MARYLAND COMPETITIVE MIECHV EVALUATION PLAN
ADDITIONAL DETAIL ON METHODS

I. Purpose of this Document

This document responds to the funder's request for additional detail on the evaluation plan for Maryland's MIECHV Program Expansion Project. We include two attachments as context.

- Attachment 1 – excerpts from Maryland's original application; and
- Attachment 2 – the updated evaluation plan that we submitted in November 2013.

As described in our original application and discussed in our phone meeting with funders on April 18, 2014, we are designing the evaluation in partnership with stakeholders as the project unfolds. This document reflects decisions made using information gathered via 1) consultation with stakeholders in a day long statewide meeting for Maryland's MIECHV Program on April 24, 2014; 2) discussions with our State lead agency; and 3) review of administrative records.

In this document, we begin by identifying local home visiting program sites in Maryland. Then we explain how rigorous, experimental testing of innovations to improve service quality and effectiveness fits into our overall plan. We conclude by describing specific evaluation methods.

II. Evidence-based Home Visiting Programs in Maryland

There are 75 local home visiting sites using evidence-based models in Maryland (Figure 1).

Figure 1. Evidence-Based Home Visiting Programs in Maryland Jurisdictions
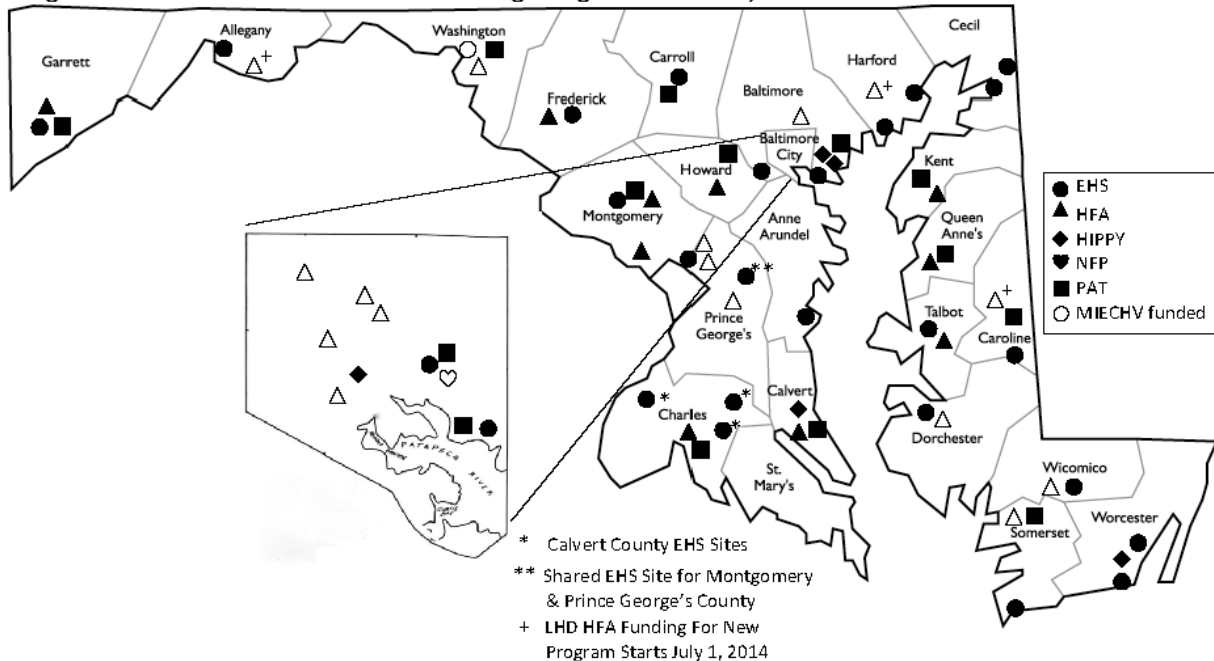
Twenty-two of Maryland's 23 local jurisdictions have at least one local program using an evidence-based model of home visiting (Table 1). About two-thirds of Maryland's local programs use either the Early Head Start or the Healthy Families America model. Of these 75

local programs, eighteen receive MIECHV Program funding for expansion of slots (Table 1). Sixteen of these local programs use the Healthy Families America model, one uses the Early Head Start model and one uses the Nurse Family Partnership model.

Table 1. Local Home Visiting Sites by Jurisdiction, Model, and MIECHV Program Funding Status

Jurisdiction	All Sites						All Sites with MIECHV Program Funding					
	EHS	HFA	HIPPY	NFP	PAT	Total	EHS	HFA	HIPPY	NFP	PAT	Total
Alleghany	1	1				2		1*				1
Anne Arundel	1					1						
Baltimore	2	1	2		1	6		1				1
Baltimore City	2	5	1	1	2	11		5		1		6
Calvert	3	1	1		1	6						
Caroline	1	1			1	3		1*				1
Carroll	1				1	2						
Cecil	2					2						
Charles		1			1	2						
Dorchester	1	1				2		1				1
Frederick	1	1				2						
Garrett	1	1			1	3						
Harford	2	1				3		1*				1
Howard		1			1	2						
Kent		1			1	2						
Montgomery	3	2			1	6						
Prince George's	1	3				4		3				3
Queen Anne's		2			1	3						
St. Mary's												
Somerset	1	1			1	3		1				1
Talbot	1	1				2						
Washington	1	1			1	3	1	1				2
Wicomico	1	1				2		1				1
Worcester	2		1			3						
Total	28	27	5	1	14	75	1	16		1		18

* LDA HFA Funding for New Program Starts July 1, 2014

III. How Rigorous, Experimental Testing of Innovations Fits into Our Evaluation Plan

Maryland's project has two goals (Table 2). Stakeholders will implement a range of innovations to achieve these goals. Innovations will be designed to align with State policy and to extend beyond sites with MIECHV Program funding.

Table 2. Maryland MIECHV Program Goals

Goal 1:	To improve home visiting accessibility, reach, and family engagement
Goal 2:	To improve home visiting service quality, coordination and effectiveness in preventing intended outcomes, with a focus on promoting: a) parenting behaviors to prevent infant mortality; b) good mental health: and c) parenting to foster children's school readiness.

The specific innovations will aim to change provider and family behavior by strengthening home visiting service models and implementation systems in ways that are concordant with multi-level theories of behavior. We will use a range of multi-level evaluation designs, ranging from pre/post designs to time series designs to randomized trials, to test innovation impacts and the pathways to them. The next two sections give more detail on this.

A.   Basic Evaluation Design

Our basic evaluation design is pre/post or time series analysis. We will measure current practice and its determinants to guide development of service model and implementation system innovations. We will measure changes in practice after introducing innovations (Table 3).

Table 3. Aspects of Evaluation Applicable to All Outcomes for Both Project Goals

Home Visiting Practices Evaluated	Aspect of Evaluation	Purpose
❖ Family identification and recruitment practices ❖ Family engagement in home visiting ❖ Quality of home visitor – family interactions in visits ❖ Referral to and coordination with needed services to achieve Goal 2 outcomes	Baseline Assessment	❖ To describe sites' current practice ❖ To compare current practice with performance standards ❖ To identify malleable system-, organization- and individual-level determinants of current practice ❖ With stakeholders, to design innovation(s) to improve practice by strengthening home visiting infrastructure; design methods to test results; and commit to policy and practice actions to be taken in response to results
	Post-Innovation Assessment	❖ To assess changes in practice following take up of innovations

B.   Experimental Testing of Innovations

For selected innovations to improve service delivery and effectiveness, we will use an experimental design. We expect that innovations will take different forms. The Training Institute is a key part of Maryland's MIECHV Program infrastructure development, but it is not the only part. The State is building a management information system, is advancing in the use of administrative data, and is supporting partnerships of home visiting and health care.

At this point, before specific innovations have been designed, we cannot specify all that will be tested experimentally. However, we do know that we will experimentally test the impact of home visitor professional development and support to improve, maintain and use skills in family-centered communication and in motivating parents for behavior change.

Section IV describes our basic approach to evaluation. **Section V** describes our approach to experimental evaluation of the Training Institute's communication skills training program.

