



**OPRE Report #2017-60b**

**Assessing the Research on Home Visiting Program  
Models Implemented in Tribal Communities**

**Part 2: Lessons Learned about  
Implementation and Evaluation**

**Updated August 2017**

Contract Number:  
GS-10F-0050L/HHSP23320150115G  
Mathematica Reference Number:  
50096.02.152.059.000

Submitted to:  
Liz Davenport Pollock, Project Officer  
Office of Planning, Research and Evaluation  
Administration for Children and Families  
U.S. Department of Health and Human  
Services

Submitted by:  
Project Director: Emily Sama-Miller  
Mathematica Policy Research  
1100 First St, NE, 12th Floor  
Washington, DC 20002-4221  
Telephone: (202) 484-4512  
Facsimile: (202) 863-1763

## **Assessing the Research on Home Visiting Program Models Implemented in Tribal Communities**

### **Part 2: Lessons Learned about Implementation and Evaluation**

Original Report Published:  
February 2011

Updated August 2017

Andrea Mraz Esposito  
Rebecca Coughlin  
Armando Yanez  
Emily Sama-Miller  
Patricia Del Grosso  
Rebecca Kleinman  
Diane Paulsell

This report is in the public domain. Permission to reproduce is not necessary. Suggested citation: Mraz Esposito, A., Coughlin, R., Yanez, A., Sama-Miller, E., Del Grosso, P., Kleinman, R., & Paulsell, D. (2017). *Assessing the research on home visiting program models implemented in tribal communities—Part 2: Lessons learned about implementation and evaluation*. Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

Disclaimer: The views expressed in this publication do not necessarily reflect the views or policies of Office of Planning, Research and Evaluation, the Administration for Children and Families, or the U.S. Department of Health and Human Services.

This report and other reports sponsored by the Office of Planning, Research and Evaluation are available at <https://www.acf.hhs.gov/opre>.



**MATHEMATICA**  
Policy Research

## CONTENTS

I	INTRODUCTION.....	1
II	EXPERIENCES IMPLEMENTING HOME VISITING PROGRAM MODELS STUDIED IN TRIBAL COMMUNITIES .....	2
	A. Strategies for adapting or developing culturally relevant home visiting program models.....	2
	B. Challenges in delivering home visiting services.....	5
	C. Lessons learned about implementing home visiting models in tribal communities.....	7
III	CHALLENGES TO CONDUCTING EVALUATION RESEARCH IN TRIBAL COMMUNITIES.....	9
IV	CONSIDERATIONS FOR TRIBAL HOME VISITING PROGRAM DEVELOPMENT AND RESEARCH.....	10
	A. Considerations for supporting program implementation .....	10
	B. Considerations for strengthening research .....	12
	REFERENCES.....	17

**This page has been left blank for double-sided copying.**

## I. INTRODUCTION

The legislation authorizing the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program (Social Security Act, Title V, § 511 (42 U.S.C. § 711)) sets aside 3 percent of the total appropriation (authorized in § 511(j)) for grants to federally recognized tribes (or a consortia of tribes), tribal organizations, or urban Indian organizations. The legislation requires the tribal grants, to the greatest extent practicable, to be consistent with the requirements of the MIECHV Program grants to states and territories (authorized in § 511(c)). The Tribal MIECHV Program aims to support the development of American Indian and Alaska Native (AIAN) children and families through the implementation of high quality, culturally relevant home visiting programs using models that have demonstrated evidence of effectiveness.

The Office of Planning, Research and Evaluation at the Administration for Children and Families (ACF), U.S. Department of Health and Human Services (HHS) contracts with Mathematica Policy Research to conduct the Home Visiting Evidence of Effectiveness (HomVEE) project, a systematic review of home visiting research (detailed information and results are available at <https://homvee.acf.hhs.gov/>). To assess the evidence of effectiveness of culturally relevant models that have been implemented in tribal communities, HomVEE conducted a systematic review focusing specifically on studies relevant to tribal communities.<sup>1</sup> The tribal review process and findings are available in the *Assessing the Research on Home Visiting Program Models Implemented in Tribal Communities—Part 1: Evidence of Effectiveness* report<sup>2</sup> on the HomVEE website (<https://homvee.acf.hhs.gov/tribal.aspx>). The original tribal review was conducted in fall 2010, and the report was released in February 2011 as a single document. The report was updated annually through 2014. This most recent revision segments the original report into two parts and updates it to include studies identified by HomVEE search strategies as of a literature search conducted in early 2016.<sup>3</sup>

