to conduct a second phase of the evaluation (2008-2013). Currently, program impact is being assessed through a randomized control trial in order to determine:

- Are program participants more likely to achieve the outcomes identified by Healthy Families Massachusetts goals?
- Do maternal characteristics (e.g., depression, history of abuse) predict program participation and influence outcomes?
- Does model fidelity or community context influence outcomes?

Using Evaluation Data to Identify Program Improvement Opportunities

The Tufts evaluation also explored how participant characteristics (e.g., maternal depression, mother's own history of abuse) and community context (e.g., poverty, neighborhood safety) influence program effectiveness. These analyses are playing an important role in validating and quantifying the participant needs identified by home visitors. For example, anecdotal reports from program coordinators suggested that maternal depression was a significant concern for participants. Home visitors assess mothers' mental health status using the Center for Epidemiologic Studies Depression Scale, but historically these scores were not incorporated into PDS in order to limit home visitors' data entry burdens and to prioritize identification of appropriate interventions. MCTF, therefore, could not rely on PDS for a programwide aggregate analysis of maternal depression rates. The Tufts evaluation, however, was designed to examine the prevalence and implications of maternal depression among participants.

PHASE II—CHILD ABUSE AND NEGLECT: PRELIMINARY FINDINGS AND CHALLENGES

The Phase II study was not yet complete at press time. But preliminary findings illustrate the necessity of randomized controlled trials for evaluating program effectiveness and highlight the challenges inherent in monitoring outcomes, particularly those related to child abuse and neglect.

Consistent with findings from Phase I, the Phase II study demonstrates that HFM is effective in reducing parenting stress. In contrast to the encouraging results regarding reduced child abuse and neglect that emerged from the Phase I study, however, Phase II found no significant difference in the incidence of child maltreatment between program participants and the control group.

The evaluators note that maltreatment rates are problematic indicators of home visiting effectiveness, in part, because of the increased level of scrutiny faced by program families. Regular interaction with home visitors may itself increase the likelihood that abuse or neglect will be reported. This "surveillance bias" may obscure any positive program impact on study group families as compared to the control group, which is not subject to the same degree of observation. That is, the actual frequency of child maltreatment among study participants could be lower than that of the control group, but because the rate of reporting is higher, these differences are not accurately reflected in administrative records.

The Phase I study found high levels of maternal depression among mothers in the program (45 percent at the conclusion of the study period[8]). Although the rate did decrease slightly during the study period, the declines were not statistically significant. Consistent with other home visiting research studies, Phase I revealed that maternal depression was associated with a history of maltreatment in the mother's own childhood, less optimal parenting skills on her part, less supportive social networks, and higher rates of maltreatment among the mother's children.[9] The Phase II study confirmed the high prevalence of maternal depression and further determined that maternal depression weakens the program's ability to reduce parenting stress and child maltreatment.[10]

After the Phase I findings were released, the Trust Fund began exploring options for improving Healthy Families' capacity to address mothers' mental health needs. The Trust Fund conducted an informal survey of program sites to explore barriers to intervention and found that, even when appropriate referral resources could be identified, mothers often failed to access these services due to distance, lack of child care, and inability to find a therapist

who could speak their language, among other factors. With support from the federal MIECHV grant, Healthy Families Massachusetts and other evidence-based home visiting programs in the state are offering a cognitive behavioral therapy intervention, Moving Beyond Depression, or MBD, that provides 15 weekly, in-home therapy visits by a social worker to parents identified as suffering from or at risk for major depression. The social worker and home visitor work as a team, with co-visits at the beginning and end of the therapy cycle. HFA approved the use of Moving Beyond Depression and is in the process of developing best practices for programs that choose to employ this intervention.

Evidence supports the effectiveness of MBD,[11] and Massachusetts is planning its own evaluation of this intervention to ensure fidelity. Healthy Families Massachusetts is also working to incorporate the depression scale scores into the participant data system so performance benchmarks related to maternal depression can be measured programwide. Preliminary findings from the Phase II evaluation underscore the need for and potential utility of these investments and establish a baseline for evaluating the behavioral therapy intervention.