IV. Basic Approach to Evaluation

Maryland's MIECHV Program integrates evaluation with the design, testing and scale up of innovations to achieve its two goals. These innovations are of three main types: introduction

of a management information system, professional development of providers, and systems interventions to overcome barriers to coordination.

a.   Role of Evaluation in Innovation Design

We are now gathering data to assess current practice and the determinants of current practice in sites across the state with regard to family recruitment, service delivery and service coordination. For all three areas – family recruitment, service delivery, and service coordination – we are using the framework to conceptualize inputs, outputs and outcomes. We focus on different parts of the framework for each goal. **Figure 2** shows in regular font the constructs we focus on in describing and explaining current family identification and recruitment practices**.**

Figure 2. Conceptual Framework for Home Visiting Family Recruitment[1]
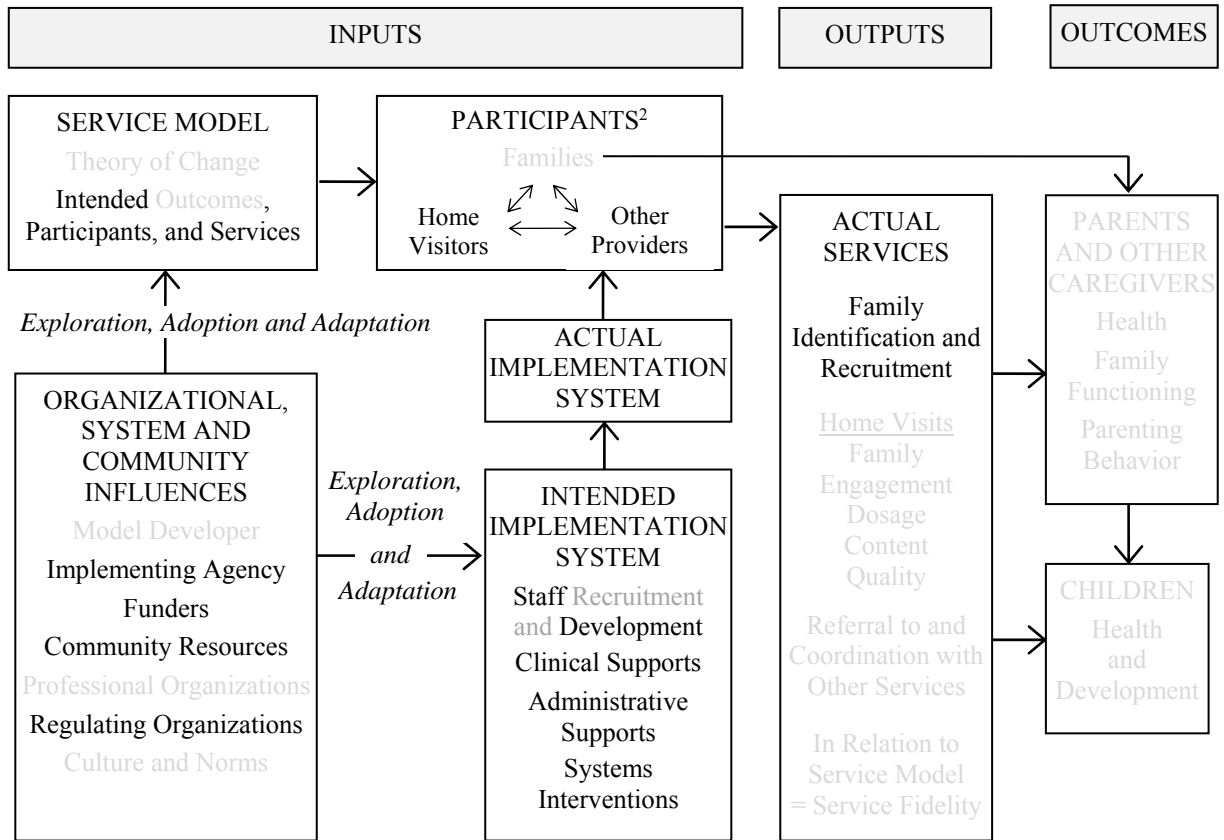
[1] Constructs in regular font are measured in evaluating Goal 1. [2]The characteristics of families and providers predispose, enable and reinforce their behavior as home visiting participants. The characteristics of these participants interact as factors for their behavior. These characteristics include: demographics; psychosocial well-being; cognitive capacity; and attitudes, perceived norms, personal agency, knowledge, and skills, especially as these relate to participation in home visiting. The baseline characteristics of families also

Data collection via review of program record reviews, staff surveys, and key informant interviews will continue through October 2014. We are using and adapting instruments from the MIHOPE evaluation and from our work in New Jersey. **Tables 4 and 5** give examples of the constructs measured and the data sources used.

Table 4. Measurement of Family Recruitment Performance Standards and Actual Performance

Family Recruitment and Retention Service Model and Output Indicators	Data Source		
	Review of Program Records	Interviews with State Leads	Interviews with Site Managers
Service Model			
Intended Recipients			
Eligibility criteria	X	X	X
Number of available slots	X	X	X
Intended Services			
Intended 6-Month Retention Rate	X	X	X
Outputs			
Family Recruitment			
Overall			
Number of families referred to home visiting	X		
Percent of referred families determined to be eligible	X		
Percent of eligible families offered enrollment	X		
Percent of invited families choosing to enroll	X		
Percent of available slots filled	X		
Each Priority Population Subgroup			
Same indicators as for Overall	X		
Family Retention at 6 Months			
Percent of families still enrolled	X		
Percent of families leaving by reason (choice vs. necessity)	X		

Table 5. Measurement of System- and Organization-Level Implementation System Indicators

Family Recruitment and Retention System- and Organization-Level Implementation System Indicators	Review of Program Records	Interviews with Site Managers	Interviews with Contacts at Referral Sources.
Staff Development			
Policies and procedures for staff training in recruitment procedures			
Defined competencies	X	X	X
Training methods	X	X	X
Evaluation methods	X	X	X
Actual training completed by recruitment staff	X	X	X
Policies and procedures for staff supervision in family recruitment	X	X	X
Actual supervision provided to recruitment staff	X	X	X
Perceived strengths and weaknesses of the above		X	X
Clinical Supports			
Scripts for introducing program	X	X	X
Screening and assessment tools	X	X	X
Perceived strengths and weaknesses of the above		X	X
Administrative Supports			
Policies, procedures, technologies for within site coordination	X	X	X
Program monitoring/feedback on recruitment performance	X	X	X
Perceived strengths and weaknesses of the above		X	X
System Interventions			
Understanding of home visiting program service model			X
Policies, procedures, technologies for cross-site coordination	X	X	X
Perceived strengths and weaknesses of the above		X	X

b.   Role of Evaluation in Testing Innovations

In the fall and winter, we will share results with Maryland's home visiting stakeholders and work with them in designing innovations. Innovation development has already begun in one area – professional development to improve home visitors' skills in addressing sensitive matters and in motivating parents to change behaviors.

Appropriate designs to test the impact of innovations depend on the nature of the innovation, how it is launched, and expected impacts on service delivery and outcomes. We cannot specify these at this time, except for the area of professional development of home visitors with regard to communication skills.

Our basic approach will be to compare indicators of service delivery before and after introducing innovations. As possible, we will stagger the introduction of innovations across local sites to reduce the influence of seasonality or other temporal confounders on pre/post changes in service delivery.

c.   Role of Evaluation in Taking Successful Innovations to Scale

Maryland is fortunate to have 75 different local home visiting programs using five different evidence-based models. It provides an ideal environment to test dissemination strategies to hasten the adoption of successful innovations. However, it is beyond the scope of this project to test different strategies of scale up. We will explore the possibility of additional extramural funding for this type of evaluative research within Maryland and in partnership with similar states and with the national Home Visiting Research Network.

V. Experimental Evaluation of Training to Improve Home Visitor Communication Skills

A. Background

Home visiting service delivery has many aspects, such as dosage, adherence, participant responsiveness and service quality. Service quality is an important predictor of impacts on outcomes and is intimately tied to participant responsiveness. Evidence-based models of home visiting stress the importance of the home visitor – parent relationship. Their theoretical underpinnings are concordant with what are considered the hallmarks of effective practice – family-centered, strengths-based services that empower families to address concerns and achieve outcomes that are important to them.

Management information systems are an excellent data source for measuring aspects of service delivery such as dosage and performance of specific tasks. They are not useful for assessing the *quality of social interactions* in visits. For this, observational measures are needed, using either direct observation of visits or of video- or audio-recorded visits.

Our research in New Jersey shows that home visitors vary enormously in self-ratings of their skill and efficacy in challenging situations in carrying out specific tasks, such as recognizing and responding to poor mental health, substance use, possible developmental delay and other sensitive issues. Their self-rated skill in information gathering, education, support, and referral is associated with their actual practice behavior, as indicated by whether they discuss sensitive issues and whether they make referrals to address these.