This report begins by describing the strategies studies reported for adapting or developing culturally relevant home visiting models, the challenges experienced in delivering home visiting services and conducting evaluation research in tribal communities, and lessons learned across the 76 studies identified in the HomVEE tribal review (see Mraz Esposito et al., 2017), with a focus on cultural relevance and implementation. Then, it discusses challenges to conducting evaluations in tribal communities. The report closes with considerations for supporting program implementation in tribal communities and for strengthening research on tribal home visiting programs.

---

<sup>1</sup> The HomVEE tribal review includes studies in which at least 10 percent of sample members were AIAN participants. Our definition of AIAN includes participants who identified as Native Hawaiians or Other Pacific Islanders, or who identified as members of indigenous groups in other countries.

<sup>2</sup> Mraz Esposito, A., Coughlin, R., Malick, S., Sama-Miller, E., Del Grosso, P., Kleinman, R., & Paulsell, D. (2017). *Assessing the research on home visiting program models implemented in tribal communities—Part 1: Evidence of effectiveness*. Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

<sup>3</sup> Previously, the content of this report was part of the unified report *Assessing the Evidence of Effectiveness of Home Visiting Program Models Implemented in Tribal Communities*. HomVEE made minor updates to this content with each release of the unified report. The current revision represents the first substantial update to the implementation strategies, challenges experienced, and the considerations for strengthening the research literature, and separates that content into its own volume.

## II. EXPERIENCES IMPLEMENTING HOME VISITING PROGRAM MODELS STUDIED IN TRIBAL COMMUNITIES

The studies included in the HomVEE tribal review offer important insights into program adaptation and development, as well as implementation—insights that may be useful to the Tribal MIECHV Program awardees or other tribal organizations interested in implementing home visiting program models. In this section, we describe the implementation strategies, challenges, and lessons learned across studies in three areas: (1) the adaptation of existing models and the development of new models that are culturally relevant to AIAN families and children, (2) the implementation challenges programs faced and the strategies they used to address them, and (3) the challenges evaluators faced conducting studies of the program models.

### A. Strategies for adapting or developing culturally relevant home visiting program models

Home visiting can be an effective tool to improve maternal and child outcomes.<sup>4</sup> However, few studies have been conducted on the effectiveness of home visiting models with families from tribal communities. The field of home visiting has begun to recognize the need to examine the impact of national home visiting program models on diverse populations and explore adapting evidence-based home visiting models to make them more culturally relevant for families from diverse backgrounds (Kumpfer et al., 2002). HomVEE examined how agencies developed or adapted home visiting program models to serve the needs of tribal communities.

Some programs may offer all participants, including AIAN families, the same home visiting model. Other programs may design or adapt their model to engage a specific population being served. Strategies used to develop culturally relevant programs fall along a continuum of adaptations (Castro et al., 2010). At one end of the spectrum lie programs that maintain the basic content of a standard program model but make some minor adjustments to peripheral components to make it more appealing to the target minority population. In contrast, programs on the opposite end of the continuum reject standard models in favor of developing, in conjunction with the target population, services that build upon the cultural traditions and knowledge of the community.

The approaches to providing culturally relevant services used by programs, as described by studies included in this review, mirror this continuum of adaptation. The programs included both home visiting models that were designed or adapted to engage tribal communities, and programs developed specifically for tribal populations. Across the studies included in the HomVEE tribal review, the studies of programs adapting models not specifically created for tribal communities and the studies of models designed for tribal communities described similar approaches to developing culturally relevant

#### Box 1. Extracting lessons specific to working with tribal communities

Research on home visiting in tribal communities has grown over time, which affected how this report was produced. Very little relevant research was available at the time of the original version of this report in 2010, so it previously described lessons across all identified studies, including studies in which only a portion of the sample members were AIAN children and families. Thus, it includes lessons that may not be specific to working with tribal populations. With this update, HomVEE only added implementation and evaluation experiences drawn from studies in which the sample was primarily tribal or studies that clearly identify a lesson specific to working with a tribal population. That is, this update aimed to add only content that was highly specific to tribal communities, drawing from the growing body of research conducted in such communities.

