Touchpoints for Addressing Substance Use Issues in Home Visiting: Phase 1 Final Report

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March 2020

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OVERVIEW

Introduction

The Touchpoints for Addressing Substance Use Issues in Home Visiting (Touchpoints) project generated knowledge about how home visiting programs—including those funded through the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program—can engage and support families to prevent, identify, and address substance use issues. The findings from the project identify areas where more information is needed and inform opportunities for future investigation. The project was funded by the Office of Planning, Research, and Evaluation (OPRE) in the Administration for Children and Families (ACF), U.S. Department of Health and Human Services, in collaboration with the Health Resources and Services Administration (HRSA) and was conducted by Mathematica and its partners, Dr. Ron Prinz of the University of South Carolina, Dr. Darius Tandon of Northwestern University, and Dr. Norma Finkelstein of the Institute for Health and Recovery.

Home visiting aims to support expectant parents and families with young children by offering them "resources and skills to raise children who are physically, socially, and emotionally healthy and ready to learn" (HRSA, 2019). Although the characteristics of the families served, the outcomes targeted, and the service components delivered vary by evidence-based home visiting model implemented, engaging and supporting families to prevent, identify, and address substance use issues is commonly one of the many outcome areas addressed by home visitors in their engagement with families. Despite this goal, minimal research has focused on the ways home visiting programs can effectively engage and support families affected by substance use issues. This report describes what is known and what needs to be learned about this topic. The findings contribute to existing literature on home visiting and point to specific research areas that may warrant further investigation by stakeholders to better understand how to work with families to prevent, identify, and address substance use issues.

What is home visiting?

Home visiting is a voluntary service in which "trained professionals meet regularly with expectant parents or families with young children in their homes, building strong, positive relationships with families who want and need support" (HRSA, 2018a).

What are the major components of home visiting services?

Home visiting services include three major types of activities: (1) assessment of family needs; (2) parent education and support; and (3) referral to, and coordination with, needed services (Michalopoulos et al., 2015).

What is a home visiting program?

For this project, the term "program" encompasses the implementation of home visiting services at the local level.

Primary research questions

This project addressed four primary research questions:

1. What are the conceptual touchpoints for how home visiting programs may prevent, identify, and address substance use issues among families (including pregnant women, children, parents, and other family members)? What implementation system inputs support programs and staff to deliver the touchpoints?

2. What practices are used by home visiting programs to prevent, identify, and address substance use issues among families, based on information from select model developers, MIECHV awardee leaders, and Tribal MIECHV grantee leaders?
3. What is the state of evidence on practices for working with families with young children around substance use prevention and supporting families with substance use issues through treatment and recovery that can be applied to home visiting?
4. What research opportunities are available to help stakeholders (researchers, federal staff, model developers, and program administrators) understand how home visiting programs can engage and support families to prevent, identify, and address substance use issues?

Key terms

Touchpoints refer to activities involving direct interaction between home visiting staff and families through which home visiting programs can help prevent, identify, and address substance use issues among families.

Implementation system inputs are organizational- and home visitor-level resources, infrastructure, and constraints that can support the delivery of home visiting services.

Practices are procedures, processes, and techniques to prevent, identify, and address substance use issues among families.

Active ingredients are the set of characteristics of home visiting programs that are needed to produce specific outcomes, whether for most participants or for certain families (Home Visiting Applied Research Collaborative, n.d.).

Purpose

Home visiting is generally a prevention strategy to support parenting and child development. Given that programs target expectant parents and families with young children and that they can be tailored to fit each individual family's needs, they are well positioned to reach families at risk of or experiencing substance use issues, and can play an important role in engaging and supporting families to prevent, identify, and address these issues. However, more information is needed about how to integrate evidence-based practices for working with families on these issues into programs. This project helps to fill this gap by providing stakeholders with a summary of what is generally known and what needs to be learned. This report describes project findings around six touchpoints and four implementation system inputs through which home visiting programs can engage and support families to prevent, identify, and address substance use issues.

Key findings and highlights

The project team developed an overarching conceptual model to represent a comprehensive and broad range of relevant inputs, touchpoints, short- and long-term outcomes, and contextual factors representing opportunities for home visiting programs to prevent, identify, and address substance use issues among families. Project findings align with the constructs in the overarching conceptual model. However, limited evidence on *which* touchpoints and practices (sometimes referred to as "active ingredients") relate to *which* outcomes makes it difficult for the conceptual model to fully reflect the pathways through which home visiting programs can engage and support families to prevent, identify, and address substance use issues. As such, the model serves as a framework for future research by identifying theorized pathways that require testing.

Methods

The project activities included:

- Developing an overarching conceptual model
- Developing three detailed conceptual models to further delineate the pathways in the overarching conceptual model
- Conducting an inventory of practices used in home visiting programs
- Conducting a targeted literature review
- Consulting with key stakeholders
- Assessing opportunities for future research

Opportunities for future study

Based on project findings, the project team identified research areas to guide future study. These areas fall into two broad categories: (1) building the evidence base on practices that can be applied at the touchpoints, and (2) exploring implementation system inputs. Practices to examine further include the use of screening results; the types of training that are most effective in equipping home visitors to offer education on substance use prevention, identification, treatment, and recovery to families; and practices to support families in making progress toward their goals. Research areas for implementation system inputs include home visitor competencies and certifications for addressing substance use issues, the presence of substance use issues as a consideration for program eligibility, and the use of monitoring systems to track family retention in referred treatments.

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EXECUTIVE SUMMARY

The Touchpoints for Addressing Substance Use Issues in Home Visiting (Touchpoints) project generated knowledge about how home visiting programs—including those funded through the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program—can engage and support families to prevent, identify, and address substance use issues. Funded by the Office of Planning, Research, and Evaluation (OPRE) within the Administration for Children and Families (ACF) in collaboration with the Health Resources and Services Administration (HRSA), the project was conducted by Mathematica and its partners, Dr. Ron Prinz of the University of South Carolina, Dr. Darius Tandon of Northwestern University, and Dr. Norma Finkelstein of the Institute for Health and Recovery.

This report provides a summary for researchers, federal staff, model developers, and program administrators indicating what is generally known and what needs to be learned about how home visiting programs can engage and support families on these issues. The report describes project findings around six touchpoints and four implementation system inputs through which programs can engage and support families to prevent, identify, and address substance use issues (Table ES.1).

What is home visiting?

Home visiting is a voluntary service in which "trained professionals meet regularly with expectant parents or families with young children in their homes, building strong, positive relationships with families who want and need support" (HRSA, 2018a).

What is the MIECHV Home Visiting Program?

The MIECHV Program encourages collaboration at the federal, state, and community levels to administer evidence-based home visiting programs and provide services to families based on families' needs.

What is a home visiting program?

For this project, the term "program" encompasses the implementation of home visiting services at the local level.

What are substance use issues?

In this report "substance use issues" means use of substances (including alcohol and legal and illegal drugs) now or in the future in a manner, situation, amount, or frequency that may cause harm to users or to those around them. This term encompasses substance abuse, substance misuse, and substance use disorder (American Psychiatric Association, 2013; Social Security Act of 1935; Substance Abuse and Mental Health Services Administration, 2016).

What are touchpoints?

For this project, touchpoints are activities involving direct interaction between home visiting staff and families through which home visiting programs can help prevent, identify, and address substance use issues among families.

What are implementation system inputs?

Implementation system inputs are organizational- and home visitor-level resources, infrastructure, and constraints that can support the delivery of home visiting.

Table ES.1. Touchpoints and implementation system inputs

Touchpoints	Implementation system inputs
Activities involving direct interaction between home visiting staff and families that may help prevent, identify, and address substance use issues among families	**Organizational- and home visitor-level resources, infrastructure, and constraints that may support the delivery of home visiting services**
1. Screening families for substance use issues	1. Home visit staffing (staff characteristics and staffing structure)
2. Educating families on substance use prevention, identification, treatment, and recovery	2. Professional development for home visitors on substance use issues
3. Serving families based on strategies designed to prevent and address substance use issues	3. Eligibility, recruitment, intake, and enrollment of families with substance use issues
4. Referring families to substance use treatment providers and related supports	4. Monitoring systems to track substance use-related inputs, activities, and outcomes
5. Coordinating with substance use treatment providers and related supports	
6. Providing case management related to substance use issues	

A. Background

What are the major components of home visiting services?

Home visiting includes three major types of services: (1) assessment of family needs; (2) parent education and support; and (3) referral to, and coordination with, needed services (Michalopoulos et al., 2015).

Home visiting is generally a prevention strategy to support expectant parents and families with young children by offering them "resources and skills to raise children who are physically, socially, and emotionally healthy and ready to learn" (HRSA, 2019). The characteristics of the families served, the outcomes targeted, and the services delivered vary by the home visiting model. Depending on the model, services may be offered to families before the birth of a child and any time up to a child's entry into kindergarten. As such, services are designed to optimize parenting practices during a critical period in which parents are motivated to pursue behavioral change (Kuo et al., 2013; Lee King, Duan, & Amaro, 2015). At the core of the programs is the strength of the relationship between the home visitor and the caregiver, whose trust in the home visitor permits broad conversations around wellness, including candid discussions of sensitive topics like substance use issues and the presence of violence or neglect in the home (Dauber et al., 2017a). In addition, a cornerstone of most models is the use of community partnerships, including referrals to services such as substance use treatment and adult mental health services; child welfare; child mental health; and health, housing, and nutrition services (HRSA, n.d.). When these referral systems are in place, home visitors can more effectively connect families to treatment services and coordinate with providers to support ongoing recovery (Dauber et al., 2017a). Moreover, new funding opportunities exist to expand home visiting programs due to legislation passed largely in response to the opioid epidemic. For example, in 2016, the Comprehensive Addiction and Recovery Act amended the Child Abuse Prevention and Treatment Act, requiring states to have a plan of safe care that includes home visiting services and other services and supports for the health and substance use disorder treatment needs of the families of substance-exposed infants (ACF, 2017).

Although home visiting can play an important role in engaging and supporting families to prevent, identify, and address substance use issues, several considerations are important to note. First, evidence-based models funded through MIECHV are not designed as substance use treatment interventions, nor can MIECHV funds generally be used for direct services with substance use treatment providers. Rather, home visitors may engage and support families to prevent and identify possible issues. When issues exist or are identified, home visits may refer families to substance use treatment providers and support them to connect with those providers and, if necessary, engage in treatment and other support services. Home visitors, however, may feel unequipped to address the topic of substance use with enrolled families (Duggan et al., 2018; Harden, Denmark, & Saul, 2010; McDaniel, Tandon, Heller, Adams, & Popkin, 2015; Tandon, Mercer, Saylor, & Duggan, 2008). Second, the prevention and reduction of unhealthy substance use is one of many outcomes that home visiting programs may seek to address. Home visitors often engage families to work toward a wide range of outcomes, including positive parenting, healthy child development, maternal health, and the economic self-sufficiency of families. Finally, because families dealing with substance use issues may be less likely to engage with community support systems, including home visiting programs, local implementing agencies (LIAs) may be less likely to serve this population.

What are practices?

Practices are procedures, processes, and techniques to prevent, identify, and address substance use issues among families.

What are local implementing agencies (LIAs)?

LIAs are the agencies (such as community-based nonprofits or local health departments) that carry out the activities required to deliver home visiting services to families. They may implement one or more home visiting models.

Generally, states and territories that receive MIECHV funding distribute funds they receive to LIAs to carry out activities; Tribal MIECHV grantees typically use funds to carry out activities themselves.

What are active ingredients?

Active ingredients are the set of characteristics of home visiting programs that are needed to produce specific outcomes, whether for most participants or for certain families (Home Visiting Applied Research Collaborative, n.d.).

This report describes what is known and what needs to be learned about how home visiting programs can engage and support families around substance use issues. The findings contribute to existing literature on home visiting and point to specific research areas that may warrant further investigation by stakeholders to better understand how to work with families to prevent, identify, and address substance use issues. Ultimately, research on these areas of interest can contribute to a better understanding of the touchpoints and practices (sometimes referred to as "active ingredients") that drive improvements in outcomes (Supplee & Duggan, 2019).

B. Research questions and methodology

This final report addresses the following four research questions from the synthesis of the Touchpoints project's Phase 1 tasks:

1. What are the conceptual touchpoints for how home visiting programs may prevent, identify, and address substance use issues among families (including pregnant women, children, parents, and other family members)? What implementation system inputs support programs to deliver the touchpoints?
2. What practices are used by home visiting programs to engage and support families to prevent, identify, and address substance use, based on information from select model developers, MIECHV awardee leaders, and Tribal MIECHV grantee leaders?

3. What is the state of evidence on practices for working with families with young children around substance use prevention and supporting families with substance use issues through treatment and recovery that can be applied to home visiting?
4. What research opportunities are available to help stakeholders (researchers, federal staff, model developers, and program administrators) understand how home visiting programs can engage and support families to prevent, identify, and address substance use issues?

Project tasks included:

- Developing an overarching conceptual model
- Developing three detailed conceptual models to further delineate the pathways in the overarching conceptual model
- Conducting an inventory of practices used in home visiting programs
- Conducting a targeted literature review
- Consulting with key stakeholders
- Assessing opportunities for future research

The remainder of this executive summary provides a high-level description of study findings to each of the research questions.

C. Summary of findings

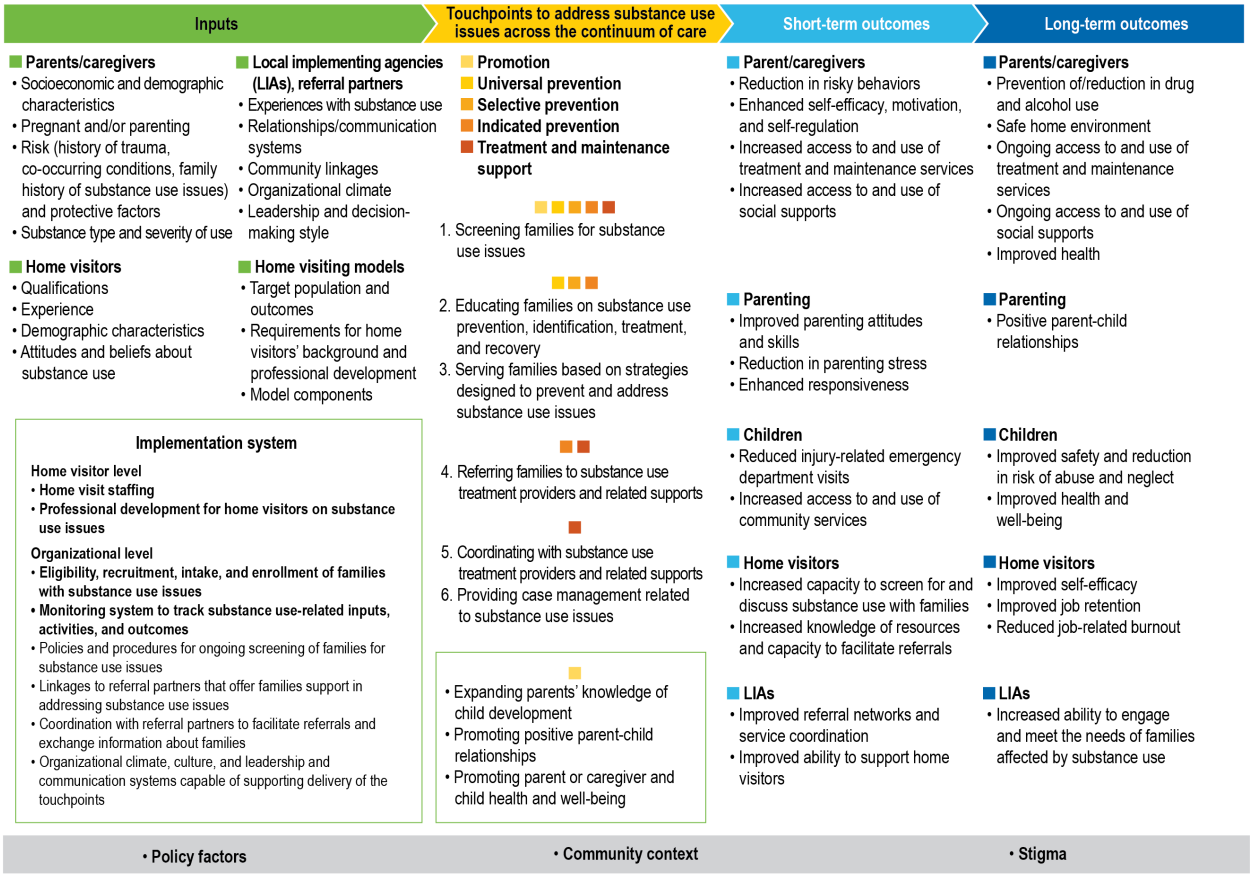
1. What are the conceptual touchpoints for how home visiting programs may prevent, identify, and address substance use issues among families? What implementation system inputs support programs to deliver the touchpoints?

The project team developed an overarching conceptual model to represent a comprehensive and broad range of relevant inputs, touchpoints, short- and long-term outcomes, and contextual factors representing opportunities for home visiting programs to prevent, identify, and address substance use issues among families. The project team also developed three detailed conceptual models that take a closer look at constructs in the overarching conceptual model that were identified as high priority by the project's expert consultants, federal staff, and technical assistance providers that support the states, territories, and Tribal entities that receive funding through the MIECHV Program. Taken together, the four conceptual models present the theoretical pathways through which home visiting programs can engage and support families to prevent, identify, and address substance use issues.

The conceptual model was initially developed based on a conceptual framework created for the Maternal and Infant Home Visiting Program Evaluation (MIHOPE)—the national evaluation of home visiting programs under MIECHV—and the Institute of Medicine's continuum of care model. The project team refined the conceptual model based on findings from the inventory of practices and literature review, as well as feedback from the project's expert consultants, federal staff, and technical assistance providers. For this project, the team focused on touchpoints that can target working with families to prevent, identify, and address substance use issues, rather than touchpoints that broadly apply to working with families around substance use issues. For

this reason, touchpoints focused on promotion, which are goals of home visiting programs generally (HRSA, n.d.), are listed in a box separate from the touchpoints of focus (Figure ES.1).

Figure ES.1. Overarching conceptual model



Note: Touchpoints are activities involving direct interaction between home visiting staff and families through which home visiting programs can engage and support families to prevent, identify, and address substance use issues

One of the three detailed conceptual models focuses on the implementation system inputs. The other two detailed models focus on touchpoints: one on substance use prevention, the other on supporting families in treatment and recovery. The implementation system inputs model further delineates the pathways by which the constructs from the overarching model may influence the delivery of the touchpoints, identifying how the state-, territory, or tribal-level entity, home visiting model, and referral partners influence implementation system inputs and how the organizational- and home visitor-level implementation system inputs influence each other. For example, the state-level agency, such as a MIECHV awardee, may have priorities for ongoing screening of families for substance use issues that influence LIA-level policies and procedures for screening. At the same time, policies and procedures established at the LIA level may feed into decisions the MIECHV awardee makes.

The other two detailed conceptual models—the prevention model and the treatment and recovery model—are companion models that focus on how home visiting programs may deliver the touchpoints differently based on where a family is on the continuum of care. The prevention model is relevant to families identified as at risk for substance use issues, for whom the goal is to prevent the development of substance use disorders. With these families, home visiting staff may

focus on screening, as well as coordinating referrals in the event of a possible substance use issue. The treatment and recovery model is relevant to families who have a member who is identified as having a substance use disorder. For these families, the goals from a clinical standpoint, are to initiate and engage in treatment, reduce substance use, prevent drug overdoses, prevent the occurrence of the physical and mental health conditions that often co-occur with substance use issues, and prevent intergenerational substance use. With these families, home visiting staff may focus on coordination with substance use treatment providers. Programs may universally educate families on substance use issues and deliver strategies to prevent and address substance use issues but the specifics may vary based on where a family is on the continuum of care.

2. What practices are used by home visiting programs to engage and support families to prevent, identify, and address substance use, based on information from select model developers, MIECHV awardee leaders, and Tribal MIECHV grantee leaders?

To understand some of the ways home visiting programs currently engage and support families to prevent, identify, and address the issue of substance use, the project team gathered information from 11 model developers, 7 MIECHV awardee leaders, and 2 Tribal MIECHV grantee leaders. Model developers shared information about the policies and guidance they provide to LIAs delivering the models. MIECHV awardee and Tribal MIECHV grantee leaders shared information about statewide and tribe-wide policies and initiatives that are applicable to LIAs.[1] In addition, the model developers, awardee leaders, and grantee leaders shared information about particular LIAs or grantees that were engaged in efforts to address substance use issues. Although most of the practices described in this report are delivered by LIAs, the project team did not collect any information from LIAs directly (other than Tribal MIECHV grantees that are also implementing agencies).

The inventory findings shed light on the practices programs use at each touchpoint to engage and support families to prevent, identify, and address substance use issues. For example, model developers and Tribal MIECHV grantee leaders described the use of standardized and non-standardized tools, facilitated discussions, and motivational interviewing as practices used to screen families for substance use issues. Similarly, the findings describe the types of practices that support the implementation of the touchpoints, such as approaches to staffing for home visits and training for home visitors. The inventory findings also highlight five key information gaps. Information gaps are areas where more information is needed if stakeholders were to encourage LIAs to implement specific practices related to the touchpoints and implementation system inputs. The gaps fall into two categories: (1) areas where more information is needed about practices because the touchpoint or implementation system input was described in the inventory infrequently, and (2) areas where more information is needed about practices because the touchpoint or implementation system input was described in the inventory more generally. The key information gaps include:

[1] In the case of some Tribal MIECHV grantees, grantee leaders shared information about tribe-wide policies and initiatives that are applicable to themselves if they use MIECHV funds to carry out the activities required to deliver home visiting services to families rather than distributing the funds to LIAs to carry out activities. Most Tribal MIECHV grantees carry out activities themselves.

- Understanding if and how home visiting programs include the provision of case management related to substance use issues—such as home visitors working with substance use treatment providers in discharge planning for families exiting treatment programs. This touchpoint was described least frequently by the select model developers, MIECHV awardee leaders, and Tribal MIECHV grantee leaders, which may indicate that many of them consider the touchpoint to be out of scope. However, the touchpoint may be relevant to some models, particularly those that exclusively serve families that self-report substance use issues.
- Gathering more information about MIECHV awardee and Tribal MIECHV grantee monitoring systems to track substance use-related inputs, activities, and outcomes. The inventory findings show that the select awardee leaders generally do not collect substance use-related data beyond model-developer requirements. ACF requires that the Tribal MIECHV grantees collect data on screening and referrals related to substance use issues. Of the two grantees in the inventory, only one grantee leader described tracking substance use-related information beyond these requirements.
- Understanding the specific practices LIAs use to screen families for substance use issues. Inventory findings show that LIAs set many of the policies related to screening for substance use and use a wide range of screening methods and tools. Detail is needed to understand how LIAs select the screening methods and tools they use; whether screenings are implemented universally with all enrolled families; whether screenings are conducted at regular intervals or in response to a need identified by a family; and how the screening results are used to inform service delivery.
- Learning more information about how home visitors educate families on substance use prevention, identification, treatment, and recovery. All select model developers described home visitors providing education on substance use issues to families, but with variation in the extent of the education offered. Detail is needed about the content that home visitors provide to families and whether that content is tailored for families based on need.
- Similar to the information gap just discussed, professional development for home visitors on substance use was described by the select model developers, MIECHV awardee leaders, and Tribal MIECHV grantee leaders, but they collectively noted variation in the extent of the training provided. Detail is needed about the content and mode of home visitor professional development.

3. What is the state of evidence on practices for working with families with young children around substance use prevention and supporting families with substance use issues through treatment and recovery that can be applied to home visiting?

To identify evidence-based practices that can be applied to home visiting programs and to gather descriptive information about the touchpoints and implementation system inputs, the project team conducted a review of recent literature. Specifically, the literature review aimed to address the following questions: (1) What does research that addresses family substance use outcomes say about practices that home visiting programs may use to prevent, identify, and address substance use issues? (2) What does research say about service delivery models that address related outcomes? and (3) How are the touchpoints and implementation system inputs described in the literature?

In total, the project team reviewed 68 impact, descriptive outcome, and implementation studies. Sixty-four studies addressed family substance use outcomes and were related to either (1) early childhood home visiting models, or (2) other service delivery models delivered in child welfare and physical and behavioral health services with families with young children at risk for or having identified substance use issues (referred to herein as "other service delivery models"). Four studies, recommended by the project's expert consultants and OPRE and HRSA, were on service delivery models that addressed related outcomes (including parenting, child safety, and permanency).

a) What does research that addresses family substance use outcomes say about practices that home visiting programs may use to prevent, identify, and address substance use issues?

Overall, the review indicated that there is little evidence on the effectiveness of practices that can be applied at each touchpoint and implementation system input. Most studies that measured effectiveness and reported on substance use outcomes addressed substance use within an overall model. Specific practices, such as referring, educating, treating, or preventing substance use, were not tested.

Impacts of home visiting models. Research indicates mixed effects of home visiting models on substance use outcomes, although some models have been effective with some outcomes in individual studies. Five studies reported positive impacts on at least one substance use outcome (Barlow et al., 2015; Green, Sanders, & Tarte, 2017; Kitzman et al., 2010; LeCroy & Krysik, 2011; Olds et al., 2010). All these studies enrolled parents prenatally or soon after the birth of a child; one enrolled pregnant American Indian teens. Four of them focused on outcomes of parents. The measure of parental substance use was different in each of the four studies and included illicit drug and marijuana use, alcohol use, receipt of substance use treatment, and impairment of role functioning due to use of alcohol or drugs. The fifth study, a 12-year follow-up of children enrolled in Nurse-Family Partnership, reported on subsequent substance use among children (Kitzman et al., 2010). These five studies with favorable impacts on substance use were conducted in a mix of urban and rural settings. The findings from the five studies provide some evidence of the potential of home visiting models to address substance use issues. However, these findings must be considered within the context of the findings from all of the impact studies on home visiting models identified in this review. Most of the other studies found no significant effects, and one study found a small significant negative impact on substance use (Michalopoulos et al., 2019).[2] Studies of three home visiting models—Family Spirit, Healthy Families America, and Nurse Family Partnership—reported improved substance use outcomes.

Impacts of other service delivery models. Research on other service delivery models provides evidence on practices that can reduce substance use. Specifically, four studies tested service delivery models other than home visiting to address substance use among pregnant

[2] The authors of the study concluded that, because there is not a theoretical reason why home visiting programs would lead to increased substance use and previous studies have not found statistically significant increases in maternal substance use, "the totality of the evidence suggests that home visiting is not increasing the prevalence of substance use" (Michalopoulos et al., 2019, p. 59).

women and families with young children.[3] The four studies tested two therapeutic approaches—ecologically based treatment (EBT) and family behavior therapy (FBT); Screening, Brief Intervention, and Referral to Treatment (SBIRT) with motivational interviewing; and monetary incentives. Stakeholders may assess the appropriateness and feasibility of either incorporating these practices into home visiting services or encouraging home visiting model developers, LIAs, and home visitors to partner with organizations that offer services that use these practices. It is important to note that, despite the findings of each of the four studies, more information is needed about the efficacy of these models and practices in home visiting services.

b) What does research say about service delivery models that address related outcomes?

Research indicates that service delivery models that address related outcomes—such as parenting, child safety, and permanency—can improve parenting outcomes among caregivers with substance use issues and may improve substance use outcomes. Specifically, four studies tested attachment-based parenting programs and the use of peer recovery coaches or mentors. More research is needed, however, on the effects of these models on substance use. In addition, as with the other service delivery models, stakeholders need to consider the appropriateness and feasibility for home visiting programs to coordinate with organizations that offer attachment-based parenting programs or peer recovery coaches or mentors to offer these services to families.

c) How are the touchpoints and implementation system inputs described in the literature?

The review found that the touchpoints and implementation system inputs are generally described in the literature as theorized in the overarching conceptual model, but there is a lack of detail in the literature. To illustrate, the inventory points to efforts to (1) recruit the families with the highest need by partnering with organizations serving these families, and (2) coordinate with external partners (such as through state-level task forces). However, the project team did not identify any studies focused on these topics in the literature review. Overall, several studies described 8 of the 10 touchpoints and implementation system inputs.[4]

[3] These four studies do not represent the full literature on preventing or treating substance use, because the search terms focused on studies that were relevant to pregnant women and families with young children and had approaches relevant to home visiting services, such as services occurring within the home or within the context of a more coordinated service effort. As a result, the review did not include studies of medication-assisted treatment for substance use disorder, nor did it capture studies on behavioral therapies that were conducted before 2010 or with a population other than pregnant women and families with young children. For a broader discussion of evidence-based treatment for substance use, see *Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health* (DHHS, 2016).

[4] The project team did not collect, as part of the literature review, information on serving families based on strategies designed to address substance use issues or on monitoring systems to track substance use-related inputs, activities, and outcomes. The touchpoint emerged from information collected about other touchpoints as part of the literature review, whereas the implementation system input emerged from information collected as part of the inventory of practices.

4. What research opportunities are available to help stakeholders understand how home visiting programs can engage and support families to prevent, identify, and address substance use issues?

Findings from the inventory of practices and the literature review align with the constructs included in the overarching conceptual model. However, limited evidence on *which* touchpoints and practices relate to *which* outcomes makes it difficult for the conceptual model to fully reflect the pathways through which programs can engage and support families to prevent, identify, and address substance use issues. As such, the model serves as a framework for future research by identifying theorized pathways that require testing. The project team met with the project's expert consultants to gather input on (1) the constructs in the overarching conceptual model, and (2) the findings from the inventory of practices and literature review. Based on their input and the findings presented in this report, the project team developed research areas to guide future study. Research areas fall into two broad categories:

1. **Building the evidence base on practices that can be applied at the touchpoints.** Research areas include the use of screening results, the types of training that are most effective in equipping home visitors to offer education on substance use prevention, identification, treatment, and recovery to families, and practices to support families in making progress toward their goals.
2. **Exploring implementation system inputs.** Research areas include home visitor competencies and certifications for addressing substance use issues, the presence of substance use issues as a consideration for program eligibility, and the use of monitoring systems to track family retention in referred treatments.

D. Next steps

Under the next phase of the Touchpoints project, the project team will seek input from OPRE, HRSA, and stakeholders on priority research areas. The team will then produce a series of brief study design reports that address specific research areas, engaging stakeholders to generate research questions and provide input on study designs. This process will help the team prioritize those research questions that are most feasible and of greatest interest to ACF and other stakeholders and that can be used for a variety of purposes at federal, state, or local levels. The project team will then pre-test potential measurement tools or data collection protocols. Next, the project team will develop a detailed study design that addresses one or more of the priority research questions and write a subsequent report summarizing this study design.

I. INTRODUCTION

The Touchpoints for Addressing Substance Use Issues in Home Visiting (Touchpoints) project generated knowledge about how home visiting programs—including those funded through the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program—can engage and support families to prevent, treat, and address substance use issues. Funded by the Office of Planning, Research, and Evaluation (OPRE) within the Administration for Children and Families (ACF) in collaboration with the Health Resources and Services Administration (HRSA), the project was conducted by Mathematica and its partners, Dr. Ron Prinz of the University of South Carolina, Dr. Darius Tandon of Northwestern University, and Dr. Norma Finkelstein of the Institute for Health and Recovery.

This report provides a summary for researchers, federal staff, home visiting model developers, and program administrators indicating what is generally known and what needs to be learned about how home visiting programs can engage and support families on these issues. The report describes project findings around six touchpoints and four implementation system inputs through which programs can engage and support families to address substance use issues (Table I.1).

What are substance use issues?

In this report, "substance use issues" means use of substances (including alcohol and legal and illegal drugs) now or in the future in a manner, situation, amount, or frequency that may cause harm to users or to those around them. This term encompasses substance abuse, substance misuse, and substance use disorder (American Psychiatric Association, 2013; Social Security Act of 1935; Substance Abuse and Mental Health Services Administration, 2016).

What are touchpoints?

For this project, touchpoints are activities involving direct interaction between home visiting staff and families through which home visiting programs can help prevent, identify, and address substance use issues among families.

What are implementation system inputs?

Implementation system inputs are organizational- and home visitor-level resources, infrastructure, and constraints that can support the delivery of home visiting services.

What are practices?

Practices are procedures, processes, and techniques to prevent, identify, and address substance use issues among families.

Table I.1. Touchpoints and implementation system inputs

Touchpoints	Implementation system inputs
Activities involving direct interaction between home visiting staff and families that may help prevent, identify, and address substance use issues among families	**Organizational- and home visitor-level resources, infrastructure, and constraints that may support the delivery of home visiting services**
1. Screening families for substance use issues	1. Home visit staffing (staff characteristics and staffing structure)
2. Educating families on substance use prevention, identification, treatment, and recovery	2. Professional development for home visitors on substance use issues
3. Serving families based on strategies designed to prevent and address substance use issues	3. Eligibility, recruitment, intake, and enrollment of families with substance use issues
4. Referring families to substance use treatment providers and related supports	4. Monitoring systems to track substance use-related inputs, activities, and outcomes
5. Coordinating with substance use treatment providers and related supports	
6. Providing case management related to substance use issues	

A. Background

Parents' substance use issues can affect outcomes for children through prenatal substance use and parenting. In the Mother and Infant Home Visiting Program Evaluation (MIHOPE), the national evaluation of home visiting programs under MIECHV, 31 percent of home visiting participants reported binge alcohol use or illegal drug use just a few months prior to pregnancy (Duggan et al., 2018).[5] Prenatal substance use can lead to several problems for children, including prematurity and low birth weight, greater reactivity to stress, increased arousal, sleep and feeding disturbances, excessive crying, difficulties with sensory integration (including responses to light and sound), and hyperactivity (National Academies of Sciences, Engineering, & Medicine, 2016; Neger & Prinz, 2015). Substance use can affect parenting in multiple ways. Substances can affect a parent's brain and receptor systems by interfering with the production of oxytocin and dopamine. This interrupts the reward response experienced during interactions with infants, reducing a parent or caregiver's motivation to engage with and respond to children. In addition, substance use may affect a parent or caregiver's ability to regulate stress, leading to harsh parenting behaviors or withdrawal (National Academies of Sciences, Engineering, & Medicine, 2016; Neger & Prinz, 2015).

What is home visiting?

Home visiting is a voluntary services in which "trained professionals meet regularly with expectant parents or families with young children in their homes, building strong, positive relationships with families who want and need support" (HRSA, 2018a).

What is a home visiting program?

For this project, the term "program" encompasses the implementation of home visiting services at the local level.

What are the major components of home visiting services?

Home visiting services include three major types of activities: (1) assessment of family needs; (2) parent education and support; and (3) referral to, and coordination with, needed services (Michalopoulos et al., 2015).

What is the MIECHV Program?

The MIECHV Program encourages collaboration at the federal, state, and community levels to administer evidence-based home visiting programs and provide services to families based on families' needs.

What does the MIECHV Program fund?

States, territories, and tribes receive funding through MIECHV and are required to use at least 75 percent of this funding to implement evidence-based home visiting models, with remaining funds being used to implement and evaluate promising approaches. Although MIECHV does not fund direct services to families, it supports states, territories, and tribes in using home visiting models and promising approaches to provide services to families based on families' needs (HRSA, n.d.).

Home visiting is generally a prevention strategy to support expectant parents and families with young children by offering them "resources and skills to raise children who are physically, socially, and emotionally healthy and ready to learn" (HRSA, 2019). The characteristics of the families served, the outcomes targeted, and the services delivered vary by the home visiting model. Depending on the home visiting model, home visiting services may be offered to families before the birth of a child and any time up to a child's entry into kindergarten. As such, services are designed to optimize parenting practices during a critical period in which parents are motivated to pursue behavioral change (Kuo et al., 2013; Lee King, Duan, & Amaro, 2015). At the core of home visiting services is the strength of the relationship between the home visitor and the

[5] MIHOPE is a legislatively mandated, large-scale evaluation of the effectiveness of home visiting programs funded by MIECHV. It includes four home visiting models: (1) Early Head Start - Home Based Program Option, (2) Healthy Families America, (3) Nurse-Family Partnership, and (4) Parents as Teachers.

caregiver, whose trust in the home visitor permits broad conversations around wellness, including candid discussions of sensitive topics like substance use issues and the presence of violence or neglect in the home (Dauber et al., 2017a). In addition, a cornerstone of most home visiting models is the use of community partnerships. These partnerships include referrals to services such as substance use treatment and adult mental health services, as well as child welfare; child mental health; and health, housing, and nutrition services (HRSA, n.d.). When these referral systems are in place, home visitors can connect families to treatment services they need and coordinate with providers to support ongoing recovery (Dauber et al., 2017a).

Legislation passed largely in response to the opioid epidemic offers new funding opportunities to expand home visiting programs. First, in 2016, the Comprehensive Addiction and Recovery Act (CARA) amended the Child Abuse Prevention and Treatment Act (CAPTA). CAPTA, initially enacted in 1974, requires states to have policies and procedures in place to address the needs of substance-exposed infants (Child and Family Services Reviews, n.d.). The 2016 amendment added a requirement for states to have a plan of safe care that includes home visiting services and other services and supports for the health and substance use disorder treatment needs of the families of substance-exposed infants (ACF, 2017). Second, the Family First Prevention Services Act, enacted in 2018, allows states, territories, and tribes to provide prevention services to families in order to help children being considered for foster care to stay with their parents or relatives. These prevention services may include in-home parent skill-based programs, substance use prevention and treatment services, and mental health services (National Conference of State Legislatures, 2018).

Although home visiting can play an important role in engaging and supporting families to prevent, identify, and address substance use issues, several considerations are important to note. First, evidence-based models funded through MIECHV are not designed as substance use interventions, nor can MIECHV funds generally be used for direct services with substance use treatment providers. Rather, home visitors may engage and support families to prevent and identify possible issues. When issues exist or are identified, home visits may refer families to substance use treatment providers and support them to connect with those providers and, if necessary, engage in treatment and other support services. Home visitors, however, may feel unequipped to address the topic of substance use with enrolled families (Duggan et al., 2018; Harden, Denmark, & Saul, 2010; McDaniel, Tandon, Heller, Adams, & Popkin, 2015; Tandon, Mercer, Saylor, & Duggan, 2008). Second, the prevention and reduction of unhealthy substance use is one of many outcomes that home visiting programs may seek to address. Home visitors often engage families to work towards a wide range of outcomes, including positive parenting, healthy child development, maternal health, and the economic self-sufficiency of families. Finally, because families dealing with substance use issues may be less likely to engage with community

What are local implementing agencies (LIAs)?

LIAs are the agencies that carry out the activities required to deliver home visiting services to families. They may implement one or more home visiting models.

Generally, states and territories that receive MIECHV funding distribute funds they receive to LIAs to carry out activities; Tribal MIECHV grantees typically use funds to carry out activities themselves.

What are active ingredients?

Active ingredients are the set of characteristics of home visiting programs that are needed to produce specific outcomes, whether for most participants or for certain families (Home Visiting Applied Research Collaborative, n.d.).

support systems, including home visiting programs, local implementing agencies (LIAs) may be less likely to serve this population.