The Training Institute's survey of participants in the April 2014 Kick Off for Maryland's MIECHV Program verified the importance of improving home visitor training in communication skills (Table 6). There was broad consensus that motivating parents to change was the most challenging aspect of communication. This was notable for psychosocial issues; motivating parents to seek professional resources was cited by over 75% of participants as the most challenging task for home visitors in addressing poor parental mental and substance abuse.

Table 6. Maryland MIECHV Program Kick Off Meeting Participant Ratings of Home Visitor Preparation

How Well Home Visitors Are Prepared to:	Not at All or Slightly	Somewhat	Very or Extremely
Deal with challenging communication issues	19%	59%	22%
Deal with parenting and child development	11%	42%	47%
Deal with promoting health relationships within families	22%	62%	16%
Deal with mental health issues	48%	43%	9%
Deal with substance abuse	37%	51%	12%
Manage cultural differences	30%	43%	27%

A substantial body of research, particularly in medicine, shows that sound training in communication skills can improve the quality of provider-client social interactions and, through this, improve client satisfaction with and engagement in care, adherence to recommendations and improvement in outcomes. Sadly, our research on training for home visitors shows little attention to developing actual communication skill. For example, in our review of 346 different trainings attended by one or more home visitors across 24 local home visiting programs over a one year period in one state, less than 5% of the trainings evaluated trainee skills in role play using explicit performance criteria.

B. Research Questions and Hypotheses

The study answers questions of importance to Maryland and nationally. Some questions will be answered using baseline data; others will be addressed by analyzing baseline data together with follow-up data.

Questions addressed using Baseline Data

1. How do home visitors vary in their communication skills for information gathering, education, support, and referral, particularly as applies to addressing sensitive matters and motivating parental behavior change in the context of a working alliance, shared decision-making and family-centeredness?

2. How are home visitors' communication knowledge, attitudes and psychosocial well-being associated with their communication skills?

3. How do features of local home visiting programs' service models and implementation systems explain variation in home visitors' communication knowledge, attitudes, and skills?

4. How do home visitors' psychosocial well-being and the nature of communication challenges interact in explaining variation in skill in challenging situations?

Questions addressed using Baseline and Immediate Post-Training Follow-Up Data

5. What are the training program's immediate impacts on home visitor communication knowledge, attitudes, and skill?

6. How do home visitors' baseline knowledge, attitudes, skill and psychological well-being moderate impacts on skill?

7. How do impacts on knowledge and attitudes mediate impacts on skill?

Questions addressed using Baseline and Four-Month Post-Training Follow-Up Data

8. What are the training program's longer term impacts on home visitor communication knowledge, attitudes, and skill?

9. How do home visitors' baseline knowledge, attitudes, skill and psychological well-being moderate impacts on skill?

10. What are the training program's impacts on observed social interactions in visits?

11. What are the training program's impacts on home visitors' understanding of families and on family engagement in home visiting?

12. How do impacts on observed social interactions explain variation in home visitors' understanding of families and on family engagement in home visiting?

Hypotheses

We will test hypotheses related to each question and grounded in behavioral theory and our own and others' empirical research.

We hypothesize that at baseline:

H_1 Home visitors will vary substantially in communication skills.

H_2 Their communication skills will be positively associated with knowledge of approaches for and favorable attitudes toward addressing sensitive matters and motivating parental behavior change via a working alliance, shared

decision-making and family-centered practice.

H3   Features of local sites' service models and implementation systems will explain variation in communication knowledge, attitudes and skill.

H4   Home visitors' psychological well-being and the nature of communication challenges explain variation in communication skill in challenging situations in ways that are concordant with theory.

We hypothesize that upon completion of training:

H5   Training group home visitors will have greater knowledge, more favorable attitudes, and greater communication skill than control home visitors.

H6   Group differences at follow-up will be greater among home visitors with the least knowledge, least favorable attitudes, and lowest level of skill at baseline.

H7   Improvements in knowledge and attitudes will mediate improvements in skill.

We hypothesize that at four months after completion of training:

H8   Improvements in knowledge, attitudes and skill will be maintained.

H9   Group differences will continue to be greater among home visitors with the least knowledge, least favorable attitudes, and lowest level of skill at baseline.

H10   Training group home visitors will display greater skill in interacting with families in addressing sensitive matters and motivating parental behavior change in the context of a working alliance, shared decision-making and family-centeredness.

H11   Training group home visitors will have a more accurate understanding of their families and greater family engagement in home visiting.

H12   Training group home visitors' observed skill in interacting with families will explain group differences in their understanding of families and families' engagement in home visiting.
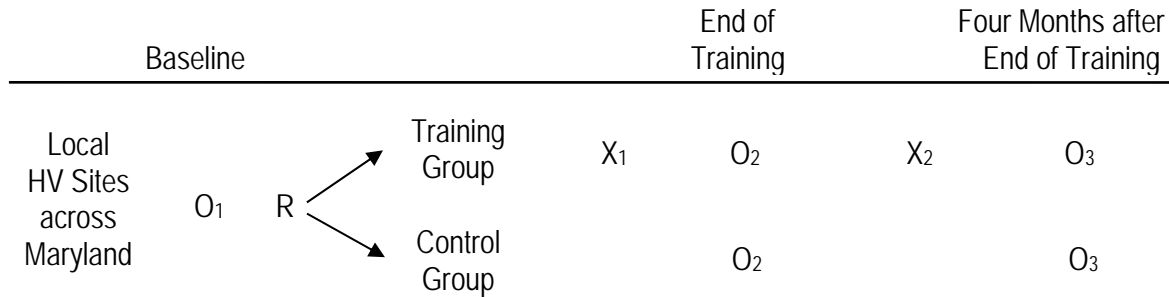
C.   Methods

1.   Design

This comparative effectiveness study is a pragmatic randomized trial of the direct impact of a training innovation to improve home visitor's communication skills for addressing sensitive matters and motivating parental behavior change in the context of a working alliance, shared decision-making, and family-centeredness.

The study uses a cluster randomized design (**Figure 3**). We aim to assess baseline characteristics in as many sites statewide as possible. We will then focus on sites that are willing to take part in the intervention portion of the study. We will stratify sites on baseline characteristics felt to influence program impacts – the existing implementation system for home visitor communication skills and observed levels of skill interacting with standardized mothers in

challenging situations. Within each stratum, we will randomly assign sites to training and control groups. Participant outcomes will be assessed immediately following the training and again four months later.

Figure 3. Study Design

Baseline			End of Training		Four Months after End of Training	
Local HV Sites across Maryland	O_1 R	Training Group	X_1	O_2	X_2	O_3
		Control Group		O_2		O_3

KEY

R	=	Stratification and random assignment of sites to intervention and control groups
O_1	=	Program manager and supervisor surveys to measure organization-level factors for communication skill;
		Home visitor survey to measure individual-level factors for communication skill;
		Observation of home visitors in challenging encounters with standardized mothers to measure communication skill
O_2	=	Home visitor survey to measure individual-level factors for communication skill;
		Observation of home visitors in challenging encounters with standardized mothers to measure communication skill
O_3	=	Home visitor survey to measure individual-level factors for communication skill;
		Observation of home visitors in challenging encounters with standardized mothers to measure communication skill
		Observation of home visits with a sample of families in each participating home visitor's caseload per home visitor to measure actual practice and maternal engagement in visits
		Brief maternal interview to measure engagement in home visiting
		Review of program records to measure family engagement in home visiting
X_1	=	Training of home visitors and supervisors with measurement of fidelity and trainee participation
X_2	=	Training Institute follow through with supervisor in coaching and support of home visitors

2.   Study Setting and Sample

As noted earlier, we will carry out the baseline assessments in as many sites as possible statewide as part of our overall needs assessment for innovations development. Sites will be eligible for the intervention portion of this study if they meet the following criteria: 1) program capacity and leadership commitment to carry out study activities; and 2) willingness of at least one supervisor and the majority of home visitors to take part.

Home Visitor Eligibility: Home visitors will be eligible for the study if they have completed all site and national model trainings required to accrue and follow a caseload of families on their own. Participation in the study is voluntary for home visitors. We will obtain their signed informed consent.

Family Eligibility: We aim to observe social interactions in visits for a sample of families in the caseload of each participating home visitor. The sample will focus on families enrolled in the program 3 to 9 months to minimize variation in length of prior enrollment. Family participation in the study is voluntary. We will obtain signed informed consent from the primary caregiver and other adults present at recorded visits.