<sup>4</sup> Bilukha et al., 2005; Gomby, 2005; Olds et al., 2004, 2007; Sweet & Appelbaum, 2004; Prinz et al., 2009.

programs; therefore, the discussion below combines the approaches and lessons learned from these studies across both types of home visiting program models. The common approaches described across studies included the involvement of tribal leaders, the use of native staff, and efforts to build upon a community's traditions and strengths.

### **Strategy 1: Program planners involved tribal leaders and members of the tribal community in the planning, development, and implementation of home visiting programs**

Programs engaged tribal leaders and members of the tribal community throughout the development process to provide input on cultural appropriateness and to encourage tribal members to enroll once the program was implemented. For example, tribal leaders and representatives consulted on design issues, provided program content, assisted with recruitment, and provided endorsement at program events.<sup>5</sup>

Some studies described the instrumental role tribal elders and community members played in nurturing and promoting the program (for example, see Box 2). One program established a collaborative partnership with the tribal community to develop and evaluate an intervention designed to strengthen parenting practices (Fisher & Ball, 2002). The tribal council was involved in all stages of the project, from conceptualization and drafting the grant proposal to the evaluation design. The tribe appointed a Cultural Oversight Committee to oversee development of the intervention. A study of a perinatal intervention program described how the community health center planning the program consulted with local American Indian agencies and the region's tribes to develop an intervention to reduce the infant mortality rate among the local American Indian population (Davis & Prater, 2001). The planners sought the verbal support of the tribal communities and asked them to refer families to the program. The tribes' involvement and promotion of the program continued throughout the project from participation in a program dedication ceremony to attendance at a celebration of participants' program achievements.

**Box 2. Members of target community were specifically included in program boards**

A home visiting program consulted with tribal members on the design of the model and established an oversight board with approximately 50 percent of its members from the tribal community to guide program implementation (Fergusson et al., 2005).

Several studies described the direct role tribal leaders and community members played in implementing the programs (for example, see Box 3). In one program, the community health center designed a logo and, in doing so, commissioned an American Indian artist to create the logo and sought feedback from the tribes and tribal agencies on various drafts (Davis & Prater, 2001). Tribal elders also participated in a program dedication and achievement ceremony, and a medicine woman from one of the tribes assisted with the first Lamaze® series the program held. Another program used storytelling as the primary delivery mechanism (Fisher & Ball, 2002). The curriculum was based on six tribal stories that were narrated by tribal elders. In a third program, elders were invited

**Box 3. Tribal elders and community members played a direct role in implementing programs**

Some ways programs involved the tribal community:

- Elders narrated tribal stories that served as the foundation for the program curriculum;
- Tribal artist designed program logo;
- Elders offered prayers for new program families.

<sup>5</sup> Barlow et al., 2006; Davis & Prater, 2001; Fergusson et al., 2005; Fisher & Ball, 2002; Harvey-Berino & Rourke, 2003; Lambson et al., 2006; Karanja et al., 2010; McCalman et al., 2014, 2015.

to speak at program events, and they offered prayers for new program families (Lambson et al., 2006). The final article described how a parenting consultant from the local tribe co-facilitated the preservice training of program staff (Harvey-Berino & Rourke, 2003).

### **Strategy 2: Home visiting programs employed staff from within the community or sought culturally competent staff**

Some program administrators felt that the families would be able to connect better with staff from their tribe than with an outside professional (Box 4). Multiple studies reported that programs hired staff members primarily from the target community.<sup>6</sup> One study described how the hiring protocol used to recruit staff from the tribal community included posting job openings within the community before announcing them to the public and indicating a preference for candidates with cultural knowledge and the ability to speak the language (Levin et al., 1997). A goal of another program was to use the home visitors to create an extended family support system (Fisher & Ball, 2002).

#### **Box 4. Importance of hiring from within the tribal community**

Seventeen studies reported that programs hired staff members primarily from the target community.

Nine other studies reported that programs included both tribal members and people not from the community as staff members.

Many studies indicated that it was important for staff to have cultural sensitivity and familiarity with tribal history.