This report describes what is known and what needs to be learned about how home visiting programs can engage and support families around substance use issues. The findings contribute to existing literature on home visiting and point to specific research areas that may warrant further investigation by stakeholders to better understand how to work with families to prevent, identify, and address substance use issues. Ultimately, research on these areas of interest can contribute to a better understanding of the touchpoints and practices (sometimes referred to as "active ingredients") that drive improvements in outcomes (Supplee & Duggan, 2019).

B. Research questions and methodology

This final report addresses the following four research questions by synthesizing findings from the Touchpoints project's Phase 1 tasks:

a) What are the conceptual touchpoints for how home visiting programs may prevent, identify, and address substance use issues among families (including pregnant women, children, parents, and other family members)? What implementation system inputs support programs to deliver the touchpoints?

b) What practices are used by home visiting programs to engage and support families to prevent, identify, and address substance use, based on information from select model developers, MIECHV awardee leaders, and Tribal MIECHV grantee leaders?

c) What is the state of evidence on practices for working with families with young children around substance use prevention and supporting families with substance use issues through treatment and recovery that can be applied to home visiting?

d) What research opportunities are available to help stakeholders (researchers, federal staff, model developers, and program administrators) understand how home visiting programs can engage and support families to prevent, identify, and address substance use issues?

The project's tasks and a brief summary of the methodology used for each task are listed in Table I.2. For a full description, see Appendices C–D and F–G.

Table I.2. Touchpoints project's tasks, methodology, and time frame

Task	Methodology	Time frame
Develop an overarching conceptual model	Drew from the conceptual framework of home visiting services developed for MIHOPE and the Institute of Medicine's continuum of care model Applied findings from other project tasks to iteratively refine the model[1]	November 2017-July 2018
Conduct an inventory of practices used in home visiting programs	• Reviewed information on home visiting models, MIECHV awardees', and Tribal MIECHV grantees to identify 11 models, 7 awardees, and 2 grantees to investigate further, primarily based on summaries developed by HRSA and ACF • Reviewed information on the subset of models, awardees, and grantees via publicly available documents • Conducted telephone discussions with the subset of model developers and awardee and grantee leaders to confirm accuracy of information collected and obtain any available supplementary documents	January-September 2018
Conduct a literature review	Identified and screened literature published after January 2010 based on (1) a targeted library search on home visiting models and other multicomponent service delivery models delivered in child welfare, and physical and behavioral health services with families with young children; and (2) input from the project's expert consultants and OPRE and HRSA; reviewed 68 studies that met screening criteria	March-December 2018
Develop detailed models to further delineate the pathways in the overarching conceptual model	• Gathered stakeholder input on the overarching conceptual model to identify high-priority constructs • Focused on high-priority constructs to delineate the pathways by which these constructs influence the delivery of activities and outcomes	March 2018-January 2019
Gather stakeholder input to incorporate the latest information and insights in the tasks listed above	Conducted both group meetings and one-on-one meetings with the following stakeholder groups: (1) federal stakeholders, (2) home visiting technical assistance providers, (3) experts on tribal home visiting services and working with tribal communities, (4) home visiting model developers, and (5) MIECHV awardee leaders and Tribal MIECHV grantee leaders	March-November 2018
Identify research areas of interest	Synthesized findings from the project's tasks and identified areas needing further investigation	December 2018-April 2019

[1] For example, the findings from the inventory, literature review, and stakeholder engagement tasks helped the project team identify an opportunity to streamline the list of touchpoints by combining observation of families for substance use issues with screening of families for substance use issues.

Notes: A full description of the methodologies used for the tasks are in Appendices C–D and F–G.

In addition to gathering stakeholder input, this project engaged expert consultants to help inform the work. More information about these expert consultants is in Appendix G.

ACF = Administration for Children and Families; HRSA = Health Resources and Services Administration; MIECHV = Maternal, Infant, and Early Childhood Home Visiting; MIHOPE = Mother and Infant Home Visiting Program Evaluation; OPRE = Office of Planning, Research, and Evaluation.

C. Organization of the report

The remainder of this report provides a detailed description of study findings. Chapter II identifies the key conceptual touchpoints and implementation system inputs through which home visiting programs may prevent, identify, and address substance use issues among families. Chapter III describes practices used in home visiting programs to prevent, identify, and address substance use issues, based on information from select home visiting model developers, MIECHV awardee leaders, and Tribal MIECHV grantee leaders. Chapter IV summarizes the state of evidence on practices for preventing, identifying, and addressing substance use issues among families with young children that may be applied to home visiting. Chapter V focuses on the implications of the findings and identifies research areas of interest to guide future study. The report includes several appendices: Appendix A is a glossary of terms used in this report; Appendix B includes information about the overarching conceptual model and detailed conceptual models; Appendix C describes the methods used for the inventory of practices; Appendix D details the methods used for the literature review; Appendix E is a summary of the studies included in the literature review; Appendix F summarizes information on the stakeholder groups that were contacted and provided input; and Appendix G summarizes information on the expert consultants who were contacted and provided input.

II. WHAT ARE THE CONCEPTUAL TOUCHPOINTS FOR HOW HOME VISITING PROGRAMS MAY PREVENT, IDENTIFY, AND ADDRESS SUBSTANCE USE ISSUES AMONG FAMILIES? WHAT IMPLEMENTATION SYSTEM INPUTS SUPPORT PROGRAMS TO DELIVER THE TOUCHPOINTS?

To understand how home visiting programs can prevent, identify, and address substance use issues among families, the project team developed an overarching conceptual model to represent a comprehensive and broad range of relevant inputs, touchpoints, short- and long-term outcomes, and contextual factors. The project team also developed three detailed conceptual models that take a closer look at constructs in the overarching conceptual model that were identified as high priority by the project's expert consultants, federal staff, and technical assistance providers that support the states, territories, and tribal entities that receive funding through the MIECHV Program. One of these detailed models focuses on the implementation system inputs. The other two detailed models focus on touchpoints: one on substance use prevention, the other on supporting families in treatment and recovery.

Taken together, the four conceptual models present the theoretical pathways through which home visiting programs can prevent, identify, and address substance use issues. As such, all models focus on the six touchpoints introduced in Chapter I. This chapter provides an overview of the overarching conceptual model and a summary of how the detailed conceptual models supplement the overarching conceptual model. Overall, the models frame the discussion of the findings from the inventory of practices (Chapter III) and the literature review (Chapter IV). More information on the overarching conceptual model and three detailed conceptual models, including figures of the detailed models, is in Appendix B.

A. Overarching conceptual model

This section describes the project's overarching conceptual model (Figure II.1), paying particular attention to its touchpoints and implementation system inputs, which were a focus in each of the project's tasks.

Figure II.1. Overarching conceptual model

Inputs

Parents/caregivers
- Socioeconomic and demographic characteristics
- Pregnant and/or parenting
- Risk (history of trauma, co-occurring conditions, family history of substance use issues) and protective factors
- Substance type and severity of use

Local implementing agencies (LIAs), referral partners
- Experiences with substance use
- Relationships/communication systems
- Community linkages
- Organizational climate
- Leadership and decision-making style

Home visitors
- Qualifications
- Experience
- Demographic characteristics
- Attitudes and beliefs about substance use

Home visiting models
- Target population and outcomes
- Requirements for home visitors' background and professional development
- Model components

Implementation system

Home visitor level
- **Home visit staffing**
- **Professional development for home visitors on substance use issues**

Organizational level
- **Eligibility, recruitment, intake, and enrollment of families with substance use issues**
- **Monitoring system to track substance use-related inputs, activities, and outcomes**
- Policies and procedures for ongoing screening of families for substance use issues
- Linkages to referral partners that offer families support in addressing substance use issues
- Coordination with referral partners to facilitate referrals and exchange information about families
- Organizational climate, culture, and leadership and communication systems capable of supporting delivery of the touchpoints

Touchpoints to address substance use issues across the continuum of care

- **Promotion**
- **Universal prevention**
- **Selective prevention**
- **Indicated prevention**
- **Treatment and maintenance support**

1. Screening families for substance use issues
2. Educating families on substance use prevention, identification, treatment, and recovery
3. Serving families based on strategies designed to prevent and address substance use issues
4. Referring families to substance use treatment providers and related supports
5. Coordinating with substance use treatment providers and related supports
6. Providing case management related to substance use issues

- Expanding parents' knowledge of child development
- Promoting positive parent-child relationships
- Promoting parent or caregiver and child health and well-being

Short-term outcomes

Parent/caregivers
- Reduction in risky behaviors
- Enhanced self-efficacy, motivation, and self-regulation
- Increased access to and use of treatment and maintenance services
- Increased access to and use of social supports

Parenting
- Improved parenting attitudes and skills
- Reduction in parenting stress
- Enhanced responsiveness

Children
- Reduced injury-related emergency department visits
- Increased access to and use of community services

Home visitors
- Increased capacity to screen for and discuss substance use with families
- Increased knowledge of resources and capacity to facilitate referrals

LIAs
- Improved referral networks and service coordination
- Improved ability to support home visitors

Long-term outcomes

Parents/caregivers
- Prevention of/reduction in drug and alcohol use
- Safe home environment
- Ongoing access to and use of treatment and maintenance services
- Ongoing access to and use of social supports
- Improved health

Parenting
- Positive parent-child relationships

Children
- Improved safety and reduction in risk of abuse and neglect
- Improved health and well-being

Home visitors
- Improved self-efficacy
- Improved job retention
- Reduced job-related burnout

LIAs
- Increased ability to engage and meet the needs of families affected by substance use

• Policy factors **• Community context** **• Stigma**

Note: Touchpoints are activities involving direct interaction between home visiting staff and families through which home visiting programs can engage and support families to prevent, identify, and address substance use issues

1. Inputs

Inputs (first panel in Figure II.1) are the resources, infrastructure, and constraints that support efforts of home visiting services to prevent, identify, and address substance use issues among families. Four groups contribute inputs: (1) parents/caregivers, (2) home visitors, (3) LIAs and referral partners, and (4) home visiting models.

Another input is the implementation system—the organizational- and home visitor-level inputs that support the delivery of home visiting services. This is a critical link between the services home visitors and LIAs plan to deliver to families (including those to prevent, identify, and address substance use issues) and the services families actually receive (Michalopoulos et al., 2013). The implementation system comprises organizational-level (LIA) and home visitor-level policies, procedures, infrastructure, and staff supports associated with quality implementation (Fixsen et al., 2005; Meyers et al., 2012). Organizational features of the implementation system include eligibility, recruitment, intake, and enrollment policies and procedures; monitoring systems to track substance use-related inputs, activities, and outcomes; policies and procedures for ongoing screening of families for substance use issues; linkages to referral partners that offer families support in addressing substance use issues; coordination with referral partners to facilitate referrals and exchange information about families; and organizational climate, culture, and leadership and communication systems capable of supporting delivery of the touchpoints. Home visitor-level features of the implementation system include home visit staffing (staff characteristics and staffing structure) and professional development for home visitors on substance use issues. Ultimately, the implementation system, as well as other inputs, influence the delivery of the touchpoints.

2. Touchpoints

Touchpoints (second panel in Figure II.1) are situated along a continuum of care and, as such, may be offered to all families or may vary based on the needs of individual families. For this project, the team used the Institute of Medicine's continuum of care (Institute of Medicine, 1994; National Research Council & Institute of Medicine, 2009):

- *Promotion* refers to interventions that target a whole population and aim to enhance individuals' emotional and social competence and strengthen their ability to cope with adversity.
- *Prevention* refers to interventions designed to prevent or reduce the risk of substance use issues. It includes these types of interventions:
  - *Universal prevention* refers to preventive interventions delivered to all individuals, regardless of their individual risk level for substance use issues.
  - *Selective prevention* refers to preventive interventions delivered to individuals who belong to a group at elevated risk for substance use issues, such as those with a family history of substance use issues or who reside in a neighborhood with elevated substance use.
  - *Indicated prevention* refers to preventive interventions delivered to individuals who are identified as having an increased vulnerability for a substance use disorder based on

individual indications or pre-disorder signs but who have not received a substance use disorder diagnosis.

- *Treatment* refers to interventions delivered to individuals who have a known substance use disorder. It involves efforts to identify individuals in need of treatment (called *case identification*). *Maintenance support* includes services that support efforts by individuals with substance use disorders to live productive and healthy lives. Recovery services can also offer help with abstinence from substances.

Touchpoints focused on promotion—including expanding parents' knowledge of child development, promoting positive parent-child relationships, and promoting parent and child health and well-being—are offered to all families receiving services. Screening families for substance use issues is also a component of services for all these families. Providing education on substance use prevention, identification, treatment, and recovery may be offered generally to all families and in more detail or in a more tailored way to families at an elevated risk of developing substance use issues or with a known substance use disorder. Strategies designed to prevent and address substance use may be used when serving families at an elevated risk of developing substance use issues, as well as when serving those with a known substance use disorder (see Table II.1). Other touchpoints—including coordinating with substance use treatment providers and related supports and providing case management related to substance use issues—are relevant only for families with identified substance use issues.

For this project, the team focused on touchpoints that can target working with families to prevent, identify, and address substance use issues rather than touchpoints that broadly apply to working with families around substance use issues.[6] For this reason, the team did not include the touchpoints focused on promotion, because they are goals of home visiting programs generally (HRSA, n.d.). In addition, touchpoints focused on promotion have been the focus of other studies (such as Neault et al. 2012).

Table II.1. Touchpoints through which home visiting programs can prevent, identify, and address substance use issues among families

Touchpoint	Definition
1. Screening families for substance use issues	Conducting a brief process that indicates whether families are likely to have past or current substance use issues. The process may be completed with a standardized tool; a structured interview; or informally, such as through conversation. This includes identifying during home visits nonverbal signals indicating that families may be experiencing substance use issues.
2. Educating families on substance use prevention, identification, treatment, and recovery	Disseminating and discussing information with families on substance use issues, including prevention, identification, treatment, and recovery. It also includes, more generally, providing families with information on strategies to promote parent health, child health, and family well-being—all of which relate to substance use issues.
3. Serving families based on strategies designed to prevent and address substance use issues	Supporting families to change behaviors and promoting positive social support systems. To support families to change behaviors, home visitors may engage in goal development using a communication approach such as motivational interviewing. This touchpoint may also include working with families to assess their social support systems and, if necessary, expand or develop new support systems.

[6] Throughout the report, the project team uses the term "prevention" to refer to three types of interventions: universal prevention, selective prevention, and indicated prevention.

TABLE II.1 *(Continued)*

Touchpoint	Definition
4. Referring families to substance use treatment providers and related supports	Linking families to community medical, behavioral health, and social service providers that offer support in dealing with substance use issues.
5. Coordinating with substance use treatment providers and related supports	Collaborating with community medical, behavioral health, and social service providers that offer families support in dealing with substance use issues to provide families with more efficient services and effective support. This includes collaboration with local child welfare agencies in the context of substance use issues. That collaboration may involve setting up communication channels so that local implementing agencies can receive referrals from, and make referrals to, child welfare agencies; continue home visiting services for families even if children are not in their custody; and help families comply with child welfare contracts.
6. Providing case management related to substance use issues[a]	Working with families to support adherence to substance use treatment plans and recovery goals, particularly during and after exit of a treatment program.

[a] Some home visiting model developers may consider this touchpoint to be out of scope for home visiting services. However, the touchpoint may be relevant to several home visiting models, particularly those that exclusively serve families that self-report substance use issues.

3. Improving short- and long-term outcomes

When the touchpoints are delivered, home visiting is hypothesized to lead to better short- and long-term outcomes (third and fourth panels in Figure II.1) for parents/caregivers, children, home visitors, and the implementing agencies. Both short- and long-term outcomes involve improvements in the following categories:

- **Parent or caregiver outcomes.** In the short term, these include reductions in risky behaviors; enhanced self-efficacy, motivation, and regulation; and increased access to and use of treatment services, maintenance services, and social support systems. Long-term outcomes include prevention or reduction of substance use; a safe home environment, ongoing access to and use of treatment and maintenance services as well as social supports; and improved parental health.
- **Parenting outcomes.** In the short term, this includes improved parenting attitudes and skills as a result of increased knowledge of child development, reduction in parental stress, and enhanced parental responsiveness. In the long term, this includes positive parent-child relationships.
- **Child outcomes.** Short-term outcomes for children include reduced injury-related emergency department visits due to improved safety and reduced risk of neglect by the parent or caregiver and increased access to and use of community services. In the long term, this includes improved health and safety of children and improved health and well-being through enhanced social, emotional, and cognitive development.
- **Home visitor outcomes.** Short-term outcomes include increased capacity to screen for and discuss substance use issues with families and increased knowledge of education, treatment, and referral resources and capacity to facilitate referrals. In the long term, these include improved self-efficacy, improved job retention, and reduced job-related burnout.

- **Implementing agency outcomes.** In the short term, these include improved referral networks involving community partner agencies and improved ability to support home visitors. In the long term, these include an increased ability to engage and meet the needs of families affected by substance use issues.

4. Contextual factors

The federal, tribal, state, and local policy landscape; community context; and stigma may influence the inputs and touchpoints (bottom gray bar in Figure II.1). At the federal policy level, this context includes the passage of CARA, which may increase funding available for opioid prevention and education efforts for home visiting services. Tribal, state, and local child protection laws, including policies related to the harm to children caused by prenatal drug exposure, also affect how home visiting services and home visitors approach substance use issues. This includes some policies that require health care professionals to test for or report prenatal drug exposure, which could affect procedures regarding referrals to child welfare or home visiting services' eligibility criteria. The community context, which includes the availability and accessibility of substance use treatment providers in an area, will affect the ability of home visiting services to refer families for other services and families' ability to successfully enroll in those services. Finally, stigma associated with substance use disorders and other mental health issues may influence the way home visiting services and home visitors approach substance use issues. For individuals with substance use issues, stigma may serve as a barrier to seeking health care and substance use treatment services (Henderson et al., 2008; Keyes et al., 2010; Radcliffe & Stevens, 2008; Semple et al., 2005).

B. Summary of how the detailed conceptual models supplement the overarching conceptual model

This section summarizes how the three detailed conceptual models—(1) the implementation system inputs model, (2) the prevention model, and (3) the treatment and recovery model—take a closer look at high-priority constructs in the overarching conceptual model. As previously noted, more information on the detailed models, including figures of the models, is in Appendix B.

1. Detailed conceptual model on implementation system inputs

Expert consultants, federal staff, and technical assistance providers identified implementation system inputs as a high-priority construct in the overarching conceptual model, given that the implementation system links the services that home visitors and LIAs plan to deliver to families with the services families actually receive. Expert consultants, federal staff, and technical assistance providers expressed a desire to better understand the implementation system inputs at both the organization and home visitor levels. In response, the project team developed a detailed conceptual model that hones in on the implementation system inputs, identifying how the state-, territory-, or tribal-level entity, home visiting model, and referral partners influence them and how the organizational- and home visitor-level implementation system inputs influence each other.

The detailed model identifies factors that influence the organizational-level implementation system inputs:

- **State-, territory-, or tribal-level entity.** This type of entity, such as an MIECHV awardee, oversees home visiting services and may establish priorities that affect the LIA-level implementation system inputs. For example, an MIECHV awardee may have priorities for ongoing screening of families for substance use issues that may influence the policies and procedures in place at LIAs in its state.
- **Home visiting model.** The home visiting model being implemented by a given LIA influences the organizational level implementation system inputs by specifying the target population, expected outcomes for children and families, home visit staffing criteria, and staff model-specific professional development. For example, the home visiting model, by design, may include professional development for home visitors related to preventing, identifying, and addressing substance use issues.
- **Referral partners.** The ability of LIAs and referral partners to develop and maintain systems for building linkages and exchanging information with each other influences the organizational-level implementation system inputs. For example, a referral partner may have policies and procedures in place for coordinating with LIAs to facilitate referrals. Important to note is that the ability of LIAs and referral partners to coordinate services is influenced by the features of referral partners, such as accessibility, and the availability of referral partners in a given geographic area.

Of note, the state-, territory-, or tribal-level entity and the referral partners influence each other. For example, state-level initiatives (such as task forces) may interact with referral partners through efforts to build linkages across the state. In addition, the organizational-level implementation system inputs influence the referral partners, given that an LIA and the referral partners it forms linkages with will interact to make referrals and, if applicable, coordinate the services they deliver to families. The organizational-level implementation system inputs, in some cases, may also influence the state-, territory-, or tribal-level entity and home visiting model. For example, policies and systems established at the LIA level may feed into decisions at the state level.

The detailed model also delineates how the organizational-level implementation system inputs and the home visitor-level implementation system inputs influence each other. For example, the extent to which an LIA has linkages established with medical, behavioral health, and social service providers will influence the ability of home visitors to address the needs of families with substance use issues. Home visitor-level implementation system inputs may influence LIA-level policies, procedures, and systems when LIAs have communication and data systems that facilitate gathering feedback from home visitors. For example, home visitor feedback to an LIA on facilitators and challenges in administering a particular screening tool may influence how the LIA trains home visitors on administering the screening tool.

2. Detailed conceptual models on prevention and treatment and recovery

Expert consultants, federal staff, and technical assistance providers also expressed a desire to better understand how home visiting services may customize and deliver the touchpoints differently based on where a family is on the continuum of care. In response, the project team developed two companion detailed conceptual models: (1) the prevention model, and (2) the treatment and recovery model.

The prevention model is relevant to families identified as at risk for substance use issues, for whom the goal is to prevent the development of substance use disorders. The treatment and recovery model is relevant to families who have a member who is identified as having a substance use disorder. For these families, the goals, from a clinical standpoint, are to initiate and engage the caregiver in treatment, reduce substance use, prevent drug overdoses, prevent the occurrence of the physical and mental health conditions that often co-occur with substance use issues, and prevent intergenerational substance use.[7] Families may move from being at risk for substance use issues (in the prevention model) to having a substance use disorder (in the treatment and recovery model) and vice-versa at any time during their participation in home visiting services. Table II.2 summarizes how home visiting programs may deliver the prevention and treatment and maintenance support touchpoints differently, based on where a family is on the continuum of care.

[7] Substance use disorders commonly co-occur with physical health conditions including cardiovascular disease, cancer, HIV, and hepatitis C and mental health conditions such as anxiety, post-traumatic stress disorder, depression, bipolar disorder, schizophrenia, and attention deficit hyperactivity disorder (National Institute on Drug Abuse, 2018).

Table II.2. Prevention and treatment and maintenance support touchpoints for families at risk for substance use issues or with a substance use disorder

Touchpoint[1]	How home visiting programs may deliver the touchpoint for families at risk for substance use issues (in the prevention model)	How home visiting programs may deliver the touchpoint for families with a substance use disorder (in the treatment and recovery model)
Screening families for substance use issues	Use standardized tools delivered at regular intervals, supplemented with non-standardized tools and observations, to identify a family's risk for substance use issues.	Not applicable (families with a known substance use disorder do not need to be screened for substance use issues).
Identifying families at risk for substance use issues or with a substance use disorder2	Use screening and observational information to identify families at risk for substance use issues or with a substance use disorder. If families are identified as having a substance use disorder, they are moved to the treatment and recovery model.	Identify families with a known substance use disorder based on information from the prevention model or from referrals from medical, behavioral health, and social service providers.
Referring families to substance use treatment providers and related supports	Refer families to medical or substance use treatment providers for an assessment to determine if they have a substance use disorder. If families are identified as having a substance use disorder, they are moved to the treatment and recovery model.	Refer families for substance use treatment services and supports, which may include referrals to a peer recovery coach.3
Educating families on substance use prevention, identification, treatment, and recovery	Offer families general or targeted and detailed information about the negative effects of substance use.	Offer families general or targeted and detailed information about the negative effects of substance use.
Serving families based on strategies designed to prevent and address substance use issues	Serve families with the goals of: • Improving parenting skills • Reducing current substance use to prevent the development of a substance use disorder and improve overall health • Increasing positive support systems	Serve families with the goals of: • Improving parenting skills • Reducing current substance use to prevent the development of a substance use disorder and improve overall health • Increasing positive support systems • Seeking substance use treatment, remaining engaged in treatment • Seeking treatment for any co-occurring mental health conditions
Providing case management related to substance use issues and coordinating with substance use treatment providers and related supports4	Not applicable (families at risk for substance use issues do not need substance use treatment).	Provide case management and care coordination to family members who have a substance use disorder. These services involve assessments to identify need for services, referrals to other medical and social support services, collaboration with other providers and family members to organize services, and monitoring and follow up on care.

[1] The touchpoints in this table are listed in a unique order that aligns with the pathways outlined in the prevention and treatment and recovery models. Information on the pathways is in Appendix B.

[2] The prevention model differentiates identifying families with substance use issues from screening, because this is a decision point as to whether a family receives a referral or receives (or continues to receive, if already ongoing) education and strategies to prevent substance use issues. In the overarching conceptual model and other detailed models, screening and identifying are combined as one touchpoint.

[3] A peer recovery coach is a professional with a personal history of substance use problems who provides support and guidance to individuals with substance use issues.

[4] The treatment and recovery model combines the touchpoints of (1) providing case management related to substance use issues, and (2) coordinating with substance use treatment providers and related supports because the model assumes that home visiting services keep families enrolled during the substance use treatment period. In the overarching conceptual model, these two touchpoints are distinct.

III. WHAT PRACTICES ARE USED BY HOME VISITING PROGRAMS TO ENGAGE AND SUPPORT FAMILIES TO PREVENT, IDENTIFY, AND ADDRESS SUBSTANCE USE?

The project team conducted an inventory of practices used in home visiting programs to prevent, identify, and address the issue of substance use with families. The overall purpose of the inventory was to understand how home visiting models, MIECHV awardees, and Tribal MIECHV grantees support families at risk of or experiencing substance use issues. The project team gathered information on practices from:

- 11 home visiting model developers
- 7 MIECHV awardee leaders
- 2 Tribal MIECHV grantee leaders[8]

The 11 models are either evidence-based home visiting models that were implemented in more than one state or tribe or home visiting models focused on serving families with substance use issues that were implemented by MIECHV awardees or Tribal MIECHV grantees as promising approaches at the time of information gathering.[9] Of the 7 MIECHV awardees, 5 were selected for inclusion by the project team, OPRE, and HRSA because they had substance use-related activities already underway at the time of information gathering; leadership of the remaining 2 awardees volunteered to participate in the study after learning about it through the MIECHV Program. The 2 Tribal MIECHV grantees were selected for inclusion in the study by the project team, OPRE, and ACF because they also had substance use-related activities already under way at the time of information gathering.

Model developers shared information about the policies and guidance they provide to LIAs delivering the models. MIECHV awardee and Tribal MIECHV grantee leaders shared information about statewide and tribe-wide policies and initiatives that are applicable to LIAs.[10] In addition, the model developers, awardee leaders, and grantee leaders shared information about particular LIAs or grantees that were engaged in efforts to address substance use issues. Although most of the practices described in this chapter are delivered by LIAs, the project team did not collect any information from LIAs directly (other than Tribal MIECHV grantees that are also implementing agencies).

[8] The Tribal MIECHV Program "is funded by a 3 percent set-aside from the larger MIECHV Program." Tribal grantee requirements differ from MIECHV awardee requirements, given the unique cultural contexts and needs of tribal communities. For more information, see https://www.acf.hhs.gov/ecd/home-visiting/tribal-home-visiting.

[9] Evidence-based home visiting models meet DHHS criteria for evidence of effectiveness. For more information, see https://homvee.acf.hhs.gov/HRSA/11/Models_Eligible_MIECHV_Grantees/69/

[10] In the case of some Tribal MIECHV grantees, grantee leaders shared information about tribe-wide policies and initiatives that are applicable to themselves if they use MIECHV funds to carry out the activities required to deliver home visiting services to families rather than distributing the funds to LIAs to carry out activities. Most Tribal MIECHV grantees carry out activities themselves.

This chapter addresses the following question: Did the select model developers, MIECHV awardee leaders, and Tribal MIECHV grantee leaders describe practices to prevent, identify, and address substance use issues in relation to the touchpoints and implementation system inputs in the overarching conceptual model? The inventory was not designed to collect and assess whether the practices described are effective. The chapter first presents the inventory findings related to the touchpoints, followed by discussion of the findings related to the implementation system inputs. It then provides a summary of the practices identified in the inventory. It concludes with a summary of the key findings and limitations from the inventory.

The discussion of home visiting models distinguishes between targeted models (models that exclusively serve families who self-report substance use issues; 2 of the 11 models the project team interviewed) and needs-based models (models that do not exclusively serve families who may be dealing with substance use issues, but rather rely on the LIAs delivering the models to tailor services for families to address substance use issues as needed; 9 of the 11 models). It is important to note that these findings pertain only to those models, awardees, and grantees included in the inventory; findings are not representative of the full group of models, awardees, and grantees that were active at the time of information gathering. In addition, findings are not based on comprehensive information. For example, the project did not gather information from LIAs about their day-to-day activities working with families with substance use issues (with the exception of Tribal MIECHV grantees that are also implementing agencies).

A. Touchpoints

This section discusses the findings from the inventory for each touchpoint.

1. Screening families for substance use issues

Home visiting model developers. According to the select home visiting model developers, many LIAs have procedures for screening families for substance use issues. LIAs that have screening procedures generally use screening results to identify families' needs and goals, customize education provided to families on substance use issues, encourage families to seek substance use treatment, and/or refer families to treatment. Of the two targeted models, one model developer requires LIAs to screen families using standardized tools. The other allows LIAs to decide if they should conduct screening; these LIAs may use either standardized or non-standardized screening tools. Many of the nine needs-based model developers also described LIAs' procedures for screening families for substance use issues using either standardized or non-standardized screening tools, but noted that LIAs may instead use facilitated discussions and motivational interviewing. Model developers generally recommend that LIAs screen families at or shortly after enrollment and then periodically after enrollment based on the number of months elapsed, stage of pregnancy, or postpartum. One needs-based model developer does not provide any guidance to LIAs on procedures for screening families for

What is motivational interviewing?

Motivational interviewing is a counseling approach that can be implemented as part of multiple interventions. It is "a collaborative, goal-oriented style of communication … designed to strengthen personal motivation for and commitment to a specific goal by eliciting and exploring the person's own reasons for change within an atmosphere of acceptance and compassion" (Miller & Rollnick, 2012). Motivational interviewing is used in multiple service areas, including substance use, mental health, primary health care, and housing (Center for Evidence-Based Practices, 2018) and home visiting (Michalopoulos, et al. 2015).

substance use issues because the model is designed to be implemented within a larger service system that identifies and addresses substance use issues among families before they receive home visiting services.

Most targeted and needs-based model developers described LIAs making informal observations of families for signs of substance use issues during home visits, but a few model developers provide LIAs with protocols to systematically observe families and use the information collected to inform service delivery. A few model developers require that LIAs' home visitors, for example, document the presence of drug paraphernalia in the homes and any signs that indicate that infants may have substance exposure. One needs-based model developer has a protocol outlining how LIAs should use the nursing process (a method for delivering care based on diagnosis, planning, implementation, and evaluation) to support families if substance use issues are identified during home visits.[11]

MIECHV awardee leaders. Many select awardee leaders described LIA-level activities to screen families for substance use issues rather than a statewide screening process. However, one awardee leader described a state task force that has a hospital policies work group that supports a statewide process for screening of newborns for developmental risks, including neonatal abstinence syndrome (NAS). The statewide process links families with children that screen positive for NAS to an early intervention program and then to a short-term risk assessment and referral program that connects them to home visiting services.[12] Because it can take LIAs about one month to start home visiting service delivery for newly enrolled families, the early intervention program is used to provide services to the families immediately.

Only one awardee leader described activities for observing families for signs of substance use during home visits, noting that the state includes information on observing families for signs of substance use in its statewide training system. The training encourages home visitors to be alert for sights, smells, and sounds that may indicate that families may be engaged in substance use.

Tribal MIECHV grantee leaders. One select grantee leader described screening families for substance use issues using standardized screening tools, but does not do so across the tribe. Neither of the grantee leaders included in the inventory described protocols for observing families for signs of substance use during home visits.

[11] For more information on the nursing process, see https://www.nursingworld.org/practice-policy/workforce/what-is-nursing/the-nursing-process/.

[12] Early intervention includes services and supports for babies and young children with developmental delays and disabilities and their families. For more information on early intervention programs, see https://www.cdc.gov/ncbddd/actearly/parents/states.html.

2. Educating families on substance use prevention, identification, treatment, and recovery

Home visiting model developers. All home visiting model developers included in the inventory described education on substance use issues provided by home visitors to families during home visits. In addition, some model developers described LIAs' procedures for linking families to support groups where they can learn more about, and discuss, positive parenting. However, the LIAs delivering needs-based models vary in the extent of the education their home visitors provide. For example, LIAs delivering one particular needs-based model equip home visitors to provide education to families about identifying substance use addiction; the effects and consequences of substance use on developing children and families; substance use triggers; coping strategies for dealing with substance use issues; and, if working with tribes, the historical context of substance use issues in tribal communities. In contrast, LIAs delivering another needs-based model guide home visitors to provide basic education on substance use issues to families. For instance, home visitors may share information with families that outlines how alcohol, nicotine, and marijuana are poisonous to children. In addition, a few model developers described home visitors providing handouts to families on substance use issues, with most of those handouts communicating information about the dangers of substance use to children.

Spotlight on a home visiting model's guidance to LIAs on providing education on substance use issues to families

One model directs home visitors to provide education to families on:

- Reducing harm to themselves and their relatives. For example, home visitors help families understand substance use triggers and help them identify ways to calm themselves without the use of these substances.
- Handling relapses if they occur. For example, home visitors may introduce families to support groups to talk about how to prevent relapse experiences.
- Family planning to prevent future alcohol or drug-exposed births.

MIECHV awardee leaders. Most awardee leaders included in the inventory described LIA-level activities for home visitors to provide education to families on substance use issues, noting that they do not supplement this education.

Tribal MIECHV grantee leaders. One grantee has an opioid task force that offers home visitors materials that they can distribute to families on prevention and treatment of opioid use. These materials include a brochure intended to address fears pregnant women may have about the removal of their children if they disclose substance use during pregnancy. The brochure explains why it is better for pregnant women to disclose engagement with substance use early and to seek treatment. Home visitors use the brochure to explain to families that they are at a higher risk for child removal if they do not reveal substance use early and if they do not seek treatment. The Tribe communicates that, even if families to do not reveal substance use early, most substance use will eventually be discovered through newborn drug screening and that, if families do not seek treatment, recovery from opioid use may be impossible to achieve on one's own.

3. Serving families based on strategies designed to prevent and address substance use issues

Home visiting model developers. Some select model developers described LIAs' procedures for supporting families to change behaviors and participate in positive social support systems specifically in regard to substance use issues. A few needs-based model developers

described LIAs using motivational interviewing to facilitate behavior change in substance use. For example, LIAs delivering one of these models provide home visitors with the option to use motivational interviewing to encourage families to abstain from substance use and help them become ready to seek treatment. Both the targeted model developers described LIAs linking families to support groups to facilitate behavior change in substance use. LIAs delivering one of these models have home visitors organize two types of support groups: a female-only group for women enrolled in home visiting services to discuss both the challenges they are facing and strategies to address those challenges, and a larger group for all family members enrolled in home visiting services so they can socialize and support one another. In addition, home visitors work with families to remove alcohol, drugs, and triggers for their use from their social environments.

MIECHV awardee leaders. A few awardee leaders included in the inventory described LIA-level activities to support families to change behaviors and participate in positive social support systems specifically in regard to substance use issues. One awardee leader described some LIAs using motivational interviewing with families whose screening results indicate that they recently stopped engaging in substance use because of pregnancy, have a low level of current substance use, or have a high level of past substance use and recent engagement with treatment. Home visitors use motivational interviewing to discuss with families whether they want help with treatment and recovery. If they do, home visitors may develop a plan with them to specify next steps. Two awardee leaders described some LIAs linking families to support groups. One awardee leader described a support group specifically for pregnant and postpartum women enrolled in home visiting services who are undergoing methadone treatment. The other described a similar support group that, at the time of information gathering, was no longer active.

Tribal MIECHV grantee leaders. One grantee leader included in the inventory described promoting and supporting breastfeeding to change behaviors related to substance use issues. According to the grantee leader, breastfeeding may create motivation for mothers to engage in treatment and recovery because it strengthens the mother-infant bond. Several home visitors in the Tribe are certified lactation consultants or highly educated in lactation support and are able to work with families to promote and support breastfeeding.

4. Referring families to substance use treatment providers and related supports

Home visiting model developers. Many of the home visiting model developers included in the inventory described LIA procedures for referring families to substance use treatment providers and related supports, such as mental health services that help families follow through with substance use treatment and recovery. Both the targeted and needs-based model developers described LIAs that rely on one, or a combination, of the following resources to develop relationships with relevant providers: LIA staff, advisory committees (which consist of members that represent a wide array of community service

Spotlight on a home visiting model's use of advisory committees to help LIAs develop referral partnerships

One model requires its LIAs to set up advisory committees that include a variety of local health providers, sometimes including substance use treatment providers or providers with links to substance use treatment services in the community. Referral partnerships are developed by each LIA's advisory committee. Home visitors connect families to services available through or identified by the advisory committees.

providers), and home visitors. However, one model developer uses a unique approach in that the model headquarters develops referral relationships and maintains a database of available community resources. Home visitors must make referrals only to services and supports in the database. In addition, some model developers described protocols to document referral information. For example, one needs-based model developer requires home visitors to complete a "session summary form" at the end of each home visit. This form has a section to document information about referrals that were made and any follow-up on previous referrals.[13]

MIECHV awardee leaders. Two awardee leaders included in the inventory described statewide processes for referring families to substance use treatment providers and related supports. One awardee leader described a state task force that has a referral and linkage care work group that establishes reciprocal referrals between LIAs, prenatal providers, and substance use treatment providers, among other stakeholders. The second awardee leader described a statewide training that encourages home visitors to develop a community map of types of services and providers in their local community that they can draw upon to refer families for services. The training also has information about confidentiality procedures in making referrals.

Tribal MIECHV grantee leaders. Both grantee leaders included in the inventory described processes to refer families to substance use treatment providers and related supports at the LIA level. For example, per one grantee leader, LIAs refer families to a program that gives families vouchers to access a network of substance use treatment and recovery support providers through behavioral health departments operated by the tribes in the region. Although neither of the grantee leaders described tribe-wide processes, Tribal MIECHV grantees are required by the Tribal MIECHV Program to conduct needs and readiness assessments and develop plans to address needs, which may include identifying substance use treatment providers (Office of Early Childhood Development, n.d.).