Sample Size and Power: We have set sample size to assure a power of 0.80 to detect an effect size of 0.40 with $\alpha_{(2)} = 0.05$ in continuous measures of home visitor skill social interaction (H_{10}) and family engagement (H_{11}) in visits at the four-month follow-up. We expect effect sizes of this magnitude based on empirical research on communication skills training of physicians using the same or similar instruments as those used here.

We will achieve this power with an initial sample of 24 local sites, three home visitors per site and five families per home visitor, assuming an ICC of 0.03 at the site level and 0.05 at the home visitor level. As ICCs increase, effective sample size decreases; we have drawn from our previous research in our assumptions of ICCs.

3. Data Collection Procedures

Table 7 displays the constructs to be measured, instruments, and data sources by timing of data collection. Most data collection procedures are commonly used and straightforward – review of program records and surveys of staff. Two methods are more innovative in the context of home visiting evaluative research.

- One innovative method is our use of standardized mothers – an approach used extensively in health care research and provider training but, to our knowledge, used rarely in home visiting. We will train standardized mothers to exhibit specific challenges identified by stakeholders and addressed explicitly in the training intervention.

- The other innovative method is our use of the Roter Interaction Analysis System to measure the quality of social interaction in encounters with standardized mothers and with mothers in participating home visitors' caseloads. This instrument has been used extensively in research over the past 25 years and has been shown to be reliable, valid, and sensitive to meaningful changes or differences in key aspects of social interaction such as shared decision-making and family-centeredness.

4. Data Analysis

We will test for pre- to post-training differences in outcomes adjusting for baseline measures. We are exploring two approaches – generalized estimating equations and hierarchical linear modeling. The important point is for the analysis to reflect the design's clustering of families within home visitor and home visitor within local site. We will test for moderation and mediation using techniques developed by McKinnon and by Preacher and Hayes.

Table 7. Constructs to be Measured, Instruments, and Data Sources by Timing of Data Collection

Constructs	Instruments	PM, Super. Survey	HV Survey	Video with SM	Video with Mother	Parent Interview	Program Records and MIS
Baseline Program Assessment							
Site's communication competencies	MIHOPE	X					
P&P for staff development re: communication	MIHOPE	X					
Actual trainings re: communication	MIHOPE, NJ	X	X				X
Actual supervision re: communication	MIHOPE, NJ	X	X				X
Baseline Home Visitor Assessment							
Demographics	MIHOPE items		X				
Training and Work Experience	MIHOPE items		X				
Psychological Well-being							
Burnout	Maslach Burnout Scale		X				
Depressive symptoms	CES-D		X				
Relationship security	ASQ		X				
Mindfulness	CAM-R		X				
Communication Style Knowledge	TBD by Training Institute						
Communication Style Attitudes							
Experiential and instrumental attitudes, perceived norms, and personal agency	MIHOPE and NJ items and TBD by Training Institute		X				
Communication Skill							
Skills specific to the training	TBD by Training Institute			X			
Family-centeredness, shared decision-making	RIAS			X			
Communications Training and Support							
Protocol adherence, trainee participation	TBD by Training Institute						
Supervisor reinforcement of training	MIHOPE and NJ items		X				X
Post-Training Outcomes Assessment							
Communication Knowledge, Attitudes, Skill	Same as at baseline			X			
Six-Month Outcomes Assessment							
Communication Knowledge, Attitudes	Same as at baseline			X			
Communication Skill							
Skills specific to training	Same as at baseline			X	X		
Family-centeredness, shared decision-making	Same as at baseline			X	X		
Visitor's understanding of family	Adaptation of Roter items		X			X	
Family Engagement	RIAS, WAI[1]					X	X

[1] Previous research calls into question whether this measure is correlated with observation-based measures of the working alliance. We will explore other self-report options and test the correlation of this measure with observational measures.

Attachment 1. Evaluation Narrative from the Original Proposal

Introduction

Maryland endorses rigorous evaluation to monitor and promote the efficiency of project activities, to determine how well project objectives have been met, and to establish the links between project activities and outcomes. We are partnering with a team of seasoned home visiting researchers from the University of Maryland and Johns Hopkins University for an evaluation that is credible, applicable, consistent and neutral. The evaluation is an integral part of our project, as is evident in our statement of goals and objectives (Appendix 1) and our timeline (Appendix 2). This plan outlines the evaluation philosophy and conceptual framework; describes the evaluation methodology; and details the cost of the evaluation, the evaluators' credentials; and organizational experience and capacity, respectively.

Evaluation Philosophy and Conceptual Framework

The evaluation will incorporate <u>utilization-focused evaluation</u> principles and <u>quality improvement</u> methods to assure that results are used in program and policy decision-making.
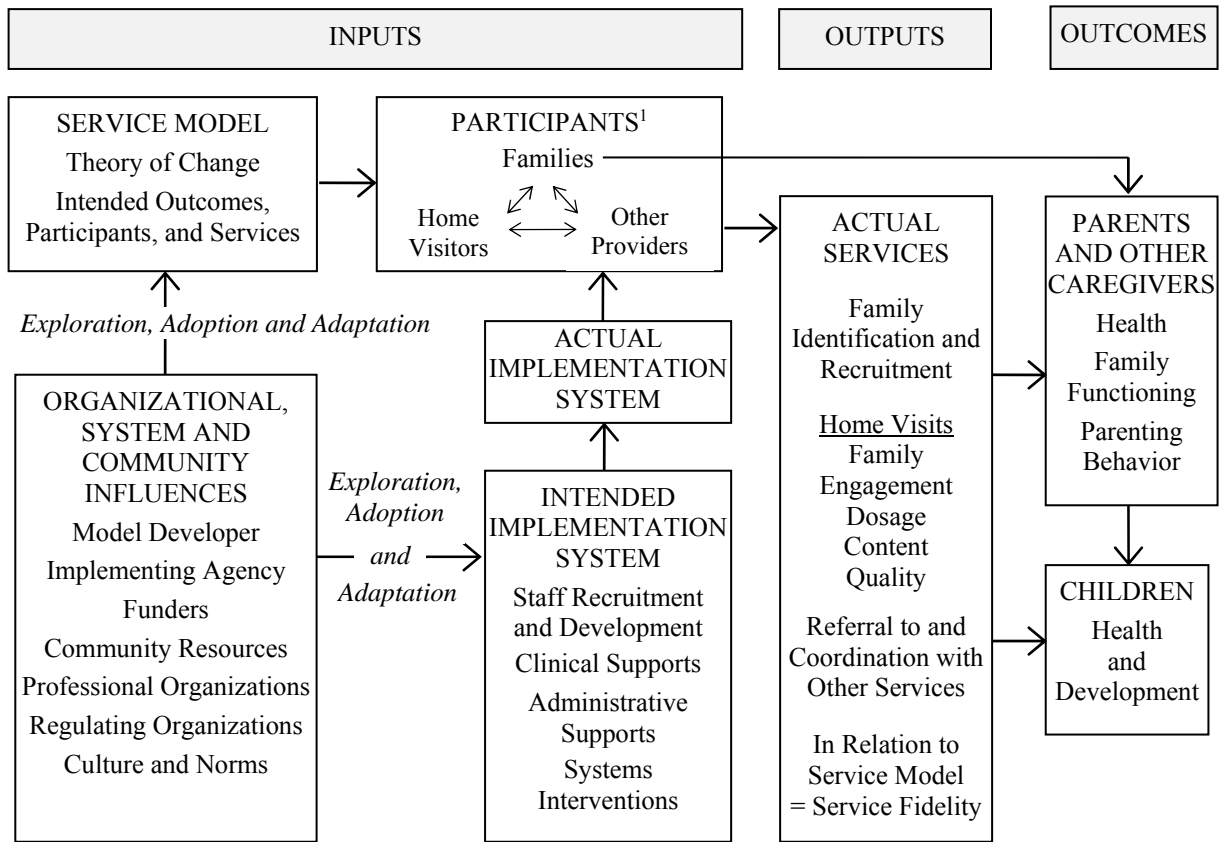
Utilization-focused evaluation[1] aims to assure that results are meaningful and that they are used by intended users. Strategizing about use is ongoing and continuous. Utilization-focused evaluation answers questions posed by the primary intended users. Its foci include planning and implementation, not just outcomes. The evaluation plan is tied to the program's logic model. The intended users work together to analyze and interpret data as they are gathered. The Hopkins team will work closely with project leaders and other stakeholders to make sure that evaluation questions are relevant and to establish at the start how results will be used in decision-making. We envision not simply an end report with "thumbs up" or "thumbs down", but rather the collection, sharing, interpretation of data in a way that involves all stakeholders.