In nine other programs, the staff included tribal members and people not from the community.<sup>7</sup> The study of a perinatal intervention program describes the importance planners placed on cultural sensitivity training for all staff (Prater & Davis, 2002). The planners felt it was important for staff to understand the history of exploitation suffered by the American Indian community and its implications for building a trusting relationship with a family. An older study that used both indigenous and outside home visitors explored the relationship between the racial/ethnic match of the family and provider and the family's satisfaction with the program (Bailey et al., 1997). The authors found that 96 percent of the families did not have a preference as to the racial/ethnic background of the provider. However, in the interviews, some families did note the importance of having culturally competent home visiting providers and mentioned the benefit of having providers or interpreters who could speak their native language.

### **Strategy 3: Programs built on the cultural strengths and customs of the communities served**

A number of studies described building on the cultural strengths and customs of the target populations and incorporating traditional practices.<sup>8</sup> For example, the Indian Wellness Prevention Project developed a curriculum based on tribal legends and delivered it with a traditional storytelling approach (Fisher & Ball, 2002). The curriculum was designed to build on the community's cultural strengths and traditional child-rearing practices and wisdom. Another program's recruitment materials acknowledged the value of traditional ways and the wisdom of tribal elders (Prater & Davis, 2002).

---

<sup>6</sup> Anand et al., 2007; Barlow et al., 2006, 2013, 2015; Fatti et al., 2013; Fisher & Ball, 2002; Grimwood et al., 2012; Harvey-Berino & Rourke, 2003; le Roux et al., 2010, 2013, 2014; Karanja et al., 2010, 2012; Levin et al., 1997; Rotheram-Borus et al., 2014; Walkup et al., 2009; Yarnell et al., 2008.

<sup>7</sup> Bailey et al., 1997; Culp et al., 2004, 2007; Davis & Prater, 2001; Fergusson et al., 2005; McCalman et al., 2014, 2015; Pfannenstiel & Lente-Jojola, 2011; Prater & Davis, 2002.

<sup>8</sup> Anand et al., 2007; Davis & Prater, 2001; Fergusson et al., 2005; Fisher & Ball, 2002; Lambson et al., 2006; McCalman et al., 2015; Pfannenstiel & Lente-Jojola, 2011; Pfannenstiel et al., 2006; Prater & Davis, 2002; Yarnell et al., 2008.

Programs also sought to foster participants' connection to the traditional ways of their community. For example, one program integrated traditional arts and crafts, food, and music into the curriculum (Lambson et al., 2006). The program also participated in special tribal events such as the annual harvest dance.

## **B. Challenges in delivering home visiting services**

Several studies described how programs fared and the challenges they faced reaching the intended target population, maintaining enrollment, and providing adequate levels of service. The challenges we present in this section are similar to those commonly identified in the home visiting implementation research.

### **Challenge 1: Some programs struggled to achieve enrollment targets, especially in rural areas, but other programs were successful in recruiting participants from their targeted population**

One program was only able to recruit 43 percent the target population (Widdup et al., 2012). In another study, recruitment took longer than expected, and in one site, recruitment targets were not met (Walker et al., 2015). Notably, another program faced barriers establishing the intervention in smaller, more rural locations where less programmatic infrastructure existed, and training staff and coordinating across towns 200 to 300 miles apart was a burden (Nevada State Department of Human Resources, 1997). In three studies, programs stated their success in meeting a specified enrollment target. One of the programs was able to enroll over 80 percent of the target population (Fisher & Ball, 2002). Another enrolled slightly less (75 percent) (Karanja et al., 2010). In a survey of providers, the third study found that recruitment was rated as a strength in 85 percent of the programs by the end of the year (Lambson et al., 2006).