5. Coordinating with substance use treatment providers and related supports

Home visiting model developers. The select home visiting model developers described LIAs' activities coordinating with substance use treatment providers and related supports and working with child welfare agencies in the context of substance use. Many model developers described how either all or some of the LIAs delivering the models secure memoranda of understanding (MOUs), releases of information, and other agreements with community service providers so LIAs can establish each party's responsibility, secure confidentiality procedures, and exchange information about families. In addition, a few model developers described LIAs that have social workers and mental health professionals on site; home visitors will coordinate services for families with these staff. One model developer (of a model that is implemented by relatively fewer LIAs than most models in the inventory) described how home visitors frequently organize meetings with the community service providers that each family is engaged with. The meetings are designed to make decisions about how to coordinate efforts and reduce duplication of services, to ensure community service providers are not working at cross purposes or setting

[13] It is important to note that the project team gathered limited information on how often families connect to the substance use treatment providers and related supports that they are referred to.

unrealistic expectations for families depending on their needs, and to assess whether families are receiving services to meet all of their needs.

Many model developers described LIAs' provision of coordination support to families. LIAs may have home visitors assist families with scheduling appointments (which may include substance use treatment and recovery appointments), secure transportation and child care to help them attend appointments, accompany them to appointments if needed, and/or follow up after appointments. For example, one model developer instructs LIAs delivering the model to have home visitors stay with families while they make calls to providers to schedule appointments. Another model developer provides guidance to LIAs delivering the model, specifying that home visitors should encourage families to reach out to referred providers themselves. Home visitors are then expected to follow up with families with substance use referrals within one to three days of referral. If families have not contacted the referred substance use providers independently, the home visitors will assist them in doing so.

Both of the targeted model developers and some needs-based model developers described how LIAs coordinate with local child welfare agencies in the context of substance use as well. For example, one targeted model developer described how LIAs receive referrals of families dealing with substance use issues from child welfare agencies, whereas the other targeted model developer has a detailed, step-by-step protocol for LIAs to use to report child abuse or neglect to child welfare agencies. LIAs delivering this latter model also have home visitors help families resolve child welfare cases and reunify with their children. Some needs-based model developers described LIAs that establish site-specific procedures or follow existing state or tribe-specific procedures to coordinate with child welfare agencies to meet the needs of families experiencing substance use issues. This may include, for example, working with child welfare agencies to continue providing home visiting services to families, even if children are not in their custody, and arranging for child visitation.[14]

Spotlight on a home visiting model's protocol for LIAs to report child abuse or neglect

One model developer directs LIAs delivering the model to have home visitors use motivational interviewing to talk with families about why a report to a child welfare agency is necessary. Home visitors encourage families to make the report to the child welfare agency themselves while home visitors are with them. Home visitors then secure and maintain releases of information with child welfare agencies so they can serve as liaisons between families and child welfare agencies.

[14] It is important to note that the project team gathered limited information on how often families stay engaged for the intended length of time with the substance use treatment providers and related supports.

MIECHV awardee leaders. Some awardee leaders included in the inventory have statewide processes to coordinate with substance use treatment providers and related supports, using a variety of approaches. A couple of states employ a substance use liaison to coordinate activities in the state. One awardee leader described how the state's small size facilitates the substance use liaison's work across multiple entities in the state. Using a different approach, one awardee has a task force that supports several coordination efforts in its state. For example, the task force established a system in which families in the state receive a layering of services, meaning that families receive a combination of services from programs in the state that fit their needs appropriately. The individual in the system that navigates these services for families depends on the families' point of entry. For instance, if their point of entry is through an LIA, the home visitor may connect them to other services they need. If their point of entry is through a peer recovery coach, they may work more closely with the peer recovery coach to access other services.

Spotlight on two MIECHV awardees' use of substance use liaisons

- One awardee's liaison works to facilitate care coordination across community service providers, home visiting services, and early intervention and other programs in its state.
- The other awardee's liaison focuses on supporting families dealing with substance use issues through the continuum of care and is working on integrating perinatal peer recovery coaching services into related services.

In addition, some awardee leaders included in the inventory are in the process of building connections in their states to coordinate home visiting services and substance use activities. One approach to build connections among stakeholders serving families dealing with substance use issues is for awardee leaders to host conferences. For example, one awardee hosted a conference in April 2018 at which state policymakers and other stakeholders discussed home visiting services as an approach to addressing substance use issues among families. Organizers intend to build on this discussion and potentially set action items in the near future. Of note, one awardee, rather than hosting conferences, is starting to engage in meetings with different entities in the state that are using peer supports around substance use issues in the perinatal period, all in an effort to develop a standard curriculum for training home visitors and other stakeholders.

Tribal MIECHV grantee leaders. Similar to the situation with the awardee leaders just discussed, one grantee leader, at the time of the information gathering, was planning to organize a summit to facilitate collaboration between home visiting services and substance use treatment services.

6. Providing case management related to substance use issues

Home visiting model developers. Few home visiting model developers included in the inventory described LIAs having protocols to deliver case management related to substance use issues. Case management related to substance use issues is the process by which home visitors collaborate with families to address needs families may have that are specifically tied to their substance use issues, and is intended to be delivered with the ultimate goal of supporting families' adherence to substance use treatment plans and recovery goals. For example, it may include a home visitor helping a mother entering a residential treatment program work with the treatment facility to secure a way for her to stay in her caregiving role while she is at the facility. Only one targeted model developer and one needs-based model developer described

requirements for LIAs to provide families with case management services for treatment and recovery. LIAs delivering the targeted model have home visitors stay in close contact with substance use treatment providers delivering services to families and may be involved in discharge planning for families. After treatment, home visitors work with families to maintain and further develop their relapse prevention plans. For example, home visitors and families discuss families' triggers for relapse and identify coping strategies. Home visitors are encouraged to be available immediately if families relapse so that they can support families and develop plans for how to mitigate consequences and prevent future relapses. In addition, home visitors may request that families' enrollment period in home visiting services be extended by six months if families are near the end of the period and are still in progress with important activities, such as attending appointments with a substance use treatment provider. LIAs delivering the needs-based model have home visitors help families with goal management around reducing or eliminating substance use. Of note, some other needs-based model developers—those without case management to support families with treatment and recovery built into their standard operations—described several LIAs that provide case management for treatment and recovery to families with identified needs.

MIECHV awardee leaders. None of the awardee leaders included in the inventory described a statewide process for delivering case management for treatment and recovery to families, nor did they describe case management related to substance use issues at the LIA level.

Tribal MIECHV grantee leaders. One grantee included in the inventory has a process to deliver case management related to substance use in its Tribe. The grantee, in summer 2018, added perinatal case management staff at three sites to better serve mothers using opioids. The case managers support home visitors in working with families.

B. Implementation system inputs

This section discusses the findings from the inventory for each implementation system input.

1. Home visit staffing (staff characteristics and staffing structure)

Home visiting model developers. Many select home visiting model developers described how LIAs are required to hire, or must prioritize the hiring of, home visitors with particular characteristics. Model developers generally require LIAs to hire home visitors with a degree or credential (such as a high school diploma, nursing degree, master's degree, or home-based Child Development Associate credential). Some model developers also require LIAs to hire, or prioritize the hiring of, home visitors with knowledge of topics such as child development and experience working with children and parents and high-risk populations. In particular, both targeted model developers require LIAs to hire home visitors with knowledge of substance use issues, whereas the needs-based model developers generally do not require this. In addition, a few model developers require or encourage LIAs to hire home visitors who are culturally matched to families in the communities

Examples of home visitor dyads

- One model requires LIAs to form pairs of home visitors, with one home visitor focusing on working with families to develop and achieve individual goals, and the other home visitor focusing on working with families to improve parent-child interactions.
- Another model requires LIAs to pair one mental health/development clinician and one care coordinator in order to help families address a variety of needs.

being served or who have the skills (such as language ability) to work closely with target communities. In regard to staffing approach, although most model developers require LIAs to assign one home visitor per family, two model developers—one targeted model developer and one needs-based model developer—require LIAs to assign a dyad of staff members per family. Both of these model developers instruct LIAs to pair together two home visitors with different areas of expertise to provide focused support to families. For example, one dyad includes a family support specialist that works with family members on individual goals, such as the goal to reduce instances of substance use, and a parent resource specialist that helps families improve parent-child interactions.

MIECHV awardee leaders. One awardee leader included in the inventory described procedures for hiring qualified home visitors at the LIA level, noting that LIAs in the state have a history of employing home visitors with lived experience in substance use recovery and child welfare issues. The awardee leader noted that LIAs have gained experience over the years on how to advertise for, recruit, and hire home visitors with this qualification.

Tribal MIECHV grantee leaders. Neither of the grantee leaders included in the inventory described hiring home visitors with knowledge of, and experience in, substance use issues.

2. Professional development for home visitors on substance use issues

Home visiting model developers. Both the select targeted and needs-based model developers described the model and/or LIAs providing home visitors training that touches upon how substance use affects children and/or how to work with adults dealing with substance use issues. In addition, the targeted model developers and a few of the needs-based model developers recognize that home visitors may or may not have personal experiences with substance use issues. As such, they and/or LIAs delivering the models encourage and/or train home visitors to address any personal biases they may have. They and/or LIAs also train home visitors to be sensitive to why families may be engaged in substance use and the challenges they may be facing in seeking treatment and maintaining recovery.

The targeted model developers described the model and/or LIAs providing extensive training on substance use issues, covering a range of substance use-related topics. For example, one targeted model developer described training that includes, but is not limited to, education on substance use as a disease, the 12-step model, and crisis intervention.[15,16] The needs-based model developers, however, described variation in the extent of training. For instance, one model developer described a core training that includes education on the impact of parental substance use on child outcomes, assessing substance use among families, the potential comorbidity of mental health disorders with substance use, motivational interviewing, and strategies for addressing substance use with families. In contrast, the training described by another needs-based model developer includes discussion on general family topics that relate to substance use. Despite this variation, the needs-based model developers generally noted that trainings are centered on information-sharing on substance use issues, although some model developers

[15] For more information on the 12-step model, see https://americanaddictioncenters.org/rehab-guide/12-step/.

[16] Crisis intervention refers to the "services which respond to an alcohol and/or other drug abuser's needs during acute emotional and/or physical distress" (Herdman, 2001).

described trainings that also include specifying standard procedures, such as procedures for motivational interviewing.

In addition to training, the targeted model developers and nearly all of the needs-based model developers described LIAs providing home visitors guidance on substance use issues through supervision and peer interaction (discussion with other home visitors). The targeted model developers and some needs-based model developers described LIAs employing supervisors who, through required supervisor qualifications and trainings, are equipped to help home visitors address substance use issues among families.

MIECHV awardee leaders. Some awardee leaders included in the inventory described a training system for home visitors that connects home visiting services and substance use activities across the state. For example, one awardee provides all home visitors in the state access to a learning management system that includes webinars on how to work with families dealing with substance use issues. Some materials are available to the public, and others are only for MIECHV-funded programs. Another awardee developed a training process through which infant and early childhood mental health consultants work closely with home visitors in the state to train them on addressing substance use issues among families they work with.

Examples of substance use-related training topics in MIECHV awardee and Tribal MIECHV grantee training systems

- Coordination with child welfare agencies
- Etiology of alcohol and drug use: female-specific risks
- Pregnant women and tobacco
- Reflective supervision
- Screening, Brief Intervention, and Referral to Treatment (SBIRT)
- Naloxone nasal spray and responses to opioid overdose

Tribal MIECHV grantee leaders. Both grantee leaders included in the inventory described training for home visitors across the tribe. One grantee's opioid task force created an online resource repository for home visitors and other stakeholders that includes trainings and materials on addressing substance use among families. It has also conducted substance use trainings on how to administer naloxone and hosted a training conducted by local law enforcement on maintaining home visitor safety in homes where substance use might be an issue. The other grantee leader also described training home visitors on how to administer naloxone.

3. Eligibility, recruitment, intake, and enrollment of families with substance use issues[17]

Home visiting model developers. Model developers included in the inventory described LIAs using a variety of eligibility, recruitment, intake, and enrollment procedures in working with families dealing with substance use issues. As previously discussed, two select models are targeted models that exclusively serve families who self-report substance use issues; nine models are needs-based models that do not exclusively serve families dealing with substance use issues but rather rely on LIAs delivering the models to tailor services for families to address substance use issues as needed. Both the targeted and needs-based model developers described LIAs

[17] Because the implementation system input of eligibility, recruitment, intake, and enrollment emerged as an input to include in the overarching conceptual model near the completion of the inventory of practices, the project team reviewed documents on eligibility, recruitment, intake, and enrollment but did not systematically ask the MIECHV awardee leaders and Tribal MIECHV grantee leaders how the highest-need families are served.

drawing on a number of referral sources to recruit families, including health care providers, substance use treatment providers, social workers, child welfare agencies, domestic violence shelters, juvenile, family, and drug courts, other home visiting or parenting services, and self-referral. The targeted model developers, for each referral received, require LIAs to have supervisors or program administrators review referrals to determine each family's eligibility for home visiting services.

MIECHV awardee leaders. MIECHV awardees conduct needs assessments in order to determine the specific, local needs of at-risk communities in their states (HRSA, 2018b). They then identify home visiting models that target these populations and work to address their needs so that LIAs can implement them (HRSA, n.d.). Target populations may include families with potential substance use issues, families with a history of child abuse, families with children who have developmental delays, low-income families, and pregnant women younger than age 21 (HRSA, 2015). However, the awardee leaders included in the inventory did not describe how the highest-need families are enrolled in home visiting services.

Tribal MIECHV grantee leaders. Similar to MIECHV awardees, the Tribal MIECHV Program requires Tribal MIECHV grantees to conduct needs and readiness assessments and develop plans to address needs (Office of Early Childhood Development, n.d.). However, the grantee leaders included in the inventory did not describe how the highest-need families are enrolled in home visiting services.

4. Monitoring systems to track substance use-related inputs, activities, and outcomes

What are monitoring systems to track substance use-related inputs, activities, and outcomes?

Monitoring systems to track substance use-related inputs, activities, and outcomes are systematic procedures to collect and analyze client-level substance use-related data to inform service delivery.

Home visiting model developers. Many of the select model developers described monitoring progress toward achieving substance use-related goals either directly (for example, a goal to reduce instances of substance use) or more broadly (for example, a goal to decrease incidences of child abuse and neglect). Model developers often work with LIAs delivering the models to track data on families' past and current use of alcohol and drugs and their receipt of substance use treatment services. For example, some of the needs-based model developers reported, in studies conducted on their models, that they tracked data on families' frequency of alcohol consumption or on the number of alcoholic drinks families consume in a short period of time (for example, one week). One of the targeted model developers described collecting data for studies to measure substance use-related outcomes, including pregnancy outcomes among mothers engaged in alcohol and drug use.

MIECHV awardee leaders. Most awardee leaders included in the inventory do not track substance use-related data beyond model-developer requirements. Although a few awardees have explicit goals to address substance use issues among families through task forces in their respective state, two awardee leaders are still considering collecting data on delivery of services related to serving families dealing with substance use issues and on associated processes and outcomes. One awardee's task force is engaged in discussions around the need for this type of data collection; the other awardee has its leadership looking for money to fund data tracking

efforts. In addition, a few other awardee leaders described how LIAs specifically do not track this type of data because it is not a MIECHV requirement. One awardee used to mandate that LIAs track these data when doing so was a MIECHV requirement but stopped after the requirement was removed.

Tribal MIECHV grantee leaders. One grantee leader described data-monitoring activities that go beyond model-developer requirements, including tracking the number of staff who are trained to educate families on how to obtain and use an opioid overdose rescue kit. Tribal MIECHV grantees, however, are required to collect data on screening and referrals related to substance use issues.

Examples of measures for which MIECHV awardees and Tribal MIECHV grantees and/or LIAs collect data

- Number of families identified as having substance use issues that participate in LIAs' programs
- Number of referrals to substance use treatment providers made for families, including tobacco cessation referrals
- Number of families in LIAs' programs that access treatment and recovery services
- Number of LIA program staff (for example, home visitors) trained to educate families on naloxone nasal spray

C. Summary of key findings and limitations

As previously described, the inventory of practices aimed to address the following question: Did the select model developers, MIECHV awardee leaders, and Tribal MIECHV grantee leaders describe practices to prevent, identify, and address substance use issues in relation to the touchpoints and implementation system inputs in the overarching conceptual model?

1. Practices identified in the inventory

The findings show that the home visiting model developers, MIECHV awardee leaders, and Tribal grantee leaders included in the inventory described LIA-level practices for the six touchpoints and four implementation system inputs (Table III.1). In addition, model developers described policies and guidance they provide to LIAs for the touchpoints and implementation system inputs; MIECHV awardee leaders and Tribal MIECHV grantee leaders described statewide and tribe-wide policies and initiatives that are applicable to LIAs and serve to support the capacity of LIAs to prevent, identify, and address substance use among families.[18] Some touchpoints and implementation system inputs—such as professional development for home visitors on substance use issues—were described more frequently and more in depth in terms of specific practices than other touchpoints and implementation system inputs—such as providing case management related to substance use issues.

[18] In the case of some Tribal MIECHV grantees, grantee leaders shared information about tribe-wide policies and initiatives that are applicable to themselves if they use MIECHV funds to carry out the activities required to deliver home visiting services to families rather than distributing the funds to LIAs to carry out activities. Most Tribal MIECHV grantees carry out activities themselves.

Table III.1. Practices identified in the inventory, by touchpoint and implementation system input

Practice[1]	Model developers	MIECHV awardees	Tribal MIECHV grantees
Touchpoint 1. Screening families for substance use issues			
Using standardized and non-standardized tools, facilitated discussions, and motivational interviewing	X		X
Identifying, during home visits, nonverbal signals indicating that families may be experiencing substance use issues	X		
Implementing screening of newborns for developmental risks, including NAS (implemented at the state level)		X	
Using a training system to provide guidance to home visitors on how to observe families during home visits (implemented at the state level)		X	
Touchpoint 2. Educating families on substance use prevention, identification, treatment, and recovery			
Providing verbal and/or written information during home visits	X		X
Linking families to support groups	X		
Touchpoint 3. Serving families based on strategies designed to prevent and address substance use issues			
Using motivational interviewing	X	X	
Linking families to support groups	X	X	
Supporting breastfeeding			X
Touchpoint 4. Referring families to substance use treatment providers and related supports			
Developing relationships with providers using LIA staff, advisory committees, and home visitors	X		
Developing and maintaining a database of available resources (implemented at the model developer level)	X		
Establishing protocols to document referral information (implemented at the model developer level)	X		
Using a task force to establish reciprocal referrals between LIAs, prenatal providers, and substance use treatment providers (implemented at the state level)		X	
Using a training to develop a community map of services and providers (implemented at the state level)		X	
Referring families to a program that provides vouchers to access a network of substance use treatment and recovery support providers			X
Touchpoint 5. Coordinating with substance use treatment providers and related supports			
Securing agreements such as memoranda of understanding with community service providers	X		
Employing social workers and mental health professionals on site for home visitors to coordinate with	X		
Requiring or encouraging frequent meetings between home visitors and community service providers to coordinate efforts	X		
Providing coordination support to families, including support scheduling appointments and securing transportation and child care	X		
Establishing protocols to report child abuse or neglect to child welfare agencies or to arrange for child visitation (implemented at both the LIA and model developer levels)	X		
Using a substance use liaison (implemented at the state level)		X	
Using a task force to establish layering of services (implemented at the state level)		X	

TABLE III.1 *(Continued)*

Practice[1]	Model developers	MIECHV awardees	Tribal MIECHV grantees
Hosting conferences, summits, and meetings for stakeholders that include discussion on coordinating home visiting services and substance use activities (implemented at both the state and grantee levels)		X	X
Touchpoint 6. Providing case management related to substance use issues			
Requiring or encouraging home visitors to help with goal management around reducing or eliminating substance use (implemented at the model developer level)	X		
Requiring or encouraging home visitors to stay in close contact with substance use providers delivering services to families (implemented at the model developer level)	X		
Requiring or encouraging home visitors to work with families to further develop and maintain their relapse prevention plans (implemented at the model developer level)	X		
Extending families' enrollment period if they are still in progress with important activities (implemented at the model developer level)	X		
Using perinatal case management staff to work with home visitors			X
Implementation system input 1. Home visit staffing (staff characteristics and staffing structure)			
Requiring LIAs to hire or prioritize hiring home visitors with specific degrees or credentials, knowledge, or experience (implemented at the model developer level)	X		
Requiring or encouraging LIAs to hire home visitors who are culturally matched to families in the community being served (implemented at the model developer level)	X		
Requiring LIAs to assign a dyad of staff members per family (implemented at the model developer level)	X		
Establishing procedures to hire qualified home visitors, such as employing home visitors with personal experience in substance use recovery and child welfare issues		X	
Implementation system input 2. Professional development for home visitors on substance use issues			
Providing training that touches upon how substance use affects children and/or how to work with adults dealing with substance use issues (implemented at both the LIA and model developer levels)	X		
Providing training or encouragement to address personal biases (implemented at both the LIA and model developer levels)	X		
Providing guidance on substance use issues through supervision and peer interaction	X		
Using a learning management system including webinars on how to work with families dealing with substance use (implemented at the state level)		X	
Using infant and childhood mental health consultants to train home visitors on how to address substance use issues (implemented at the state level)		X	
Developing and maintaining an online resource repository that includes trainings on addressing substance use among families			X
Providing training on how to administer naloxone			X
Providing training on maintaining home visitor safety in homes where substance use might be an issue			X
Implementation system input 3. Eligibility, recruitment, intake, and enrollment of families with substance use issues			
Establishing eligibility criteria to exclusively serve families who self-report substance use issues or to rely on LIAs to address substance use issues as needed (implemented at the model developer level)	X		

TABLE III.1 *(Continued)*

Practice[1]	Model developers	MIECHV awardees	Tribal MIECHV grantees
Using referral sources to recruit families, including family self-referral	X		
Requiring supervisors and program administrators to review referrals to determine families' eligibility (implemented at the model developer level)	X		
Implementation system input 4. Monitoring systems to track substance use-related inputs, processes, and outcomes			
Tracking data to assess performance toward achieving goals, which may explicitly or broadly include goals to address substance use issues (implemented at both the LIA and model developer levels)	X		
Collecting data on several measures related to LIAs' delivery of services to families dealing with substance use issues (implemented at the state level)		X	
Using a task force to discuss data collection and tracking (implemented at the state level)		X	
Tracking the number of staff who are trained to educate families on how to obtain and use an opioid overdose kit			X

[1] Unless otherwise stated, all practices are implemented at the LIA level.

Source: Touchpoints inventory of practices of select home visiting model developers, MIECHV awardee leaders, and Tribal MIECHV grantee leaders, January through September 2018.

Notes: Findings pertain only to those models, awardees, and grantees included in the inventory. Findings are not representative of the full group of models, awardees, and grantees that were active at the time of information gathering January through September 2018. In addition, findings are not based on comprehensive information. For example, the project did not include gathering information about LIAs' day-to-day activities working with families with substance use issues (with the exception of Tribal MIECHV grantees that are also implementing agencies).

Information was not gathered from home visiting model developers, MIECHV awardee leaders, and Tribal MIECHV grantee leaders systematically. However, the document review was systematic and included information synthesis to answer predetermined research questions related to the touchpoints and implementation system inputs.

LIA = local implementing agency; MIECHV = Maternal, Infant, and Early Childhood Home Visiting.

The inventory findings also show five key information gaps in the activities described by the select model developers, MIECHV awardee leaders, and Tribal MIECHV grantee leaders. Information gaps are areas where more information is needed if stakeholders were to encourage LIAs to implement specific practices related to the touchpoints and implementation system inputs. The five key information gaps fall into two categories: (1) areas where more information is needed about practices because the touchpoint or implementation system input was described in the inventory infrequently, and (2) areas where more information is needed about practices because the touchpoint or implementation system input was described in the inventory more generally. The key information gaps are:

- Understanding if and how home visiting programs include the provision of case management related to substance use issues—such as home visitors working with substance use treatment providers in discharge planning for families exiting treatment programs. This touchpoint was described least frequently by the select model developers, MIECHV awardee leaders, and Tribal MIECHV grantee leaders, which may indicate that many of them consider the touchpoint to be out of scope. However, the touchpoint may be relevant to some models, particularly those that exclusively serve families that self-report substance use issues.

- Gathering more information about MIECHV awardee and Tribal MIECHV grantee monitoring systems to track substance use-related inputs, activities, and outcomes. The inventory findings show that the select awardee leaders generally do not collect substance use-related data beyond model-developer requirements. ACF requires that the Tribal MIECHV grantees collect data on screening and referrals related to substance use issues. Of the two grantees in the inventory, only one grantee leader described tracking substance use-related information beyond these requirements.
- Understanding the specific practices LIAs use to screen families for substance use issues. Inventory findings show that LIAs set many of the policies related to screening for substance use and use a wide range of screening methods and tools. Detail is needed to understand how LIAs select the screening methods tools they use; whether screenings are implemented universally with all enrolled families; whether screenings are conducted at regular intervals or in response to a need identified by a family; and how the screening results are used to inform service delivery.
- Learning more information about how home visitors educate families on substance use prevention, identification, treatment, and recovery. All select model developers described home visitors providing education on substance use issues to families, but with variation in the extent of the education offered. Detail is needed about the content that home visitors provide to families and whether that content is tailored for families based on need.
- Similar to the information gap just discussed, professional development for home visitors on substance use was described by the select model developers, MIECHV awardee leaders, and Tribal MIECHV grantee leaders, but they collectively noted variation in the extent of the training provided. Detail is needed about the content and mode of home visitor professional development.

2. Limitations

Several limitations of these findings are important to note. The inventory includes information on only a subset of models, MIECHV awardees, and Tribal grantees, and the information collected is not comprehensive. The project team did not have access to all relevant documents, and not all model developers, MIECHV awardees, and Tribal grantees had written procedures relating to substance use issues. In addition, not all model developers, MIECHV awardee leaders, and Tribal grantee leaders provided feedback on the accuracy of the information the project team collected. Despite its limitations, the findings from this inventory offer useful information about the approaches used in home visiting programs to address substance use issues among families.

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IV. WHAT IS THE STATE OF EVIDENCE ON PRACTICES FOR WORKING WITH FAMILIES WITH YOUNG CHILDREN AROUND SUBSTANCE USE PREVENTION AND SUPPORTING FAMILIES WITH SUBSTANCE USE ISSUES THROUGH TREATMENT AND RECOVERY THAT CAN BE APPLIED TO HOME VISITING?

To identify evidence-based practices that can be applied to home visiting programs and to gather descriptive information about the touchpoints and implementation system inputs, the project team conducted a review of recent literature. Overall, the review indicated that there is little evidence on the effectiveness of practices that can be applied at each touchpoint and implementation system input. The review also found that, although the touchpoints and implementation system inputs are generally discussed in the literature, the level of detail on the practices applicable to them was often limited.

This chapter summarizes the findings of the literature review. After describing the approach to the literature search, it addresses the following questions: (1) What does research that addresses family substance use outcomes say about practices that home visiting programs may use to prevent, identify, and address substance use issues? (2) What does research say about service delivery models that address related outcomes? and (3) How are the touchpoints and implementation system inputs described in the literature? The chapter concludes with a summary of key findings and limitations.

A. Approach to the literature search

The review searched publication databases to find studies that addressed family substance use outcomes. To be included, studies also had to relate to either (1) early childhood home visiting models, or (2) other service delivery models delivered in child welfare and physical and behavioral health services with families with young children at risk for or having identified substance use issues (referred to herein as "other service delivery models"). The project team defined substance use outcomes broadly to include measures of alcohol, tobacco, or drug use; receipt of substance use treatment; or other relevant outcomes (for example, one study measured role impairment due to substance use). The project team did not conduct a search of evidence-based treatment for substance use (such as medication-assisted treatment or residential treatment). Rather, the focus was on models with applicability to the home visiting context (such as case management and therapeutic interventions offered in-home).

Because relevant lessons may be learned from studies examining models to address other types of outcomes—such as parenting, child safety, and permanency—delivered to families affected by substance use issues, the project's expert consultants and OPRE and HRSA recommended that the project team also review literature on two types of models that address these other outcomes: (1) attachment-based parenting programs, and (2) peer recovery coaches. As depicted in the conceptual models in Chapter II, substance use and parenting are linked and parent-child attachment issues may be at the core of this link. Suchman and colleagues (2010) suggest that before targeting specific parenting skills, such as knowledge of child development and behavior management, parenting programs for families with substance use issues may first need to address attachment issues. Peer recovery coaches are potentially useful because models have been developed that focus on addressing the needs of families with substance use issues

while working with them toward reunification, given the occurrence of parental substance use issues among families involved in the child welfare system.

The search was limited to research published between January 2010 and April 2018. The project team also reviewed four relevant studies published after April 2018 that were recommended by the project's expert consultants and OPRE and HRSA (Duggan et al., 2018; Michalopoulos et al., 2019; Novins et al., 2018; West et al., 2018). Two of these studies reported findings from MIHOPE, a legislatively mandated, large-scale evaluation of the effectiveness of home visiting programs funded by MIECHV. They are the MIHOPE implementation study published in October 2018 and the impact study from January 2019 (Duggan et al., 2018; Michalopoulos et al., 2019).[19] The other two studies focused on addressing substance use issues in tribal home visiting programs and a training program to improve home visitor communication around sensitive topics (Novins et al., 2018; West et al., 2018). Ultimately, the project team reviewed 68 studies. Of these studies, 64 addressed family substance use outcomes, with 43 on home visiting models and 21 on other service delivery models. The remaining four studies were on service delivery models that addressed outcomes related to family substance use outcomes. Studies included impact, descriptive outcome studies, and implementation studies. Because the literature review found limited evidence on specific practices for preventing, identifying, and addressing substance use issues among families, the project team gathered descriptive information about the activities and features of implementation systems from the studies to identify practices and inform the touchpoints and implementation system inputs in the overarching conceptual model. Appendix D includes more information on the literature review methods; Appendix E provides an overview of the studies from which the literature review findings were drawn.

B. What does research that addresses family substance use outcomes say about practices that home visiting programs may use to prevent, identify, and address substance use issues?

To answer this question, the project team reviewed studies of home visiting models and other service delivery models delivered in other sectors, including child welfare and physical and behavioral health. Evidence-based practices are validated by evidence, so the review of studies on this topic was limited to impact studies, including randomized controlled trials (RCTs) and quasi-experimental design (QED) studies. Studies with these designs measure whether an intervention improves outcomes relative to what would have been seen without the intervention.

After narrowing the overall results as described above to identify the subset of studies that address this question, the project team identified a total of 17 impact studies, spread across three categories. Primarily, they were about home visiting models: 12 impact studies focused on 7 home visiting models (1 impact study presented findings across 4 home visiting models). In addition to the studies focused on home visiting models, the project team identified one impact study of interactive software modules that provided education to mothers at high risk for child maltreatment, including individuals using substances, during home visits (Ondersma et al.,

[19] MIHOPE includes four home visiting models: (1) Early Head Start–Home Based Program Option, (2) Healthy Families America, (3) Nurse-Family Partnership, and (4) Parents as Teachers.

2017). The project team also identified a second category of research: impact studies of other service delivery models (4 studies, including 2 studies of therapeutic interventions, 1 study of SBIRT, and 1 study of a smoking cessation program).

1. Impacts of home visiting models

Among studies published between January 2010 and April 2018, the search found few studies that examined the effectiveness of home visiting models to prevent, identify, and address substance use issues. Among the seven home visiting models with impact studies on this topic, five have been reviewed by the Home Visiting Evidence of Effectiveness (HomVEE) review, which was launched in fall 2009 to conduct a thorough and transparent review of the home visiting research literature (ACF, 2018). That project rates the quality of impact studies from high to low, so—where possible—the project team relied on results of the reviews of eight studies reviewed by HomVEE in describing the findings for this review.[20]

What is HomVEE?

HomVEE provides an assessment of the evidence of effectiveness for home visiting models that serve families with pregnant women and children from birth to kindergarten entry (that is, up through age 5). The HomVEE review is conducted by Mathematica on behalf of the U.S. Department of Health and Human Services (DHHS). The HomVEE website (http://homvee.acf.hhs.gov/) provides detailed information about the review process and the review results.

Research indicates mixed effects of home visiting models on substance use outcomes, although some models have been effective with some outcomes in individual studies. Five studies reported positive impacts on at least one substance use outcome (Table IV.1) (Barlow et al., 2015; Green, Sanders, & Tarte, 2017; Kitzman et al., 2010; LeCroy & Krysik, 2011; Olds et al., 2010).[21] All these studies enrolled parents prenatally or soon after the birth of a child; one enrolled pregnant American Indian teens. Four of them focused on outcomes of parents. The measure of parental substance use was different in each of the four and included illicit drug and marijuana use, alcohol use, receipt of substance use treatment, and impairment of role functioning due to use of alcohol or drugs. The fifth study, a 12-year follow-up of children enrolled in Nurse-Family Partnership, reported on subsequent substance use among children (Kitzman et al., 2010). These five studies with favorable impacts on substance use were conducted in a mix of urban and rural settings.

Table IV.1. Substance use outcome measure summary of effects, studies of home visiting models

Study	Outcome	Measure	Effect
Dodge et al., 2012a; Dodge et al., 2013b (primary source)	Mother's possible substance use problems	8-item CAGE Alcohol Screening, which indicates possible substance use problems.	No effect
Barlow et al., 2013a	Alcohol use in past 30 days (2-, 6-, and 12-month follow-ups)	Substance use, according to the Voices of Indian Teens survey.	No effect

[20] One study was assigned a low rating by HomVEE, and is excluded from the findings presented in this chapter.

[21] The project team uses the terms *positive* or *favorable impacts* when results are statistically significant.

TABLE IV.1 *(Continued)*

Study	Outcome	Measure	Effect
	Any alcohol or illegal drug use in past 30 days, (2-, 6-, and 12-month follow-ups)	See above.	No effect
	Any illegal drug use in past 30 days (2-, 6-, and 12-month follow-ups)	See above.	No effect
	Marijuana use in past 30 days (2-, 6-, and 12-month follow-ups)	See above.	No effect
	POSIT Substance Abuse (2-, 6-, and 12-month follow-ups)	POSIT is a 139-item assessment containing 6 subscales, which include mental health and substance abuse.	No effect
Barlow et al., 2015[a] (same sample as Barlow et al., 2013; 3 years postpartum)	Alcohol use in past 30 days	Substance use, according to the Voices of Indian Teens survey.	No effect
	Any illegal drug use in past 30 days	See above.	Favorable effect
	Marijuana use in past 30 days	See above.	Favorable effect
Green, Sanders, & Tarte, 2017[b]	Substance abuse treatment	Receipt of state-funded substance abuse treatment services during the study period, specifically: start and end dates of treatment episodes and type of treatment (inpatient vs. outpatient); whether or not the participant received substance abuse treatment services; total number of days of substance abuse treatment for both inpatient and outpatient modalities (for the total sample); and total number of days in treatment (for the subgroup receiving treatment).	Favorable effect
LeCroy & Davis, 2016[b]	Substance abuse treatment	No information.	No effect
LeCroy & Krysik, 2011[a]	Alcohol use (6-, 12-month follow-ups)	Alcohol use was measured by a series of questions that included: Do you drink beer or alcohol? To which the mother could answer yes or no. If the mother answered yes, then another question was asked: In the past two weeks how many times did you drink beer or alcohol?	Favorable effect
Guterman et al., 2013[b]	DUSI	DUSI was developed to measure the severity of drug use problems, shown in prior work to predict child maltreatment risk. For this study, a shortened 24-item adult version of the DUSI was used to assess substance abuse in each mother and male partner who had the greatest contact with the child in the past six months.	No effect
Kitzman et al., 2010[a] (12-year follow-up of children)	Incidence of days of substance use in the past 30 days	Count of days of substance use (theoretical range, 0–90).	Favorable effect
	Number of substances used in the past 30 days	Count of substances used in the past 30 days (0–3).	Favorable effect

TABLE IV.1 *(Continued)*

Study	Outcome	Measure	Effect
	Used cigarettes, alcohol, or marijuana in the past 30 days	Whether cigarettes, alcohol, or marijuana were used in the past 30 days (yes or no).	Favorable effect
Olds et al., 2010[a] (12-year follow-up of mothers)	Alcohol or other drug use	Percentage of mothers who had consumed 3 or more alcoholic drinks 3 or more times per month in the last year or used marijuana or cocaine since the last interview at age 9 years of the child.	No effect
	Role impairment due to alcohol or drug use	Percentage of mothers who experienced any impairment in role functioning (at work, with friends, or with family members) due to use of alcohol and other drugs since the last interview at child age 9 years.	Favorable effect
Michalopoulos et al., 2019[b]	Substance use in during the past three months	Percentage of mothers reporting drinking seven or more drinks in an average week; drinking four or more drinks in one sitting; using prescription pain killers, marijuana, hash, amphetamines, cocaine, heroin, tranquilizers, hallucinogens; or sniffing aerosols during a 15-month follow-up interview.	Unfavorabl e effect
	Current smoking	Percentage of mothers reporting smoking at least one cigarette a day during a 15-month follow-up interview.	No effect
Silovsky et al., 2011[a]	DIS alcohol module (10-, 17-month follow-ups)	The DIS is an interview based on the Diagnostic and Statistical Analysis of Mental Disorders. The authors used a modified self-report instrument, which has been used in past studies. The alcohol and drug modules were included in the study.	No effect
	DIS drug module (10-, 17-month follow-ups)	See above.	No effect

[a]Effects, as documented by HomVEE.

[b]Effects, as documented by the Touchpoints project team.

CAGE = Cut down, Annoyed, Guilty, and Eye-opener; DIS = Diagnostic Inventory Schedule; DUSI = Drug Use Screening Inventory; HomVEE = Home Visiting Evidence of Effectiveness; POSIT = Problem Oriented Screening Instrument for Teens.

The findings from the five studies with at least one positive impact on a substance use outcome provide some evidence of the potential of home visiting models to address substance use issues. However, these findings must be considered within the context of the findings from all 12 studies identified in this review. Most of the other studies found no significant effects, and one study found a small significant negative impact on substance use (Michalopoulos et al., 2019).[22]

Studies of three home visiting models—Family Spirit, Healthy Families America, and Nurse Family Partnership—reported improved substance use outcomes. A study of Family

[22] The authors of the study concluded that, because there is not a theoretical reason why home visiting programs would lead to increased substance use and previous studies have not found statistically significant increases in maternal substance use, "the totality of the evidence suggests that home visiting is not increasing the prevalence of substance use" (Michalopoulos et al., 2019, p. 59).

Spirit examined the effect of the intervention on improving American Indian teen mothers' parenting outcomes and mothers' and children's emotional and behavioral functioning 12 months postpartum (Barlow et al., 2015). In the study, 322 pregnant American Indian teens from four southwestern tribal reservation communities were randomly assigned in equal numbers to the Family Spirit intervention plus optimized standard care or to optimized standard care alone. Optimized standard care included transportation to recommended prenatal and well-baby clinic visits, distribution of pamphlets about child care and community resources, and referrals to local services. Family Spirit content included 43 structured lessons focused on reducing behaviors (such as coercive interactions; harsh, unresponsive, or rejecting parenting; and abuse or neglect) associated with early childhood behavior problems. Additional content addressed maternal behavior and mental health problems that impede positive parenting, including substance use and externalizing and internalizing behavior problems. It also addressed access barriers to health care for young mothers and children. Parent and child emotional and behavioral outcome data were collected at baseline and at regular intervals postpartum. Compared to those in the nonintervention group, mothers in the intervention group had lower use of marijuana and illicit drugs in the month before data collection. No between-group differences were observed for alcohol use.