The evaluation framework draws from <u>implementation science and theories of behavior</u>. It uses a conceptual framework developed by Dr. Duggan. It draws from implementation science literature and is applied specifically to home visiting (Figure 1). The framework is used in other aspects of the MIECHV program. These include the national evaluation of MIECHV, the national home visiting research agenda, and both current and proposed state evaluations. The framework brings a common language for communicating about substantive issues. It is relevant across diverse home visiting models and stakeholder groups, and it informs strategies to address issues through program and policy development.

Explanation of the Figure: For any given local program site, organizational stakeholders define the site's service model and its implementation system. The defining attributes of the service model include: intended goals and outcomes, family eligibility criteria, staff eligibility criteria, and intended dosage and visit content. The defining attributes of the implementation system include: policies and procedures for staff hiring, training and supervision; administrative supports such as parenting curricula and a management information system; program evaluation; and organizational supports such as referral and coordination agreements with other community-based organizations serving the families eligible for home visiting.

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[1] Patton, M. (2008) *Utilization-Focused Evaluation*. 4th Edition. Thousand Oaks: Sage Publications

Figure 1. Framework for Conceptualizing Home Visiting

INPUTS	OUTPUTS	OUTCOMES

SERVICE MODEL
Theory of Change
Intended Outcomes,
Participants, and Services

PARTICIPANTS[1]
Families
Home Visitors ⟷ Other Providers

Exploration, Adoption and Adaptation

ORGANIZATIONAL, SYSTEM AND COMMUNITY INFLUENCES
Model Developer
Implementing Agency
Funders
Community Resources
Professional Organizations
Regulating Organizations
Culture and Norms

Exploration, Adoption and Adaptation

ACTUAL IMPLEMENTATION SYSTEM

INTENDED IMPLEMENTATION SYSTEM
Staff Recruitment and Development
Clinical Supports
Administrative Supports
Systems Interventions

ACTUAL SERVICES
Family Identification and Recruitment

Home Visits
Family Engagement
Dosage
Content
Quality

Referral to and Coordination with Other Services

In Relation to Service Model = Service Fidelity

PARENTS AND OTHER CAREGIVERS
Health
Family Functioning
Parenting Behavior

CHILDREN
Health and Development

[1] The characteristics of families and providers predispose, enable and reinforce their behavior as home visiting participants. The characteristics of these participants interact as factors for their behavior. These characteristics include: demographics; psychosocial well-being; cognitive capacity; and attitudes, perceived norms, personal agency, knowledge, and skills, especially as these relate to participation in home visiting. The baseline characteristics of families also influence their outcomes.

The service model and implementation system determine which families are targeted and who provides services. The service model and implementation system, therefore, also determine the baseline attributes of these individuals. Families will vary in baseline attributes such as their parenting strengths and needs, their understanding of home visiting, and their capacity to engage in services. Home visitors and other providers will vary in their understanding of home visiting and their own roles and responsibilities, their predisposition to carry out these roles and responsibilities, and their competence to do so. Individual-level factors influence how services are actually delivered. If actual services are close to what is defined in the service model, there is service fidelity. Actual service delivery influences the outcomes that families achieve.

This model can be applied both to family recruitment and to actual service delivery once families are enrolled. Thus, it is appropriate for evaluating this project's interventions to improve home visiting use, service quality and coordination.

Families, home visiting staff, and other providers are all participants in home visiting. Their behavior is reflected in their actual role in service delivery. As in our past evaluative research, we will draw on multi-level theories of the determinants of behavior to explain service delivery

and to test the impact of project interventions on service delivery and outcomes. These include organizational theories of the influence of culture and climate on staff morale and performance, inter-personal theories based in attachment theory and adult learning theory, and intra-personal theories such as the theory of reasoned action.

Evaluation Methodology

Focus: The evaluation will incorporate process, practice, and outcomes data and analyses. It will align with the project logic model and the project goals, objectives, activities and intended outcomes.

Evaluation of Project Process:

This aspect of the evaluation will assess *project* implementation. We will use several strategies to measure how well project activities are carried out. We will collect data through participant observation of activities (meeting frequency, participants, agenda, adherence to agenda, group process, products, and follow through); conduct archival reviews; and interview project stakeholders. Actual activities will be compared with the project work plan.

Home Visiting Practice and Outcomes: The logic model specifies improvements in home visiting practice resulting from improvements in the implementation system for family recruitment and engagement, service coordination, staff development, and quality improvement. The evaluation will measure relevant practice indicators and test their association with implementation system improvements. Examples of indicators of home visiting practice include referrals to home visiting, family enrollment rates, family engagement, service coordination, and service quality. We aim to use the strongest evaluation designs possible. Where feasible and appropriate, we will use randomized designs. Where this is not feasible or desirable, we will explore quasi-experimental approaches such as regression-discontinuity and interrupted times series designs.

Outcomes: The logic model specifies how project activities, mediated by improvements in home visiting infrastructure and practice, will lead to favorable outcomes for families. These could include improvements in family functioning, maternal health, and promotion of positive parenting and, through these, greater impacts on child health and development. The evaluation will assess indicators of these, relying as much as possible on existing program data. RCTs and quasi-experimental studies require data collection beyond what is routinely captured in program operations. The project budget allows for hiring and training research assistants for this task. Their work will be monitored using quality control procedures such as manualization of protocols and procedures, direct data entry, and validity checks for a random sample of cases).

Study Design: Evaluation of project process is essentially observational. Evaluation of the impact of project interventions on practice and outcomes could be observational as well, but we prefer to study these using quasi-experimental or experimental methods that conform to standards for rigor such as those put forth by the What Works Clearinghouse. Our team is adept in experimental methods and has conducted randomized trials of home visiting including RCTs of enhancements to the service model and the implementation system. The national home visiting research agenda calls for dissemination and implementation research and comparative effectiveness research to address ten research priorities. Dr. Duggan drafted this agenda in collaboration with the management team of the Home Visiting Research Network and input from nearly 2000 home visiting stakeholders nationally (See www.hrvn.org). We see this project as

an ideal opportunity not only to evaluate this particular project, but to do so in ways that will advance the field of home visiting nationally. To that end, we will apply dissemination, implementation and comparative effectiveness research methods to assess the impact of this project's interventions on practice and family outcomes.

At this point, we are most strongly considering testing project impacts on home visiting – Medical Home service quality and coordination. Three interventions relate specifically to this: professional development, an improved MIS, and systems interventions to overcome organization- and systems-level barriers to coordination. We intend to focus on service quality and coordination in content areas directly relevant for assuring good birth outcomes, for addressing maternal mental health and behavioral health, for promoting positive parenting, and for monitoring and responding early to suspected delays in child development.

Measurement and Data Collection: Utilization-focused evaluation and community-based participatory research principles require that evaluation methods be designed in collaboration with stakeholders. Comparative effectiveness research requires a focus on outcomes that are meaningful to participants – in this case, families, home visiting staff, and other providers. The evaluators will work with stakeholders in identifying and defining constructs to be measured. They will propose specific measurement tools with well-established psychometric properties. Stakeholders will review these to assess 'face validity'. We will select valid and reliable tools that meet the face validity test as well.

MIECHV's research component and implementation science offer new methodologies in study design and measurement. MIHOPE, the national evaluation of MIECHV, has developed a battery of data collection instruments that are in the public domain. Dr. Duggan, as Co-PI of MIHOPE, was instrumental in developing these instruments. Some of the instruments, in fact, were based on methods she has used for several years in home visiting evaluations in Hawaii, Alaska, and New Jersey. We will draw from and adapt these in evaluating service quality and coordination and factors for these in this project. We will also draw from ongoing work of the national Home Visiting Research Network, which has recently completed a systematic review of observational measures of provider-parent communication and which is about to embark on a foundation-funded project to build on and enhance existing observational measures to develop a more comprehensive measure suitable for both home visiting and the Medical Home. We intend to use that measure in this project.

The evaluation has been designed and budgeted to allow for substantial independent primary data collection by evaluation staff to supplement what is available from existing sources. The budget also includes funds to provide remuneration to programs and individuals, such as providers and families, who participate in primary data collection.

Sample and Sampling: Benchmark data are collected for all participants. The specifics of sampling cannot be defined until we have determined which interventions we will study rigorously.