### **Challenge 2: Several programs struggled with participants dropping out, which means participants did not get the level of planned program services, but others were successful in retaining participants**

In five studies that provided information on participant retention, more than a quarter of participants withdrew from the program early or elected not to enroll in subsequent years.<sup>9</sup> Three of these studies reported that almost a third to more than half of participants did not complete the program (Barlow et al., 2006; Lambson et al., 2006; Walkup et al., 2009), and in one of these programs, only 30 to 40 percent of participants received a full-service dosage (Lambson et al., 2006). A fourth study indicated that more than 25 percent of participants did not complete the program (completing the program was defined as having participated in at least 50 percent of the lessons) (Barlow et al., 2015). The final study that followed a program for four years found that 63 percent of families participated for more than one year, but retention consistently improved over the period, which could indicate that the longer a program is implemented, the more attrition rates improve (Krysiak & LeCroy, 2007). Two studies reported that most participants completed the program. One study successfully retained all families from the first year into the second year (Fisher & Ball, 2002). In one site in the other study, 80 percent of families were still participating after three years (Levin et al., 1997). Three

---

<sup>9</sup> Barlow et al., 2006, 2015; Krysiak & LeCroy, 2007; Lambson et al., 2006; Walkup et al., 2009.

studies reported that programs were able to deliver most of the intended number of visits, providing 80 to 100 percent of expected home visits or lessons (Barlow et al., 2006; Rotheram-Borus et al., 2014; Walkup et al., 2009).<sup>10</sup> One of these studies reported that, on average, participants received a higher dosage of the core program than what was initially intended (Rotheram-Borus et al., 2014).

**Challenge 3: The studies reviewed did not provide a complete picture of how the home visiting program models were delivered, yet implementation information is essential to understanding program effectiveness**

The best test of the effectiveness of an intervention occurs when the program model is implemented with a high degree of fidelity to the original design. This ensures that the program model being evaluated was actually implemented as intended by the developer (Dane & Schneider, 1998; O'Donnell, 2008). Although consensus on a single definition does not exist, five elements are common to many definitions of implementation fidelity: (1) adherence to the program model as described by the developer, (2) exposure or dosage, (3) quality of service delivery, (4) participant responsiveness, and (5) understanding of the essential program model elements that cannot be subject to adaptation (Dunsenbury et al., 2003; Carroll et al., 2007).

Many studies reported on implementation fidelity, but most of those studies discussed only one element of fidelity. Many studies reported on exposure or dosage.<sup>11</sup> Across these studies, many of the programs had difficulty delivering planned levels of services, as discussed above. Two studies reported on how well programs adhered to features of the model other than dosage (Lambson et al., 2006; Yarnell et al., 2008). For example, one study found that between 70 and 85 percent of children received the screenings as intended (with variation by the type of screening). In addition, nearly half of families received at least one referral during the program year. A few studies discussed service delivery quality as measured by parent satisfaction surveys or interviews.<sup>12</sup> In one study, 60 percent of participants expressed high confidence in their ability to implement the program's recommendations to help prevent toddler tooth decay and overweight (Karanja et al., 2010). Another study reported that, overall, parents were very satisfied with the program; in particular, parents reported high satisfaction with their home visitors (known as parent educators) (Lambson et al., 2006). Interviews with participants in a program revealed that the women appreciated the home visiting approach to care; home visits prevented the stress of having to arrange for transportation to the clinic (McCalman et al., 2014, 2015).

**Challenge 4: Implementing programs in remote areas complicates service delivery, as does a lack of coordination among service providers**

For program staff in rural communities, traveling long distances to visit participants and coordinate with one another was a barrier to service delivery (Karanja et al., 2010; Levin et al., 1997). Socioeconomic disadvantages, including illiteracy, lack of telephones, and limited computer and

---

<sup>10</sup> Barlow et al., 2006 and Walkup et al., 2009 report that programs had high levels of attrition and that participants completed 80 to 85 percent of intended visits. It is unclear if the dosage calculation includes all participants or only those that completed the program.

<sup>11</sup> Bailey et al., 1997; Barlow et al., 2006, 2015; Harvey-Berino & Rourke, 2003; Karanja et al., 2010; Lambson et al., 2006; le Roux, et al., 2013, 2014; Pfannenstiel et al., 2006; Rotheram-Borus et al., 2014; Walker et al., 2015; Walkup et al., 2009; Yarnell et al., 2008.