Two RCTs of Healthy Families America programs (Healthy Families Arizona and Healthy Families Oregon) reported impacts on substance use outcomes. In Arizona, 195 women were randomly assigned to either the Healthy Families Arizona experimental or control conditions (LeCroy & Krysik, 2011). Healthy Families Arizona works with pregnant women and new mothers to provide a range of services and supports, with the goal of promoting positive parenting, child health, and child development and preventing child abuse and neglect. Home visitors are also available to help mobilize critical services to address substance abuse, domestic violence, and mental health issues. Parent and child outcome data were collected at baseline and at 6 and 12 months. Mothers in the intervention group were significantly less likely than those in the control group to report alcohol use. A two-year study of Healthy Families Oregon found that intervention families were significantly more likely than control families to be enrolled in publicly funded substance abuse treatment services (Green et al., 2017). The study used state administrative databases to examine the two-year outcomes of a large-scale randomized study of the impact of Healthy Families Oregon. Eligible first-time mothers (2,727 in all) were randomly assigned to either the Healthy Families Oregon program or to a community services-as-usual control group. Mothers in the program were provided weekly home visits for at least six months, potentially lasting until the child's third birthday. The visits typically focused on child development, positive parent-child interactions, and case management to link parents to community resources. Outcomes were tracked for two years after random assignment for all study participants through administrative data linkages to Oregon's statewide child welfare system, self-sufficiency services, and substance abuse treatment programs. The study reported that families in the treatment group were more likely to be connected to needed resources compared to families in the control group. Specifically, treatment families were more likely to be enrolled in Temporary Assistance for Needy Families and the Supplemental Nutrition Assistance Program. In addition, the authors found a trend that treatment families were more likely to have received substance use treatment services, compared to controls. This finding was, however, only marginally significant (at $p < 0.10$ level) and based on a small number of families that received substance use treatment (47 treatment families and 27 control families).

A follow-up study of Nurse-Family Partnership focused on mothers' fertility, partner relationships, and economic self-sufficiency and government spending through age 12 years of their first born child (Olds et al., 2010). The study found mothers in the intervention group reported less role impairment owing to alcohol and other drug use compared to mothers in the control group. The study, conducted in Memphis, Tennessee, randomly assigned 743 pregnant women to either group. Mothers in the intervention group were provided home visits from pregnancy through their child's second birthday. The home visits focused on improving prenatal health behavior, competent parental care, and parents' life-course development. Both the intervention and control groups received the same assessment, referrals, and transportation services. In a follow-up study of the children of these women at age 12, Kitzman and colleagues (2010) found that children in the intervention group reported fewer days of having used cigarettes, alcohol, and marijuana in the 30 days before being interviewed compared to children in the comparison group.

In addition to the studies focused on home visiting models, the project team identified one impact study of interactive software modules that provided education to mothers at high risk for child maltreatment, including individuals using substances, during home visits (Ondersma et al., 2017). Modules covered key risk factors (including substance use), strategies for soothing infants, information about infant development and play, and home safety. Mothers completed the modules on tablets, using headphones for privacy, during regularly scheduled home visits. The study found no significant differences in drug use between the treatment and control groups, including those who received services as usual and those who received referrals to community services. More information is needed to determine whether interactive software modules have an effect on substance use.

2. Impacts of other service delivery models

Research on other service delivery models provides evidence on practices that can reduce substance use. Specifically, four studies tested service delivery models other than home visiting to address substance use among pregnant women and families with young children.[23] The four studies tested two therapeutic approaches, EBT and FBT; SBIRT with motivational interviewing; and monetary incentives (Table IV.2). It is important to note that, despite the findings of each of the four studies, more information is needed to determine whether these models and practices have an effect on substance use.

[23] These four studies do not represent the full literature on preventing or treating substance use, because the search terms focused on studies that were relevant to pregnant women and families with young children and had approaches relevant to home visiting services, such as services occurring within the home or within the context of a more coordinated service effort. As a result, the review did not include studies of medication-assisted treatment for substance use disorder, nor did it capture studies on behavioral therapies that were conducted before 2010 or with a population other than pregnant women and families with young children. For a broader discussion of evidence-based treatment for substance use, see *Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health* (DHHS, 2016).

Table IV.2. Summary of studies of other service delivery models to address substance use issues

Study	Approach	Population/context	Design	Sample size	Substance use outcome
Slesnick & Erdem, 2013	Ecologically based treatment (EBT)	Homeless mothers with substance use issues	RCT	60	Mothers in the EBT group had reductions in the frequency of alcohol use at follow-up (9 months post-randomization) compared to mothers in the control group.
Donohue et al., 2014	Family behavior therapy (FBT)	Mothers reported for child neglect who also had a substance use issue	RCT	72	Mothers in the intervention group had decreased rates of hard drug use compared to mothers in the control group (at 6 and 10 months post-randomization).
Montag et al., 2015	SBIRT adaptation for AI/AN women of childbearing age	AI/AN women of childbearing age	RCT	263	There were no statistically significant differences in outcomes for the treatment and control groups.
Baker et al., 2018	Monetary incentives	Low-income women participating in a pre- and postnatal smoking cessation program	RCT	945	Women in the treatment group had higher smoking abstinence rates (at 6 months post-partum) compared to women in the control group.

Source: Literature review conducted by the Touchpoints project team in 2018 of studies published between January 2010 and April 2018.

Note: Statistically significant outcomes are reported for findings at the <.05 level.

AI/AN = American Indian/Alaska Native; RCT = randomized controlled trial; SBIRT = Screening, Brief Intervention, and Referral to Treatment.

One impact study found that **EBT** reduced some alcohol use, although it had no effect on drug use. EBT combines substance use counseling with housing and case management support. Substance use counseling is modeled after the community reinforcement approach and focuses on helping identify the causes of the behaviors associated with substance use and to reinforce adaptive, non-substance using behaviors. Housing supports included helping mothers secure an apartment, up to three months of utility and rental assistance, and access to donated furniture and appliances. Case management aimed to address the basic needs of the mothers, including issues with housing, safety, food, medical and dental care, employment, and child care. It included an assessment of mother's needs, the development of a service plan, referrals to social services, and continuous monitoring of client progress. Participants in the study were homeless mothers (with children ages 2 to 6 years) diagnosed with substance use disorder. Results of a randomized pilot test comparing EBT to a treatment-as-usual control group (Slesnick & Erdem, 2013) demonstrated that EBT participants had a quicker decline in alcohol use and were able to maintain this reduction over time, compared to the control group. No differences were found for drug use. There were no treatment effects for consequences related to substance use, such as interpersonal, social, or legal problems.

An impact study on **FBT** found positive parenting and substance use reduction results. FBT is an outpatient substance abuse treatment that involves working with clients and their family and friends to engage in goal setting and achievement along with support for learning new communication strategies, adaptive behaviors, self-control methods, and interpersonal

relationship strategies. The effectiveness of FBT for mothers who were referred to Child Protective Services (CPS) for neglect and who were also using drugs or experiencing drug dependence was tested in an RCT comparing FBT to subjects receiving treatment as usual (Donohue et al., 2014). In the study FBT was adapted to be implemented in families' homes for a treatment period of six months. Other adaptations including adding components to FBT to enhance the safety and quality of the home environment for children, support financial management skills, promote positive parenting, and prevent sexually transmitted infections. The authors reported results for participants in the FBT group and the treatment as usual group. They reported subgroup findings for participants in each group that were referred for child neglect due to their children being exposed to illicit drugs and those that were not referred for child drug exposure. Results showed high fidelity to the intervention. In addition, FBT mothers of children not exposed to drugs had reduced child maltreatment potential, compared to FBT mothers of children who were exposed to drugs or mothers in the treatment as usual group. Similarly, FBT mothers of children not exposed to drugs had decreased rates of hard drug use compared to the same two groups.

Although one study of a service delivery model using **SBIRT with motivational interviewing** found no effects on participants, it found that monitoring alcohol consumption for the study may have favorably affected alcohol behavior for respondents whether or not they received the intervention (in other words, assessment reactivity).[24] SBIRT that includes motivational interviewing, was identified in a review (Montag et al., 2012) of evidence-based approaches to reducing alcohol consumption among American Indian or Alaska Native (AI/AN) women. As a follow-up to this review, Montag and colleagues (2015) tested a SBIRT adaptation for reducing risky drinking in AI/AN women of childbearing age recruited from AI/AN health centers in Southern California. Study participants were randomized into treatment or control groups. Participants in the treatment group completed a web-based survey that provided personalized feedback, including analysis of risk, information about the impact of alcohol exposure to a fetus, the physical and financial cost of their alcohol consumption, and how their drinking compared with that of other AI/AN women. A resource page at the end of the web session provided information on resources for additional information or assistance; it could be printed out confidentially. Results indicated that participants in both the treatment and control groups had statistically significant reductions in self-reported risky drinking behaviors (number drinks per week, number binge episodes per two weeks, vulnerability to alcohol-exposed pregnancies) over time. Randomization to the SBIRT did not result in a significantly different change in outcomes compared to the control group. Effects were sustained over the 6-month follow-up period. The study authors concluded that participation in assessment alone may have been sufficient to encourage behavior change even without the web-based SBIRT intervention.

[24] Assessment reactivity occurs when the action of monitoring a behavior for a research study itself leads to a change in that behavior (Schrimsher & Filtz, 2011). For example, participants who are asked regularly about alcohol consumption may start consuming less alcohol because they are becoming more aware of their own behavior, even if they do not receive any intervention that targets changing this behavior.

The use of **monetary incentives** was an approach used in a smoking cessation treatment among pregnant women (Baker et al., 2018). This approach was tested in an RCT. Low-income women who were pregnant were randomized to an incentive condition or a no-incentive control condition. Women in the incentive condition received money for attending prenatal smoking cessation counseling and for participating in postpartum smoking counseling during home visits (for six months after giving birth). Mothers in the incentive condition completed more prenatal and postpartum visits and had higher smoking abstinence rates at six months after giving birth when compared to the control group. The higher attendance rate mediated treatment effects on abstinence, indicating that the incentives improved abstinence rates through increased attendance at treatment sessions.

What is Screening, Brief Intervention, and Referral to Treatment (SBIRT)?

SBIRT is a public health approach to identifying, reducing, and preventing problematic use, abuse, and dependence on alcohol and illicit drugs. It is used by health care professionals to identify and intervene with individuals with early signs of substance use issues prior to the need for more extensive or specialized treatment. The SBIRT model consists of three major components:

- Screening involves assessing a patient for risky substance use behaviors using standardized screening tools.
- Brief Intervention involves engaging a patient showing risky substance use behaviors in a short conversation, providing feedback and advice.
- Referral to Treatment involves providing a referral to brief therapy or additional treatment to patients who screen in need of additional services (Center for Integrated Health Solutions, 2018).

What does research say about SBIRT and motivational interviewing?

- Research on SBIRT has demonstrated positive effects for reducing alcohol use; however, research on the effects of SBIRT on other substance use have shown mixed results (HHS, 2016; Kim et al., 2017).
- Motivational interviewing has been evaluated across a range of behaviors, such as alcohol, tobacco, and marijuana use and gambling; in the context of promoting healthy behaviors (such as physical activity); and for increasing client engagement in treatment. Systematic reviews of motivational interviewing consistently report significant positive effects across a range of outcomes, while also noting some variation in effects across outcomes, and by treatment setting and population (Lundahl et al., 2010; Osterman & Dyehouse, 2011; Mullins et al., 2004; Smedslund et al., 2011).

C. What does research say about service delivery models that address related outcomes?

As previously described, based on the recommendations from the project's expert consultants and input from OPRE and HRSA, the project team reviewed literature on service delivery models that addressed related outcomes, such as parenting, child safety, and permanency. Specifically, the project team reviewed literature on attachment-based parenting programs and peer recovery coaches. This section summarizes the findings.

1. Attachment-based parenting programs

Research indicates that attachment-based parenting programs can improve parenting outcomes among caregivers with substance use issues. The literature search strategy identified one RCT that supplemented substance use treatment with an attachment-based parenting program for mothers with young children: a pilot study of the Mothers and Toddlers Program (MTP; Suchman et al., 2010). MTP is an attachment-based parenting intervention for mothers with children up to 36 months old who are enrolled in outpatient substance abuse treatment. MTP is delivered via 12 weekly, one-hour sessions in an outpatient clinical setting. In a pilot study of MTP (Suchman et al., 2010), 47 mothers were randomly assigned to receive MTP or a comparison condition involving individual case management and brochures on child

development. Given that the pilot study's small sample size was insufficient to detect statistical difference, the authors used Cohen's effect size (*d*) to identify meaningful differences. The authors found that mothers receiving MTP demonstrated more sensitive parenting behaviors (including stronger reflective functioning, caregiving behavior, and representational coherence and sensitivity). The authors examined maternal depression, distress, and substance use as outcomes that might be indirectly affected by the intervention. The authors detected small, positive effects on depression and distress. With regard to substance use, they found that both MTP and control group mothers showed meaningful improvement. The authors indicated a need for a larger randomized clinical trial with statistical power sufficient to detect significant differences and a follow-up period sufficient to detect sustained or delayed effects.

In 2014, Berlin et al. extended this line of research by examining the effectiveness of adding an attachment-based parenting intervention to residential substance abuse treatment. Specifically, Berlin et al. (2014) tested the feasibility and effectiveness of adding Attachment and Biobehavioral Catch-up (ABC), an attachment-based home visiting parenting intervention, to residential substance abuse treatment for new mothers (Berlin et al., 2014). The study involved 21 mothers of infants ages 1 to 20 months who had been enrolled in residential treatment for at least two months. Mothers were randomly assigned to either receive 10 home-based sessions of ABC in the residential treatment facility or a control condition (a "book of the week" program). The authors found that ABC mothers demonstrated more sensitive parenting behaviors during post-intervention observation. The study had two key limitations. First, like Suchman et al. (2010), this study's small sample size was insufficient to detect statistical difference, so the authors used Cohen's effect size (*d*) to identify meaningful differences. Second, the parenting behaviors were not observed both pre- and post-intervention, so the study could not examine individual change in parenting behaviors.

2. Peer recovery coaches

What are peer recovery coaches?

Peer recovery coaches provide mentoring or coaching to individuals experiencing substance use issues, and generally have experienced addiction and recovery themselves. They may help their peers set recovery goals, develop recovery action plans, or connect with substance use treatment (DHHS, 2009).

Research indicates that the use of peer recovery coaches or mentors can improve parenting and substance use outcomes. A total of four studies on two interventions to support recovery were identified by the literature search strategy. One such intervention is an integrated case management model designed specifically for substance abusing families in child welfare that employs professional recovery coaches, who work as intensive and specialized case managers. The recovery coaches engage in a variety of activities, including comprehensive clinical assessments, advocacy, service planning, outreach, and case management. They visit the families' homes and the treatment provider agencies, and they also make joint home visits with child welfare caseworkers and substance abuse treatment staff. Unlike child welfare caseworkers who manage a wide range of needs of families, the recovery coach's primary focus is getting parents into substance use treatment and helping them stay engaged in treatment. The recovery coaches provide services until the case is closed—well after reunification is achieved. The recovery coaches are not employees of child welfare or substance abuse treatment agencies; they are employed by a non-affiliated social service agency and carry a caseload of approximately eight clients. Ryan and colleagues (2016) conducted an RCT of 1,623 families involved in the

Illinois Title IV-E Alcohol and Other Drug Abuse Demonstration Waiver. Families in the treatment group received traditional child welfare and substance use services plus a recovery coach; families in the control received traditional child welfare and substance use services only. Families in the treatment group were significantly more likely to achieve a stable reunification (meaning children who were reunified and able to sustain the reunification for the 12 month observation period), compared with families in the control group. These findings expanded on earlier evidence on the intervention which demonstrated that it increased the rate of service access, increased the probability of family reunification, and reduced the risk of substance exposed births (Ryan, Choi, Hong, Hernandez, & Larrison, 2008; Ryan, Marsh, Testa, & Louderman, 2006). The authors note a few limitations, including lack of data on the reasons for disrupted reunification and lack of a measure of treatment fidelity.

Another intervention, the Sobriety Treatment and Recovery Teams (START) model, is designed for families with co-occurring substance use and child maltreatment. START is a child welfare-led program delivered in collaboration with local substance use treatment services. START teams CPS workers with family recovery mentors (peer support employees in long-term recovery) and partners with local treatment providers and the courts. A key goal of these collaborations is ensuring quick access to treatment once families enter the START program. In a matched comparison group study of START, the authors found that children served by START were significantly less likely to experience recurrence of child abuse or neglect within 6 months or re-enter foster care at 12 months compared with a matched control group (Hall et al., 2015). The authors note the lack of a random assignment as a key limitation of the study and report that, although the control group was matched on START-eligibility criteria and derived from contiguous counties served by the same judge and treatment provider as the START county, the baseline equivalency of the treatment and control groups was not established.

D. How are the touchpoints and implementation system inputs described in the literature?

To answer this question, the project team reviewed 68 studies (including impact, descriptive outcome studies, and implementation studies) for descriptive information about the six touchpoints and three of the four implementation system inputs that are the focus of this study.[25] This section summarizes the findings.

1. Touchpoints

Many studies described a process for <u>screening families for substance use issues</u>, with most noting the use of self-report screening tools. These studies described identifying whether an individual may be at elevated risk for substance use issues, may show pre-disorder signs but not qualify for a substance use disorder diagnosis, or may have a substance use disorder. In addition, MIHOPE found that required screening may encourage conversations about substance use issues. In the study, home visitors and families discussed substance use and intimate partner

[25] The project team did not extract descriptive information from studies about observing families for substance use issues. The team also did extract information about monitoring systems to track substance use-related inputs, activities, and outcomes. Both of these activities emerged from the inventory of practices.

violence more frequently in programs with required screenings (and internal monitoring of the screening process) on these topics (Duggan et al., 2018).

Most studies described implementing screening tools that relied on information self-reported by families, although some studies used a combination of self-reports and information from biochemical tests to screen for substance use issues. For example, Nurse-Family Partnership home visitors consistently screened participants for substance use through interviews, and at least one LIA supplemented this information with data from cotinine tests (Kitzman et al., 2010; Miller, 2015). A survey of nine Tribal MIECHV grantees reported that all programs screened participants for substance use issues at intake, as well as during some later visits throughout the women's participation in the program (Novins et al., 2018). All of the programs provided substance use screening that exceeded the requirements outlined by the home visiting model developers of the model they were delivering. For example, one program adapted the Family Spirit curriculum to include a standardized screening and referral process to help address substance use issues, including procedures to ask about substance use before, during, and after pregnancy.

The project team identified four screening tools that were described in both the literature review and the inventory (Table IV.3). For example, the Engaging Moms Program, a drug court referral counseling program, used a combination of urine screens and Addiction Severity Index (ASI) interviews—semistructured interviews designed to address seven potential problem areas in substance-abusing patients: medical status, employment and support, drug use, alcohol use, legal status, family/social status, and psychiatric status—at baseline and at 3, 6, 12, and 18 months after intake (Dakof et al., 2010; HRSA, 2012). In the inventory, one of the MIECHV awardee leaders described LIAs using the ASI at both intake and exit. It is important to note that, because the information gathering process used to conduct the inventory of practices was not exhaustive, the project team may not have identified all of the screening tools that LIAs use.

Table IV.3. Screening tools identified in the literature and the inventory of practices described by select home visiting model developers, MIECHV awardee leaders, and Tribal MIECHV grantee leaders

Screening tool	Identified in literature	Identified in inventory
Addiction Severity Index (ASI)	✓	✓
Adverse childhood experiences (ACEs) screen	✓	
Alcohol scale of the Voices of Indian Teens Survey		✓
Alcohol, Smoking and Substance Involvement Screening Test (ASSIST)		✓
Alcohol Use Disorders Identification Text (AUDIT)	✓	✓
Behavioral Health Risk Screen (BHRS)	✓	
Cut-down, Annoy, Guilt, Eye-opener (CAGE)	✓	✓
Cut-down, Annoy, Guilt, Eye-opener-Adapted to Include Drugs (CAGE-AID)	✓	
Car, Relax, Alone, Forget, Friends, Trouble (CRAFFT)	✓	
Drug Abuse Screening Test (DAST)	✓	✓
Diagnostic Inventory Schedule (DIS) drug and alcohol modules	✓	
Difference Game assessment		✓
Difficult Life Circumstances assessment		✓

TABLE IV.3 *(Continued)*

Screening tool	Identified in literature	Identified in inventory
Drugs, Ideas, Thoughts and Happenings scale of the Voices of Indians Teens Survey		✓
Kempe Family Stress Checklist	✓	
Life Skills Progression (LSP)	✓	
New baby questionnaire	✓	
Parent Screening Questionnaire (PSQ)	✓	
Parents, Partner, Past, Present Pregnancy (4Ps Plus)	✓	
Parents, Peers, Partner, Past, Present (5Ps) Institute for Health and Recovery (IHR) integrated screening tool		✓
Parent survey (formerly the Kempe Family Stress Checklist)		✓
Safe Environment for Every Kid (SEEK)	✓	
Substance Use Risk Profile—pregnancy scale		✓
Tolerance, Annoyance, Cut-down, Eye-opener (T-ACE) alcohol consumption screen		✓

MIECHV = Maternal, Infant, and Early Childhood Home Visiting.

Of note, the project team identified one study that examined incorporating screening for substance use issues into a central intake process for home visiting programs.[26] The Behavioral Health Integrated Centralized Intake project aimed to design, implement, and evaluate a centralized intake system of care, with the addition of broad behavioral health risk screening (Price, Cole, & Wingold, 2017). It involved integrating the Behavioral Health Risk Screen (BHRS), developed by the Institute for Health and Recovery, as an integrated, seamless component of a larger centralized intake electronic screen. Centralized intake electronic screening included a short yes/no checklist that identified risk triggers. When areas of concern were identified, the centralized intake was programmed to trigger the subsequent administration of empirically validated screening instruments for substance use disorders, perinatal depression, and intimate partner violence risk. The BHRS was completed either by phone or in-person by paraprofessional outreach workers who had no mental health training. At the completion of the screening, participants were provided psychosocial support, information, and guided referrals to community resources. The authors concluded that incorporating BHRS into the centralized intake process was feasible. The study tracked and examined the BHRS scores during the first year of the project, which included a sample of 1,515 women. Of the total sample, 176 (12 percent) participants reported substance use (including alcohol) and 272 (18 percent) reported smoking at initial screening. In total, only 12 percent of women meeting substance use and mental health risks were referred to substance use treatment. The authors attributed this relatively low referral rate to women being uninterested in receiving specialized services and noted that referrals to home visiting programs were considered a more acceptable referral.

Few studies described educating families to prevent or address substance use; rather, substance use was addressed if identified as a need. One study described specific education to prevent substance use among families. A survey of Tribal MIECHV home visiting programs reported that many programs offered supplemental preventive services that focused on educating parents on the risks and impacts of substance use on infants and children (Novins et al., 2018). Four of the programs surveyed reported including tribal worldviews in their substance use

[26] Price and colleagues (2017) do not define a central intake process in the study but imply that this process utilizes a single point of contact to assess and address the needs of individuals through screening and referral to treatment.

education materials. In other studies, substance use was generally addressed if identified as a need. For example, according to MIHOPE, fewer than half of the families (48.1 percent) enrolled in the home visiting programs studied discussed tobacco or substance use during their visits, and these topics were only discussed in 10.3 percent of visits. Home visitors discussed these topics with families more often when the families were identified as needing services or were considered at risk of substance use, including smoking, binge alcohol use, or use of illegal drugs (Duggan et al., 2018).

Substance use prevention may figure as one component of a curriculum more broadly focused on promoting parents' emotional and social competence, promoting maternal health, and strengthening mothers' ability to cope with adversity. For example, one Tribal MIECHV grantee used a modified version of the Parents as Teachers model with the Positive Indian Parenting curriculum to specifically address prevention, but the report did not indicate whether it addressed substance use prevention specifically (Lyon et al., 2015). Nurse home visitors serving families as part of the Nurse-Family Partnership model followed visit-by-visit guidelines but adapted them to meet individual families' needs by promoting prenatal health behaviors, competent child care, and plans for future pregnancies, education, and work (Kitzman et al., 2010; Olds et al., 2010). In a study of the Health Access Nurturing Development Services (HANDS), a voluntary home visiting program designed to prevent child maltreatment, improve family functioning, facilitate positive pregnancy and child health outcomes, and maximize child growth and development, the authors described engaging families to set individual goals and then targeting services to address those goals (Williams et al., 2017). Although these studies measured substance use outcomes, they did not discuss whether substance use was addressed, nor did they discuss the incorporation of any substance use-specific curriculum or training when substance use was identified as a concern.

An exception, however, was that several Regional Partnership Grant recipients, under a grant program supported by the Children's Bureau, engaged in community prevention and awareness as part of a more targeted, intensive, and coordinated case management substance use treatment programs for child welfare-involved families (Children's Bureau, 2013). For example, one grantee engaged in community-wide drug awareness programs delivered during community antidrug walks, cultural activities, and after-school programs and community activities. In addition, 12 regional partnerships provided substance abuse education and training events for foster care parents and other substitute caregivers. These trainings addressed issues related to the special needs of children who have been maltreated and are affected by a parent's or caregiver's substance use; family recovery and issues regarding addiction and substance abuse treatment; and other related topics, such as the impact of trauma on children and trauma-informed care.

Several studies described strategies designed to <u>prevent and address substance use issues</u>, such as using motivational interviewing in goal development for behavior change and engaging family and friends. Motivational interviewing is sometimes used in home visiting services to address substance use issues (Damashek et al., 2011) and engage families on a wide variety of challenges, such as service engagement, resource utilization, employment, education, depression, and intimate partner violence (see text box in Chapter III) (Damashek et

al., 2011; Dauber et al., 2017b).[27] In a study of SafeCare+, SafeCare was augmented to include motivational interviewing, as well as training of home visitors on identification and response to imminent child maltreatment and risk factors of substance use, depression, and intimate partner violence (Silovsky et al., 2011). Motivational interviewing was also a component of Durham Connects/Family Connects (Dodge & Goodman, 2012). In the study of the Home Visitation Enhancing Linkages Project (HELP) enhancement, home visitors were trained to provide motivational interviewing and case management to individuals who screened positive for substance use and other psychosocial risks (Dauber et al., 2017b).

Other service delivery models also incorporated motivational interviewing (Children's Bureau, 2013; Kuerbis, Neighbors, & Morgenstern, 2011). Schaeffer et al. (2013) described a model with an incentive-based program that integrated motivational interviewing with elements of cognitive behavioral treatments for substance dependence. In another study, participants received workbooks based on motivational interviewing, along with information about their risk level (Hanson, Miller, Winberg, & Elliott, 2013). Participants were AI/AN women of childbearing age but not necessarily parents. Montag, Dusek, Ortega, Camp-Mazzetti, Calac, and Chambers (2017) described tailoring a web-based screening, brief intervention, and referral to treatment intervention to reduce risky drinking among AI/AN women of childbearing age into a peer-to-peer–based intervention using motivational interviewing.

Engagement with all adults present in the home or in the life of the parent and child is a component of many home visiting models. This approach is consistent with substance use treatment approaches that recognize the roles relationships play in the recovery process (Walters & Rogers, 2012). The practice of engaging relatives and friends in the process of working with families is a component of FBT, which engages partners and/or parents and children to help the client achieve positive outcomes based on behavior change (Donohue et al., 2014).

Several enhancements to home visiting services have focused on engaging fathers; for example, one Tribal MIECHV grantee implemented a tribally sponsored add-on to Fatherhood Is Sacred (Lyon et al., 2015). Several Regional Partnership Grant recipients also targeted father engagement, and many grantees incorporated group decision making by families into the topics of focus (Children's Bureau, 2013). Family involvement was a component of the Engaging Moms Program as well (Dakof et al., 2010).

Few studies focused on <u>referring families to substance use treatment providers</u>; studies typically discussed referrals to treatment in the context of SBIRT interventions or as part of efforts to coordinate services. Some studies described referrals made as follow-up to a screen and referral to treatment or SBIRT intervention (Dauber et al., 2017b; Montag et al., 2015; Price et al., 2017). Others cited capacity issues among treatment provider agencies and the lack of specialized care and supportive services as significant barriers to successfully making referrals to substance use treatment (Dauber et al., 2017b; Moise & Mulhall, 2016; Novins et al., 2018; Pullen & Oser, 2014). For example, Novins and colleagues (2018) found that Tribal MIECHV home visiting programs experienced challenges finding residential substance use treatment programs that allowed parents and their children to stay together while the parents

[27] The project team uses "motivational interviewing" throughout the discussion for consistency, although authors of some studies used "Motivational Interviewing" or the acronym MI.

engaged with treatment. MIHOPE stressed the importance of local programs' perceptions about the availability, accessibility, and effectiveness of services, which all may influence referral practices. In the study, fewer than half of all local programs reported having services for treatment of substance use and mental health that were available, accessible, and effective. The study also found that fewer than 5 percent of families who received home visits received a referral for tobacco or substance use in a one-year period. Home visitors were more likely to make referrals to address substance use, mental health, and intimate partner violence issues for families identified as having these issues—through surveys and assessments—compared to other families (Duggan et al., 2018).

Few studies described forming close coordination among community service organizations in an effort to improve substance use outcomes for families. According to MIHOPE, fewer than half of local programs reported having an MOU with a service provider or an in-agency provider for substance use and mental health treatment. About a quarter of local programs reported having an MOU with at least one in-agency provider or outside provider for substance use and mental health treatment, a designated point of contact, and good or excellent coordination (Duggan et al., 2018). Another study had preliminary findings suggesting that a higher degree of service delivery coordination at the local level may be associated with more positive progress in substance use outcomes than a referrals-only home visiting program (Haynes et al., 2015). The study compared the outcomes of families enrolled in a collaborative, higher-intensity home visiting service model—the Partnership Program—to clients enrolled in a referrals-only public health home visiting program. In the Partnership Program, families benefited from coordinated service delivery from a family support worker (the home visitor) and public health nurse, as well as access to a mental health caseworker and child care provider, all of whom met monthly to discuss family progress and next steps. With the public health home visiting program, public health nurses and social workers (both public health department staff) collaborated to deliver services. Both programs used the same referral networks. It is worth noting, however, that individuals unwilling to seek help for substance use or with an open child welfare case were not eligible to join the Partnership Program, whereas the public health home visiting program featured no such barrier.

As noted earlier, START teams CPS workers with family recovery mentors (peer support employees in long-term recovery) and partners with local substance use treatment providers and the courts (Hall et al., 2015). A key goal of these collaborations is ensuring quick access to treatment once families enter the START program.

One initiative funded under the Rural Health Care Services Outreach Grant Program, which supported projects that demonstrate models of outreach and service delivery in rural communities, also described the role of coordination in meeting families' substance use treatment needs. The Lake County Tribal Health Consortium in California worked closely with women's health service providers to support recruitment, and referred substance-using women to Alcohol & Other Drug Services, a consortium member, for relapse prevention groups. The Health Leadership Network, public health services, mental health services, Easter Seals, and Healthy Start also participated in the consortium. Mothers were connected to pregnancy support groups, individual counseling, nurturing parenting classes, and a child development program. Descriptive outcomes for the Lake County Tribal Health Consortium included higher shares of pregnant women receiving prenatal care in their first trimesters and declines in substance use

during pregnancy, including smoking, drinking alcohol, and using marijuana, cocaine, meth, heroin, and prescription medications (HRSA, 2012).

Another approach to coordinating social services and other interventions with substance use treatment services was co-locating services. A study of an addiction clinic specifically targeting pregnant substance abusing women offered access to social services, including case management, assistance with housing, and group classes (addressing topics such as childbirth, parenting, smoking cessation, healthy eating, and relapse prevention) on-site (Wright, Schuetter, Fombonne, Stephenson, & Haning, 2012). When measuring the outcomes of women who gave birth during the study period at each trimester, the study found that half quit smoking or decreased usage, almost all decreased or stopped using other drugs, and the rate of preterm delivery was similar to hospital, state, and national averages despite the increased risk for methamphetamine users.

No studies discussed <u>case management related to substance use issues</u> in home visiting services, but case management was discussed in detail in the literature of other service delivery models. Case management was a component of EBT (one of the other service delivery models with evidence of effectiveness discussed earlier in this chapter), as well as other interventions described in the literature (Ryan et al., 2016; Wright et al., 2012). Case management in the context of substance use treatment typically includes assessment services, development of a care plan, linkages and referrals, monitoring and follow-up, and advocacy and support (Center for Substance Abuse Treatment, 2015). Many of these functions overlap with components of early childhood home visiting services, which includes, among other services, assessment of family needs and referral to, and coordination with, needed services (Michalopoulos et al., 2015).

To support adherence to substance use treatment plans and recovery goals, EBT case management addressed the basic needs of mothers, including issues with housing, safety, food, medical and dental care, employment, and child care. Case management included an assessment of mothers' needs, the development of a service plan, referrals to social services, and continuous monitoring of each mother's progress (Slesnick & Erdem, 2012).

In addition, as discussed earlier in this chapter, an integrated case management model designed specifically for substance abusing families in child welfare employs professional recovery coaches, who work as intensive and specialized case managers (Ryan et al., 2016). Another study described offering access to social services, including case management, assistance with housing, and group classes (addressing topics such as childbirth, parenting, smoking cessation, healthy eating, and relapse prevention) on-site at an addiction clinic (Wright et al., 2012).

2. Implementation system inputs

<u>Home visit staff</u> described in the literature were either paraprofessionals or health care professionals; some interventions used a team approach including staff from multiple disciplines to address families' needs. Although no studies explicitly connected home visitor characteristics to the execution of touchpoints, the project team found that studies described a range of characteristics of staff who delivered services to families, with variation largely driven by the staffing requirements for each model. The home visiting models Healthy Families

America, Family Spirit, and the National Exchange Club Foundation parent aide plus case management services hired paraprofessionals to work directly with families (Barlow et al., 2013, 2015; Dauber et al., 2017b; Dumont et al., 2011; Falconer, Clark, & Parris, 2011; Goldberg, Bumgarner, & Jacobs, 2016; Guterman et al., 2013; Jacobs, Easterbrooks & Mistry, 2015, 2016; LeCroy & Davis, 2016; LeCroy & Krysik, 2011). Nurse-Family Partnership and Durham Connects hired nurses as home visitors (Dodge & Goodman, 2012; Kitzman et al., 2010; Olds et al., 2010). Studies of other service delivery models described hiring therapists—including individuals with bachelor's degrees, master's degrees, and doctorates to work with families (Donohue et al., 2014; Slesnick & Erdem, 2012, 2013; Suchman et al., 2010).

Some studies described using a team approach to address families' needs and thus included staff with a range of training and expertise (as opposed to assigning one home visitor per family). HANDS, a home visiting program for high-risk, first-time pregnant mothers, hired a combination of professionals (public health nurses, social workers, college graduates with case management experience, and people with advanced early childhood education training) and paraprofessionals, who may or may not have college degrees. Families with paraprofessional visitors also received quarterly visits from nurses (Williams et al., 2017). Similarly, Child and Family Interagency, Resource, Support, and Training (Child FIRST) used a team of a master's level developmental or mental health clinician and a care coordinator, who had an associate's or bachelor's degree and who typically reflected the ethnic background of the family or spoke their language. The clinician handled therapeutic assessments and parent-child interventions, while the care coordinator focused on linking the family to community services based on their needs. The care coordinator was also able to watch the children while the health clinician discussed sensitive topics with the parent(s) (Lowell, Carter, Godoy, Paulicin, & Briggs-Gowan, 2011). One Tribal MIECHV grantee used a team approach, including paraprofessionals, social workers, nurses, and early childhood development specialists to deliver services to families (Lyon et al., 2015).

In addition, some studies described prioritizing cultural competency when hiring staff, with the idea that individuals from the same communities and backgrounds as the families they visit will be more likely to develop trusting relationships. Family Spirit, which typically uses paraprofessionals as home visitors, targets hiring individuals who are from or live in the targeted communities (Barlow et al., 2013, 2015). Some Tribal MIECHV grantees hired visitors from within the communities they served. One grantee only hired home visitors who demonstrated cultural competence and strong understanding of the AI/AN culture and context (Lyon et al., 2015).

Studies found that when home visitors received <u>professional development on the topic of substance use</u> they were more likely to address the topic with families. However, few studies of home visiting models discussed substance use-specific training and supervision; studies of other service delivery models provided more detail on professional development but rarely discussed the content. Several studies found associations between providing professional development on the topic of substance use for home visitors and the rate at which they addressed the topic with families. MIHOPE found that about half of all home visitors surveyed reported attending training on tobacco, alcohol, and drug use in the previous 12 months (Duggan et al., 2018). MIHOPE also found that home visitors who attended training on substance use, among other sensitive topics, were associated with discussing the topic more often with families. In another study's survey of 159 Healthy Families America and Parents as

Teachers home visitors, home visitors received an average of 1.11 formal substance use trainings (defined as formal coursework, workshops, conferences, seminars, and web-based training) and rarely addressed substance use issues in their practices. Home visitors who had more than five years of experience were more likely to have received formal training on substance use. The study found that greater substance use training was associated with greater knowledge and self-efficacy regarding substance use issues, and both training and experience were associated with home visitors addressing substance use issues in their practices (Dauber et al., 2017a). In addition, preliminary study results from an RCT on a seven-day statewide training and certificate program designed to help home visitors practice addressing sensitive topics such as substance use and depression among families found that home visitors who completed the training were more empathetic when discussing sensitive issues with families than those that did not attend the training (West et al., 2018).[28]

Despite these findings, few studies of home visiting models included information about professional development on substance use issues that home visitors receive. In a study of Hawaii Healthy Start, the authors mention "challenges involving substance abuse" among the topics addressed during an intensive five-week training given to all program staff, including home visitors (Dew & Breakey, 2014). Two studies of Family Spirit mention that training for home visitors includes education around maternal health problems and substance use issues (Barlow et al., 2013, 2015). One survey of Tribal MIECHV programs reported that several programs provided education on motivational interviewing, screening, referral, and substance use prevention, and one program offered training in relapse prevention (Novins et al., 2018). One program added several trainings to its intervention model, providing its home visitors training on motivational interviewing, medication-assisted therapies, AI/AN approaches to healing, and how to detect fetal alcohol spectrum disorders (FASDs) and alcohol use disorder.