Securing Institutional Review Board Approval: We will secure approvals from the Institutional Review Boards of the Maryland DHMH, settings in which families are recruited for home visiting, implementing agencies, community health centers, and the University of Maryland and Johns Hopkins University. The evaluation team has a track record of success in carrying out IRB activities appropriately and per project timelines. The evaluation team will develop IRB applications and assure adherence to HIPAA requirements.

Analyses: We will integrate data collection, interpretation, and dissemination within a utilization-focused evaluation framework. We will involve stakeholders at each point in the evaluation process, from articulating research questions, to methods design, data collection, analysis, interpretation, dissemination, and use of results.

Cost of the Evaluation and Source of Funds

The evaluation is budgeted at $1,075,000 per budget period, about 16% of the total project budget. This includes all costs associated with the evaluation, including consultation with experts in key areas such as the application of emerging instruments and approaches to the study of adoption of innovations and the use of regression discontinuity designs to test impacts on outcomes. Drs. Abraham Wandersman and David Bard, PhD, for example, have agreed to serve as consultants if needed. We intend to seek additional extramural funding for evaluative research on scale up when warranted by pilot test results. The evaluation will address priorities in the national home visiting research agenda and so we believe it will be possible to leverage MIECHV expansion funding in this way.

Experience, Skills, Knowledge of the Evaluation Team

The Evaluation Team has worked together in home visiting research for many years. The Co-PIs and Co-investigators bring complementary areas of expertise to this project. Dr. Barnet, a family physician-scientist, has over 20 years experience in designing and testing an integrated model of primary care and home visiting for pregnant and parenting adolescents. Dr. Duggan has substantial experience conducting experimental home visiting research on scaled up programs. Her work has advanced the field by showing how maternal mental health and relationship security moderate how families engage in home visiting and the benefit they derive from current evidence-based models. Her research and related work of others will inform our design of professional development interventions to improve family engagement and service quality. Dr. Minkovitz also has substantial experience studying and promoting home visiting-Medical Home coordination. Dr. Tandon brings expertise in qualitative study methods and home visiting enhancements to promote maternal mental health. Dr. Leaf provides expertise in services to promote children's mental health; he is part of the Race to the Top evaluation team and will help us link our evaluation with that initiative.

The quality of the evaluation team's work is nationally recognized. Journals have commissioned commentaries to accompany sets of papers from these studies[2, 3] and professional societies have selected this work for national recognition for scientific integrity.

Organizational Experience and Capacity

Maryland has a long record of accomplishment in implementing home visiting as part of a high quality early childhood system of care. The Governor's Children's Cabinet has the experience and capability to plan and implement this project as evidenced by Maryland's success to date in building a statewide home visiting program. The Governor's Children's Cabinet coordinates child and family services through planning and capacity building to implement Maryland's

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[2] Chaffin M. (2004) Is it time to rethink Healthy Start/Healthy Families? (Invited Commentary to accompany articles by Duggan et al.). *Child Abuse & Neglect*, 28:589-595.

[3] Gomby D. (2007) The promise and limitations of home visiting: Implementing effective programs, 31: 793-799 (Invited Commentary to accompany articles by Duggan et al., 2007 and Caldera et al., 2007).

Children's Plan. It is comprised of the Secretaries of the child- and family-serving state agencies – Health and Mental Hygiene (DHMH), Education (MSDE), Human Resources (DHR), Juvenile Services (DJS) and Disabilities (DOD), and the Department of Budget and Management (DBM). The Children's Cabinet has State oversight for federally administered MIECHV funds administered by DHMH as well as state general funds for home visiting administered by MSDE. It is the ultimate decision making body for determining at risk communities and which evidence-based models will be implemented. Governor O'Malley has designated the DHMH, Maternal and Child Health Bureau (MCHB) as the MIECHV applicant/administering agency on behalf of the Children's Cabinet. The Maryland MIECHV Program was created within DHMH to administer MIECHV funds for home

The Training Institute team has the experience and capability to plan and implement their role in this project. The Institute Director, Dr. DiClemente, is a clinical health psychologist internationally known for his work in health and addictions and the process of behavior change. He has been involved in training activities for over 30 years and has focused on capacity building in Maryland for the past 8 years. The Institute will be grounded in the training program already developed by Dr. DiClemente and his colleagues.

The evaluation team has the experience and capability to plan and implement this project, as demonstrated by its success as evaluators for Hawaii's competitive MIECHV developmental project and New Jersey's competitive MIECHV expansion project. Dr. Barnet's dual credentials as a family physician and a researcher make her ideally suited to design and use evaluation to promote coordination of home visiting with the Medical Home. Dr. Duggan's expertise demonstrates the ability to use research to advance states' progress in building statewide home visiting programs.

Summary of Project Goals, Objectives and Activities

Goal 1: **Increase home visiting availability, accessibility and reach**

    <u>*Objective 1*</u> Increase the availability of evidence-based HV in communities at greatest need
1. Jurisdictions develop and secure MIECHV approval of expansion plan
2. MIECHV awards funding
3. Jurisdictions implement their plans; report progress quarterly
4. MIECHV provides technical assistance to promote adherence to plan

    <u>*Objective 2*</u> Determine and explain current family identification and recruitment practices
1. Stakeholders pose questions to be answered and state how results will be used
2. Evaluation team and stakeholders decide on theoretical framework and study methods
3. Evaluation team secures IRB approvals, collects and analyzes data, shares results

    <u>*Objective 3*</u> Design and test innovations to improve current family recruitment practice
1. Stakeholders design service model/implementation system enhancements per results
2. MIECHV leaders select pilot test jurisdictions
3. Evaluation team designs and conducts pilot test, share results
4. Stakeholders refine enhancements per results

    <u>*Objective 4*</u> Take effective innovations to scale
1. MIECHV leaders develop strategy for scale up
2. MIECHV implements strategy ;with Evaluation team, secures funding to test scale up.

Goal 2: **Strengthen home visiting and Medical Home service quality and coordination**

    <u>*Objective 1*</u> Determine and explain current service quality and coordination practices
1. Stakeholders pose questions to be answered and state how results will be used
2. Evaluation team and stakeholders decide on theoretical framework and study methods
3. Evaluation team secures IRB approvals, collects and analyzes data, shares results

    <u>*Objective 2*</u> Design and test innovations to improve current home visiting and coordination practice
1. Stakeholders design service model/implementation system enhancements per results
2. MIECHV leaders select pilot test jurisdictions
3. Evaluation team designs and conducts pilot test, share results
4. Stakeholders refine enhancements per results

    <u>*Objective 3*</u> Take effective innovations to scale
1. MIECHV leaders develop strategy for scale up
2. MIECHV implements strategy ;with Evaluation team, secures funding to test scale up

Goal 3: **Assure sustained high quality statewide implementation and effectiveness**

    <u>*Objective 1*</u> Build a competent home visiting workforce
1. Stakeholders and Training Institute define core competencies
2. Evaluation team and Training Institute assess current staff competence
3. Training Institute designs and implements indicated trainings
4. Evaluation team assesses impacts on competence

    <u>*Objective 2*</u> Assure fidelity of actual service delivery relative to performance standards
1. MIECHV leaders design MIS with contractor and stakeholders
2. MIECHV trains and supports HV staff in using MIS
3. MIECHV works with jurisdictions, local sites in CQI to meet performance standards
4. Jurisdictions convene annually to learn from one another's CQI experiences and results

    <u>*Objective 3*</u> Establish home visiting's long-term and community-level outcomes
1. GOC defines Maryland's priority outcome benchmarks with Pew DAP guidance
2. Stakeholders develop data collection / matching strategies to monitor benchmarks
3. MIECHV and stakeholders develop agreements for data matching
4. GOC adopts strategies for Maryland Home Visiting Accountability Act reporting