<sup>12</sup>Bailey et al., 1997; Karanja et al., 2010; Lambson et al., 2006; McCalman et al., 2014, 2015; Nevada State Department of Human Resources, 1997; Yarnell et al., 2008

technology skills made it difficult to communicate with participants (Bailey et al., 1997; Karanja et al., 2010; Widdup et al., 2012). Program participants living in remote areas also had difficulty adopting program recommendations because of resource constraints. For example, a program discussed how remoteness affected families' ability to make healthy choices due to limited access to pregnancy and baby goods such as breast pads, baby grooming kits, and first aid kits), and to affordable fruits and vegetables (McCalman et al., 2015). Similarly, in a health intervention in among rural Aboriginals in Canada, the tribal health committee identified a lack of affordable, fresh produce on the reserve as a barrier to increasing produce consumption (Anand et al., 2007).

Furthermore, a lack of coordination among local service providers for referrals created obstacles to service delivery. For example, in one study, providers and caregivers who were surveyed reported that professionals implementing the program were territorial and imposed differing agendas, which resulted in a poor group dynamic that inhibited team efforts. Providers also reported that the various service agencies had different agendas and followed administrative policies that (1) precluded the creation of a service system responsive to client needs and (2) resulted in a duplication of effort in some areas. Additional bureaucratic challenges, including a lack of clearly defined roles, low funding levels, excessive caseloads, and time constraints, were also criticisms (Bailey et al., 1997). Similarly, researchers in a second study found that maintaining teamwork among staff, obtaining community acceptance, and developing a network of collaborative relationships with community agencies and programs that provide needed services for participants were considered problems early on but improved in the second year (Lambson et al., 2006).

### **Challenge 5: Home visitors struggled to deliver content amid families' immediate needs**

Families' day-to-day needs often made it difficult for home visitors to deliver the content as intended. For example, staff in one study discovered that participants failed to attend scheduled appointments in the community partly because they were struggling daily for food, shelter, and safety. To address the issue, the program began addressing clients' day-to-day needs and found that some clients became more open to services (Davis & Prater, 2001). An intervention implemented by a child welfare agency anticipated the day-to-day hardships of participants and took them into account from the onset by envisioning the home visiting program as working in conjunction with other agency services. As a private community-based organization with a mandate to provide protective and preventive services, the child welfare agency had the infrastructure to offer a more holistic set of services, which perhaps facilitated coordination. The agency ensured that social workers were available for counseling and offered a number of supplemental services, including homemakers, support groups, day care, and a preschool enrichment program for children with special needs. This approach was considered a positive attribute of the program by the researcher who said, "The importance of always viewing the family in its totality and being aware of all its interrelated needs was underlined many times throughout the program" (McLaren, 1988). Another program noted hardships related to accessing community services and developed a network of collaborative relationships to connect participants with agencies and programs that provide basic services such as social, health, housing, and law enforcement services (Yarnell et al., 2008).

## **C. Lessons learned about implementing home visiting models in tribal communities**

During the review of the studies, HomVEE sought to identify lessons learned about delivering home visiting services in tribal communities. Although the challenges identified in the previous section

are similar to those commonly identified in the home visiting implementation research, some of the lessons learned about how program staff attempted to overcome challenges are unique to the cultural traditions and expectations of AIAN participants.

### **Lesson 1: Collaborate with the tribal communities from the onset, involving them or collaborating in the pre-implementation phases, and throughout service delivery**

For example, the community health center that delivered the perinatal intervention program for urban American Indians discussed the program with the 16 local American Indian agencies and the reservations of Wisconsin's six tribes, conducted a needs assessment, and asked for verbal support of the program and referrals of American Indian women. The program then kicked off with a dedication ceremony consistent with the local tribal tradition. To maintain participation, the program embraced cultural traditions and elicited feedback throughout. Program staff planned several activities to facilitate a closer bond to patients' cultures, including a celebration in which family members and community members were invited to participate. Between the communal activities, the home visits kept staff connected with clients (Davis & Prater, 2001; Prater & Davis, 2002).

### **Lesson 2: Recruit culturally sensitive staff**

Two studies indicated that the attributes of staff, including their personalities, experience, cultural sensitivity, competence, teaching skills, general helpfulness, and dedication, played a role in maintaining enrollment (Prater & Davis, 2002; Bailey et al., 1997). One study detailed challenges a program faced when trying to hire staff from the tribal community (Durning, 1997). The program received few initial applications from tribal members, and only one candidate met the appropriate qualifications. Even after the required qualifications were lowered, the number of tribal applicants who met the criteria was still insufficient to staff the program. In response, the program created positions referred to as "liaison personnel" to ensure the program reflected participants' multicultural background. The liaisons, who were members of the tribal community, helped the parent educators connect with the community.