Two studies—of the HANDS model and the HELP enhancement—included more detail on the professional development offered to home visitors (Dauber et al., 2017b; Williams et al., 2017). Under the HANDS model, all home visitors receive significant initial training and ongoing reflective supervision. For the HELP enhancement, training included a mix of written, web-based, and in-person training experiences that integrated didactic information delivery with interactive, skills-based activities including role-playing. Training for home visitors and supervisors included viewing three hourlong webinars on substance use, maternal depression, and intimate partner violence, all designed to introduce core concepts and increase home visitors' knowledge and understanding of each risk domain. Home visitors and supervisors then participated in a three-day in-person workshop on HELP's phases and core interventions that included training in administration and scoring of the screening tools and training in the core motivational interviewing and case management interventions. Other training topics included barriers to treatment in vulnerable populations, procedures for making referrals to treatment agencies, involving child welfare, and the aftermath of making a child welfare referral. Training included skills practice on the following topics: introducing the screening tools to clients; applying motivational interviewing strategies with clients; and making referrals. Training participants received a HELP handbook, which included all materials reviewed during the

[28] Because West and colleagues (2018) did not measure substance use as an outcome, the project team reviewed the study to gather descriptive information only.

trainings, county-specific resources, and scripts and procedures to follow when administering and scoring screening tools and for implementing the core HELP interventions. Supervisors attended one additional day of training on supervision of HELP implementation. Annual booster trainings were offered for participating home visitors.

In regard to training on substance use issues in other service delivery models that may be applicable to home visiting services, training for staff who delivered an EBT program for shelter-resident mothers with substance use issues included an initial two-day didactic training with role-playing exercises and ongoing weekly group supervision. Supervision included reviewing audio-recorded case management and substance abuse treatment sessions, providing feedback on therapist adherence to the research protocol, discussion of problems, and case consultation (Slesnick & Erdem, 2012, 2013). In the FBT intervention for mothers referred by CPS, providers received 16 hours of training in workshops using role playing and then had to demonstrate a minimum of 70 percent adherence to protocols in each component. They attended 90- to 120-minute weekly group supervision meetings throughout the study. In these meetings, they reviewed family safety, treatment planning, and maintaining intervention adherence (Donohue et al., 2014).

Studies of home visiting models broadly targeted families with low-incomes and living in high risk communities, whereas other service delivery models that focused on substance use outcomes typically had more targeted <u>eligibility, recruitment, intake, and enrollment strategies</u> for families with an identified or potential substance use issue. MIHOPE found that, in a sample of 88 home visiting programs, most (59 percent) considered, but did not require, substance use as an enrollment criterion, and only a few (2 percent) required the mother to report substance use (Duggan et al., 2018). Studies of the other service delivery models found high enrollment rates of participants with substance use issues; by design in some studies, all participants screened positive for substance use.

Studies of home visiting models that reported on rates of substance use at baseline varied widely in the rates of families with this risk factor. In addition, there is variation among the specific substance use measures that studies reported on to assess participant risk. Lowell and colleagues (2011) reported that 46 percent of participants in Child FIRST reported a family history of substance use. Participants in a study of Family Spirit had rates ranging from 84 percent reporting ever using alcohol to about 25 percent reporting ever using cocaine or crack (Barlow et al., 2015). In a study of the centralized intake process for home visiting programs in Virginia, researchers found that almost 12 percent of study participants reported substance use (including alcohol), and 18 percent reported smoking (Price et al., 2017). A study of Healthy Families Oregon reported from 3 to 5 percent of study participants with a substance use problem (Green et al., 2014). In MIHOPE, about 10 percent of women reported receiving help or treatment for alcohol or substance abuse in the year before receiving home visiting services (Duggan et al., 2018). In two studies on home visiting models, the rates of participants reporting substance use issues were lower than the authors anticipated (Dauber et al., 2017b; Johnson et al., 2017). Johnson and colleagues (2017) note that the lower than anticipated rate of reported substance use in their study may reflect differences in the characteristics of the families enrolled (for example, differences in income and race) or when screening was conducted (for example, at initial intake or months into the home visiting program).

Both the types of partners that refer clients to interventions and the sources from which interventions recruit participants may affect whether the intervention reaches families with, or at high risk for, substance use issues, but no studies assessed this relationship. Studies of the other service delivery models typically targeted families with an identified or potential substance use issue. Studies of home visiting models described a variety of sources from which families were referred for interventions or from which they recruited families. Although these varied by study and model, many reported consistently working with health clinics, hospitals, Women, Infants, and Children (WIC) programs, schools, child welfare, and community-based organizations (see, for example, LeCroy & Davis, 2016; Lowell et al., 2011; Olds et al., 2010; Silovsky et al., 2011). Studies of other service delivery models also described a range of referral sources, largely driven by sector. Specifically, models that targeted families involved in child welfare tended to receive most referrals from child welfare offices and drug courts, with some referrals coming from health clinics and hospitals (see, for example, Children's Bureau, 2013; Dakof et al., 2010; Schaeffer et al., 2013). Models that targeted mothers being treated for substance use issues were recruited from residential or outpatient substance use treatment providers (see, for example, Suchman et al., 2010). Across studies, referrals from health clinics, including clinics providing prenatal care, were common, which reflects the focus on serving pregnant women.

E. Summary of key findings and limitations

As previously described, the literature review aimed to address the following questions: (1) What does research that addresses family substance use outcomes say about practices that home visiting programs may use to prevent, identify, and address substance use issues? (2) What does research say about service delivery models that address related outcomes? and (3) How are the touchpoints and implementation system inputs described in the literature?

1. What does research that addresses family substance use outcomes say about practices that home visiting programs may use to prevent, identify, and address substance use issues? What does research say about service delivery models that address related outcomes?

The key findings about evidence-based practices from the literature review are:

- Evidence on the efficacy of practices that can be applied at each touchpoint and implementation activity is sparse; most studies that measured effectiveness and reported on substance use outcomes addressed substance use within an overall home visiting model or other service delivery model. Specific practices, such as referring, educating, treating, or preventing substance use, were not tested. Thus, it is difficult to fully understand *which* touchpoints and practices relate to *which* outcomes.
- The review found few studies that examined the effectiveness of home visiting models to address substance use issues.
- Research indicates mixed effects of home visiting models on substance use outcomes, although some models have been effective with some outcomes in individual studies. Five studies reported significant (or, in the case of one study, marginally significant) positive impacts on substance use outcomes among families in the treatment groups compared to those in the control groups. These positive impacts were found in studies of three models: Family Spirit, Healthy Families America, and Nurse-Family Partnership.

- In looking at other service delivery models that address family substance use outcomes, the review found some evidence of effectiveness of intensive approaches (for example, intensive therapeutic interventions) for treating substance use and of providing monetary incentives for treatment adherence and engagement. These models were drawn from the child welfare and substance use treatment literature, although they were delivered as in-home care or could be adapted for delivery in the home. Stakeholders may assess the appropriateness and feasibility of either incorporating these practices into home visiting services or encouraging home visiting model developers, LIAs, and home visitors to partner with organizations that offer services that use these practices. It is important to note that, despite the findings of each of the four studies, more information is needed about the efficacy of these models and practices in home visiting services.
- Regarding service delivery models that address related outcomes, research indicates that attachment-based parenting programs and the use of peer recovery coaches or mentors can improve parenting outcomes among caregivers with substance use issues and may improve substance use outcomes. As with the other service delivery models, more research is needed on the effects of these models on substance use. In addition, stakeholders need to consider the appropriateness and feasibility of coordinating with organizations that offer attachment-based parenting programs or peer recovery coaches or mentors to offer these services to families. Literature on these service delivery models was recommended for inclusion in the literature review by the project's experts and OPRE and HRSA because they are delivered to families affected by substance use issues, although they aim to address outcomes such as parenting, child safety, and permanency.

Although the project team was interested in documenting the substances targeted by interventions, studies mostly described addressing substance use generally or serving participants that used a range of substances or multiple substances. The exceptions were one study focused on a smoking cessation intervention (Baker et al., 2018), one study of an addiction clinic in Hawaii designed to address methamphetamine use (Wright et al., 2012), and one meta-analysis that reviewed evidence-based approaches to reducing alcohol consumption (Montag et al., 2012). None of the studies in the review specifically focused on opioid use, which was of particular interest for this project, given the current national crisis.

The project team identified several methodological limitations of the studies reviewed.

- Among studies identified in the literature search, most of the effectiveness studies of home visiting models did not measure substance use as an outcome (for example, see Beachy-Quick et al., 2016; Green et al., 2014; Lowell et al., 2011; Williams et al., 2017).[29] Some of these studies measured substance use as a risk factor in describing the study sample. Rather than addressing substance use, studies tended to measure outcomes such as parenting, parenting stress, and child abuse and neglect.

[29] Because these studies did not measure substance use outcomes, they were not included in the first section of this chapter that addressed what research says about practices that home visiting services may apply to prevent, identify, and address substance use issue.

- Most of the effectiveness studies of other service delivery models were pilot studies with small sample sizes (for example, Slesnick & Erdem, 2013; Suchman et al., 2010). Authors of these studies often described larger RCTs as potential next steps.
- The low prevalence of individuals screening positive for substance use was a limiting factor in some studies, regardless of design (Dauber et al., 2017b; Johnson et al., 2017). For example, Dauber et al. (2017b) reported that of the 113 clients screened at baseline, only 6 screened positive for substance use. This low prevalence limited the number of individuals who received motivational interviewing and case management to address substance use. Similarly, Johnson et al. (2017) reported fewer than expected positive screens for substance use. Having a small sample of individuals who screen positive for substance use limits the conclusions that can be drawn on the feasibility or effectiveness of practices aimed at these individuals.

2. How are the touchpoints and implementation system inputs described in the literature?

The key finding from the literature review for descriptive information on the touchpoints and implementation system inputs is that there is a lack of detail in the existing literature on many touchpoints and implementation system inputs. To illustrate, the inventory points to efforts to (1) recruit the families with the highest need by partnering with organizations serving these families, and (2) coordinate with external partners (such as through state-level task forces). However, the project team did not identify any studies focused on these topics in the literature review.

Despite this lack of detail, the literature review findings show that the touchpoints and implementation system inputs are generally described in the literature as theorized in the overarching conceptual model. Specifically, several studies described 8 of the 10 touchpoints and implementation system inputs, and 7 were a component of the models with impact studies with favorable effects. The project team did not collect, as part of the literature review, information on serving families based on strategies designed to address substance use issues or on monitoring systems to track substance use-related inputs, activities, and outcomes. The touchpoint of serving families based on strategies designed to address substance use issues emerged from the literature review, whereas the touchpoint of monitoring systems to track substance use-related inputs, activities, and outcomes emerged from the inventory of practices. However, descriptive information on serving families based on strategies designed to address substance use issues was identified through data collection on other touchpoints.

3. Limitations

The literature review was, by design, limited in scope. The project team searched for studies from January 2010 through April 2018. Thus, important studies published before 2010 may have been missed. It further narrowed the search for evidence-based practices by limiting the review to studies that measured a substance use outcome. In doing so, it eliminated studies that may have had effects on other short- and long-term outcomes in the project's conceptual model (for example, child safety and permanency and parental risky behavior). Finally, the project team narrowed the search by limiting it to studies focused on prenatal women and families with young children. Despite its limitations, the findings provide useful information about the state of the literature on substance use in home visiting and informed the project's conceptual model

V. WHAT RESEARCH OPPORTUNITIES ARE AVAILABLE TO HELP STAKEHOLDERS UNDERSTAND HOW HOME VISITING PROGRAMS CAN ENGAGE AND SUPPORT FAMILIES TO PREVENT, IDENTIFY, AND ADDRESS SUBSTANCE USE ISSUES?

Findings from the inventory of practices and the literature review presented in Chapters III and IV align with the constructs included in the overarching conceptual model. However, the project team found limited evidence on *which* touchpoints and practices (sometimes referred to as "active ingredients") relate to *which* outcomes, making it difficult for the conceptual model to fully reflect the pathways through which home visiting programs can prevent, identify, and address substance use among families. As such, the model serves as a framework for future research by identifying theorized pathways that require testing. Findings from future research can contribute to a better understanding of the pathways through which touchpoints and practices drive improvements in outcomes (Supplee & Duggan, 2019). It can also shed light on how these pathways may differ for families with different needs, including families at risk for substance use issues versus those with an identified substance use disorder.

This chapter identifies research areas of interest related to the touchpoints and implementation system inputs that will be used in the Touchpoints project's next phase. To develop these research areas of interest, the project team used both the findings presented in this report and input from the project's expert consultants on (1) the constructs in the overarching conceptual model, and (2) the findings from the inventory of practices and literature review. The chapter concludes by discussing next steps for study design.

A. Research areas of interest related to practices for each touchpoint

Based on key findings from the inventory of practices and literature review, as well as input from the project's expert consultants, this section presents research areas of interest for the touchpoints. For each touchpoint, findings from the inventory and literature review are summarized. A discussion of knowledge gaps for the touchpoint follows, as does a list of research areas of interest. When identifying research areas of interest, the project team considered feedback from experts. Their specific insights about a given research area of interest appear in footnotes.

Touchpoints

1. Screening families for substance use issues
2. Educating families on substance use prevention, identification, treatment, and recovery
3. Serving families based on strategies designed to prevent and address substance use issues
4. Referring families to substance use treatment providers and related supports
5 Coordinating with substance use treatment providers and related supports
6. Providing case management related to substance use issues

1. Screening families for substance use issues

The inventory of practices and the literature review both identified screening families for substance use issues as a practice that is implemented with wide variation across LIAs (Table V.1). The inventory demonstrated variation in which screening tools are used, as well as when those tools are administered and why. Some tools are standardized or validated, but others are not. Most LIAs delivering targeted and needs-based home visiting models informally observe

families for signs of substance use issues during home visits. Only a few model developers described LIAs having protocols to systematically observe families and use this information to inform service delivery. In addition, home visitors may identify substance use issues by engaging in facilitated discussions with families. The literature review identified a wide range of screening tools in use across studies. No studies examined screening tools and/or policies and practices related to screening.

Table V.1. Detailed findings on screening families for substance use issues

Inventory of practices	Literature review
The select home visiting model developers generally recommend that LIAs choose screening tools; some model developers recommend or require the use of specific tools. The select home visiting model developers generally recommend that LIAs screen families at or shortly after enrollment and then periodically after enrollment based on the number of months elapsed, stage of pregnancy, or postpartum. Tribal MIECHV grantees are required to collect data on screening and referrals related to substance use issues; MIECHV awardees are not, and none of the select awardee leaders reported statewide requirements. The select MIECHV awardee leaders and Tribal MIECHV grantee leaders generally did not describe processes for systematically observing families for signs of substance use issues during home visits.	One descriptive study described the implementation of a statewide centralized intake process that included a screening for risks for behavioral health and, when risk factors were present, a screening for substance use (Price et al., 2017). The MIHOPE implementation study found that home visitors and families discussed substance use and intimate partner violence more frequently in programs with required screenings (and internal monitoring of the screening process) on these topics (Duggan et al., 2018). In some studies, the low prevalence of individuals screening positive for substance use was a limiting factor. In one study, this low prevalence limited the number of individuals who received motivational interviewing and case management related to substance use issues. Impact research on SBIRT has demonstrated positive effects for reducing alcohol use; however, research on the effects of SBIRT on other substance use have shown mixed results (DHHS, 2016; Kim et al., 2017). An adaptation of SBIRT for AI/AN women of childbearing age found no statistically significant differences in outcomes for the treatment and control groups (Montag et al., 2015).

AI/AN = American Indian/Alaska Native; LIA = local implementing agency; MIECHV = Maternal, Infant, and Early Childhood Home Visiting program; MIHOPE = Mother and Infant Home Visiting Program Evaluation; SBIRT = Screening, Brief Intervention, and Referral to Treatment.

These findings reveal significant gaps in the knowledge base about how screening is conducted in home visiting programs. Specifically, the findings show that screening activities occur, but not whether screening is being conducted universally. There is a lack of information on which screening tools are used, whether they are valid for their respective populations, and how they are selected and by whom. Likewise, the findings show that home visiting model developers generally recommend initially screening families at or shortly after enrollment and then periodically after enrollment. However, there is a lack of information on how model developers and LIAs establish and implement processes and procedures for administering screening (including staff responsible, staff training, and timing of screening) and the relative efficacy of these policies and procedures. Finally, there is a lack of evidence on the prevalence and efficacy of other strategies used to identify families with substance use issues, such as observations and facilitated discussions.

From these findings and knowledge gaps, the project team identified research areas of interest:

- Reach of screening and screening rates (including whether screening is universal or targeted and, if targeted, how many families are screened)
- Screening tools used to screen for substance use and their validity (including which screening tools are used, whether they are standardized, and whether they are valid for their respective populations)
- Selection of screening tools (including which personnel select the tools and their process of selection)
- Processes and procedures for administering screening (including staff responsible, staff training, and frequency/timing of screening)
- Organizational systems for tracking screening (including how the occurrence of screening and screening results are documented)
- Use of screening results (including how screening results are used to inform service delivery)
- Use of SBIRT in home visiting services to identify families with substance use issues and connect them with substance use treatment providers (including what an SBIRT workflow may look like)

2. Educating families on substance use prevention, identification, treatment, and recovery

Although the inventory of practices found that home visitors provide education to families on substance use issues, few studies in the literature review described this touchpoint (Table V.2). Specifically, the inventory found that all select home visiting model developers described education on substance use issues provided by home visitors to families during home visits. However, the needs-based model developers described variation in the extent of the education home visitors provide. In the literature review, most studies of home visiting models broadly discussed promoting parents' emotional and social competence, promoting maternal health, and strengthening mothers' ability to cope with adversity.

Table V.2. Detailed findings on educating families on substance use prevention, identification, treatment, and recovery

Inventory of practices	Literature review
Some of the select home visiting model developers described LIAs' procedures for linking families to support groups where they can learn more about and discuss positive parenting. The select needs-based home visiting model developers described variation in the extent of education home visitors provide to families. LIAs delivering one needs-based model equip home visitors to provide education to families about identifying substance use addiction; the effects and consequences of substance use on developing children and families; substance use triggers; coping strategies for dealing with substance use issues; and, if working with tribes, the historical context of substance use issues in tribal communities. In contrast, LIAs delivering another needs-based model guide home visitors to provide basic education on substance use issues to families. For instance, home visitors may share information that outlines how alcohol, nicotine, and marijuana are poisonous to children. A few of the select home visiting model developers described home visitors providing handouts to families on substance use issues, with most of those handouts communicating information about the dangers of substance use to children.	No studies described a focus on educating families on substance use prevention; rather, substance use was addressed if identified as a need. According to the MIHOPE implementation study, more than 80 percent of home visitors reported that they felt expected to address substance use with mothers, although tobacco use or substance use was discussed with less than half of families (Duggan et al., 2018). In some studies, substance use was generally addressed if identified as a need. For example, according to MIHOPE, home visitors discussed tobacco or substance use with families more often when the families were identified as needing services or were considered at risk of substance use including smoking, binge alcohol use, or use of illegal drugs (Duggan et al., 2018).

LIA = local implementing agency; MIHOPE = Mother and Infant Home Visiting Program Evaluation.

More information is needed to understand how often education on substance use issues is provided to families and whether and how such education is tailored to the needs of families (for example, whether education is offered to all families versus only those with a substance use issue or those with a child affected by prenatal substance exposure). The project findings also lack evidence regarding which types of education are most effective in preventing and addressing substance use issues. In addition, more information is needed on whether the rate at which home visitors educate families, and the effectiveness of that education, are influenced by training home visitors receiving on substance use issues. Collecting this information may help stakeholders identify gaps in the provision of education on substance use issues that need to be filled to better serve families.

From these findings and knowledge gaps, the project team identified research areas of interest:

- Content, mode, and dosage of education (including which types of educational content, such as content on behavioral and emotional regulation, and which modes of education, such as motivational interviewing, are most effective in preventing and addressing substance use issues)
- Whether and how home visitors tailor education based on family needs (including whether home visitors offer different types of education to families based on their needs along the continuum of care)

- Content of home visitor training on education strategies (including which types of training—such as informational training, reflective supervision, role playing, and observation-based feedback—are most effective in equipping home visitors to offer education to families)

3. Strategies designed to prevent and address substance use issues

Findings from the inventory of practices and the literature review show some support for the use of strategies designed to prevent and address substance use issues (Table V.3). In the inventory, some home visiting model developers and a few MIECHV awardee leaders described LIAs' procedures for supporting families to change behaviors (including motivational interviewing) and to participate in positive social support systems regarding substance use issues. The literature review found several strategies that may help prevent and address substance use issues, including motivational interviewing, engagement with all adults present in the home, and attachment-based parenting programs. Specifically, several studies in the literature review described preventing and addressing substance use issues among families by using motivational interviewing in goal development for behavior change or engaging family and friends. Likewise, engagement with all adults present in the home or in the life of the parent and child is a component of many home visiting models described in the literature. Finally, two studies indicated that attachment-based parenting programs can improve parenting outcomes among caregivers with substance use issues.

Table V.3. Detailed findings on strategies designed to prevent and address substance use issues

Inventory of practices	Literature review
A few of the select needs-based home visiting model developers described LIAs using motivational interviewing to facilitate behavior change in substance use. Both of the select targeted home visiting model developers described LIAs linking families to support groups to facilitate behavior change in substance use. LIAs delivering one of these models has home visitors organize two types of support groups: a female-only group for women enrolled in home visiting services to discuss the challenges they are facing and strategies to address those challenges, and a larger group for all enrolled family members so they can socialize and support one another. In addition, home visitors work with families to remove alcohol, drugs, and triggers for use from their social environments. The other model aims to help families make positive steps toward recovery, such as reducing instances of socializing in drug-related environments. One select MIECHV awardee leader described some LIAs using motivational interviewing with families whose screening results indicate that they recently stopped engaging in substance use because of pregnancy, have a low level of current substance use, or have a high level of past substance use and recent engagement with treatment. Two MIECHV awardee leaders described some LIAs linking families to support groups.	Motivational interviewing has been extensively evaluated across a range of behaviors, in the context of promoting healthy behaviors, and for increasing client engagement in treatment. Systematic reviews of motivational interviewing consistently report significant positive effects across a range of outcomes while also noting some variation in those effects across outcomes and by treatment setting and population (Lundahl et al., 2010; Mullins et al., 2004; Osterman & Dyehouse, 2011; Smedslund et al., 2011). Engagement with all adults present in the home or in the life of the parent and child is a component of many home visiting models. This approach is consistent with substance use treatment approaches that recognize the roles that relationships play in the recovery process. A literature review by Walters and Rogers (2012) found that case management models that included partners and family members in the recovery process had more positive outcomes. They found benefits to engaging couples in behavioral therapy compared to engaging only the individual. Families with substance use issues may face an intergenerational cycle of attachment issues, and accompanying maladaptive parenting practices, that are difficult to break.

Table V.3 *(continued)*

Inventory of practices	Literature review
One select Tribal MIECHV grantee leader described promoting and supporting breastfeeding to change behaviors regarding substance use issues.	Two impact studies indicated that attachment-based parenting home visiting programs integrated with substance use treatment can improve parenting outcomes among caregivers with substance use issues (Berlin et al., 2014; Suchman et al., 2010).

LIA = local implementing agency; MIECHV = Maternal, Infant, and Early Childhood Home Visiting program.

More information is needed to understand whether and how strategies such as using motivational interviewing, promoting positive social support, and delivering attachment-based parenting programs can be best adapted for use in home visiting programs to prevent and address substance use issues. Collecting this information can help stakeholders adapt promising practices from related areas for home visiting models.

From these findings and knowledge gaps, the project team identified research areas of interest:

- Using motivational interviewing to engage families in goal development to change substance use-related behaviors (including how home visitors can best use motivational interviewing for screening and education)
- Promoting positive social support[30] (including strategies that encourage and support families to participate in positive social support systems regarding substance use issues)
- Engaging relatives and friends in the process of working with families to prevent and address substance use issues (including strategies for effective engagement)
- Promoting positive parent-child relationships by enhancing home visiting services with attachment-based parenting programs[31] (including how attachment-based parenting programs and practices can be best incorporated into home visiting services to prevent and address substance use issues)

4. Referring families to substance use treatment providers and related supports

The inventory of practices found that select home visiting models and/or the LIAs delivering these models refer families to relevant providers and supports; however, the literature did not typically discuss this touchpoint (Table V.4). The inventory found that the select model developers generally rely on LIA staff, advisory committees (which consist of members that represent a wide array of community service providers), and home visitors to develop relationships with relevant providers. LIAs may have home visitors assist families by performing

[30] Experts discussed the importance of promoting positive social support. One expert emphasized the importance of family and social environments, explaining that parents may have family members or friends who are users or abusers. Another expert noted family engagement strategies as a point along the continuum of touchpoints. In general, the experts recommended including the role of social networking as a contextual factor in the conceptual model, specifically the influence of other family members, peer groups, and neighborhood characteristics. Regarding neighborhoods, they discussed rates of use and ease of access as factors that might increase relapse rates.

[31] Experts discussed research on child maltreatment from a public health perspective, including the overlap between parenting and the opioid epidemic. They suggested that safety and risk of neglect be moved to the parenting behavior component from the children component.

such activities as scheduling appointments (which may include substance use treatment and recovery appointments), securing transportation and child care to help them attend appointments, accompanying them to appointments if needed, or following up after appointments. A few MIECHV awardees have a statewide process for referring families to substance use treatment providers and related supports. Tribal MIECHV grantee leaders did not report having a tribe-wide referral process. The literature did not typically discuss this touchpoint outside of its relation to SBIRT interventions or the separate touchpoint of coordinating with substance use treatment providers and related supports (Section V.5).

Table V.4. Detailed findings on referring families to substance use treatment providers and related supports

Inventory of practices	Literature review
One select MIECHV awardee is piloting a coordinated intake and referral system to improve the way in which it screens families and links them to needed resources. One select home visiting model's headquarters develops referral relationships and maintains a database of available community resources. Home visitors must make referrals only to services and supports in the database.	Home visitors in the MIHOPE implementation study were more likely to make referrals to address substance use, mental health, and intimate partner violence issues for families identified as having these issues—through surveys and assessments—compared to other families. In the study, less than half of all local programs reported having available, accessible, and effective services for treatment of substance use and mental health (Duggan et al., 2018).

LIA = local implementing agency; MIECHV = Maternal, Infant, and Early Childhood Home Visiting program; MIHOPE = Mother and Infant Home Visiting Program Evaluation

More information is needed about the strategies used in home visiting programs to refer families for assessments and substance use treatment. There is a lack of evidence on which strategies are most effective in facilitating referrals at the organizational level (such as referral networks) and the home visitor level (such as directly assisting families to make appointments with referral sources). More information on this touchpoint may help stakeholders understand exactly how referrals are made (for example, whether they are warm hand-offs—meetings that consist of the family, home visitor, and referral partner—or a simple dissemination of referred providers' contact information to families), whether home visitors conduct follow-up, and how it is carried out.

From these findings and knowledge gaps, the project team identified research areas of interest:

- Strategies to facilitate the referral process (including whether and how home visitors help families make appointments with referral sources and follow up with families to confirm they have made appointments)
- Referral networks with local treatment centers, mental health providers, and domestic violence programs to provide wraparound services[32] (including whether and how organizational level connections are developed and maintained)

[32] An expert mentioned the importance of capturing polysubstance use and mental health and co-occurring conditions.

5. Coordinating with substance use treatment providers and related supports

The inventory found that LIAs—as described by the home visiting model developers, MIECHV awardee leaders, and Tribal MIECHV grantee leaders included in the inventory—generally conduct, encourage, or support service coordination; however, service coordination was not frequently discussed in the literature (Table V.5). Specifically, in the inventory, many model developers described how either all or some of the LIAs delivering the models secure MOUs, releases of information, and other agreements with community service providers so LIAs can establish each party's responsibility, secure confidentiality procedures, and exchange information about families. Likewise, many model developers included in the inventory described how LIAs provide coordination support to families to assist them with scheduling, attending, and following up on appointments (which may include substance use treatment and recovery appointments). In the literature review, descriptive information suggests that a higher degree of service delivery coordination may lead to more positive progress in substance use outcomes than a referrals-only home visiting program or "noncollaborative program" (Haynes et al., 2015).

Table V.5. Detailed findings on coordinating with substance use treatment providers and related supports

Inventory of practices	Literature review
A few select home visiting model developers reported that some LIAs have social workers and mental health professionals on site and that home visitors coordinate services for families with them. In at least one model (a smaller model with relatively fewer LIAs than most select models), home visitors frequently organize meetings with the community service providers with whom each family is engaged. A few select MIECHV awardees are engaged in state-level efforts to build service coordination across systems. A few select MIECHV awardees employ a substance use liaison to coordinate activities. One awardee's liaison focuses on supporting families with substance use issues through the continuum of care and is working on integrating perinatal peer recovery coaching services into related services. One select MIECHV awardee has a task force that established a system in which families in the state receive a layering of services, meaning a combination of services from programs in the state that fit a family's needs. If a family's point of entry is through a peer recovery coach, they may work more closely with that coach to access other services.	One descriptive study found that a higher degree of service delivery coordination may be associated with more positive progress in substance use outcomes than a referrals-only, "noncollaborative" home visiting program (Haynes et al., 2015). Peer recovery coaches are an integrated case management model designed specifically for substance abusing families in child welfare. Recovery coaches work as intensive and specialized case managers. They engage in a variety of activities, including comprehensive clinical assessments, advocacy, service planning, outreach, and case management. Impact studies of peer recovery coaches provide evidence of the potential to help families get into and stay in substance use treatment, and support families during recovery (Hall et al., 2015; Ryan et al., 2016; as well as earlier studies such as Ryan et al., 2008, 2006.) An RCT studied the use of monetary incentives for participation in smoking cessation treatment among pregnant women (Baker et al., 2018). Incentives improved abstinence rates through increased attendance at treatment sessions. According to MIHOPE, less than half of local programs reported having an MOU with a service provider or an in-agency provider for substance use and mental health treatment. About a quarter of local programs reported having an MOU with at least one in-agency provider or outside provider for substance use and mental health treatment, a designated point of contact, and good or excellent coordination (Duggan et al., 2018).

LIA = local implementing agency; MIECHV = Maternal, Infant, and Early Childhood Home Visiting program; RCT = randomized controlled trial.

More information is needed about whether service delivery coordination may lead to progress in addressing substance use issues among families and which coordination practices best facilitate coordination. Although the literature review presented some descriptive information to suggest that such coordination may be preferable to a referrals-only, "noncollaborative" home visiting program, causal evidence is lacking from impact studies. More information is needed to better understand the influence of service coordination relationships in practice and the extent to which community-level factors facilitate or inhibit the effectiveness of referrals. This information may help stakeholders identify the types of coordination strategies and approaches that are most effective in working with both providers who offer relevant services to families and the families themselves.

From these findings and knowledge gaps, the project team identified research areas of interest:

- Practices to promote coordination (including methods for establishing roles and responsibilities and information sharing agreements across community agencies)
- Practices to support families in making progress toward their service goals (including whether and how home visitors check in with families at regular intervals about their progress and, with family permission, share information across organizations about families' progress)
- Coordination with peer recovery coaches to provide ongoing support to families during treatment and recovery[33]
- Coordination with medication-assisted treatment programs, behavioral therapies, and recovery support services[34]
- Financial or in-kind incentives to families to encourage specific behaviors or outcomes (including how families may be incentivized to enroll in substance use treatment and attend treatment sessions and appointments)
- Other community-level factors that may facilitate or inhibit the effectiveness of referrals (including whether service deserts affect referrals)

[33] Two experts indicated it may be valuable to investigate the use of peer recovery coaches in home-based models. One of them noted the importance of including recovery coaching in home visiting services, given the difficulties of enrolling home visiting clients in treatment programs. Home visiting services have the opportunity to build close rapport with families; adding consistent screening and evidence-based substance use interventions to home visiting services, the expert thought, would be the "cutting edge" of program design. The second expert noted that some in-home models are assembling teams of professionals, such as a mental health professional, a treatment professional, a nurse, and a recovery or parent mentor. For example, multidimensional family therapy is now being tested in-home with recovery coaches for families with substance use issues. The expert also noted that outside the home visiting context, the use of peer mentors and recovery coaches does often elicit an increased level of engagement and disclosure. This may differ in the home visiting context, but in the treatment field, those relationships tend to facilitate more disclosure rather than less.

[34] One expert raised the issue of whether both substance use and behavioral health could be treated with the same intervention. This expert believes that the project findings reflect the historical separation of these two issues and is interested in investigating potential approaches to this potential area of overlap, in addition to evidence-based approaches.

6. Case management related to substance use issues

Although the inventory found that one of the select home visiting model developers and one of the select Tribal MIECHV grantee leaders described LIAs providing case management related to substance use issues, the literature review found no studies on home visiting models discussing case management (Table V.6). However, other service delivery models with evidence of effectiveness involved integrating direct treatment and engaging families in maintenance during recovery with case management and other services. This literature from other service delivery models suggests that stakeholders may assess the appropriateness and feasibility of delivering case management related to substance use issues as a way to help families with substance use issues beyond identification, referral, and service coordination. Working with families during and after they have engaged with treatment may help families better maintain their recovery goals.

Table V.6. Detailed findings on case management related to substance use issues

Inventory of practices	Literature review
In one select targeted home visiting model, home visitors stay in close contact with substance use treatment providers delivering services to families and may be involved in discharge planning for families. After treatment, home visitors work with families to maintain and further develop their relapse prevention plans. In addition, home visitors may request a six-month extension of the model if families near the end of their enrollment period are still in progress with important activities, such as attending an appointment with a substance use treatment provider. Of note, some select needs-based home visiting model developers noted that several LIAs delivering the models provide case management related to substance use issues to families with identified needs.	In one descriptive study, an addiction clinic offered on-site access to social services, including case management, assistance with housing, and group classes (addressing topics such as childbirth, parenting, smoking cessation, healthy eating, and relapse prevention) (Wright et al., 2012). Several models involved integrating direct treatment and engaging families in maintenance during recovery with case management and other services. For example, one descriptive study reported that grantees in the Regional Partnership Grant program frequently merged substance use treatment with other social services and programs, sometimes including home visiting services, for families at risk of or experiencing child removal due to substance use (Children's Bureau, 2013). In their literature review, Walters and Rogers (2012) found that case management models that included partners and family members in the recovery process had more positive outcomes. Case management was a component of ecologically based treatment (EBT), one of the other service delivery models with evidence of effectiveness. An EBT program for homeless mothers with substance use issues included an assessment of mothers' needs, the development of a service plan, referrals to social services, and continuous monitoring of each mother's progress (Slesnick & Erdem, 2012).

LIA = local implementing agency.

Specific practices did not emerge from the inventory or literature review; identifying research areas of interest might require further investigation, including an implementation study in consultation with federal stakeholders and experts.

B. Potential research areas of interest related to implementation system inputs

Based on key findings from the inventory of practices and literature review, as well as input from the project's expert consultants, this section presents research areas of interest for the implementation system inputs. For each implementation system input, findings from the inventory and literature review are summarized. A discussion of knowledge gaps for the implementation system input follows, as does a list of research areas of interest. Experts' specific insights about a given research area of interest appear in footnotes.

Implementation system inputs

1. Home visit staffing (staff characteristics and staffing structure)
2 Professional development for home visitors on substance use issues
3. Eligibility, recruitment, intake, and enrollment of families with substance use issues
4. Monitoring systems to track substance use-related inputs, activities, and outcomes

1. Home visit staffing

Both the inventory and literature review findings identify a range of staffing requirements for home visitors (Table V.7). In the inventory, the targeted home visiting model developers generally require LIAs to hire home visitors with education and training specific to substance use issues. The needs-based model developers included in the inventory do not have these same requirements. In the literature review, studies described a range of characteristics of staff who delivered services to families, with variation largely driven by the staffing requirements for each model.

Table V.7. Detailed findings on home visit staffing

Inventory of practices	Literature review
The select targeted home visiting model developers and some of the select needs-based model developers noted that supervisors are equipped to help home visitors address substance use issues among families via required supervisor qualifications and trainings. Neither of the select Tribal MIECHV grantee leaders described hiring home visitors with knowledge of, and experience in serving families with, substance use issues. One select MIECHV awardee leader described LIA-level activities to hire home visitors with personal experience in substance use recovery and child welfare issues.	No studies explicitly connected home visitor characteristics to the execution of touchpoints. Some studies—including both descriptive and impact studies—examined a team approach including staff from multiple disciplines to address families' needs (Lowell et al, 2011; Lyon et al., 2015; Williams et al., 2017). Two impact studies about Family Spirit described prioritizing cultural competency when hiring staff, with the idea that individuals from the same communities and backgrounds as the families they visit will be more likely to make a connection (Barlow et al., 2013, 2015).

LIA = local implementing agency; MIECHV = Maternal, Infant, and Early Childhood Home Visiting program.

More information is needed to understand how home visitor characteristics relate to the execution of touchpoints. From these findings and knowledge gaps, the project team identified research areas of interest:

- Home visitor education (including the last level of educational attainment and field of study)

- Home visitor training in or experience with addressing substance use issues (including whether home visitors have previous professional experiences dealing with substance use issues)
- Competencies and certifications for addressing substance use issues (including whether state-certified home visitors appear better equipped to help families address substance use issues)
- Team approach, including staff from multiple disciplines (including whether home visitors work in dyads or groups with other professionals)
- Cultural competencies of staff (including whether home visitors are culturally competent to work with families in a given community or of a particular race or ethnicity)

2. Professional development for home visitors on substance use issues

Professional development can supplement the home visitor knowledge or experience required by home visiting model developers and LIA staffing protocols. Although the model developers and some MIECHV awardee leaders and Tribal MIECHV grantee leaders included in the inventory offer professional development on substance use issues to home visitors, the literature had limited information on this touchpoint (Table V.8). Specifically, few studies of home visiting models discussed substance use-specific training and supervision. Studies of other service delivery models provided more detail on professional development but rarely discussed the content. Although there is a range of professional development topics and strategies in the literature; the literature review did not show research on specific professional development or supervision models.

Table V.8. Detailed findings on professional development on substance use issues

Inventory of practices	Literature review
The select home visiting model developers described model training that addresses substance use, although the depth of training on the topic varies by model. The targeted model developers described providing more in-depth training than needs-based model developers	Two descriptive studies found associations between providing professional development on the topic of substance use to home visitors and the rate at which they addressed the topic with families (Dauber et al., 2017a; Duggan et al., 2018).
The select home visiting model developers described LIAs generally providing home visitors training on substance use issues through supervision and peer interaction.	The MIHOPE implementation study reported that less than half of home visitors attended any training on tobacco, alcohol, and drug use, and about two-thirds felt comfortable and effective addressing substance use (Duggan et al., 2018).
The select targeted home visiting model developers and some needs-based model developers reported that supervisors are equipped to help home visitors address substance use issues among families via required supervisor qualifications and trainings.	An RCT of a seven-day statewide training and certificate program found that home visitors who completed the training were more empathetic when discussing sensitive issues with families (West et al., 2018).
The select MIECHV awardee leaders and Tribal MIECHV grantee leaders developed professional development opportunities to train all home visitors on substance use issues in the state or tribe.	In one impact study, staff who delivered an ecologically based treatment program for shelter-resident mothers with substance use issues received an initial two-day training with role play exercises and ongoing weekly group supervision.