Timeline of Project Activities by Goal and Objective

Goals, Objectives and Activities	Year and Month (S=September; O=October…)		
	2013 / 2014 SONDJFMAMJJAS	2015 ONDJFMAMJJAS	2016 ONDJFMAMJJAS
Project Start Up and Overall Management			
a .Management Team establishes, convenes Work Teams	XXXX		
b .Hold stakeholder Kick Off Meeting to launch project	XX		
c .Carry out ancillary activities to introduce project	XXX		
d. Annual Home Visitor Stakeholder Meetings	X		
e. Regular email communication with stakeholders (as needed)	X-------AS NEEDED-	---------------------AS	NEEDED----------X
Goal 1: Home visiting availability, accessibility and reach			
Objective 1. Increase the availability of evidence-based HV in communities at greatest need			
a. Tier 2 jurisdictions develop and secure MD-MIECHV approval of expansion plan	XXX XXXX X		
b. MD-MIECHV awards funding	XXXX X		
c. Jurisdictions implement their plans; report progress quarterly		XXXXXXXXXXXX	XXXXXXXXXXXX
d. MD-MIECHV provides technical assistance to promote adherence to plan		X----AS NEEDED--	----AS NEEDED--X
Objective 2. Determine and explain current family identification and recruitment practices			
a. Stakeholders pose questions to be answered and state how results will be used	XXX		
b. Evaluation team, stakeholders decide on evaluation methods	X		
c. Evaluation team secures IRB approvals, collects and analyzes data, shares results	XXX		
Objective 3. Design and test innovations to improve current practice			
a. Stakeholders design service model/implementation system enhancements per results		XX	
b. MD-MIECHV leaders select pilot test jurisdictions		XX	
c. Evaluation team designs and conducts pilot test, share results		XXXXX	
d. Stakeholders refine enhancements per results		XXX	
Objective 4. Take effective innovations to scale			
a. MD-MIECHV leaders develop strategy for scale up			XXX
b. MD-MIECHV implements strategy ; MD-MIECHV and Evaluation team secure extramural funding to test scale up strategy			XXXXXXXXX
Goal 2: Home visiting and Medical Home service quality and coordination			
Objective 1. Determine and explain current service quality and coordination practices			
a. Stakeholders pose questions to be answered and state how results will be used	XXX		
b. Evaluation team, stakeholders decide on evaluation methods	X		
c. Evaluation team secures IRB approvals, collects and analyzes data, shares results	XXX		
Objective 2. Design and test innovations to improve current practice			
a. Stakeholders design service model/implementation system enhancements per results		XX	
b. MD-MIECHV leaders select pilot test jurisdictions		XX	

Goals, Objectives and Activities	2013 SONDJFMAMJJAS	2014 ONDJFMAMJJAS	2015 ONDJFMAMJJAS	2016 ONDJFMAMJJAS
c. Evaluation team designs and conducts pilot test, share results			XXXXX	
d. Stakeholders refine enhancements per results			XXX	
Objective 3. Take effective innovations to scale				
a. MD-MIECHV leaders develop strategy for scale up				XXX
b. MD-MIECHV implements strategy ; MD-MIECHV and Evaluation team secure extramural funding to test scale up strategy				XXXXXXXX
Goal 3: Sustained high quality statewide implementation and effectiveness				
Objective 1. Build a competent home visiting workforce				
a. Stakeholders and training institute define core competencies		XXXXXX		
b. Evaluation team and training institute assess current staff competence		XXXX	XXXX	
c. Training institute designs and implements indicated trainings			XXXXX	
d. Evaluation team assesses impacts on competence			X	
Objective 2. Assure fidelity of actual service delivery relative to performance standards				
a. MD-MIECHV leaders design MIS with contractor and stakeholders		XXXXXXX	X	
b. MD-MIECHV trains and supports HV staff in using MIS			XXXXXX	
c. MD-MIECHV works with jurisdictions and local sites to design CQI activities to achieve performance standards		TIER 1 XX	XXXXXXXXXXXX TIER 2 XXXXXX	XXXXXXXXXXXX XXXXXXXXXXXX
d. Jurisdictions convene annually to learn about CQI experiences and results			X	X
Objective 3. Establish home visiting's long-term and community-level outcomes				
a. GOC defines Maryland's priority outcome benchmarks with Pew DAP guidance		X		
b. GOC adopts strategies for Maryland Home Visiting Accountability Act reporting		XXXX		
c. MD-MIECHV and stakeholders develop agreements for data matching		XXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX
d. Stakeholders develop data collection / matching strategies to monitor benchmarks		XX		

Attachment 2: MARYLAND COMPETITIVE MIECHV EVALUATION PLAN
ADDITIONAL DETAIL ON METHODS

Purpose of this Document

This document has been prepared in response to the funder's request for additional detail on the evaluation plan described in our original proposal. We include three attachments of excerpts from the original proposal as context: narrative specific to the evaluation (Attachment 1); a list of project goals, objectives and activities that specifies evaluation activities (Attachment 2); and the timeline of project activities that specifies the timing of evaluation activities and products (Attachment 3).

As explained in Attachment 1 and illustrated in Attachment 3, we are designing the evaluation in collaboration with stakeholders as the project unfolds. There are stages in the evaluation – separate studies – that correspond to objectives for each goal. We will use what we learn in evaluation of earlier objectives in designing and testing innovations in later objectives. We will have a fully specified plan for the first stage of evaluation in July 2014.

For each goal and objective, stakeholders will collaborate in articulating specific evaluation questions and in specifying methods and how results will be used. As shown in the timeline of Attachment 3, we have built in many venues for stakeholder collaboration in defining research questions and methods leading up to July 2014. Here, we summarize key points in a 'straw man' description of questions and methods that will be our starting off point in the evaluators' discussions with other project stakeholders. In our discussions, we will emphasize the hallmarks of credibility, applicability, consistency and neutrality that are integral to methodologic rigor.

Goal 1 Evaluation – Improving Home Visiting Accessibility and Reach

There are three stages of evaluation, corresponding to Objectives 2, 3 and 4, as shown in Attachment 3.

Objective 2 – Description of Current Practices and Their Determinants

- Research Questions: This aspect of the evaluation will answer two questions: 1) How do sites vary in their current family recruitment practices? and 2) How do aspects of their service models and implementation systems influence actual practice?

- Hypotheses: As the clarity of the service model's definition of intended families increases, so will site success in achieving goals for recruitment of eligible families. As the adequacy of the implementation system to predispose, enable and reinforce staff in recruiting eligible families increases, so will site success in achieving goals for recruitment of eligible families.

- Design: Cross-sectional, analytic study

- Sample: At a minimum, we will include all sites slated to receive MIECHV funding (n≈20). As possible, we will increase sample size to include other sites providing evidence-based services (n≈35). We will collect data on current recruitment activities from existing program records. We will collect primary data on hypothesized determinants of recruitment practices from each site's program manager and from supervisory and front line staff involved in recruitment.

- Measurement:

  Accessibility and Reach: Number of families referred to home visiting, percent of referred families determined to be eligible, percent of eligible families enrolling, rates of recruitment for population subgroups designated as special priority (if applicable), percent of available slots filled, adherence to protocol timelines for processing referrals.

  Determinants of Accessibility and Reach: We will collect data to describe each site in terms of aspects of its service model and implementation system hypothesized to influence actual recruitment practice. We will measure staff member attributes hypothesized to influence performance in carrying out intended roles.

  o For the service model, we will collect information on each site's definition of intended recipients (number to be served, eligibility criteria).

  o For the implementation system, we will collect information on:

    ▪ *professional development* (site policies and practices to prepare staff to assess the appropriateness of referrals and to introduce the program to potential enrollees and process their enrollment; each staff member's assessment of the adequacy of his/her training in recruitment and enrollment activities; site records of attributes of training actually provided to staff [objectives, exposure, competencies, approaches to training]; supervisory policies and practice regarding family recruitment;

    ▪ *clinical supports* to assess eligibility of referred families, to introduce the program and promote enrollment of those who are eligible, and to distinguish important subgroups of enrolled families for whom services are to be tailored in specific ways;

    ▪ *administrative supports* to monitor and promote adherence to site policies and protocols for family identification and recruitment (production and use of statistics to monitor site-, referral source- and staff-level statistics for numbers of families referred, proportion determined to be eligible; percent of eligible families enrolling; adherence to timelines for processing of referred families)

    ▪ *systems interventions* to promote referral of eligible families (formal relationships with referral sources)

- Data Collection Strategies: We will collect data through archival review of records, semi-structured interviews with program leadership, and surveys of supervisory and front line staff. As possible, we will draw questions from MIHOPE instruments, from our MIECHV evaluations in New Jersey and Hawaii, and from our other home visiting research. We will pretest all instruments with staff from one site of each evidence-based model.

- Data Analysis: We will describe current site practices using univariate statistics. We will develop summary measures such as latent variables for the hypothesized system, organization, and provider determinants of current practices. We will use multi-level modeling to explain the independent and interactive effects of hypothesized determinants with actual practice.

Objective 3 – Design and Test Innovations to Improve Current Recruitment Practices

- Research Questions: This aspect of the evaluation will answer two questions: 1) How feasible and acceptable is the innovation? and 2) How does the innovation alter actual practice?

- Design: We will conduct a mixed-methods observational study to assess feasibility and acceptability of the innovations.