As this example demonstrates, the Trust Fund has taken steps to ensure that evaluation and the collection of routine performance data are reciprocal, cooperative efforts that improve program performance and outcomes. The program views home visitors and Tufts evaluators as part of an integrated team and builds on their differing strengths to inform performance and outcome monitoring. Ongoing communication among evaluators, management, and program staff streamlines data collection and enhances information sharing.

Informing policymakers

Investments in data infrastructure helped Healthy Families Massachusetts survive repeated budget crises in the state over the past decade. For example, in the middle of fiscal 2003 with the state facing a $650 million budget deficit,[12] the governor sought to eliminate the program's remaining funding through special executive powers permitted during fiscal emergencies. Facing a full suspension of operations

with little time to transition families and dim hope of recovering in the next budget cycle, local sites quickly mobilized a vigorous advocacy campaign to save HFM. Personal testimonials from participating parents coupled with strong empirical evidence on the quality and reach of the home visiting services persuaded state legislators to intervene. Just weeks after the governor's cuts were announced, the Legislature enacted supplemental appropriations that restored funding to Healthy Families Massachusetts and a handful of other high-priority programs.

While several factors contributed to this success story, the availability of objective data played a pivotal role in the policy debate. The Trust Fund drew evidence from multiple sources to make the case that the program was both effective and needed by young families in Massachusetts. Existing research regarding the effectiveness of the Healthy Families America model, together with PDS data documenting the program's fidelity to that evidence-based approach, helped policymakers see that the program was actually making a meaningful difference for struggling families. Positive preliminary findings from Tufts' evaluation provided additional, homegrown evidence that the state's investments were yielding measurable results.

In addition to establishing that HFM "works," data also helped convince legislators that the need for services was widespread and that their own constituents would suffer if the program were eliminated. Information from the data system combined with vital statistics analyzed by the Tufts team demonstrated that, even at peak funding levels, the program was reaching only a fraction of the total population that could benefit from its services. These estimates of Healthy Families Massachusetts penetration were developed at the district level to show legislators that home visiting was needed throughout the state and that the level of unmet need was overwhelming in some communities. This data-rich evidence, together with proactive, grassroots advocacy, rallied broad political support to continue the program.

These early experiences reinforced the Trust Fund's commitment to developing the data infrastructure and encouraged ongoing efforts to strengthen and refine monitoring capabilities. Trust Fund officials believe that support for HFM among state legislators is critically linked to the program's willingness to assess its own effectiveness. Rigorous program evaluations are important for building credibility among elected officials and ensuring public accountability.

Integrating federal resources

Massachusetts leveraged federal MIECHV grant funds to increase service capacity, to promote collaborative improvements in home visiting practices, and to advance development of the state's data capabilities.

The Massachusetts Department of Public Health led the state's planning efforts and worked with an interagency body known as the MIECHV Home Visiting Task Force to identify the highest-need communities. Input from local stakeholders was sought to determine how federal funds could best strengthen services in target neighborhoods. Using these strategies, the state awarded the federal funds (formula-based allocation and competitive grant dollars) to expand HFM services in 17 high-risk communities, as well as other evidenced-based models, including Early Head Start, Healthy Steps, and Parents as Teachers, in five of these sites.

Federal funds are also helping the Trust Fund invest in data system refinements that improve Healthy Families Massachusetts' ability to aggregate and monitor participant outcomes. Some changes to the program's home visiting and data management practices will be necessary to conform to newly established state standards for risk assessment and data collection. For example, in order to promote a comprehensive and consistent approach to screening for substance abuse and tobacco use, all MIECHV-funded programs are implementing a new assessment protocol based on the Screening, Brief Intervention, and Referral to Treatment tool. HFM has adapted its data system to ensure alignment with this protocol.

To facilitate consistent, efficient reporting of MIECHV data across models, PDS is being made available to all Massachusetts federally funded home visiting programs through an interagency agreement. While non-HFM programs are not required to use the Trust Fund's system to record service delivery data, PDS is providing a customizable resource to programs that lack an existing data infrastructure capable of tracking benchmark indicators. In addition, the Trust Fund is offering training and technical assistance to programs that choose to use the data system. Other planned enhancements, including security-encrypted laptop computers or tablets to allow home visitors to enter data while in the field, will further strengthen data management capabilities at all MIECHV-funded sites.