Inventory of practices	Literature review
	Supervision included reviewing audio-recorded case management and substance abuse treatment sessions, providing feedback on therapist adherence to the research protocol, discussion of problems, and case consultation (Slesnick & Erdem, 2012; 2013). One descriptive study included detail on the training offered to home visitors under the HELP enhancement, which is an approach to improve risk identification and referrals to treatment for maternal depression, substance use, and intimate partner violence through home visiting services (Dauber et al., 2017b). The HELP enhancement included webinars, workshops, and skills practices on topics such as substance use, maternal depression, motivational interviewing, and case management. According to an impact study, home visitors for the HANDS model, a home visiting program that serves high-risk first-time mothers), receive significant initial training and ongoing reflective supervision (Williams et al., 2017).

HANDS = Health Access Nurturing Development Services; HELP = Home Visitation Enhancing Linkages Project; MIECHV = Maternal, Infant, and Early Childhood Home Visiting program; MIHOPE = Mother and Infant Home Visiting Program Evaluation; RCT = randomized controlled trial.

More information is needed to understand the extent of professional development that home visitors receive through training, supervision, and peer interaction and whether the trainings equip home visitors to address the substance use issues that families face. In addition, it would be helpful to understand which kind of trainings (such as skill-based or informational trainings) could best equip home visitors to prevent, identify, and address substance use issues. This information may help stakeholders identify any gaps in home visitors' knowledge and skill sets. This includes identifying and addressing any gaps related to home visitors' personal biases in working with families with substance use issues. Likewise, the findings lack information about how professional development can best equip supervisors to train and monitor home visitors. Finally, more information is needed to understand which training and supervision strategies best equip home visitors to serve families through practices such as screening and motivational interviewing.

From these findings and knowledge gaps, the project team identified research areas of interest:

- Home visitor training and supervision[35] (including the types of training and supervision home visitors receive, such as reflective supervision, and the topics and strategies covered, such as substance use issues, opioid use disorder, NAS, and FASD; SBIRT; motivational interviewing; and ongoing recovery support)

[35] One expert noted that home visitors' qualifications and experiences can be a driving force behind whether home visitors are willing to ask about or discuss substance use issues with families.

- Supervisor training in reflective supervision, role playing, and observation-based feedback (including which types of training are most effective in equipping supervisors to oversee and guide home visitors in working with families dealing with substance use issues)
- State-level initiatives (including guidelines about screening and other resources related to substance use issues, training in mental health, and an addiction helpline for home visitors to call)

3. Eligibility, recruitment, intake, and enrollment of families with substance use issues

The inventory found that home visiting models often rely on LIAs to tailor services to address substance use among families rather than targeting eligibility, recruitment, intake, and enrollment strategies to families with substance use issues. Home visiting models in the inventory broadly target families in need or identified as high-risk (which may include families with, or at elevated risk for, substance use issues). Similarly, the literature review showed that home visiting models broadly target families in need or identified as high risk (Table V.9). Specifically, study findings indicated an opportunity to focus on recruitment of highest need families by partnering with organizations serving these families. Recruitment and referral sources may affect whether families with, or at high risk for, substance use issues are enrolled, but the literature review did not identify any studies that assessed this relationship.

Table V.9. Detailed findings on eligibility, recruitment, intake, and enrollment of families with substance use issues

Inventory of practices	Literature review
The select targeted home visiting models exclusively serve families who self-report substance use issues. The select needs-based home visiting models do not exclusively serve families dealing with substance use issues but rely on the LIAs delivering the models to tailor services, as needed, to address substance use issues among families.	MIHOPE implementation findings suggest that the presence of substance use issues among families is often a consideration for eligibility but rarely a requirement (Duggan et al., 2018). A descriptive study documented the implementation of the Behavioral Health Integrated Centralized Intake project, a component of a MIECHV expansion grant awarded to the Virginia Department of Health. The project included designing, implementing, and evaluating a centralized intake system of care, with the addition of broad behavioral health risk screening (Price et al., 2017).

MIECHV = Maternal, Infant, and Early Childhood Home Visiting program; MIHOPE = Mother and Infant Home Visiting Program Evaluation.

The findings lack information on the eligibility, recruitment, intake, and enrollment policies and procedures that may affect outcomes, such as whether recruitment and referral sources affect enrollment rates for high-risk families. Stakeholders may assess the appropriateness and feasibility of implementing eligibility, recruitment, intake, and enrollment approaches that allow them to reach families at risk for or with substance use issues—and in so doing, improve child and family outcomes—as well as prevent substance use issues among families who may be at elevated risk.

From these findings and knowledge gaps, the team identified research areas of interest:

- Referral networks with local treatment centers, mental health providers, and domestic violence programs to provide wraparound services (including whether referral networks facilitate the making of referrals and which procedures best allow organizations to share referrals with each other)
- Presence of substance use issues as a consideration for program eligibility (including whether targeted home visiting models are more effective at serving families with substance use issues)
- Differences in eligibility, recruitment, intake, and enrollment policies and procedures (including identifying policies and procedures that best recruit and enroll families affected by substance use issues)

4. Monitoring systems to track substance use-related inputs, activities, and outcomes

The inventory of practices and the literature review found that monitoring practices vary, but formal monitoring systems—systematic procedures to collect and analyze client-level substance use-related data to inform service delivery—may facilitate working with families with substance use issues (Table V.10). In the inventory, many of the home visiting model developers described monitoring progress toward achieving substance use-related goals either directly (for example, a goal to reduce instances of substance use) or more broadly (for example, a goal to decrease incidences of child abuse and neglect). MIECHV awardees and Tribal MIECHV grantees included in the inventory generally do not have data collection activities that go beyond the model developer's requirements (Tribal MIECHV grantees are required to collect data on screening and referrals related to substance use issues.) The literature review did not systematically collect information from studies on monitoring systems. However, the project team did identify a few descriptive studies that suggest that formal monitoring systems may facilitate interactions with families about substance use issues.

Table V.10. Detailed findings on monitoring systems to track substance use-related inputs, activities, and outcomes

Inventory of practices	Literature review
The select home visiting model developers described working with LIAs delivering the models to track data on families' past and current use of alcohol and drugs and their receipt of substance use treatment services. For example, some of the needs-based model developers reported, in studies conducted on their models, that they tracked data on families' frequency of alcohol consumption or on the number of alcoholic drinks families consume in a short period of time (for example, one week). One of the targeted model developers described collecting data for studies to measure substance use-related outcomes, including pregnancy outcomes among mothers engaged in alcohol and drug use. One of the select Tribal MIECHV grantee leaders described monitoring practices that go beyond model-developer requirements, including tracking the number of staff who are trained to educate families on how to obtain and use an opioid overdose rescue kit. Tribal MIECHV grantees, however, are required to collect data on screening and referrals related to substance use issues. None of the select MIECHV awardee leaders described collecting substance use-related data beyond model-developer requirements.	The MIHOPE implementation study found that when an LIA required screening and had formal processes in place for monitoring, families and home visitors discussed the topic of substance use more often than was the case with home visitors affiliated with LIAs that did not have formal monitoring processes (Duggan et al., 2018).

Table V.10 *(continued)*

Inventory of practices	Literature review
For example, none of the awardee leaders described collecting data on reasons why families referred to substance use treatment providers do not complete a treatment program.	

LIA = local implementing agency; MIECHV = Maternal, Infant, and Early Childhood Home Visiting program; MIHOPE = Mother and Infant Home Visiting Program Evaluation.

The findings lack causal evidence on which monitoring systems best facilitate interactions with families about substance use issues, including screening rates. MIECHV awardee leaders and Tribal MIECHV grantee leaders may benefit from monitoring systems that can facilitate coordination across organizations and allow for comparisons. Specifically, awardee leaders and grantee leaders may want to look across the home visiting models and LIAs in their respective state or tribe to examine what is specifically occurring in their area, which may help them identify and address gaps in service delivery related to substance use issues. For example, they may benefit from collecting data on the reasons that some families referred to substance use treatment providers in their state or tribe do not complete a treatment program. This information may help them assess whether families need more individualized encouragement or support in seeking treatment through home visiting services, if there are enough available slots in the treatment programs families are referred to, and if the treatment options families are referred to are feasible for them (for example, an inpatient treatment program may not be feasible for a single parent with a newborn). Finally, given that few causal studies examined substance use as an outcome, research to inform robust monitoring systems could enable researchers to better study the effectiveness of the touchpoints and implementation system inputs on substance use.

From these findings and knowledge gaps, the project team identified research areas of interest:

- Monitoring systems at the home visitor-level that may facilitate interactions with families about substance use issues (including monitoring of: families screened for substance use issues; results of screening or observation; delivery of education on the effects of substance use issues during home visits; families referred to substance use assessment and treatment; family engagement with referred treatments; family retention in referred treatments; and barriers to family engagement with, and retention in, referred treatments)
- Monitoring systems at the state, territory, tribal, and home visiting model levels that influence LIAs and, in turn, the delivery of touchpoints (including which types of monitoring systems are most accessible and less burdensome to implement)

C. Next steps for study design

This report provides a summary for researchers, federal staff, home visiting model developers, and program administrators of what is generally known and what needs to be learned about how home visiting programs can prevent, identify, and address substance use issues among families. To develop the summary, the project team described project findings around six touchpoints and four implementation system inputs through which home visiting can engage and support families with substance use issues.

Under the next phase of the Touchpoints project, the project team will seek input from OPRE, HRSA, and stakeholders on priority research areas of interest. The team will then produce a series of brief study design reports that address specific research questions, engaging expert consultants and stakeholders to generate research questions and provide input on study designs. This process will help the team prioritize those research questions that are most feasible and of greatest interest to ACF and other stakeholders and that can be used for a variety of purposes at federal, state, or local levels. The project team will then pre-test potential measurement tools or data collection protocols. Next, the project team will develop a detailed study design that addresses one or more of the priority research questions and write a subsequent report summarizing this study design.

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APPENDIX A

GLOSSARY OF TERMS

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Active ingredients are the set of characteristics of home visiting programs that are needed to produce specific outcomes, whether for most participants or for certain families (Home Visiting Applied Research Collaborative, n.d.).

Attachment-based parenting is a therapeutic approach that recognizes that parents' own early childhood trauma may affect their parenting behavior and emotional connection with their child. Through therapy, parents are encouraged to address their own attachment trauma and to consider the thoughts, emotions, and intentions of their infants and children and to form healthy emotional attachments with them (Berlin, Shanahan, & Appleyard Carmody, 2014; Suchman, DeCoste, Castiglioni, McMahon, Rounsaville, & Mayes 2010).

Ecologically based treatment (EBT) is a therapeutic approach that combines substance use counseling with housing and case management support.

Family behavior therapy (FBT) is an outpatient substance abuse treatment that involves working with families and their relatives and friends to engage in goal setting and achievement, along with support for learning new communication strategies, adaptive behaviors, self-control methods, and interpersonal relationship strategies.

Home visiting services are voluntary services in which "trained professionals meet regularly with expectant parents or families with young children in their homes, building strong, positive relationships with families who want and need support" (HRSA, 2018b).

Implementation system inputs are organizational- and home visitor-level resources, infrastructure, and constraints that can support the delivery of home visiting services.

Local implementing agencies (LIAs) are the agencies that carry out the activities required to deliver home visiting services to families. They may implement one or more home visiting models. Generally, states and territories that receive MIECHV funding distribute funds they receive to LIAs to carry out activities; Tribal Maternal, Infant, and Early Childhood Home Visiting Program grantees typically use funds to carry out activities themselves.

Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program is administered by the Health Resources and Services Administration (HRSA) in partnership with the Administration for Children and Families (ACF) to provide funding to states and territories in the effort to provide home visiting services to families. These services focus on providing resources and skills to families and pregnant women, and are based on families' needs (HRSA, n.d.).

Motivational interviewing is a counseling approach that can be implemented as part of multiple interventions. It is "a collaborative, goal-oriented style of communication … designed to strengthen personal motivation for and commitment to a specific goal by eliciting and exploring the person's own reasons for change within an atmosphere of acceptance and compassion" (Miller & Rollnick, 2012). Motivational interviewing is used in multiple service areas—including substance use, mental health, primary health care, and housing (Center for Evidence-Based Practices, 2018)—and in home visiting services (Michalopoulos et al., 2015).

Needs-based models are, for this project, home visiting models that do not exclusively serve families dealing with substance use issues but rely on local implementing agencies to tailor services to families who can then address substance use issues as needed.

Peer recovery coaches provide mentoring or coaching to individuals who have substance use issues, and they have generally experienced addiction and recovery themselves. They may help their peers set recovery goals, develop recovery action plans, or connect with substance use treatment (U.S. Department of Health and Human Services [DHHS], 2009).

Practices are, for this project, procedures, processes, and techniques to prevent, identify, and address substance use issues among families.

Quasi-experimental designs (QEDs) are studies in which outcomes for subjects in an intervention group are compared with outcomes for an observationally similar comparison group but in which random assignment is not used to determine membership in the two groups.

Randomized controlled trials (RCTs) are studies in which participants are randomly assigned to a treatment or control group.

Substance use issues are, for this project, the use of substances (including alcohol and legal and illegal drugs) now or in the future in a manner, situation, amount, or frequency that may cause harm to users or to those around them. This term encompasses substance abuse, substance misuse, and substance use disorder (American Psychiatric Association, 2013; Social Security Act of 1935; Substance Abuse and Mental Health Services Administration, 2016).

Screening, Brief Intervention, and Referral to Treatment (SBIRT) is a public health approach to identifying, reducing, and preventing the problematic use of, abuse of, and dependence on alcohol and illicit drugs. Health care professionals use the term to identify and intervene with individuals who show early signs of substance use issues before they need more extensive or specialized treatment. The SBIRT model consists of three major components: (1) screening involves using standardized tools to assess a patient for risky substance use behaviors; (2) brief intervention involves having a short conversation with a patient who shows risky substance use behaviors and then providing feedback and advice to the patient; and (3) referral to treatment involves referring patients who screen in need of additional services to brief therapy or additional treatment (Center for Integrated Health Solutions, 2018). Research on SBIRT has demonstrated that it has positive effects on reducing alcohol use; however, research on the effects of SBIRT on other substance use has shown mixed results (DHHS, 2016; Kim et al., 2017).

Targeted models are, for this project, home visiting models that exclusively serve families dealing with substance use issues.

Touchpoints are, for this project, activities involving direct interaction between home visiting staff and families through which home visiting programs can help prevent, identify, and address substance use issues among families.

Tribal MIECHV Program is administered by ACF, in partnership with HRSA, to provide funding to Indian tribes, consortia of tribes, Tribal organizations, and urban Indian organizations for home visiting services in American Indian and Alaska Native communities. The program uses a subset of MIECHV funds to provide resources and skills to families and pregnant women (HRSA, n.d.).[36]

[36] Unlike the other citations in this glossary, this one is not included in the body of the report. Please see https://www.acf.hhs.gov/ecd/home-visiting/tribal-home-visiting for more information.

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APPENDIX B

OVERARCHING CONCEPTUAL MODEL AND DETAILED CONCEPTUAL MODELS

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As previously described in Chapter II, the overarching conceptual model and three detailed conceptual models present the theoretical pathways through which home visiting services can prevent, identify, and address substance use. This appendix provides detail on the four models.

A. Overarching conceptual model

1. Inputs

Inputs (first panel in Figure B.1) are the resources, infrastructure, and constraints that support efforts of home visiting services to prevent, identify, and address substance use issues among families.

Parent/caregiver. Parent or caregiver features that potentially affect the implementation of home visiting services include socioeconomic characteristics (including parental health insurance coverage and employment statuses) and demographic characteristics such as parent age (whether the parent is a teenager), ethnicity, primary language spoken, whether the caregiver is pregnant or parenting, and the number and ages of children in the home. These factors may affect the timing, type, and availability of treatment services available to families with substance use issues. Risk and protective factors for substance use issues equally influence implementation of the home visiting model. Risk factors include caregiver history of trauma and co-occurring behavioral health conditions; addiction severity (if addiction is present); family history of substance use issues; and, at a household level, concentrated disadvantage. Known protective factors include effective parenting practices and high parental involvement; stable housing; access to reliable child care; and engagement in work, training, or school. Finally, substance type and severity of use also influence implementation of the home visiting model.

Home visitors. Home visitors are uniquely positioned to identify substance use issues and to connect families to treatment. Features of home visiting staff to consider include staff qualifications (for example, whether they are trained in public health nursing or social work and whether their training addressed topics related to substance use); level of training in issues related to substance use prevention and treatment; professional and clinical experience (for example, experience working with families with substance use issues); demographic characteristics; and, importantly, their attitudes and beliefs about substance use issues and processes related to treatment and recovery.

Local implementing agency (LIA) and referral partners. Attributes of the LIA and referral partners are other important inputs to consider. LIAs' experience addressing substance use issues, internal communication systems, and links to community partner agencies can facilitate the implementation of home visiting service features that address substance use issues. Internally, organizational climate, agency leadership, and decision-making style can influence home visiting services' success in addressing substance use issues.

Home visiting model. One input is the home visiting model as designed, including the target population and expected outcomes of health and well-being for families. The model may also include relevant staff selection criteria (for example, experience working in the addiction field, attitudes and beliefs regarding substance use issues) and other requirements for home visiting staff and may offer staff model-specific professional development related to preventing and addressing substance use issues. The prevalence of home visiting model components such as

content to address substance use issues, screening tools for substance use issues, and substance use treatment referral policies may suggest how home visitors address substance use issues in practice.

Implementation system. The implementation system is comprised of organizational- and home visitor-level procedures and staff supports associated with quality implementation (Fixsen et al., 2005; Meyers et al., 2012). These system features facilitate implementation of touchpoints to prevent, identify, and address substance use issues. Organizational features of the implementation system include the extent to which organizations have procedures and infrastructure in place to support client eligibility, recruitment, intake, and enrollment; monitoring systems to track substance use-related inputs, activities, and outcomes; policies and procedures for ongoing screening of families for substance use issues; linkages to referral partners that offer families support in addressing substance use issues; coordination with referral partners to facilitate referrals and exchange information about families; and organizational climate, culture, and leadership and communication systems capable of supporting delivery of the touchpoints. Organizational attention to gender responsiveness, cultural competence, and trauma-informed approaches are also important considerations that encourage families with diverse needs to participate in home visiting services.

Home visitor-level features of the implementation system include home visit staffing (staff characteristics and staffing structure) and professional development for home visitors. Building a cadre of skilled home visiting staff starts with procedures and infrastructure for selecting and hiring home visitors in accordance with desired professional background and competencies. Providing home visitors with carefully designed initial and ongoing training prepares them to meet families' needs. This training should include (1) general training in the home visiting model, effective communication to understand parents' perspectives and preferences and to engage parents to achieve personal and program outcomes, gender and cultural responsiveness, and a trauma-informed approach to service delivery; and (2) specific training on identifying substance use issues. The right type and frequency of supervision and peer support available to home visitors affect their capacity to address substance use issues among families and can reduce job-related stress.

Figure B.1. Overarching conceptual model

Inputs

Parents/caregivers
- Socioeconomic and demographic characteristics
- Pregnant and/or parenting
- Risk (history of trauma, co-occurring conditions, family history of substance use issues) and protective factors
- Substance type and severity of use

Local implementing agencies (LIAs), referral partners
- Experiences with substance use
- Relationships/communication systems
- Community linkages
- Organizational climate
- Leadership and decision-making style

Home visitors
- Qualifications
- Experience
- Demographic characteristics
- Attitudes and beliefs about substance use

Home visiting models
- Target population and outcomes
- Requirements for home visitors' background and professional development
- Model components

Implementation system

Home visitor level
- **Home visit staffing**
- **Professional development for home visitors on substance use issues**

Organizational level
- **Eligibility, recruitment, intake, and enrollment of families with substance use issues**
- **Monitoring system to track substance use-related inputs, activities, and outcomes**
- Policies and procedures for ongoing screening of families for substance use issues
- Linkages to referral partners that offer families support in addressing substance use issues
- Coordination with referral partners to facilitate referrals and exchange information about families
- Organizational climate, culture, and leadership and communication systems capable of supporting delivery of the touchpoints

Touchpoints to address substance use issues across the continuum of care

Promotion
Universal prevention
Selective prevention
Indicated prevention
Treatment and maintenance support

1. Screening families for substance use issues
2. Educating families on substance use prevention, identification, treatment, and recovery
3. Serving families based on strategies designed to prevent and address substance use issues
4. Referring families to substance use treatment providers and related supports
5. Coordinating with substance use treatment providers and related supports
6. Providing case management related to substance use issues

- Expanding parents' knowledge of child development
- Promoting positive parent-child relationships
- Promoting parent or caregiver and child health and well-being

Short-term outcomes

Parent/caregivers
- Reduction in risky behaviors
- Enhanced self-efficacy, motivation, and self-regulation
- Increased access to and use of treatment and maintenance services
- Increased access to and use of social supports

Parenting
- Improved parenting attitudes and skills
- Reduction in parenting stress
- Enhanced responsiveness

Children
- Reduced injury-related emergency department visits
- Increased access to and use of community services

Home visitors
- Increased capacity to screen for and discuss substance use with families
- Increased knowledge of resources and capacity to facilitate referrals

LIAs
- Improved referral networks and service coordination
- Improved ability to support home visitors

Long-term outcomes

Parents/caregivers
- Prevention of/reduction in drug and alcohol use
- Safe home environment
- Ongoing access to and use of treatment and maintenance services
- Ongoing access to and use of social supports
- Improved health

Parenting
- Positive parent-child relationships

Children
- Improved safety and reduction in risk of abuse and neglect
- Improved health and well-being

Home visitors
- Improved self-efficacy
- Improved job retention
- Reduced job-related burnout

LIAs
- Increased ability to engage and meet the needs of families affected by substance use

• Policy factors **• Community context** **• Stigma**

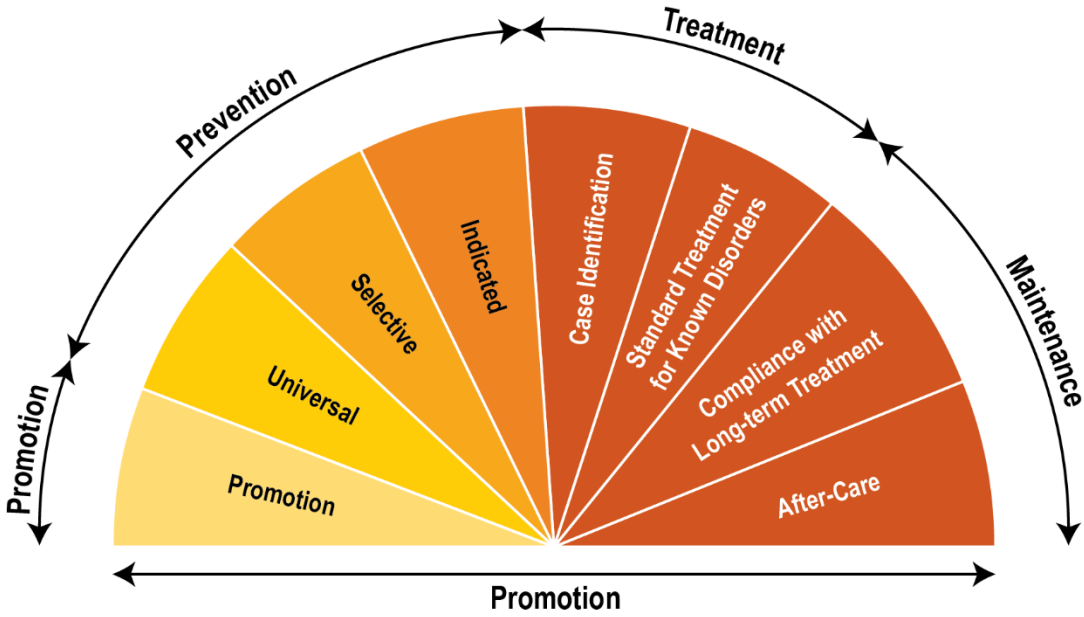
Note: Touchpoints are activities involving direct interaction between home visiting staff and families through which home visiting programs can engage and support families to prevent, identify, and address substance use issues

2. Touchpoints to prevent, identify, and address substance use issues

In developing the model, the project team assumed the presence of multiple touchpoints (second panel in Figure B.1) through which home visiting services can help prevent, identify, and address substance use issues among families. These touchpoints are situated along a continuum of care and, as such, may be offered universally to all families or may vary based on the needs of individual families. For this project, the project team used the Institute of Medicine's continuum of care model (Figure B.2) (Institute of Medicine, 1994; National Research Council & Institute of Medicine, 2009):

- *Promotion* refers to interventions that target a whole population and aim to enhance individuals' emotional and social competence, and strengthen their ability to cope with adversity.
- *Prevention* refers to interventions designed to prevent or reduce the risk of substance use issues. It includes these types of interventions:
  - *Universal prevention* refers to preventive interventions delivered to all individuals, regardless of their individual risk level for substance use issues.
  - *Selective prevention* refers to preventive interventions delivered to individuals who belong to a group at elevated risk for substance use issues (such as persons with a family history of substance use issues or persons residing in a neighborhood with elevated substance use).
  - *Indicated prevention* refers to preventive interventions delivered to individuals who are identified as having an increased vulnerability for a substance use disorder based on individual indications or pre-disorder signs but who have not received a substance use disorder diagnosis.
- *Treatment* refers to interventions delivered to individuals who have a known substance use disorder. It involves efforts to identify individuals in need of substance use treatment (called *case identification*). *Maintenance support* includes services that support efforts by individuals with substance use disorders to live productive and healthy lives. Recovery services can also offer help with abstinence from substances.

Figure B.2. The continuum of care prevention arc



Source: Institute of Medicine, 1994; National Research Council & Institute of Medicine, 2009.

Along the continuum of care, there are opportunities—*touchpoints*—for home visiting services to promote mental health and overall well-being, and to prevent, identify, and address substance use issues in families. These touchpoints include the following:

- Screening families for substance use issues
- Educating families on substance use prevention, identification, treatment, and recovery
- Serving families based on strategies designed to prevent and address substance use issues
- Referring families to substance use treatment providers and related supports
- Coordinating with substance use treatment providers and related supports
- Providing case management related to substance use issues
- Expanding parents' knowledge of child development
- Promoting positive parent-child relationships
- Promoting parent or caregiver and child health and well-being

Underlying each touchpoint is an implementation system that promotes high quality service delivery. This system includes adequate training and supervision for home visitors to support their ability to implement each touchpoint, as well as to establish connections with referral partners and procedures to link families to services with these partners.

A focus on expanding parents' knowledge of child development and promoting positive parent-child relationships is at the core of home visiting services. In addition, these services include education, screening, and referrals to address parent or caregiver and child health and

well-being. These services promote mental health among parents and caregivers and social and emotional development among children (*promotion*).

Given variation in the frequency, type, and intensity of substance use, as well as differences in onset of risk and protective factors, the risk for substance use issues is not fixed for any individual. Families may be at different places along the continuum of care during their course of contact with home visiting services. Home visiting services may include screening families to identify service needs and to evaluate the likelihood that a parent or caregiver has or is at risk of developing substance use issues. Home visiting services may include the delivery of a substance use prevention curriculum to all families, regardless of their individual risk or provide all families with information about the harms of prenatal drug and alcohol use (*universal prevention*). Home visiting services may include the delivery of a more intensive prevention curriculum to families at an elevated risk for substance use issues (*selective* or *indicated prevention*) or refer families with detectable signs of substance use issues to specialized services for comprehensive assessments and treatments (*indicated prevention*). Other touchpoints, such as coordinating with substance use treatment providers and related supports, will be relevant only for families with identified substance use issues (*treatment* and *maintenance support*).

3. Short- and long-term outcomes

When the touchpoints are delivered, home visiting services are hypothesized to lead to better short- and long-term outcomes (third and fourth panels in Figure B.1) for parents and caregivers, children, home visiting staff, and the implementing agencies. This section focuses on outcomes that are most likely to be affected by enhancing the touchpoints to address substance use issues among families.

Short-term outcomes include the following:

- **Reduced parent or caregiver symptoms**, including reduction in risky behaviors, such as alcohol consumption and drug use and engaging in unsafe relationships, and enhanced self-efficacy, mindfulness, and self-regulation
- **Increased parent or caregiver referrals to and utilization of treatment and maintenance services and social supports**, such as housing and parenting support (including home visiting services)
- **Improved parenting**, including increased knowledge of child development, reduction in parental distress symptoms, and improved parent-child interactions
- **Improved child outcomes**, including enhanced self-regulation skills, increased access to and use of community services, improved safety, and reduced risk of neglect by parent/caregiver
- **Home visitor outcomes**, including increased capacity to screen for and discuss substance use issues with families and increased knowledge of education, treatment, and referral resources and capacity to facilitate referrals; home visitors are also expected to experience improved self-care and job satisfaction
- **LIA outcomes**, including improved referral networks to community partner agencies and improved ability to support home visitors and promote self-care

Ultimately, home visiting services target long-term outcomes for parents and caregivers, children, home visitors, and implementing agencies. Long-term outcomes include the following:

- **Parent or caregiver outcomes**, including the prevention or reduction of substance use, improved well-being and self-sufficiency, a safe home environment, and ongoing access to, and use of, treatment services, as well as recovery and social supports
- **Parenting outcomes**, including positive parent-child relationships and prevention of child maltreatment
- **Child outcomes,** including improved health and safety, and enhanced social, emotional, and cognitive development
- **Home visitor outcomes**, including improved self-efficacy, improved job retention, and reduced job-related burnout
- **LIA outcomes**, including an increased ability to engage and meet the needs of families affected by substance use issues.

4. Contextual factors

The federal, tribal, state, and local policy landscape; community context; and stigma (bottom gray bar in Figure B.1) influence the inputs and touchpoints described above. These factors may affect how home visiting services and home visitors approach substance use. At the federal level, several efforts seek to address critical gaps in treatment services for families experiencing substance use issues. By increasing insurance coverage through the expansion of Medicaid, the Affordable Care Act increased access to treatment services for over a million individuals with substance use disorder (Humphreys & Frank, 2014). Some viewed this as an opportunity for states to increase access to specialty services related to substance use issues and community-based social supports. The Comprehensive Addiction and Recovery Act (CARA), signed into law in 2016, focuses on prevention and education efforts around opioid use and increases funding for best and innovative practices in treatment and recovery, particularly relating to pregnant and postpartum women and their infants. By addressing the gaps in treatment services, these federal efforts may make it easier for home visiting services to identify treatment providers and for families served by the programs to access treatment services.

Federally recognized tribes are regarded as sovereign nations and thus hold a government-to-government relationship with the federal government. Tribal governments have distinct socioeconomic and political priorities, which often shift depending on the local administration's identified needs and commitments to its constituents. Furthermore, a large body of research has shown that socioeconomic status plays a major role in determining health (Cooper et al., 2015; Pearce, 2018; Robert Wood Johnson Foundation, 2016). Indigenous people have higher rates of unemployment, fewer economic opportunities, higher rates of inadequate housing, and lower educational attainment (Sarche et al., 2008). These factors influence wellness, including substance use issues. Each community is unique, with its own socioeconomic and political landscapes that influence how home visiting services and home visitors approach substance use.

Tribal, state, and local child protection laws, including policies related to the harm to children caused by prenatal drug exposure and exposure to illegal drug activity in homes or the

environment, also affect how home visiting services and home visitors approach substance use issues. Approximately 19 states and the District of Columbia have specific reporting procedures for infants who show evidence at birth of having been exposed to drugs, alcohol, or other controlled substances (Child Welfare Information Gateway, 2016). In addition, 14 states and the District of Columbia include substance use during pregnancy in their definitions of child abuse or neglect. Many states also have policies that require health care professionals to test for or report prenatal drug exposure. These factors will affect the policies and procedures regarding referrals to child welfare and possibly affect the eligibility criteria developed by LIAs.

Community conditions may also affect how home visiting services and home visitors approach substance use. For example, the availability and accessibility of substance use treatment providers in a community will affect the ability of home visiting services to refer families for other services and families' ability to successfully enroll in those services. According to MIHOPE, more than 90 percent of local programs reported that substance use and mental health treatment community service providers are available (Duggan et al., 2018). In some states, the availability of state-funded treatment programs that specifically target pregnant women may be limited; in other states, these programs may be more widely available. Similarly, the availability of mental health treatment providers may not be sufficient to address families' co-occurring mental health service needs, particularly in rural areas or for adults who need acute services. Resources may also be limited for women experiencing intimate partner violence, which often co-occurs with substance use (Golinelli, Longshore, & Wenzel, 2009). Intimate partner violence and other family violence prevention centers offer services to assist family members in addressing safety issues, supporting access to medical care, and guiding families through legal options, yet variation in the availability of these services may facilitate or hinder their use. Even when services are available, communities may lack family-centered treatment services and other support services, including reliable transportation to services and child care for families receiving services. In family-centered services, participating parents, children, and other family members receive case plans (Werner et al., 2007). According to MIHOPE, although more than half of local programs reported that substance use and mental health treatment providers were accessible, slightly fewer than half reported that they were available, accessible, and effective (Duggan et al., 2018).

Neighborhood conditions are connected to family substance use issues. For example, neighborhood poverty and other measures of concentrated disadvantage are linked with injection drug use, marijuana use, and opioid fatalities (Cerdá et al., 2013; Linton et al., 2017; Reboussin et al., 2016).[37] Similarly, the concentration of alcohol and tobacco off-premises outlets (that is, liquor stores or corner stores where alcohol and tobacco products are sold but not consumed) in a neighborhood is associated with elevated risk of drug-related violence and injury and other public health concerns, including children's drug exposure (Jennings et al., 2014; Livingston, 2011; Milam et al., 2014; Morrison et al., 2016). Ready availability of alcohol and drugs and related neighborhood disorder may threaten recovery and introduce new challenges to families struggling with substance use issues. Geographic differences in substance use issues are also

[37] Concentrated disadvantage is a measure of socioeconomic deprivation typically assessed as a composite measure from five Census data indicators for a given area unit or neighborhood: (1) percentage of individuals below the poverty line, (2) percentage of individuals on public assistance, (3) percentage female-headed households, (4) percentage unemployed, and (5) percentage younger than age 18.

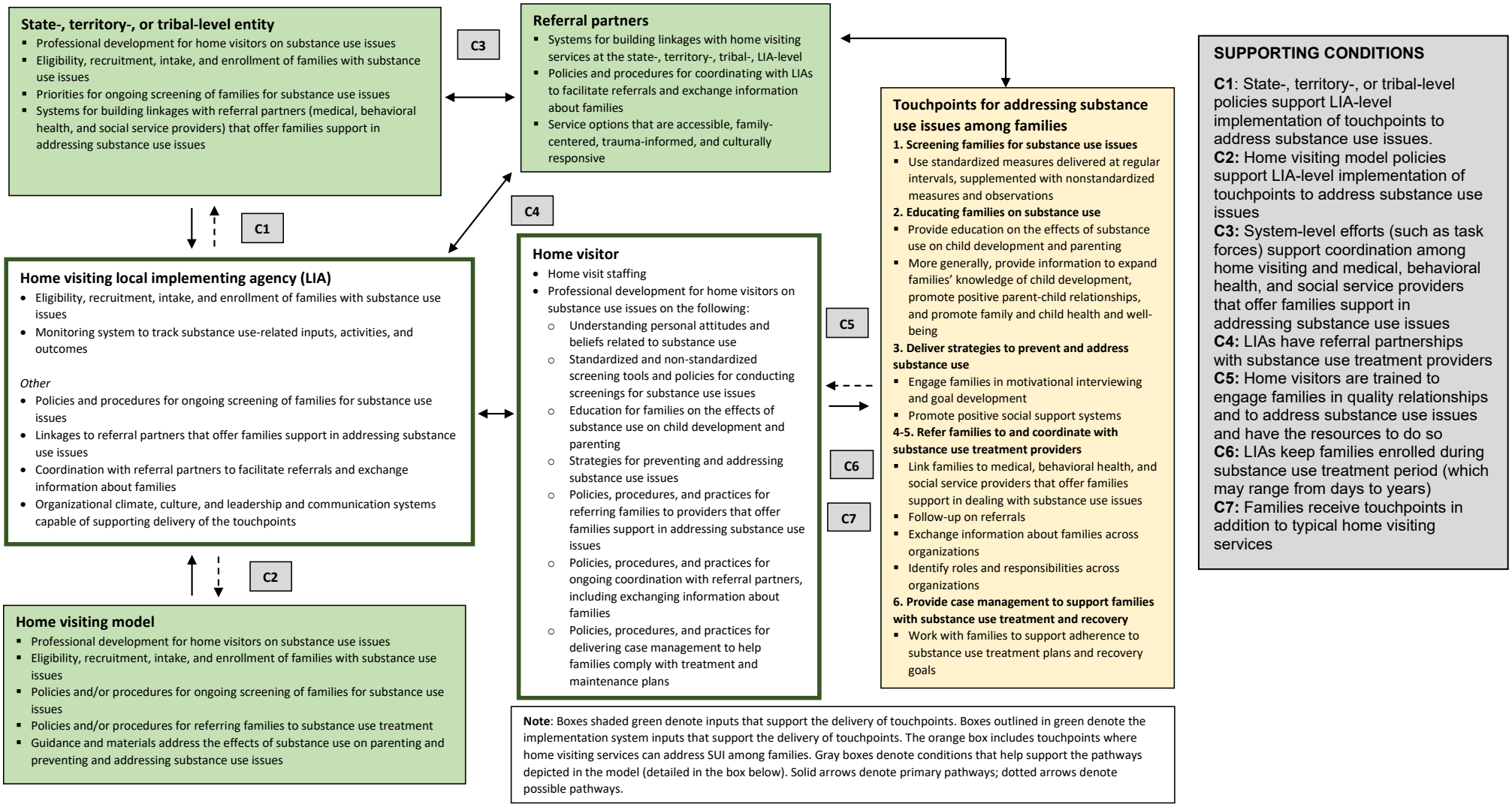
important factors to consider in the home visiting context. Research shows that underage drinking, alcohol abuse, and smoking among teenagers and young adults is more prevalent in rural areas than in urban areas, while opioid misuse for this population is more prevalent in urban areas (Rural Health Information Hub, n.d.).

