Mother and Infant Home Visiting Program Evaluation

Implementation Study

Research Questions and Preliminary Analysis Plan

Implementation Study
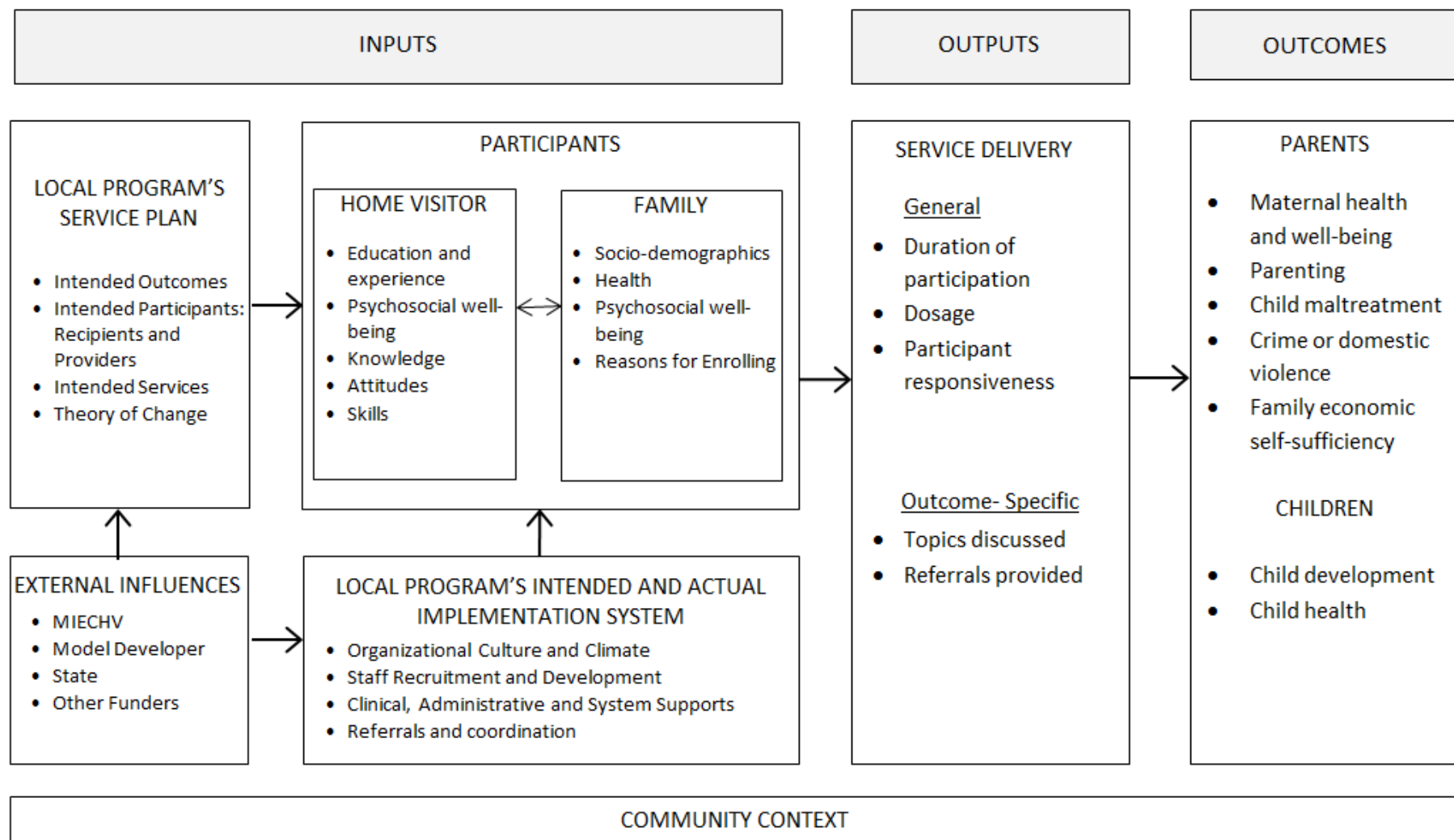# Mixed Methods – Three Objectives

Quantitative Study

- To describe the services delivered to families in the program group
- To identify factors that explain variation in services delivered

Qualitative Study

- To shed additional light on the why and how of variation in service delivery

Conceptual Framework

INPUTS	OUTPUTS	OUTCOMES

LOCAL PROGRAM'S SERVICE PLAN

- Intended Outcomes
- Intended Participants: Recipients and Providers
- Intended Services
- Theory of Change

PARTICIPANTS

HOME VISITOR
- Education and experience
- Psychosocial well-being
- Knowledge
- Attitudes
- Skills

FAMILY
- Socio-demographics
- Health
- Psychosocial well-being
- Reasons for Enrolling

SERVICE DELIVERY

General
- Duration of participation
- Dosage
- Participant responsiveness

Outcome-Specific
- Topics discussed
- Referrals provided

PARENTS
- Maternal health and well-being
- Parenting
- Child maltreatment
- Crime or domestic violence
- Family economic self-sufficiency

CHILDREN
- Child development
- Child health

EXTERNAL INFLUENCES
- MIECHV
- Model Developer
- State
- Other Funders

LOCAL PROGRAM'S INTENDED AND ACTUAL IMPLEMENTATION SYSTEM
- Organizational Culture and Climate
- Staff Recruitment and Development
- Clinical, Administrative and System Supports
- Referrals and coordination

COMMUNITY CONTEXT

Five Broad Research Questions

1. Who is served by MIHOPE programs?
   - How does this vary by local program? national model?

2. What services are delivered to families?
   - How does service variation distribute across family, home visitor, local program and community levels?