  Our design to assess impact on accessibility and reach depends on the nature of the innovation. For example, if the innovation is implemented at the system- or site-level, we will only be able to do a pre-/post- study of impacts on accessibility and reach. If the innovation and data collection are low budget, we would do this in several settings/sites, staggering the introduction of the innovation, to test for consistency in pre-/post- change across sites and time and moving the design toward greater rigor. If the innovation can be allocated at the level of home visitor and it is feasible to do so randomly within site, we will recommend using this design.

- Sample: We will test feasibility in one or two sites receiving MIECHV funding. Within each site, we will collect data from community referral sources (if applicable), program leaders and from supervisory and front line staff involved in recruitment.

  To assess impacts on recruitment, the number of sites and staff will depend on the nature of the innovation and budget constraints.

- Measurement: To assess feasibility, we will collect data to monitor adherence to the innovation protocol and to identify and address problems in implementing the innovation.

  To test impacts of the innovation on accessibility and reach, we will measure number of families referred to home visiting, percent of referred families determined to be eligible, percent of eligible families enrolling, rates of recruitment for population subgroups designated as special priority (if applicable), percent of available slots filled, adherence to protocol timelines for processing referrals.

- Data Collection Strategies: To assess feasibility, we will collect qualitative and quantitative data from community referral sources (if applicable), program leaders, and supervisors and front line staff involved in recruitment.

  To test impact, we will collect data on accessibility and reach using the same methods described for the baseline study of current practices.

- Data Analysis: We will use standard bivariate tests of the significance of changes in accessibility and reach. If we must use a quasi-experimental design, or if we find a baseline imbalance on variables likely to influence accessibility and reach in a randomized design, we will control for these in analyses of changes in outcome indicators.

Objective 4 – Evaluation of Strategies to Take Successful Innovations to Scale

Evaluation of strategies to scale up innovations is beyond the scope of this project. We will, however, design such an evaluation and seek extramural support to carry it out.

Goal 2 Evaluation - Improving Home Visiting Service Quality and Coordination

There are three stages of evaluation, corresponding to Objectives 1, 2 and 3, illustrated in Attachment 3.

Objective 1 – Description of Current Practices and Their Determinants

- Research Questions: This aspect of the evaluation will answer two questions: 1) How do sites vary in service quality and coordination pertinent to the outcomes of infant mortality, parent and child mental health, and parenting practices? and 2) How do aspects of their service models and implementation systems influence service quality and coordination?

- Hypotheses: As the clarity and alignment of the service model's definition of intended services and staff competence in providing and coordinating services increase, fidelity to the service model will increase. As the adequacy of the implementation system to predispose, enable and reinforce staff in providing and coordinating services as intended increases, fidelity to the service model will increase.

- Design: Cross-sectional, analytic study

- Sample: At a minimum, we will include all sites slated to receive MIECHV funding (n≈20). As possible, we will increase sample size to include other sites providing evidence-based services (n≈35). We will collect data on current service quality and coordination from existing program records and through observation of video-recordings of a sample of visits for home visitors in participating sites. We will collect primary data on hypothesized determinants of service quality and coordination from each site's program managers, supervisors and home visitors.

- Measurement:

  Service Quality and Coordination: We will use the observational measures we are now developing through the Home Visiting Research Network's grant from the Heising-Simons Foundation to assess service quality. These measures will focus on aspects of quality such as communication style that are best assessed through observation rather than alternative means such as self-report or management information systems. We will use instruments recommended by AHRQ to measure coordination from the perspective of systems, providers and parents.[4]

  Determinants of Service Quality and Coordination: We will collect data to describe each site (home visiting and primary care) in terms of aspects of its service model and implementation system hypothesized to influence home visiting service quality and home visiting - primary care service coordination for the outcomes of interest. We will collect data to describe staff member attributes hypothesized to influence their service delivery and coordination. We will draw questions from MIHOPE instruments, from our MIECHV evaluations in New Jersey and Hawaii, and from our other home visiting research.

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[4] McDonald KM, Schultz E, Pineda N, Lonhart J, Chapman, T. and Davies, S. *Care Coordination Accountability Measures for Primary Care Practice* (Prepared by Stanford University under subcontract to Battelle on Contract No. 290-04-0020). AHRQ Publication No. 12-0019-EF. Rockville, MD: Agency for Healthcare Research and Quality. January 2012.

- o For the service model, we will collect information on each site's definition of intended services (exposure, content, quality, participant responsiveness).

- o For the implementation system, we will collect information on:

  - *professional development* (site policies and practices to prepare staff to deliver and coordinate intended services; each staff member's assessment of the adequacy of his/her training to deliver and coordinate these services; site records of attributes of training actually provided to home visiting staff [training objectives, exposure, competencies, approaches to training]; supervisory policies and practice regarding service delivery and coordination;

  - *clinical supports* to deliver and coordinate intended services (e.g., parenting curricula, screening and assessment tools and protocols); availability of expert consultation to address challenging situations; support staff to facilitate coordination

  - *administrative supports* to monitor and promote adherence to site policies and protocols for service delivery and coordination (production and use of statistics to monitor site- and staff-level statistics for indicators of fidelity such as family exposure to intended services, adherence to policy, service quality, and participant responsiveness);

  - *systems interventions* to promote coordination (e.g, the AHRQ typology of approaches to coordination)

- Data Collection Strategies: We will collect data through archival review of records, semi-structured interviews with program leaders, surveys of supervisory and front line staff, surveys of families enrolled in home visiting, and observation of video-recorded home visits. We will observe a sample of visits, selecting one visit for each participating home visitor – family dyad. We will pretest all instruments, pilot test all data collection strategies, and monitor data collection to assure data completeness and accuracy. Coding of video-recordings will be done by research assistants who have achieved and who maintain coding reliability.

- Data Analysis: We will describe current site practices using univariate statistics. We will develop ordinal summary measures of determinants of current practices. We will use multi-level modeling to explain the independent and interactive effects of system, organization, provider and family characteristics as determinants of current service quality and coordination.

Objective 2 – Design and Test Innovations to Improve Service Quality and Coordination

- Research Questions: This aspect of the evaluation will answer the questions: 1) How feasible and acceptable is the innovation? and 2) How does it alter service quality and/or coordination?

- Design: We will conduct a mixed-methods observational study to assess feasibility and acceptability of the innovations.

  Our designs to assess impacts on service quality and coordination depend on the nature of the innovations. For example, if an innovation is implemented at the system- or site-level, we will only be able to do a pre-/post- study of impacts on service quality and coordination. If

the innovations and data collection are low budget, we could do this in several settings/sites, staggering the introduction of the innovations, to test for consistency in pre-/post- change across sites and time and moving the design toward greater rigor. If the innovations can be allocated at the level of home visitor and it is feasible to do so randomly within site, we will recommend using this design.

- Sample: We will test feasibility in one or two sites receiving MIECHV funding. Within each site, we will collect data from home visiting program leaders, supervisors and front line staff and from primary care site leaders and front line staff.

  To assess impacts on service quality and coordination, the number of sites and staff will depend on the nature of the innovation and budget constraints.

- Measurement: To assess feasibility, we will collect data to monitor adherence to the innovation protocol(s), and to identify and address problems in implementing the protocols.

  To test impacts of the innovation on service quality and coordination, we will measure service quality and coordination as described earlier for measurement of current service quality and coordination.

- Data Collection Strategies: To assess feasibility, we will collect qualitative and quantitative data from primary care program leaders and providers and from home visiting program managers, supervisors, and front line staff.

  To test impact, we will collect data on service quality and coordination using the same methods described for the baseline study of current service quality and coordination.

- Data Analysis: We will use standard bivariate tests of the significance of changes in accessibility and reach. If we must use a quasi-experimental design, or if we find a baseline imbalance on variables likely to influence accessibility and reach in a randomized design, we will control for these in analyses of changes in outcome indicators.

Objective 4 – Evaluation of Strategies to Take Successful Innovations to Scale

Evaluation of strategies to scale up innovations is beyond the scope of this project. We will, however, design such an evaluation and seek extramural support to carry it out.

Goal 3 Evaluation – Training Institute Impacts on Home Visitor Competence

Per our timeline, Training Institute leaders and stakeholders will define core competencies for home visitors in months 4-8 of the first year of the project. It is premature to specify how the impact of training will be assessed. Our goal is to use observational measures rather than self-report. The nature of the core competencies will dictate the specifics of our measures. The nature of the trainings – when, how and with whom they will be carried out – will dictate the most appropriate evaluation designs, required sample size, and analytic approaches.