Finally, another contextual factor underlying the model relates to stigma associated with substance use disorders and other mental health issues. Stigma refers to the attitudes, beliefs, behaviors, and structures that manifest in prejudicial attitudes about and discriminatory practices against people with mental and substance use disorders (Committee on the Science of Changing Behavioral Health Social Norms, 2016). Although public knowledge about the neurobiological causes behind substance use disorders and other mental health issues has increased, the stigma associated with these disorders persists (Pescosolido et al., 2010). Public perceptions and beliefs about mental and substance use disorders are influenced by knowledge about these disorders, degree of contact or experience that one has had with people who have mental and substance use disorders, and media portrayal of people with these behavioral health conditions (Swanson et al., 2015). Adding to stigma for people with substance use disorder is the public perception that they are responsible for their conditions (Lloyd, 2013; Schomerus et al., 2010). For individuals with substance use issues, stigma may serve as a barrier to seeking health care and substance use treatment services (Henderson et al., 2008; Keyes et al., 2010; Radcliffe & Stevens, 2008; Semple et al., 2005). It may also contribute to noncompletion of treatment, delayed recovery, and increased involvement in risky behaviors (such as needle sharing). In the U.S. health care system, stigma may be a contributing factor to disparities in funding for research and treatment of mental and substance use disorders compared with physical disorders (Committee on the Science of Changing Behavioral Health Social Norms, 2016). Parity laws, including the federal Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008 and state parity laws, are designed to reduce these disparities.

B. Pathways from implementation system inputs to touchpoints

This section describes the implementation system inputs and the pathways through which they influence the delivery of the touchpoints (Figure B.3). It also describes other inputs that influence the implementation system and indicates supporting conditions that make the pathways function as intended. In the figure, solid arrows depict primary pathways and dotted arrows depict possible pathways. The LIA-level implementation system inputs are depicted in Figure B.3 in the white box outlined in green located on the far left hand side of the model; the home visitor-level inputs are located in the white box outlined in green in the middle of the model.

Figure B.3. Detailed conceptual model on implementation system inputs



1. LIA implementation system inputs

Two implementation system inputs included in Figure B.3 served as part of the framework for information gathering in the project.

- **Eligibility, recruitment, intake, and enrollment of families with substance use issues.** The characteristics, risks, and strengths of families enrolled by an LIA is driven by the eligibility requirements, as well as by the policies and procedures it has in place. Both may be set by the LIA; influenced by the target populations defined by the home visiting models the LIA delivers; or, as discussed later, may reflect requirements from the entities at the state, territory, or tribal level that oversee home visiting services, including the MIECHV awardees.[38] By implementing policies that are inclusive of families with specific risks, including substance use issues, children with special health care needs (including NAS), or families involved with child welfare, LIAs may be more likely to serve families with a substance use issue. To reach these prioritized families, LIAs may form referral partnerships with hospitals, child welfare agencies, and substance use treatment providers. On the contrary, LIAs may lack referral sources that tend to serve these families, resulting in a lower likelihood of having families with substance use issues to serve.
- **Monitoring systems to track substance use-related inputs, activities, and outcomes.** LIAs may have systematic procedures for collecting and analyzing client-level substance use-related data to inform service delivery. These procedures may be set by the LIA or, as discussed later, may reflect requirements from the entities at the state, territory, or tribal level that oversee home visiting services, including the MIECHV awardees. If these procedures are in place, LIAs can use the data to guide decision making. This information may help staff identify gaps in service delivery, identify the types of referral partners they may need, and target training and coaching for home visitors. Without these procedures in place, an LIA may be limited in its ability to continually improve services to meet the needs of families.
- **Policies and procedures for ongoing screening of families for substance use issues.** LIAs may institute policies and develop procedures related to the tools used for screening families for substance use issues and the way the information obtained from screenings is recorded and used for service planning. In some cases, these policies and procedures may be determined by the entity at the state, territory, or tribal level that oversees home visiting services, other state-level regulations, or the home visiting model the LIA delivers.
- **Linkages to referral partners that offer families support in addressing substance use issues.** The extent to which LIAs have linkages with medical, behavioral health, and social service providers (including child welfare agencies) that offer families support in addressing substance use issues will influence the ability of home visitors to address the needs of families with substance use issues. Variation in the types of referral partners an LIA has in place may be driven by the supply of these service providers in the community. LIAs may also vary in the extent to which they rely on home visitors versus LIA leadership, managers, or supervisors to form these linkages. State-, territory-, or tribal-level efforts to address substance use issues among families may help facilitate development of linkages. For

[38] Eligibility requirements must also adhere to MIECHV funding requirements; current legislation requires awardees to prioritize high-risk populations, including families that have a history of substance abuse or need substance abuse treatment (U.S. Department of Health and Human Services, 2018).

example, state-level initiatives (such as task forces) may interact with referral partners and build linkages across the state.

- **Coordination with referral partners to facilitate referrals and exchange information about families.** In some cases, these linkages with referral partners may be limited to knowledge of and contact information for service providers that address substance use issues. To facilitate service coordination, however, these linkages may include formalized agreements across organizations. The agreements may address policies and procedures for referrals, communication among staff, and information sharing about families and services.
- **Organizational climate, culture, and leadership and communication systems capable of supporting delivery of the touchpoints.** Internally, organizational climate, agency leadership, and decision-making style can influence home visiting services' success in addressing substance use issues. Organizational climates that are conducive to learning and agency leadership that stresses the importance of addressing substance use issues among families may be better equipped to deliver the touchpoints and address families' substance use issues. An LIA's communication system can ensure that the experiences of home visitors, including barriers that they face in addressing substance use issues among families, are communicated to leadership, managers, and supervisors, who can then enact changes to address those barriers.

Pathways. The extent to which LIAs have policies, procedures, infrastructure, and staff supports in place will influence which touchpoints home visitors deliver to families and the manner in which they deliver them. (This pathway is depicted in the model by the bidirectional solid arrow between the LIA and home visitor boxes.) LIA implementation system inputs are influenced by inputs from two primary entities: (1) the entity at the state, territory, or tribal-level that oversees home visiting services; and (2) the home visiting models they deliver, shown by the solid arrows leading from the top and bottom green boxes to the LIA implementation system box. In some cases, these entities are similarly influenced by the experiences of the LIAs and home visitors, indicated by the dotted arrow going from the LIA to the state, territory, or tribal entity and home visiting model boxes. Furthermore, the LIAs are influenced by and may in turn influence the referral partners they form linkages with, shown by the bidirectional arrow between the LIAs and referral partners.

Conditions. The conceptual model includes several conditions that support LIA implementation of touchpoints, which are indicated by codes in gray boxes in Figure B.3. The conditions include state- and territory-level and home visiting model inputs that support an LIA's implementation of the touchpoints; system-level efforts that support coordination among home visiting services and medical, behavioral health, and social service providers that offer families support in addressing substance use issues; and referral partnerships between LIAs and these providers.

2. Home visitor implementation system inputs

Home visitor inputs include staffing and professional development on substance abuse issues. Both of these inputs were part of the framework for information gathering in the project.

- **Home visit staffing (staff characteristics and staffing structure).** LIAs establish systems for choosing the home visitors and other staff who work directly with families. The extent to which LIAs consider the prior training, preparation, experiences, and individual qualities of staff to work with families to address sensitive topics, including substance use issues, may vary by their characteristics (for example, the pay scale and recruitment strategies) and selection criteria, as well as by the supply of qualified staff in the community. Some selection criteria may be driven by the home visiting model.
- **Professional development for home visitors on substance use issues.** LIAs may vary in the frequency and content of professional development (including initial and ongoing training, technical assistance and coaching, peer support, and supervision) that is offered to home visitors and the extent to which is addresses the competencies home visitors need to deliver the touchpoints to families. Home visiting models include some requirements for this professional development and supervision, and some state agencies may also have such requirements or opportunities. The extent to which these requirements are specific to preventing, identifying, and addressing substance use issues may vary by model and state. Professional development for home visitors may address the following:
  - **Understanding personal attitudes and beliefs related to substance use.** Home visitors may have personal attitudes and beliefs about substance use, including stigmatizing attitudes and personal biases. Training on the neurobiological causes behind substance use disorders, along with supervision that allows home visitors to discuss and reflect on the families in their caseloads, may help home visitors understand those personal attitudes and beliefs and ensure that they not interfere with the visitor's ability to address the issue with families.
  - **Standardized and non-standardized screening tools and policies for conducting screenings for substance use issues.** Home visitors need access to and professional development on the use of standardized and non-standardized substance use screening tools. They also need access to and ongoing professional development on policies for conducting screenings, including frequency of conduct, interpretation of results, and tracking and use of results. To support their ability to use and act on the screening information, home visitors should be trained to analyze observation and screening results. The screening tools and policies may be a determined by the LIA, the home visiting model, state-, territory-, or tribal-level entities, or a combination of these entities.
  - **Education for families on the effects of substance use on child development and parenting.** To educate families on the effects of substance use on child development and parenting, home visitors need access to ongoing professional development and resources addressing these topics.
  - **Strategies for working with families to prevent and address substance use issues.** Home visitors may receive ongoing professional development on strategies for engaging families to develop goals and change substance use-related behavior as part of LIA- or state-, territory-, or tribal-level professional development systems or as a component of professional development offered through a home visiting model. It is likely that they receive this support from a combination of these entities. To support their use of these strategies, home visitors need ongoing supervision and continued professional development. Motivational interviewing may be employed as part of this effort.

- **Policies, procedures, and practices for referring families to partners that offer families support in addressing substance use issues.** Consistent with LIA-level implementation inputs on referring families, home visitors need access to policies and procedures for referring families to medical, behavioral health, and social service providers (including child welfare agencies) that offer families support in addressing substance use issues. Furthermore, home visitors may benefit from professional development focused on practices that support families to follow up on referrals and engage in services recommended by those service providers.
- **Policies, procedures, and practices for ongoing coordination with referral partners, including exchanging information about families.** In addition to forming linkages with referral partners, LIAs need to develop policies and procedures for ongoing coordination with those partners and to ensure home visitors know of them. To support coordination of services, home visitors need access to and professional development on practices for working with families to support their engagement in referral partners' services and for working with partners' staff to exchange information about families and to coordinate delivery of services.
- **Policies, procedures, and practices for delivering case management to help families comply with treatment and maintenance plans.** To support the delivery of case management to help families comply with treatment and maintenance plans, home visitors need access to and professional development on case management policies and procedures. Case management may include service coordination with referral partners but may also include helping families access other supports not offered by these partners but that help them adhere to treatment and maintenance plans. These services may include safe and stable housing, financial supports, health insurance, and high quality child care. As with referrals and coordinating services, professional development and supervision in this area needs to be ongoing.

Pathways. At the home visitor level, the extent to which home visitors have access to initial and ongoing professional development, supervision, and peer support influences the services they deliver and the extent to which they can meet families' needs. To a large extent these inputs overlap with and are influenced by the LIA-level inputs. However, in some cases, the home visitor-level factors may in turn influence the LIA-level policies, procedures, and systems (shown by the bidirectional arrow between the two white boxes). Home visitors are also influenced by and may in turn influence the referral partners they work with to address families' use substance use issues (shown by the bidirectional arrow between the home visitor and referral partner boxes). Ultimately, home visitors have the primary responsibility for delivering the touchpoints to families. As a result, the home visitor-level factors influence which touchpoints are delivered and the manner in which they are delivered, depicted by the solid arrow from the home visitor box to the touchpoints box. Home visitors' experiences (including successes and barriers) delivering the touchpoints may, in turn, influence if and how they deliver them in the future, indicated by the dotted arrow from the touchpoints box to the home visitor box. When LIAs have communication and data systems that facilitate gathering feedback from home visitors, these experiences may in turn influence the LIA, shown by the bidirectional solid arrow between the LIA and home visitor boxes.

Conditions. One condition that supports home visitor implementation of the touchpoints is training home visitors to form quality relationships with families. In addition, although not all families may receive all of the touchpoints, the conceptual model does assume that all families receive the services typical of a home visiting model. The extent to which referral partners are involved in providing services to a family to address substance use issues will be driven by the needs of that family, as well as their willingness and motivation to follow up on the referrals.

3. Inputs that influence the implementation system

The implementation system is embedded in a broader system and, as such, is influenced by inputs (including resources, infrastructure, and constraints) from the following:

- The entity at the state, territory, or tribal level that oversees home visiting services (assumed to be the MIECHV awardee)
- The home visiting models being implemented by the LIA
- Referral partners

These inputs are depicted in Figure B.3 in the green boxes.

State-, territory-, or tribal-level organization inputs. The entities at the state, territory, or tribal level that oversee home visiting services may establish policies and priorities that influence the LIA-level implementation system inputs. Agencies may establish eligibility requirements and recruitment, intake, and enrollment policies that are inclusive of families with specific risks, including substance use issues. Similarly, these entities may have policies and procedures for ongoing screening of families for substance use issues that influence LIA policies and procedures. State-, territory-, and tribal-level initiatives (such as task forces) may help facilitate LIA's efforts to build linkages with referrals partners. Finally, entities may have policies and systems for professional development for home visitors on topics such as (1) screening families for substance use issues, (2) working with families to change behavior and prevent or address substance use issues, (3) referring families to substance use treatment, and (4) supporting families during treatment and recovery. As noted earlier, although these state-, territory-, and tribal-level inputs likely influence the LIA-level implementation system inputs, the policies and systems established by LIAs may influence decisions at the state, territory, and tribal levels.

Home visiting model inputs. Critical to the services delivered to families by a LIA is the home visiting model, as designed. The model specifies the target population and expected outcomes for children and families. It also includes relevant home visit staffing criteria (for example, background and education requirements) and offers staff model-specific professional development, including such topics as preventing and addressing substance use issues. Some models include content and add-on curricula to address substance use issues; screening tools; and guidance on treatment referrals. As with state-, territory-, and tribal-level inputs, home visiting model inputs likely influence the LIA's implementation system inputs and may, in turn, be influenced by the LIA.

Referral partner inputs. The extent to which LIAs have linkages with relevant medical, behavioral health, and social service providers (including child welfare agencies) will influence

the ability of home visitors to refer families to these services. Features of these partners will likewise influence their ability to serve families and coordinate services with LIAs. These features include the service providers' own systems for building linkages with home visiting services at the state, territory, tribal-, and LIA levels and their policies and procedures for coordinating with LIAs to facilitate referrals and exchange information about families. In addition, the availability of these services and the extent to which these partners offer service options that are accessible, family-centered, trauma-informed, and culturally responsive are important considerations in the ability of these partners to meet the diverse needs of families that participate in home visiting services. Referral partners are uniquely positioned in that may interact with state-, territory-, and tribal-level entities, LIAs, home visitors, and families. The features of these partners may both influence, and be influenced by, these entities, as shown by the bidirectional solid arrows between the referral partner box and the state-, territory-, or tribal-level entity, LIA, home visitors, and touchpoints boxes.

C. Pathways through which touchpoints influence outcomes

The detailed models presented in this section provide a universal description of the touchpoints and pathways for preventing substance use issues among families enrolled in home visiting services. These pathways vary depending on where a family is on the continuum of care, so the project team developed a pair of companion models. The prevention model (Figure B.4) is relevant to families identified as at risk for substance use issues, for whom the goal is to prevent the development of substance use disorders. The treatment and recovery model (Figure B.5) is relevant to families who have a member who is identified as having a substance use disorder. These families could be identified through the screening and referral process or they may start home visiting services with the substance use disorder already known. The goal of the treatment and recovery model is to support families' initiation and engagement in treatment, reduce substance use, prevent drug overdoses, prevent the occurrence of the physical and mental health conditions that often co-occur with substance use issues, and prevent intergenerational substance use.[39]

The prevention and treatment and recovery models differ in two major ways. First, screening is a touchpoint to identify families at risk for substance use issues. It is not included in the treatment and recovery model, because families have already been identified with a substance use disorder. Second, care coordination and case management is not a key touchpoint because the model targets families at risk for substance use issues and assumes these families do not need substance use treatment. The treatment and recovery model assumes that families receive both home visiting and substance use treatment services and therefore would benefit from care coordination.

[39] Substance use disorders commonly co-occur with physical health conditions, including cardiovascular disease, cancer, HIV, and hepatitis C and mental health conditions, such as anxiety, post-traumatic stress disorder, depression, bipolar disorder, schizophrenia, and attention deficit hyperactivity disorder (National Institute on Drug Abuse, 2017).

Figure B.4. Detailed conceptual model on prevention

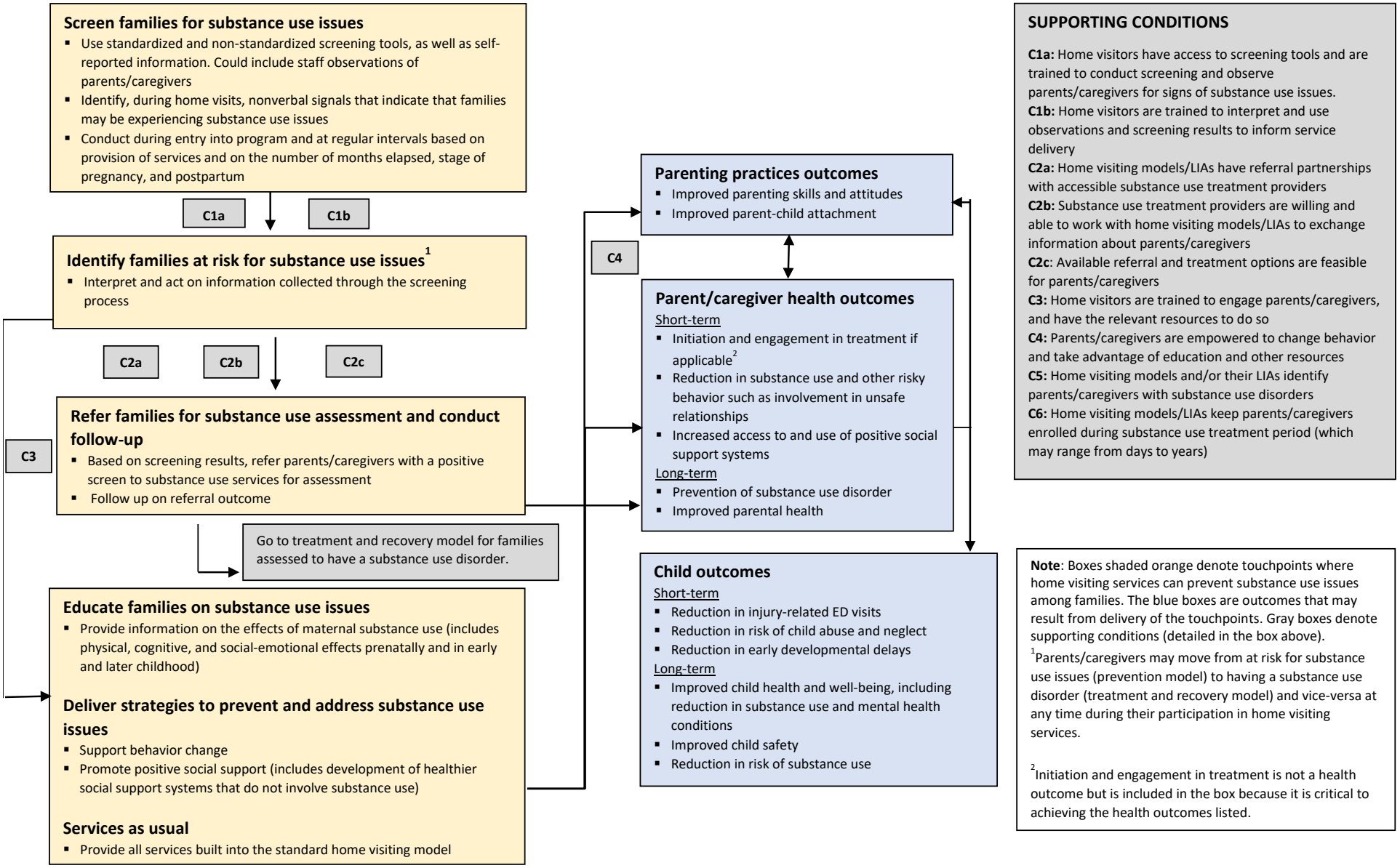
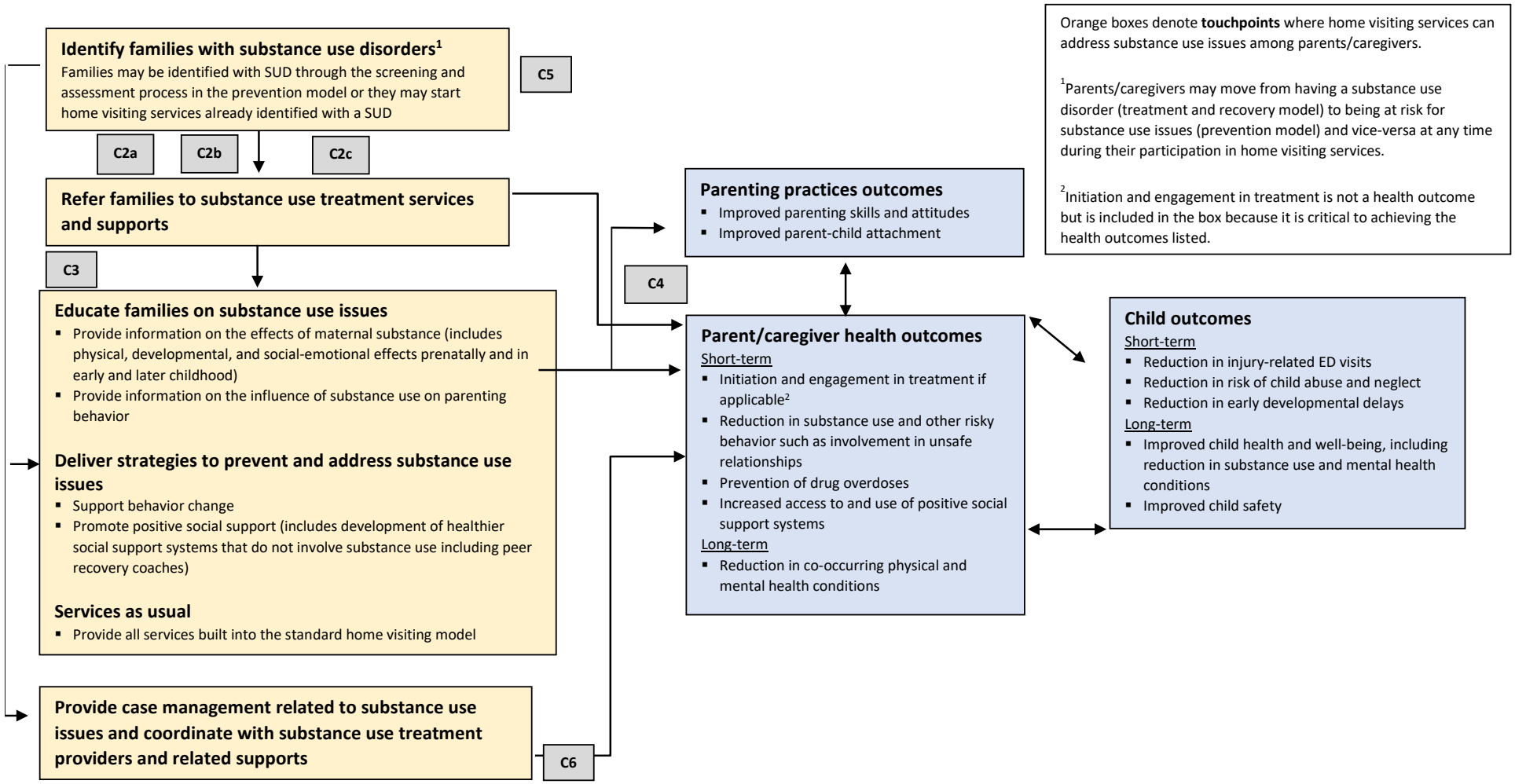


Figure B.5. Detailed conceptual model on treatment and recovery



The pathways between the touchpoints and outcomes in these models may differ depending on the specific substance used and the frequency and timing of use. For example, given the impact of frequent prenatal alcohol consumption on child development, home visiting services may have less of an impact on child outcomes for families in which heavy prenatal alcohol consumption occurred than for families in which the parenting mother engages heavily in alcohol consumption but did not do so in the prenatal period.

The following sections describe the pathways between touchpoints and outcomes and between outcomes. The final section describes the conditions that support the home visitor's efforts to prevent and address substance use issues with families.

1. Pathways between touchpoints and outcomes

This section describes the touchpoints and pathways through which the touchpoints influence outcomes.

Screening for substance use issues. Screening involves the use of standardized measures delivered at regular intervals, supplemented with non-standardized measures and observations, to identify a family's risk for substance use issues. To support efforts to screen for substance use issues, home visitors should have access to screening tools and be trained to conduct screening and observations. As depicted in the prevention model by the arrow, the use of screening influences the identification of families at risk for substance use issues.

Identifying families at risk for substance use issues.[40] Identification involves the use of the screening and observational information to identify family members at risk for or currently diagnosed with substance use issues. To support home visitors' ability to use and act on the screening information, home visitors should be trained to analyze observation and screening results. The identification of these families influences referrals to substance use treatment providers for further assessment and the provision of additional services such as substance use education; and, for families identified as having a member with a substance use disorder, the delivery of case management. (These pathways are depicted by the arrows between the identify families box and the provision of services and refer families boxes in Figure B.4 and, for the latter families, the case management box in Figures B.5.)

Referring to substance use treatment services and supports. When home visitors identify a family member at risk for substance use issues (Figure B.4), they refer that person to medical or substance use treatment providers for an assessment to determine if the family member has a substance use disorder. When home visitors identify a family member with a substance use disorder (Figure B.5), they refer him or her for substance use treatment services and supports, which may include referrals to a peer recovery coach.[41] The referral for substance use treatment

[40] The prevention model differentiates identifying families with substance use issues from screening, because this is a decision point as to whether a family receives a referral or receives (or continues to receive, if already ongoing) education and strategies to prevent substance use issues. In the overarching conceptual model and other detailed models, screening and identifying are combined as one touchpoint.

[41] A peer recovery coach is a professional with a personal history of substance use problems who provides support and guidance to individuals with substance use issues.

influences the family member's initiation and engagement in treatment and is depicted by the arrow between the referral box and the parent/caregiver outcome box in Figure B.5. Once home visitors have made a referral, they monitor whether the provider and family member made contact, what outcome resulted from the referral, and whether the family is engaging in services. To support the home visitor's ability to make referrals and conduct follow-up, the home visitor's LIA and substance use treatment providers should establish agreements and processes for information sharing. The family's ability to engage in services is also dependent in part on available and accessible treatment options that meet the family member's needs.

When home visitors identify families at risk for or diagnosed with a substance use disorder, they provide targeted touchpoints in addition to those associated with home visiting services as usual. The pathways are depicted by the arrow from the identification box to the provision of services box in Figures B.4 and B.5. These additional touchpoints and pathways are the following:

- **Educating families on substance use issues.** Home visitors provide families with information on the effects of substance use issues on the physical, social, emotional, and cognitive development of children. Home visitors may give all families general information about the negative effects of substance use, as well as more targeted and detailed information about substance use. They may provide information on the effects of prenatal substance use, as well as substance use during a child's early years of development. This touchpoint directly influences parent/caregiver attitudes toward and use of alcohol or drugs, as shown by the arrows leading from the provision of services box to the parenting practices outcomes and parent/caregiver health outcomes boxes.
- **Serving families based on strategies designed to prevent and address substance use issues.** Home visitors support families to change behaviors related to substance use and promote positive social support systems. Motivational interviewing is one commonly used technique to support behavior change**.** This is a nonjudgmental communication style designed to increase an individual's commitment to change (Miller & Rollnick, 2012) that has been used in several home visiting models and other service delivery models (Children's Bureau, 2013; Damashek, Doughty, Ware, & Silovsky, 2011; Dauber, John, Hogue, Nugent, & Hernandez, 2017b). When the principles of motivational interviewing are applied to families with substance use issues, home visitors assume that individuals with substance use issues are at different stages of readiness to change behaviors related to substance use. They partner with the family member to develop goals and to motivate the family member to make progress toward those goals. For family members at risk for substance use issues, the goals may focus on improving parenting skills, reducing current substance use to prevent the development of a substance use disorder and improve overall health, and increasing positive support systems. For family members identified with a substance use disorder, goals may also include seeking substance use treatment, remaining engaged in treatment, and seeking treatment for any co-occurring mental health conditions. (These pathways are depicted by the arrows leading from the provision of services box to the parenting practices and parent/caregiver health boxes.) Promoting positive social support systems involves working with families to assess their social support systems and, if necessary, assisting them in expanding or developing new support systems. For example, home visitors may encourage family members with a substance use disorder to develop a support system that includes

other adults in recovery. This touchpoint influences the outcome "increase access to and use of a positive support system," which in turn influences parenting practices, parent/caregiver health, and child health outcomes. (The bidirectional arrows between the parent/caregiver health outcome box and the parenting practices and child outcomes boxes depict, for example, the influence of a positive social support system on the other outcomes.)

- **Providing case management related to substance use issues and coordinating with substance use treatment providers and related supports**. Home visitors may provide case management and care coordination to family members who have a substance use disorder. These services involve assessments to identify need for services, referrals to other medical and social support services, collaboration with other providers and family members to organize services, and monitoring care. This touchpoint influences initiation and engagement in treatment and reductions in co-occurring physical and mental health conditions, shown in Figure B.5 by the arrow from the case management box to the parent/caregiver health outcomes box.

In addition to the services that home visitors provide when family members are identified as at risk for or are diagnosed with a substance use disorder, home visitors continue to provide regular home visiting services. These services include providing education and support to families on maternal health, child health and development, and positive parenting practices; referrals to and coordination with needed community services; and screenings and assessments to identify families' strengths and needs.

2. Pathways between outcomes

As described in the preceding discussion, touchpoints influence the outcomes and outcomes also influence each other. For example, improved parenting skills and attitudes can lead to reductions in substance use, but reductions in substance use can also lead to improved parenting skills and attitudes. The child outcomes are influenced by and also influence the parent-related outcomes. These pathways are depicted by the bidirectional arrows between the three outcomes.

3. Conditions

The detailed models include conditions that support the home visitor's efforts to prevent and address substance use issues with families, shown by the gray boxes in the two figures. The conditions include home visitor training to engage families with substance use issues, available resources to provide the touchpoints, and partnerships with referral agencies. Programs that do not have the supporting conditions in place may not see as strong an association between the illustrated pathways and outcomes.

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APPENDIX C

INVENTORY METHODS

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The process of gathering information for the inventory of practices to prevent, identify, and address substance use issues among families, as described by select home visiting model developers, Maternal, Infant, and Early Childhood Home Visiting (MIECHV) awardee leaders, and Tribal MIECHV grantee leaders, included three major steps.[42]

1. The project team reviewed information on the activities of home visiting models, MIECHV awardees, and Tribal MIECHV grantees to identify a subset to investigate further. It collected information from public documents and summaries developed by the Health Resources and Services Administration and the Administration for Children and Families. It defined documents as written materials, either published or unpublished, that contain information relevant to how home visiting models, MIECHV awardees, and Tribal MIECHV grantees engage and support families to prevent, identify, and address substance use issues among families. Examples of such documents include implementation plans, fact sheets, technical assistance materials, and websites of home visiting models.
2. The project team reviewed information on the subset of models, MIECHV awardees, and Tribal MIECHV grantees via publicly available documents. It divided these into evidence-based home visiting models and promising approaches (Table C.1). It only looked at evidence-based home visiting models that were being implemented in more than one state or tribe and home visiting models focused on serving families with substance use issues that were being implemented by MIECHV awardees or Tribal MIECHV grantees as promising approaches at the time of information gathering. Evidence-based home visiting models include home visiting models that meet U.S. Department of Health and Human Services (DHHS) criteria for evidence of effectiveness. The document review was systematic and included synthesizing information to answer pre-determined research questions related to the six touchpoints and four implementation system inputs.
3. The project team conducted telephone discussions with model developers, MIECHV awardee leaders, and Tribal MIECHV grantee leaders to confirm the accuracy of information collected and obtain any available supplementary documents.

For one MIECHV awardee, the project team collected information on its home visiting services and substance use activities via a webinar from the Substance Abuse and Mental Health Services Administration that took place on June 28, 2018. The project team did not review publicly available documents about this awardee, nor did it conduct a telephone discussion with the awardee leader.

The inventory has a few limitations. First, the inventory includes information on only a subset of models, MIECHV awardees, and Tribal MIECHV grantees. Second, the information collected is not comprehensive. The project team did not have access to all relevant documents (some documents were proprietary); not all model developers, MIECHV awardees, and Tribal MIECHV grantees had written procedures for preventing, identifying, and addressing substance use issues among families; and the project team did not gather information from local implementing agencies about their activities. In addition, not all model developers provided

[42] Throughout the report, the project team uses the terms "MIECHV awardee leaders" and "Tribal MIECHV grantee leaders" to indicate that it did not gather information from all individuals under the umbrella of "awardee" and "grantee" but only those in leadership positions.

feedback on the accuracy of the information collected. Given the project timeline and capacity, the project team did not offer MIECHV awardee leaders and Tribal MIECHV grantee leaders an opportunity to provide feedback on the accuracy of information collected unless they requested it.

Table C.1. Home visiting models included in the review

Evidence-based home visiting models	Promising approaches
Child First	Nurses for Newborns
Early Head Start–Home Visiting	Parent-Child Assistance Program
Family Spirit	Team for Infants Endangered by Substance Abuse
Healthy Families America	
Home Instruction for Parents of Preschool Youngsters	
Nurse-Family Partnership	
Parents as Teachers	
SafeCare	

Note: The term *evidence-based* indicates that the model meets DHHS criteria for evidence of effectiveness. For more information, see https://homvee.acf.hhs.gov/HRSA/11/Evidence-based-Models-Eligible-to-Maternal--Infant--and-Early-Childhood-Home-Visiting--MIECHV--Grantees/69.

APPENDIX D

LITERATURE REVIEW METHODS

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The project team conducted the literature review in three steps: (1) define the review parameters and execute the search, (2) scan the literature, and (3) summarize the information from the studies. These steps are described below.

1. Define review parameters and execute the search

The project team included journal articles and materials that have not been peer reviewed (such as project reports and white papers) published from January 2010 through April 2018. It chose this time frame to align with two significant events in 2010: (1) the establishment of the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program, which was authorized by the Social Security Act, Title V, Section 511 (42 U.S.C. 711), as added by Section 2951 of the Patient Protection and Affordable Care Act (ACA; P.L. 111-148); and (2) the passage of the ACA, which included several changes to how substance use disorder was handled within the health care system. Specifically, that law expanded access to substance use disorder treatment through an expansion of health care coverage and through regulatory changes that required existing insurance plans to cover this treatment and to offer it on par with medical and surgical procedures.

To achieve a targeted library search, the project team worked with Mathematica librarians to develop search terms and strategies. Table D.1 lists the combination of search terms used.

Table D.1. Search terms

Search term category	Search terms	Subject terms (MeSH)
Home visiting	home n5 visit OR home n5 "case management" OR "house call*"	"House Calls"[Mesh]
Treatment	intervention OR treatment* OR therap* OR "drug rehab*" OR "alcohol rehab*" OR "addiction rehab*"	"Substance Abuse Detection"[Mesh]
Substance use	addict* OR "drug abuse" OR "substance abuse*" "polysubstance abuse" OR "poly-substance abuse" OR "substance misuse" OR "substance use" OR addict* OR ethanol OR alcohol OR "alcohol-related" OR alcoholic* OR alcoholism OR beer OR wine OR liquor OR intoxicat* OR drunk* OR "binge drinking" OR "binge-drinking" OR "drinking binge*" OR blackout OR opioid* OR methamphetamine* OR meth OR "inhalant abuse" OR "free-base*" OR crack OR cannabis OR marijuana OR reefer OR hash OR hashish OR PCP OR phencyclidine OR "designer drug*" OR "angel dust" OR ecstasy OR mdma OR hallucinogen* OR lsd OR "lysergic acid" OR "street drug*" OR peyote OR mescaline OR heroin OR cocaine OR amphetamine* OR opiate* OR narcotic* OR codeine OR hydrocodone OR vicodin OR hydromorphone OR dilaudid OR oxycontin* OR oxycodone OR percocet OR demerol OR meperidine OR methadone OR buprenorphine OR naltrexone OR tramadol OR fentanyl OR morphine OR barbiturate* OR amobarb* OR secobarb* OR pentobarb* OR tranquilizer* OR "sleeping pill*" OR benzodiazepine* OR alprazolam OR anthramycin OR bromazepam OR clonazepam OR devazepide OR diazepam OR valium OR flumazenil OR flunitrazepam OR flurazepam OR lorazepam OR nitrazepam OR oxazepam OR pirenzepine OR prazepam OR temazepam OR chlordiazepoxide OR clorazepate OR estazolam OR medazepam OR midazolam OR triazolam OR amphetamine* OR ritalin OR methylphenidate AND habit OR habitual OR "habit-forming" OR abuse OR arrest* OR detention* OR prison* OR jail* OR recreational OR nonmedical OR "non-medical" OR withdrawal OR confiscate* OR stash	"Substance-Related Disorders/psychology"[Mesh] OR "Substance-Related Disorders/therapy"[Mesh]
Populations of interest – families	pregnan* OR prenatal* OR "pre-natal*" OR infant OR infancy OR baby OR babies OR neonat* OR newborn OR family OR families OR parent* OR father* OR mother* OR guardian* OR "foster parent*"	"Pregnancy"[Mesh] OR "Infant"[Mesh] OR "Family"[Mesh] OR
Populations of interest – tribal	American Indian OR Alaska Native OR Native American or First Nation OR tribal	
Study design	systematic OR "meta-analysis" OR "meta-analyses" OR "cross sectional" OR "evaluation studies" OR "evaluation study" OR evaluation studies" OR "intervention study" OR "intervention studies" OR "case-control studies" OR "case-control" OR cohort OR longitudinal OR prospective" OR retrospective OR "follow up" OR "comparative study" OR "impact*" OR "evaluat*" OR "effect*" OR "efficac*"	

The project team used three primary sources for the literature review: (1) a library search through RefWorks, (2) a custom Google search of relevant websites, and (3) a search of Google Scholar. Table D.2 lists the databases included in the RefWorks search and the websites that were part of the custom Google search. The project team used the same search terms in all searches. In addition, it identified 13 relevant citations from two meta-analyses—van der Put et al. (2018) and Moeller-Saxone et al. (2015). It also included literature on attachment-based

parenting programs and peer recovery coaches based on input from the project's expert consultants, as well as the Office of Planning, Research, and Evaluation (OPRE) and the Health Resources and Services Administration (HRSA). Finally, the project team included four studies published after April 2018 due to their relevance (Duggan et al., 2018; Michalopoulos et al., 2019; Novins et al., 2018; West et al., 2018). Two of these studies reported findings from the Mother and Infant Home Visiting Program Evaluation (MIHOPE), a legislatively mandated, large-scale evaluation of the effectiveness of home visiting programs funded by MIECHV. They are the MIHOPE implementation study published in October 2018 and the impact study from January 2019 (Duggan et al., 2018; Michalopoulos et al., 2019).[43]

Table D.2. Search databases

Engine	Databases
RefWorks	• Academic Search Premier • CINAHL • Cochrane • Education Research Complete • ERIC • Health Policy Reference Center • ProQuest Dissertations • PsycINFO • PubMed[44] • Science Direct • SocINDEX • SCOPUS
Google Custom Search[a]	• California Evidence-Based Clearinghouse for Child Welfare • Child Welfare Information Gateway • National Association of State Mental Health Program Directors • Substance Abuse and Mental Health Services Administration

[a]Google Scholar does not search specific databases.