3. What are the characteristics of staff, local programs, states and national models in MIHOPE?
   - How do staff characteristics vary by local program?
   - How do staff and local program characteristics vary by national model?

Five Broad Research Questions

4. How does service delivery vary by characteristics of families, home visitors, local programs and national models? When considering characteristics at all of these levels?

5. Why do services vary? How do front line staff vary in their interpretation of a local program's theory of change? What are the implications of this?

Proposed Focal Topics

1. To what extent do home visitors tailor services and what organizational and individual level factors influence this?

2. How does home visitor attachment style influence service delivery?

3. How does organizational social context influence service delivery?

Proposed Focal Topics

4. How do components of the service plan and implementation system interact as influences on service delivery?

5. How do organizational arrangements and staff perceptions influence referral to community resources?

6. How do MIECHV outcome priorities influence service delivery?

General Measures of Service Delivery

Dosage

- Duration of participation
- Visit length, frequency, rate
- High Dose Composite

Responsiveness

- Responsiveness during visits
- Follow through between visits

Composite Measure of Dosage and Responsiveness

Questions for the Committee
Different Visit Frequency Standards

We propose a "high dose" measure of general service delivery that incorporates duration of participation *and* number of visits. National models vary in their standards for number of visits. We could calculate "high dose" using either the absolute number of visits or that number as a proportion of the model standard.

> ➤ Which approach should we use – the absolute number of visits? The relative number? Both?

General Measures of Service Delivery

Dosage

- Duration of participation
- Visit length, frequency, rate
- High Dose Composite

Responsiveness

- Responsiveness during visits
- Follow through between visits

Composite Measure of Dosage and Responsiveness

Questions for the Committee
Family Engagement

We theorize that impacts are influenced by dosage *and* active participation in services.

➢ Do you agree that a composite measure incorporating duration of participation, visit frequency, responsiveness during visits and adherence to agreed upon actions between visits is a sound approach?

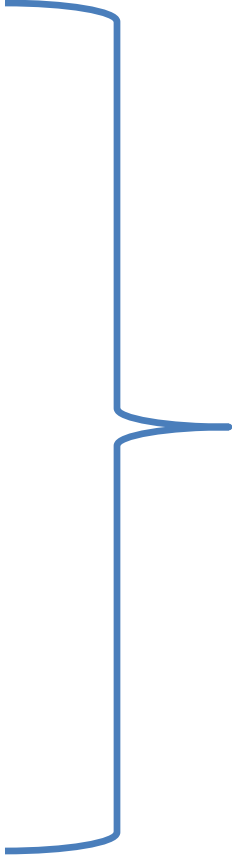➢ Can you advise on ways to improve on this approach?

Outcome-Specific Measures of Service Delivery

Topics Discussed
- 23 topics

Referrals Made
- 16 categories

Aggregate into 13 outcome categories aligned with MIHOPE's confirmatory outcomes

Question for the Committee
Outcome-Specific Analyses

MIHOPE's 13 outcomes align with the legislation. We propose two outcome-specific service delivery measures aligned with each of these.

➢ How should we prioritize approaches to outcome-specific service delivery analysis?

➢ Should we focus on a few outcomes? If so, how should we decide on which outcomes to focus?

Quantitative Analyses: Describing Services Families Receive

- Summarize family service log data

- Summarize coded visit video-recordings

- Partition variance (family, home visitor, local program, national model)

- Bivariate associations between service delivery and characteristics within each of these categories:

  - Family

  - Home visitor

  - Local program

  - National model

Quantitative Analyses: Multivariate Models of Service Delivery

Step 1: Specify dependent variables (core service receipt outputs)

- General outputs
  - Dosage
  - Participant responsiveness
- Outcome-specific outputs
  - Topics discussed
  - Content-specific referral receipt

Quantitative Analyses: Multivariate Models of Service Delivery

Step 2: Specify explanatory variables (inputs and control variables)

- Identify relevant theories to inform pre-specification of model
- Decide on appropriate level of measurement
- Emphasize parsimony
- Develop combination or composite measures
- Consider construct of interest when working with measures available at more than one time point

Quantitative Analyses: Multivariate Models of Service Delivery

Step 3: Use a nested modeling approach
- Start with "empty" model (no explanatory variables)
- Then sequentially add controls and explanatory variables at the following levels:
  - Family
  - Home Visitor
  - Local program
  - Community
  - National model
- Estimation methods: MLM and SEM (and MSEM)

Quantitative Analyses: Subgroup Analyses

- Two types of subgroups
  - Same confirmatory subgroups used by impact analysis
  - Additional exploratory subgroups for IR, for example:
    - Tailoring. (Example: Do mothers with baseline risk for severe depression receive more referrals for mental health services than do mothers who do not have a baseline risk?)