These federally funded efforts to integrate home visiting data in Massachusetts also reflect the state's broader vision for a fully integrated early childhood information system. In 2009, Massachusetts began a multiyear planning process to develop a data system that could broadly monitor the health and well-being of all young children in the state. Plans call for a comprehensive information system that can support real-time data sharing among agencies serving children, including linkages with elementary and secondary schools.

The proposed information system will include a unique identifier for each child; the ability to access child-level data on demographics, program participation, and developmental outcomes; and the ability to link these data to information regarding the early care and education workforce and other programmatic characteristics. As early childhood education officials have stressed in their plans for the integrated data system, the design and scope of collection and sharing efforts must be child-centered and allow for linkages across time and service settings in order to support long-term assessment of family outcomes.

Key takeaways and resources

Home visiting policy leaders across the country are grappling with the development of data standards and collection systems that can inform decision-making at the local, state, and national levels. While data collection procedures in Massachusetts continue to evolve and progress, the state's efforts offer a number of salient lessons to other jurisdictions seeking to improve their data and analytic capacity:

- Home visiting programs and individual home visitors need timely, accurate data on families served and services provided to ensure models are implemented as intended, to identify quality improvement opportunities, to track child and family outcomes, to establish program impact, to demonstrate value to policymakers, and to strengthen results for children, families, and taxpayers.
- Developing a flexible information system that can support decision-making for multiple users requires substantial commitments of time, energy, and financial resources.
- Performance data are most valuable when they can be shared across program sites and models. Comparable measures encourage cross-program collaboration, peer learning, and the adoption of shared standards and goals.
- Supplementing the routine, universal collection of service delivery data with a targeted, sample-based evaluation by an outside entity may be optimal for ensuring comprehensive monitoring. Different data collection strategies offer different strengths and limitations in terms of efficiency, timeliness, cost, and analytical value.
- MIECHV benchmark reporting has accelerated the development of a common set of performance and outcome measures for the field of home visiting. The U.S. Department of Health and Human Services

has provided technical assistance resources to guide states in the selection of data indicators, collection methods, and instruments. States such as Massachusetts are convening home visitors from diverse models to develop integrated, consistent approaches to benchmark reporting.

- Data collection related to home visiting participants and services should be conceptualized within a broader vision for comprehensive early childhood information systems, allowing for data sharing across multiple agencies serving children and data linkages among multiple child-based datasets.
- Policymakers should encourage home visiting programs to invest in robust data infrastructure to ensure their effectiveness, accountability, and coordination across all state early childhood services.

Conclusion

Objective performance and outcome data are the lifeblood of efforts to document and improve the effectiveness of home visiting services. The routine collection and analysis of meaningful performance measures require a flexible and robust infrastructure that can support the information needs of multiple users. Further, independent evaluation that builds upon regular data collection and analysis is important for documenting child and family outcomes, accurately attributing results to home visiting programs, and identifying new service delivery strategies to better address the diverse needs and characteristics of participating families. The experiences of HFM suggest that dedicated resources and focused attention from program leaders and practitioners are critical for developing the capacities needed to support data-driven decision-making.

Endnotes

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2 Deborah Daro, "Replicating Evidence-Based Home Visiting Models: A Framework for Assessing Fidelity," *Supporting Evidence-Based Home Visiting to Prevent Child Maltreatment* brief 3 (December 2010).

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4 The Pew Charitable Trusts, "Policy Framework to Strenghten Home Visiting Programs," 2011, http://www.pewstates.org/uploadedFiles/PCS_Assets/2011/Home_Visiting_model_policy_framework.pdf.

5 For accreditation information, see: Healthy Families America, "Affiliation and Benefits," PCA America, 2012,. http://www.healthyfamiliesamerica.org/network_resources/credentialing.shtml.

6 Deficiencies in Healthy Family Massachusetts' original data system were first identified by Tufts evaluators who discovered significant amounts of data were missing from the service records of participants chosen for the evaluation study sample. At the time, home visitors were relying on paper records to support service delivery and were not aware that entries into the early database were not being accurately captured and archived.

7 Francine Jacobs et al., *Healthy Families Massachusetts Final Evaluation Report* (Medford, MA: Tufts University, 2005).

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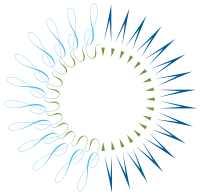

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