2. Scan the literature

The project team developed a thorough set of criteria that reviewers used to screen all references for relevance (Table D.3). Four trained members of the project team conducted the screening. Although a study could be screened out on multiple criteria, the reviewers selected only one criterion. A senior member of the project team conducted secondary reviews of studies that the reviewers identified as requiring such a review because they were unclear as to whether the study should screen in or out. The screening results are shown in Table D.4. Overall, 68 studies qualified for full reviews and are included in this report. Of these studies, 64 addressed family substance use outcomes, with 43 on home visiting models and 21 on other service

[43] MIHOPE is a legislatively mandated, large-scale evaluation of the effectiveness of home visiting programs funded by MIECHV. It includes four home visiting models: (1) Early Head Start - Home Based Program Option, (2) Healthy Families America, (3) Nurse-Family Partnership, and (4) Parents as Teachers.

[44] PubMed's search interface cannot "map" to relevant medical subject headings (MeSH) when only the SCOPUS interface is used.

delivery models. The remaining four studies were on service delivery models that addressed outcomes related to family substance use outcomes.

Table D.3. Screening criteria

Category	Criteria
Date range	Studies conducted from 2010 through 2018
Country	Studies conducted in the United States
Language	Studies published in English
Relevance	Studies should address or add insight into the research questions
Is this a study?	Publications should describe data collection processes and/or present findings and not be strictly theoretical in nature

Table D.4. Screening results

Screening details	Number of studies
Total number of studies	
RefWorks	927
Custom Google search	144
Google Scholar	475
Identified from meta-analysis	13
Recommendations from OPRE, HRSA, and experts	5
Screens in	68
Screens out	
Not relevant	751
Not conducted in the United States	357
Not a study	214
Published before 2010	93
Duplicate study	47
Not published in English	23

3. Summarize information from the studies

In the last step, the reviewers used a template to extract descriptive information from studies that passed the screening process (Table D.5). Although the project team did not conduct a formal review of the quality of each study's methodology, it did differentiate between studies by their design (including implementation, descriptive outcomes, or randomized controlled trials). The project team noted the sample size (overall and by treatment condition, if applicable) and the timing of data collection (baseline, during the intervention, or post-intervention).

Table D.5. Content of the study review template

Section	Description
Short citation	Indicate short citation.
Full citation	Indicate full citation.
Year	Indicate year of publication.
Program/intervention name	If this study focused on a specific program or intervention, identify it.
Examines effectiveness	Describe the effectiveness of the program, intervention, or approach discussed, if described.
Population characteristics	Specify all relevant population characteristics and any populations not listed.
Population description	Describe the study population.
Sample size	Note the sample size.
Study design	Specify all types of study designs.
Substance type	Select all types of substances addressed. If none, select “universal.” If the study analyzed individuals who use multiple substances, select “polysubstance.”
Measure(s) of substance use	If the study focused on a specific instrument or scale (e.g., the Used, Neglected, Cut-down, Objected, Preoccupied, Emotional [UNCOPE] screening tool), list all instruments.
Touchpoints/activities	Select all touchpoints/activities included in the program or intervention design.
Screening method	If selected screen for substance use, describe screening method.
Observation method	If selected observe individuals/families for substance use, describe observation method.
Add-ons/enhancements	If selected add-ons/enhancements for substance use issues (SUIs), describe the add-ons and enhancements.
Referral partners	If selected refer families to specialized services for assessments/treatment, describe the referral partner network.
Referral procedures	If selected refer families to specialized services for assessments/treatment, describe the referral procedures.
Treatment and recovery	If selected coordinate with treatment providers and recovery support system and/or the case management to support treatment and recovery, describe coordination and/or case management around treatment and recovery.
Recruitment	If selected recruit and enroll families, describe the recruitment procedures.
Education	If selected provide education, describe the education provided and education delivery method(s).
Child welfare	If selected coordinate with child welfare, describe the relationship with child welfare policies and/or agencies.
Parent/caregiver outcomes	Summarize any study findings for parent/caregiver outcomes.
Parenting outcomes	Summarize any study findings for parenting outcomes.
Child outcomes	Summarize any study findings for child outcomes.
Home visitor outcomes	Summarize any study findings for home visitor outcomes.
LIA outcomes	Summarize any study findings for LIA outcomes.
Study limitations	If the study includes a section describing limitations, summarize the limitations.
Key words	Select all key words that apply. If the study addresses a particular population of interest, select population-specific.
Full text	If the full text is available online, provide the link. If the full text is saved on internal network, link to the saved file.
Request full text	If the full text is unavailable and is needed for the review, indicate that the team needs to request the full text.
Review status	Select the status from the following: (1) Not yet reviewed, (2)1st review, (3) Review complete, (4) Recommend for further review, or (5) Screens out.
Screens out	If the study was screened out, select the reason(s).
Notes	Note anything pertinent about the study that it did not capture. If the study is recommended for further review, explain why.
Related studies	If the study is related to another study, identify the related study.

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APPENDIX E

SUMMARY OF STUDIES INCLUDED IN THE LITERATURE REVIEW

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Table E.1 provides an overview of the 68 studies from which the literature review findings were drawn. It includes the study design, sample size, target population, and staff characteristics. Table E.2 provides a summary of substance use outcome measure effects in impact studies of home visiting models.

Table E.1. Overview of studies reviewed, by intervention type

Citation	Intervention name	Study design	Sample size	Target population	Characteristics of staff delivering the intervention
Home visiting					
Barlow et al. 2015	Family Spirit	RCT	322 women	Pregnant American Indian teens from four southwestern tribal reservation communities	Family Spirit family health educators were required to have a minimum of a high school diploma or GED, at least 2 years of additional job-related education or work experience, and the ability to speak their native language and English.
Barlow et al. 2013	Family Spirit	RCT	322 women	Pregnant American Indian teens from four southwestern tribal reservation communities	Family Spirit family health educators were required to have a minimum of a high school diploma or GED, at least 2 years of additional job-related education or work experience, and the ability to speak their native language and English.
Berlin et al., 2014	Attachment and Biobehavioral Catch-up	RCT	21 mothers	Mothers who had been receiving residential substance abuse treatment for at least 2 months and who had infants between the ages of 1 and 20 months were eligible for the study	Parenting coaches trained by the developer delivered services to mothers.
Beachy-Quick et al., 2016	SafeCare Colorado	Multimethod (descriptive, cost, QED)	1,701 caregivers	High-risk families with children birth to age 5 living in pilot communities in Colorado	Parent support providers that received intensive coaching from certified coach trainers.

Table E.1. (*continued*)

Citation	Intervention name	Study design	Sample size	Target population	Characteristics of staff delivering the intervention
Damashek et al., 2011	SafeCare+	RCT	398 female caregivers	Caregivers that (a) had a current open child welfare case, (b) had a child welfare report under assessment or investigation, (c) were currently receiving services from a child welfare contractor as a result of a prior child maltreatment referral, or (d) had a history of more than two child maltreatment referrals that were not screened out. In addition, participating families had to have a caregiver in the home with symptoms of major depressive disorder, an active substance abuse disorder, and/or a history of partner violence in the home within the past 6 months.	Bachelor's level providers who were trained to administer a structured skills-based intervention
Dauber et al., 2017a	Healthy Families America and Parents as Teachers	Descriptive outcome	159 home visitors	Healthy Families America and Parents as Teachers home visitors	No information
Dew & Breakey, 2014	Hawaii's Healthy Start program	RCT	4,464 families	Parents screened and assessed for Healthy Start just after the birth of a child	Home visitors receive 5 weeks of intensive training in areas such as communication skills; parent-child interaction; early childhood development; and challenges involving substance abuse, domestic violence, and suboptimal emotional health.
Dodge & Goodman, 2012	Durham Connects	RCT	549 families	All children born in Durham County, North Carolina	Nurses conducting home visits to families
Duggan et al., 2018	State and territory MIECHV	Implementation study	88 home visiting implementing agencies	Staff and families from 88 local programs that use one of four evidence-based home visiting models: Early Head Start – Home-based option, Healthy Families America, Nurse-Family Partnership, and Parents as Teachers	Varies by model

Table E.1. (*continued*)

Citation	Intervention name	Study design	Sample size	Target population	Characteristics of staff delivering the intervention
Dumont et al., 2011	Healthy Families New York	RCT	1,173 mothers	Expectant parents and parents with an infant under 3 months of age who live in high-risk target areas and who are considered to be at risk for child abuse or neglect	Trained paraprofessionals provide services to families. Home visitors typically live in the same communities as program participants and share their language and cultural background.
Falconer, Clark, & Parris, 2011	Healthy Families Florida	QED	955 children	Expectant parents and parents with an infant under 3 months of age	Services are delivered by trained paraprofessional family support workers.
Goldberg, Bumgarner, & Jacobs, 2016	Healthy Families Massachusetts	Process	433 mothers	Every first-time parent in Massachusetts under the age of 21 years	No information
Green, Sanders, & Tarte, 2017	Healthy Families Oregon	RCT	2,727 mothers	High-risk first-time parents with a baby less than 3 months of age at enrollment	No information
Green et al., 2014	Healthy Families Oregon	RCT	803 families	High-risk first-time parents with a baby less than 3 months of age at enrollment	No information
Gutterman et al., 2013	National Exchange Club Foundation parent aide plus case management	RCT	138 mothers	Families that have at least one child 12 years of age or younger living in the home and are deemed at high risk of abuse and/or neglect as determined by a referral from CPS or by an initial case assessment conducted by a program staff member examining imminent risk of harm to the child, parental capacity, and resources to cope with stress in the parenting role	Trained and professionally supervised paid or volunteer paraprofessional home visitors provide services to families.
Haynes et al., 2015	Partnership Program	Descriptive outcome	364 parents	Young parents (typically mothers) under age 25	Family support workers with the Partnership Project are trained in Parents as Teachers, an evidence-based home visiting model.
Jacobs et al., 2016	Healthy Families Massachusetts	RCT	704 mothers	Every first-time parent in Massachusetts under the age of 21 years	No information

Table E.1. (*continued*)

Citation	Intervention name	Study design	Sample size	Target population	Characteristics of staff delivering the intervention
Jacobs, Easterbrooks, & Mistry, 2015	Healthy Families Massachusetts	Multimethod (RCT, process)	704 mothers	Every first-time parent in Massachusetts under the age of 21 years	No information
Johnson et al., 2017	Early Head Start and Olmsted County Public Health Services Home Visiting (OCOHS-HV)	Descriptive outcome	110 families	Early Head Start: Families must meet the federal poverty guidelines to be eligible. Pregnant women, infants, toddlers, and children up to age 5 are eligible. OCPHS-HV: Families with risk factors for child maltreatment and poor infant brain development. Pregnant women, and families with children up to age 5 are eligible.	Early Head Start home visitors are usually social workers. OCPHS-HV is delivered by bachelor-prepared public health registered nurses.
Kahn & Moore, 2010	Multiple models	Literature review	Varies by study	Varies by study	Varies by study
Kitzman et al., 2010	Nurse-Family Partnership	RCT	613 firstborn children	Follow-up study of 12-year-old, firstborn children of primarily African American, economically disadvantaged women (743 randomized during pregnancy)	Home visits were conducted by nurses.
LeCroy & Davis, 2016	Healthy Families Arizona	RCT	245 families	Prenatal and new parents who meet two or more risk factors	No information
LeCroy & Kryski, 2011	Healthy Families Arizona	RCT	195 families	Prenatal and new parents who meet two or more risk factors	No information
Lowell et al., 2011	Child FIRST (Child and Family Interagency, Resource, Support, and Training)	RCT	157 families	Families were eligible if children were age 6 to 36 months and screened positive for social-emotional/behavioral problems and/or the parent screened high for psychosocial risk; they lived in the city of Bridgeport, Connecticut; and children were in a permanent caregiving environment.	Services were delivered by a clinical team, consisting of a master's-level developmental/mental health clinician and an associate's- or bachelor's-level care coordinator/case manager.

Table E.1. (*continued*)

Citation	Intervention name	Study design	Sample size	Target population	Characteristics of staff delivering the intervention
Lyon et al., 2012	Tribal MIECHV grantees; multiple home visiting models	Process	25 grantees	AI/AN pregnant mothers, primary caregivers, and children from birth to age 5; specific eligibility criteria varied by grantee	Varies by model
Michael-Asalu et al., 2016	Florida MIECHV, including Parents as Teachers, Nurse-Family Partnership, Healthy Families America	Descriptive outcome	1,785 women	Females enrolled in the Florida MIECHV Program	Varies by model
Michalopoulos et al., 2015	State and territory MIECHV	Descriptive outcome	1,562 mothers served by 88 MIECHV-funded local home visiting programs in 12 states	Pregnant mothers, primary caregivers, and children from birth to age 5; specific eligibility criteria varied by local home visiting program.	Varies by model
Michalopoulos et al., 2019	State and territory MIECHV	RCT	4,215 mothers served by 86 MIECHV-funded local home visiting programs in 12 states	Pregnant mothers, primary caregivers, and children from birth to age 5; specific eligibility criteria varied by local home visiting program.	Varied by model
Miller, 2015	Nurse-Family Partnership	Meta-analysis	39 studies; sample size varies by study	Low income pregnant women	Home visits were conducted by nurses.
Novins et al., 2018	Tribal MIECHV grantees	Descriptive outcome	9 home visiting programs	AI/AN pregnant mothers, primary caregivers, and children from birth to age 5; specific eligibility criteria varied by grantee	Varies by model
Olds et al., 2010	Nurse-Family Partnership	RCT	613 women	12-year follow-up study of women enrolled at less than 29 weeks of gestation, with no previous live births, and with at least 2 of the following sociodemographic risk characteristics: unmarried, less than 12 years of education, and unemployed	Home visits were conducted by nurses.

Table E.1. (*continued*)

Citation	Intervention name	Study design	Sample size	Target population	Characteristics of staff delivering the intervention
Olds et al., 2014	Nurse-Family Partnership	RCT	1,138 women	18-year follow-up study of women enrolled at less than 29 weeks of gestation, with no previous live births, women and their first live-born children living in highly disadvantaged urban neighborhoods in Memphis, Tennessee	Home visits were conducted by nurses.
Rosa et al., 2015	First Born Program	Descriptive outcome	109 families	Individuals residing in a county in southwestern New Mexico who were expecting their first child	Direct services were provided by a team of home visitors that included a combination of master's-level professionals trained in nursing, education, and counseling, and paraprofessionals working as promotores/as.
Schreier, 2017	Early Head Start	Descriptive and process	734 families; 14 home visitors and supervisors	Study examined data on families enrolled in Early Head Start.	No information
Schreier et al., 2018	Early Head Start	Process	14 home visitors and supervisors	All home visitors and supervisors employed by the EHS home-based program during a 3-month recruitment period were invited to participate in the study.	Not applicable
Silovsky et al., 2011	SafeCare+	RCT	105 families	Families included in the study had a caregiver at least 16 years of age; at least one child age 5 years or younger; and at least one of the following risk factors: parental substance abuse, mental health issues, or intimate partner violence.	The SC+ providers were trained and observed for fidelity to the model by monitors certified by the national developers. Initial and ongoing training in MI was provided by a member of the Motivational Interviewing Network of Trainers.
Strong, 2012	SafeCare Health module	SCD	3 mothers	Mothers with children ages 5-years-old and younger recruited from a residential recovery program participated in the study	The home visitor was trained to deliver the SafeCare Health module in a face-to-face 6-hour training session conducted by a certified SafeCare trainer.

Table E.1. (*continued*)

Citation	Intervention name	Study design	Sample size	Target population	Characteristics of staff delivering the intervention
Turnbull, 2012	Home visiting programs that serve clients with substance use issues	Meta-analysis	950 mother-infant pairs (from 7 studies)	To be eligible, studies had to enroll pregnant or postpartum women with an alcohol or drug problem; studies that enrolled high-risk women and reported more than 50 percent of women used drugs or alcohol were also eligible.	Varies by study
West et al., 2018	Trans-model communications training course	RCT	64 home visitors from 14 home visiting programs	Home visitors from 14 home visiting programs in Maryland that used an evidence-based home visiting model and served pregnant women and children under the age of 3; programs receiving MIECHV funding were given priority.	Varies by model
Williams et al., 2017	HANDS (Health Access Nurturing Development Services)	QED	4,506 mothers	All first-time mothers in Kentucky that had at least two risk factors, including unemployment, isolation, history of substance abuse, unstable housing, limited parental education, domestic violence, poor prenatal care, and maternal depression	Families receive services from paraprofessionals and professionals. Paraprofessionals may or may not hold a college degree, but all home visitors undergo significant training upon starting as a home visitor, and then receive ongoing reflective supervision. Professional staff includes licensed public health nurses, social workers, college graduates with case management experience, and individuals with advanced training in early childhood education.
Home visiting add-on					
Dauber et al., 2017b	Home Visitation Enhancing Linkages Project (HELP)	Descriptive outcome	21 home visitors; 121 clients	Clients were enrolled in Healthy Families America and agreed to participate in the add-on intervention.	Home visitors

Table E.1. (*continued*)

Citation	Intervention name	Study design	Sample size	Target population	Characteristics of staff delivering the intervention
Ondersma et al., 2017	e-Parenting Program supplement to home visiting (delivered to families enrolled in Healthy Families Indiana)	RCT	342 women	Women enrolled in Healthy Families Indiana who were at least 18 years old, able to communicate in English, and recruited into the study no more than 45 days before the expected date of delivery	The study assessed a multicomponent computer-based supplement, the e-Parenting Program, designed as an add-on to home visiting. Home visitors, trained on the software, gave participants tablet computers, and participants engaged in the e-Parenting Program during regularly scheduled home visits.
Price, Coles, & Wingold, 2017	Behavioral health risk screening integrated into centralized intake for maternal and child health home visiting programs	Descriptive outcome	1,515 women	The research and TA team engaged with each community's home visiting and behavioral health providers. The initial screening is initiated by a health provider, and additional community paraprofessional outreach workers offer supporting screening, intervention, and referrals to treatment.	Behavioral Health Integrated Centralized Intake coordinators were trained to on motivational interviewing and the Screening, Brief Intervention, and Referral to Treatment (SBIRT) approach.
Other service delivery models					
Baker et al., 2018	First Breath	RCT	945 women	Pregnant women who currently or had a history of smoking and had insurance coverage through Wisconsin Medicaid	Pre-birth counseling was provided by nurses, medical assistants, and health educators employed by the implementing agencies (public health departments and private and community health clinics providing perinatal health care services across Wisconsin) and trained in the intervention; post-birth visits were conducted by health educators from the organization that oversees implementation of the intervention.
Children and Family Futures, 2012	Sonoma County Dependency Drug Court	Multimethod (process and comparison group outcome)	99 women and 169 children	Mothers whose children have been removed or are at risk of removal as a result of child abuse or neglect associated with a mother's substance use	No information

Table E.1. (*continued*)

Citation	Intervention name	Study design	Sample size	Target population	Characteristics of staff delivering the intervention
Children's Bureau, 2013	Regional Partnership Grant program	Multimethod (process and descriptive outcome)	53 grantees	Families with children who have been removed from home and placed in out-of-home care and those who are at risk of removal, but are still in the custody of their parent or caregiver; specific target populations varied by grantee.	No information
Dakof et al., 2010	Engaging Moms Program	RCT	62 mothers	Mothers accepted into the family drug court were eligible for the study. Family drug court eligibility criteria were that parents had to be: (1) 18 years or older, (2) with at least one child adjudicated dependent; (3) have a diagnosis of substance abuse or dependence; (4) have a potential for family reunification; and (5) are voluntarily enroll in drug court after consultation with their attorney.	Drug court counselors trained in the intervention

Table E.1. (*continued*)

Citation	Intervention name	Study design	Sample size	Target population	Characteristics of staff delivering the intervention
Donohue et al., 2014	Family behavior therapy (FBT)	RCT	72 mothers	Mothers referred for treatment of substance abuse and child neglect by the county's Department of Family Services	Providers had no experience implementing FBT, and their professional experience varied (i.e., bachelor's-level community treatment providers, master's and doctoral graduate students, post-doctoral fellow). FBT providers received approximately 16 hours of formal FBT training in workshop format utilizing behavioral role-playing prior to intervention implementation. After participating in the workshop treatment providers were required to demonstrate a minimum of 70 percent protocol adherence in each of the FBT intervention components with a referred pilot case from CPS prior to being permitted to counsel cases in this randomized controlled trial. Providers attended 90 to 120 minutes of weekly group supervision throughout the study.
Dubowitz et al., 2012	Safe Environment for Every Kid (SEEK)	RCT	1,119 mothers from 18 medical practices	Families receiving care at each participating medical practice that agreed to participate in the study	Health professionals from participating medical practices attended a 4-hour, small group training conducted by an interdisciplinary team of pediatricians, a social worker, and a psychologist. The training focused on the impact of the targeted problems (parental depression, substance abuse, major stress, and intimate partner violence) on children's health, development, and safety, how to briefly assess identified problems, and how to initially address them, including principles of motivational interviewing. Brief "booster" trainings were held approximately every 6 months.

Table E.1. (*continued*)

Citation	Intervention name	Study design	Sample size	Target population	Characteristics of staff delivering the intervention
Hall et al., 2015	Sobriety Treatment and Recovery Teams (START)	Descriptive outcome; QED	67 families	Eligibility criteria for START required that families have: (a) a finding of substantiated CA/N on this report; (b) substance use as a primary child safety risk factor; (c) at least one child 3 years of age or younger; (d) prior CPS cases (if applicable) that were closed at the time the new case was referred to START; and (e) cases that had to be referred to START from the CPS intake team within 30 days of the CPS report.	CPS workers paired with family recovery mentors (peer support employees in long-term recovery) deliver START to families.
Hanson et al., 2013	Project CHOICES adaptation	Descriptive outcome	231 women	American Indian women from three tribes in the northern Plains	Not applicable; participants responded to drinking and contraception questions through the telephone and then received intervention materials via mail.
Health Resources and Services Administration, 2012	Rural Health Care Services Outreach Program	Description of initiatives funded under the grant program	Not applicable	Not applicable	Varies by grant program
Kuerbis, Neighbors, & Morgenstern, 2011	Investigates whether depressive symptoms moderated intensive case management's effect on participants' engagement and attendance in substance use treatment and their outcomes	QED	294 women	Substance-dependent women on Temporary Assistance for Needy Families	Clinical staff were addiction counselors with master's degrees in social work or psychology.

Table E.1. (*continued*)

Citation	Intervention name	Study design	Sample size	Target population	Characteristics of staff delivering the intervention
Kvigne et al., 2008	Retrospective evaluation that compares the subsequent pregnancies of women who have children with fetal alcohol syndrome (FAS) or children with incomplete FAS with women who did not have children with FAS to examine the role alcohol screening plays in prenatal care	QED	Study 1: 118 mothers; Study 2: 105 mothers	American Indian women	Not applicable
McWey, Humphreys, & Pazdera, 2011	In-home family therapy program	Process	24 parents participated in interviews; 6 therapists were surveyed	Parents who had been identified as being ‘‘at risk’’ for having their children removed from their homes due to allegations of abuse and/or neglect and had completed in-home family therapy services	The therapists all had the minimum of a master’s degree in social work or MFT.
Moise & Mulhall, 2016	Case management offered through Chicago Healthy Start	Process	19 staff (including 10 case managers, 3 health educators and one health therapist, and 6 supervisors)	Not applicable; study of staff perception of benefits of case management for facilitating service delivery to women and the structural factors that affect effective implementation	Of the staff who participated, 9 had a master’s degree, 7 had a bachelor’s degree, 3 had less than a bachelor’s degree; most (8) had a background in social work or psychology.
Montag et al., 2012	Substance use treatment	Literature review	Varies by study	Varies by study	Varies by study
Montag et al., 2015	SBIRT adaptation for AI/AN women of childbearing age	RCT	263 women	AI/AN women from 18 to 45 years of age, of childbearing potential, recruited from 1 of 3 AI/AN health clinics located in southern California	Not applicable; participants in the treatment group completed a web-based survey that provided personalized feedback, including analysis of risk, advice, and helpful hints that could be printed out confidentially.

Table E.1. (*continued*)

Citation	Intervention name	Study design	Sample size	Target population	Characteristics of staff delivering the intervention
Montag et al., 2017	SBIRT adaptation for AI/AN women of childbearing age	Process	Not applicable	Not applicable	Not applicable
Pullen & Oser, 2014	Substance use treatments	Process	28 substance abuse counselors	Substance abuse counselors from urban and rural locations in Kentucky	Not applicable; study of counselors' perceptions of barriers to providing effective treatment services
Ryan et al., 2016	Recovery coaches	RCT	1,623 families	Families enrolled in the Illinois Title IV-E Alcohol and Other Drug Abuse Demonstration Waiver and referred to the Juvenile Court Assessment Program at the time of their temporary custody hearing or at any time within 90 days subsequent to the hearing	Professional recovery coaches trained in topics including addiction, relapse prevention, DSM diagnostics, fundamentals of assessment, ethics, service hours, client tracking systems, service planning, case management, and counseling
Schaeffer et al., 2013	Multisystemic Therapy–Building Stronger Families (MST-BSF)	QED	43 mother-child dyads	To be eligible, a family had to meet the following criteria: (a) a physical abuse and/or neglect incident sufficiently severe to warrant child welfare opening a case on the family following its investigative process; (b) the maltreatment incident occurred within the past 180 days; (c) parental substance abuse confirmed or suspected by child welfare; and (d) at least one child indicated in the maltreatment report was between the ages of 6 and 17 years.	All MST-BSF clinical team members received a 5-day orientation to the standard MST model and 4 additional days of training in the model modifications. On a quarterly basis, the MST-BSF consultant provided an on-site day long booster training related to an area of clinical need identified by the MST-BSF team. All clinical team members participated in 1.5 hours of weekly group supervision plus individual supervision as needed.
Slesnick & Erdem, 2012	Ecologically Based Treatment (EBT)	Descriptive outcome	15 mothers	To be eligible to participate in the study, mothers had to be homeless, have a biological child between the ages of 2 to 6 years in their care, and meet the DSM-IV criteria for substance abuse or dependence.	Three master's-level, Ph.D. students provided the intervention in a couple and family therapy program.

Table E.1. (*continued*)

Citation	Intervention name	Study design	Sample size	Target population	Characteristics of staff delivering the intervention
Slesnick & Erdem, 2013	Ecologically Based Treatment	RCT	60 mothers	To be eligible to participate in the study, mothers had to be homeless, have a biological child between the ages of 2 to 6 years in their care, and meet the DSM-IV criteria for substance abuse or dependence.	Clinicians were master's-level therapists and graduate students at the Ohio State University Couple and Family Therapy program or in the Clinical Social Work program.
Suchman et al., 2010	Mothers and Toddlers Program (MTP)	RCT	43 mothers	All mothers enrolled in outpatient substance use treatment and caring for a child between birth and 36 months of age were eligible to participate in the study	MTP therapists were selected based on their clinical experience working with similar populations and willingness/ability to adopt a reflective stance with the patients. Four therapists—2 at the masters- and 2 at the doctoral-level—provided MTP treatment. Each received extensive training in the treatment model prior to the study and weekly supervision from the principal investigator throughout the study.
van de Pur et al., 2018	Interventions designed to prevent or reduce child maltreatment	Meta-analysis	39,044 (121 independent studies)	Preventive interventions targeting the general population or targeting families at risk for child maltreatment and curative interventions targeting maltreating families aimed at reducing maltreatment or recurrence of maltreatment	Varies by study
Walters & Rogers, 2012	Substance use treatment interventions	Literature review	Varies by study	Varies by study	Varies by study
Wright et al., 2012	Perinatal Addiction Treatment Clinic of Hawaii	Descriptive outcome	213 women	Pregnant substance-using women	Deliveries were done by residents and staff of the University of Hawaii at Kapiolani Medical Center for Women and Children and Queens Medical Center. Child care was provided on site, transportation was provided either by taxi or by bus passes. Addiction psychiatry services were provided by addiction psychiatry and addiction medicine resident fellows under the supervision of one of the authors.

Table E.1. (*continued*)
AI/AN = American Indian/Alaska Native; CA/N = child abuse/neglect; CPS = Child Protective Services; DSM-IV = Diagnostic and Statistical Manual of Mental Disorders, 4th Edition; EHS = Early Head Start; GED = general educational development; MFT = marriage and family therapy; MI = motivational interviewing; QED = quasi-experimental design; RCT = randomized controlled trial; SC+ = SafeCare+; TA = technical assistance.

Table E.2. Substance use outcome measure summary of effects, studies of home visiting models

Study	Outcome	Measure	Effect
Dodge et al., 2012[a]; Dodge et al., 2013[b] (primary source)	Mother's possible substance use problems	8-item CAGE Alcohol Screening, which indicates possible substance use problems.	No effect
Barlow et al., 2013[a]	Alcohol use in past 30 days (2-, 6-, and 12-month follow-ups)	Substance use, according to the Voices of Indian Teens survey.	No effect
	Any alcohol or illegal drug use in past 30 days, (2-, 6-, and 12-month follow-ups)	See above.	No effect
	Any illegal drug use in past 30 days (2-, 6-, and 12-month follow-ups)	See above	No effect
	Marijuana use in past 30 days (2-, 6-, and 12-month follow-ups)	See above.	No effect
	POSIT Substance Abuse (2-, 6-, and 12-month follow-ups)	POSIT is a 139-item assessment containing 6 subscales, which include mental health and substance abuse.	No effect
Barlow et al., 2015[a] (same sample as Barlow et al. 2013; 3 years postpartum)	Alcohol use in past 30 days	Substance use, according to the Voices of Indian Teens survey.	No effect
	Any illegal drug use in past 30 days	See above.	Favorable effect
	Marijuana use in past 30 days	See above.	Favorable effect
Green, Sanders, & Tarte, 2017[b]	Substance abuse treatment	Receipt of state-funded substance abuse treatment services during the study period, specifically: start and end dates of treatment episodes and type of treatment (inpatient vs. outpatient); whether or not the participant received substance abuse treatment services; total number of days of substance abuse treatment for both inpatient and outpatient modalities (for the total sample); and total number of days in treatment (for the subgroup receiving treatment).	Favorable effect
LeCroy & Davis, 2016[b]	Substance abuse treatment	No information.	No effect
LeCroy & Krysik, 2011[a]	Alcohol use (6-, 12-month follow-ups)	Alcohol use was measured by a series of questions that included: Do you drink beer or alcohol? To which the mother could answer yes or no. If the mother answered yes, then another question was asked: In the past two weeks how many times did you drink beer or alcohol?	Favorable effect

Table E.2. (*continued*)

Study	Outcome	Measure	Effect
Guterman et al., 2013[b]	*DUSI*	DUSI was developed to measure the severity of drug use problems, shown in prior work to predict child maltreatment risk. For this study, a shortened 24-item adult version of the DUSI was used to assess substance abuse in each mother and male partner who had the greatest contact with the child in the past six months.	No effect
Kitzman et al., 2010[a] (12-year follow-up of children)	Incidence of days of substance use in the past 30 days	Count of days of substance use (theoretical range, 0–90).	Favorable effect
	Number of substances used in the past 30 days	Count of substances used in the past 30 days (0–3).	Favorable effect
	Used cigarettes, alcohol, or marijuana in the past 30 days	Whether cigarettes, alcohol, or marijuana were used in the past 30 days (yes or no).	Favorable effect
Olds et al., 2010[a] (12-year follow-up of mothers)	Alcohol or other drug use	Percentage of mothers who had consumed 3 or more alcoholic drinks 3 or more times per month in the last year or used marijuana or cocaine since the last interview at age 9 years of the child.	No effect
	Role impairment due to alcohol or drug use	Percentage of mothers who experienced any impairment in role functioning (at work, with friends, or with family members) due to use of alcohol and other drugs since the last interview at child age 9 years.	Favorable effect
Silovsky et al., 2011[a]	DIS alcohol module (10-, 17-month follow-ups)	The DIS is an interview based on the Diagnostic and Statistical Analysis of Mental Disorders. The authors used a modified self-report instrument, which has been used in past studies. The alcohol and drug modules were included in the study.	No effect
	DIS drug module (10-, 17-month follow-ups)	See above.	No effect
Michalopoulos et al., 2019[b]	Substance use during the past three months	Percentage of mothers reporting drinking seven or more drinks in an average week; drinking four or more drinks in one sitting; using prescription pain killers, marijuana, hash, amphetamines, cocaine, heroin, tranquilizers, hallucinogens; or sniffing aerosols during a 15-month follow-up interview.	Unfavorable effect
	Current smoking	Percentage of mothers reporting smoking at least one cigarette a day during a 15-month follow-up interview.	No effect

[a]Effects, as documented by HomVEE.

[b]Effects, as documented by the Touchpoints project team.

DIS = Diagnostic Inventory Schedule; DUSI = Drug Use Screening Inventory; HomVEE = Home Visiting Evidence of Effectiveness; POSIT = Problem Oriented Screening Instrument for Teens.

APPENDIX F

ENGAGEMENT OF STAKEHOLDERS

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To enhance its relevance and ensure that it generates actionable information, the Touchpoints for Addressing Substance Use Issues in Home Visiting project was designed and conducted with input from a variety of stakeholders. The project team engaged stakeholders, such as federal staff and program administrators, who offered policy and practice perspectives and were knowledgeable about practices related to preventing, identifying, and treating substance abuse; how such practices vary; and how they are implemented used in home visiting services. The project team engaged these stakeholders to target the inventory of practices to focus on the most relevant aspects of home visiting services. It also engaged these stakeholders to help it identify research questions for future study that are both empirically sound and relevant to researchers, federal staff, home visiting model developers, and program administrators.

Table F.1. Stakeholders who provided input on the Touchpoints for Addressing Substance Use Issues in Home Visiting project, and topics discussed

Role	Individuals	Topics discussed
Federal stakeholders	Maria Woolverton (ACF/OPRE) Jean Blankenship (ACF/CB) Laura Hoard (ACF/OPRE) Belinda Sims (NIH/NIDA) Sangeeta Parikshak (ACF/ ECD)[1] Dina Lieser (HRSA) Pamala Trivedi (ASPE)[1] Laura Radel (ASPE)[1] Justine Larson (SAMHSA/CMHS)[1] Jennifer Oppenheim (SAMHSA/CMHS) Kristina West (ASPE) Aleta Meyer (ACF/OPRE) Kyle Peplinski (HRSA)[2] Anne Bergan (ACF/OCC) Susan Marsiglia Gray (HRSA) Moushumi Beltangady (ACF/OCC)	• Overarching conceptual model • Priorities for the detailed models • Initiatives to include in the inventory • Feedback on the inventory • Priorities and gaps in the literature review
Home visiting technical assistance providers	Darcy Steinberg-Hastings (AAP with the NCECHW) Heather Fitzpatrick (APA, NCECHW) Loraine Lucinski (EDC with the *HV-ImpACT*) Sophia Taula-Lieras (Zero to Three with the Programmatic Assistance for Tribal Home Visiting)	• Overarching conceptual model • Current issues facing home visiting services in addressing substance use issues among families • Training and technical assistance strategies to address substance use issues • Initiatives to include in the inventory

Table F.1. *(continued)*

Role	Individuals	Topics discussed
Experts on tribal home visiting services and working with tribal communities	Allison Barlow (Center for American Indian Health, Johns Hopkins) Michelle Sarche (Centers for American Indian and Alaska Native Health, Colorado School of Public Health) Nancy Whitesell (Centers for American Indian and Alaska Native Health, Colorado School of Public Health) Sophia Taula-Lieras (Programmatic Assistance Tribal Home Visiting)	• Overarching conceptual model • How processes differ for tribal contexts
	Amanda Leonard (ITCMI) Colleen Medicine (ITCMI) Elizabeth Kushman (ITCMI) Jacob Davis (North Dakota)	• How processes differ for tribal contexts

[1] These individuals attended only the stakeholder meetings that discussed the inventory of practices and priorities and gaps in the literature review.

[2] These individuals attended only the stakeholder meetings that discussed the overarching conceptual model and initiatives.

ACF = Administration for Children and Families; AAP = American Academy of Pediatrics; ASPE = Assistant Secretary of Health and Human Services for Planning and Evaluation; CB = Children's Bureau; CMHS = Center for Mental Health Services; ECD = Office of Early Childhood Development; HRSA = Health Resources and Service Administration; HV-ImpACT = Home Visiting - Improvement Action Center; ITCMI = Inter-Tribal Council of Michigan; NCECHW = National Center on Early Childhood Health and Wellness; NIH/NIDA = National Institutes of Health/National Institute on Drug Abuse; OCC = Office of Child Care; OPRE = Office of Planning, Research, and Evaluation; SAMHSA = Substance Abuse and Mental Health Services Administration; WEBCI = White Earth Band of Chippewa Indians.

APPENDIX G

ENGAGEMENT OF EXPERT CONSULTANTS

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The project team engaged expert consultants to complement the experiences of the project team. In consultation with the Contracting Officer's Representative, these individuals were carefully selected to contribute specific knowledge and expertise to the project. For example, the selected experts brought a deeper knowledge of peer recovery coaches and target populations, including tribal communities. The views expressed in the publication do not necessarily reflect the views of the experts. Information about the expert consultants follows.

Robert T. Ammerman (Ph.D., A.B.P.P., Every Child Succeeds, Cincinnati Children's Hospital Medical Center, University of Cincinnati College of Medicine) is an expert on home visiting. His specific areas of expertise include early childhood prevention programs and interventions to optimize the development of young children; enhancements of home visiting programs that improve outcomes for mothers and children; development of in-home treatment for postpartum depression; use of motivational interviewing to improve retention in home visiting; and strategies to help new mothers and fathers co-parent to foster healthy child development.

Allison Barlow (Ph.D., Johns Hopkins Center for American Indian Health) provided expertise on child, adolescent, and family health and youth development for reservation-based American Indian/Alaska Native communities; teen parenting outreach and early child development; and suicide, depression, and substance abuse prevention.

Ruth Paris (Ph.D., School of Social Work, Boston University) provided expert consulting on attachment-based therapeutic interventions for parents and young children; effects of trauma on early childhood development in vulnerable populations; substance use issues and parenting; cultural issues in parenting; maternal and early childhood mental health; and community-based participatory research.

Meghan Shanahan (Ph.D., Department of Maternal and Child Health, University of North Carolina at Chapel Hill [UNC]; UNC Injury Prevention Research Center) is an expert on magnitude, etiology, and impact of child maltreatment; prevention strategies to reduce child abuse and neglect; and the impact of prescription and illicit opioid use on parenting and child development.

Ken DeCerchio (M.S.W., C.A.P., Children and Family Futures) provided expertise on state systems and policies related to alcohol and drug issues in the child welfare system. He directs the Regional Partnership Grant program and the National Center on Substance Abuse and Child Welfare's In-Depth Technical Assistance Program.

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