- Two estimation methods
  - Fully-interacted model (building from multi-level models above)
  - Split-sample

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Qualitative Analyses

- Purposive sampling
  - 24 local programs (6 for each national model)
  - Diverse organizational culture & climate
  - 6 different states across major regions of U.S.
- In-person, semi-structured interviews
  - 112 home visitors, 24 supervisors, 21 program managers
- Objectives
  - Gain insight about what happens in home visiting
  - Gain insight into why something did or did not happen
- Mixed-method integration
  - For example, patterns by national model, by organizational functioning, or community context

Next Steps

- Reduce the number of input and output variables to be tested in modeling.

- Specify hypothesized pathways from lower to higher level influences on service delivery, drawing from theory, prior literature, and policy and programmatic relevance.
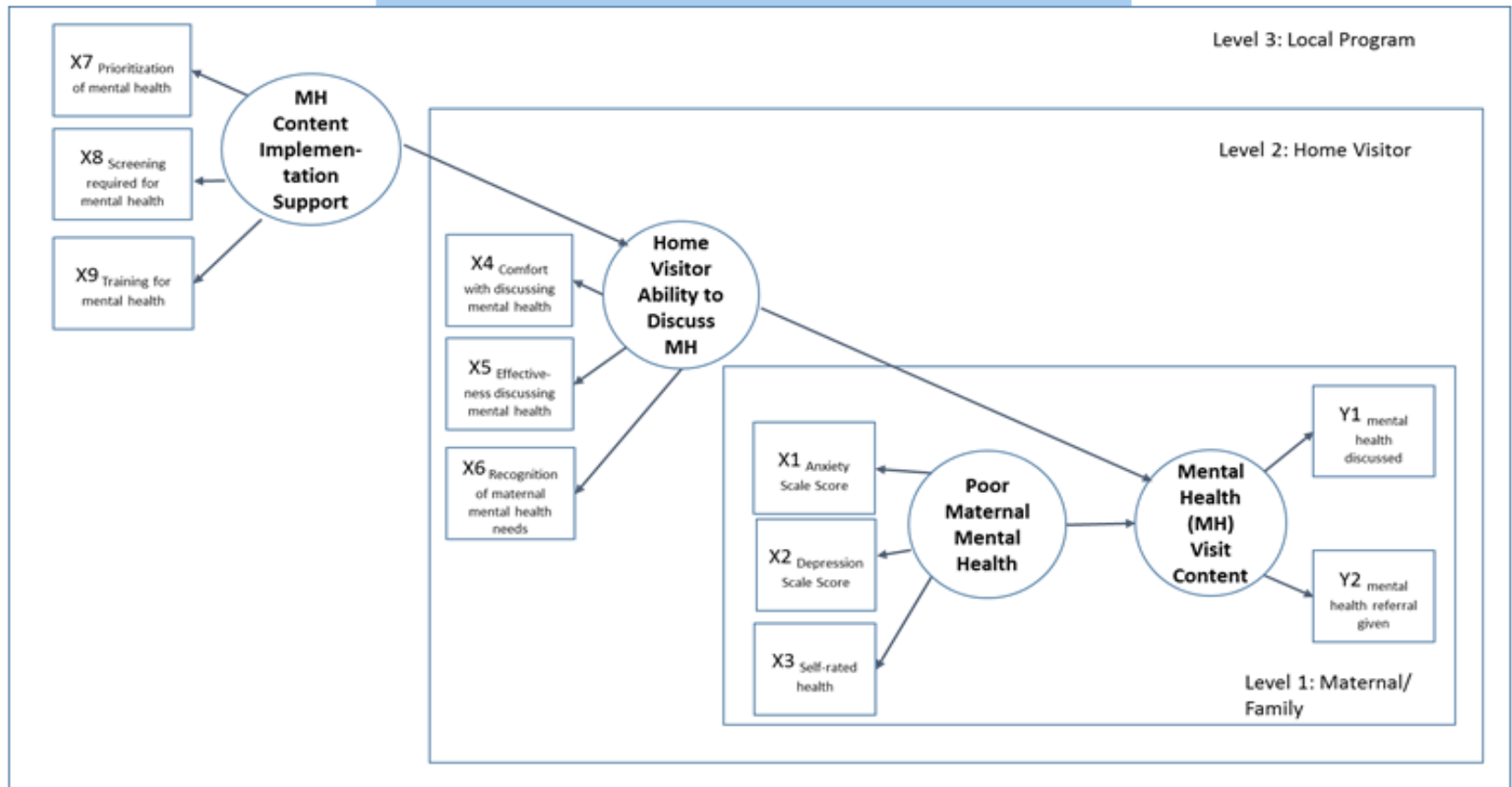
Questions for the Committee
Topics Highlighted in Analyses

We've identified core topics to highlight in analysis.

➢ Are the topics we have identified the most critical issues to address?

➢ What other issues, or variations on these, are important to address?

Example: MLSEM to Explain Variation in Mental Health Service Delivery