### **Lesson 3: Use data to inform quality improvement**

Administrators of the HFA/Healthy Families Arizona program used evaluation data on fidelity to inform quality assurance visits to sites implementing the programs (Krysiak & LeCroy, 2007). During the visits, staff worked with sites on concerns identified in quarterly reports. According to the study, this allowed program administrators to identify problems with retention in the first few years of operation and focus on that area in subsequent years. As a result, retention rates improved over time and, according to authors, were comparable to those of other voluntary home visitation programs.

### **Lesson 4: Remain flexible**

To be flexible and responsive to challenges or unexpected circumstances, program staff modified program models to better align them with the needs and constraints of both participants and the home visitors delivering the services. To modify services, programs collected feedback from participants and program staff midcourse, consistent with a process of continuous quality improvement.

In attempting to replicate and scale up a piloted model, one study discovered early, for example, that the new sites lacked the capacity to adopt the model in its entirety (Nevada State Department of Human Resources, 1997). Consequently, the project team trained sites to implement the portions of

the model they felt they needed and could integrate into their existing structures. Staff also added a new training module for working with children with disabilities in inclusive settings after programs requested it.

### **Lesson 5: Align program with participant needs**

Programs adapted services to meet the needs of the participants. Staff from different agencies delivering the perinatal intervention program adapted to the specific needs of the group and coordinated closely. Based on ongoing input from home visitors and other staff who worked closely with participants, program staff began attending medical appointments with participants who considered appointments to be threatening and held one-on-one makeup classes after participants began to frequently miss scheduled group classes. Although nurses initially resisted makeup classes, citing their inefficiency, they found that one-on-one teaching was productive (Davis & Prater, 2001).

Although these modifications may have allowed program staff to overcome implementation challenges, these changes may have compromised the integrity of the program models. As described above, maintaining fidelity to program models is key when testing the effectiveness of a model. Model developers could identify the core components of the models and areas where implementing agencies can adapt the program to meet local needs. When considering modifications, program staff working in partnership with model developers is likely to best assure program integrity. The developers can help programs ensure that the changes are acceptable and do not interfere with core elements of the models. Additional considerations related to model development are discussed in Section IV.

## **III. CHALLENGES TO CONDUCTING EVALUATION RESEARCH IN TRIBAL COMMUNITIES**

From the studies reviewed, HomVEE was also able to identify three key challenges evaluators faced while conducting research in tribal communities. Although these challenges are not unique to research conducted with the AIAN population, they may serve as considerations for future evaluations of home visiting programs for tribal communities.

### **Challenge 1: Achieving high response rates due to participants dropping out of the program and evaluation**

The ability of any evaluation to detect real improvements hinges on the ability of researchers to collect solid data. Obtaining full information from all participants to use in the evaluation (in other words, having high response rates) was a challenge across studies. Indeed, low response rates were a main limitation of the effectiveness studies reviewed by HomVEE, as reported in *Assessing the Research on Home Visiting Program Models Implemented in Tribal Communities—Part 1: Evidence of Effectiveness* (Mraz Esposito et al., 2017). One reason studies faced low response rates was because when participants dropped out of a program, they often dropped out of the evaluation as well and did not want to participate in follow-up data collection. Thus, programs that faced high attrition rates also had low response rates among treatment group members (for example, see Barlow et al., 2006). Sample members in the comparison group may have either refused to participate in follow-up data collection, or researchers were unable to locate them. A similar challenge faced by researchers of the Philani Outreach Programme was collecting data from sample members at multiple points in time (for example, see le Roux et al., 2010; le Roux et al., 2011).

## **Challenge 2: The cultural relevance of measures may make it hard to interpret the findings**

Two studies noted that cultural and language differences might have influenced interview responses (Bailey et al., 1997; Daro et al., 1998). For example, AIAN caregivers and providers who were asked to rate services—a behavior in conflict with cultural norms—gave responses possibly meant to satisfy the interviewer rather than to reflect their genuine impressions. Furthermore, some interviews were translated into a native language, which could have created differences in meaning from the English version (Bailey et al., 1997).

## **Challenge 3: There were conflicts between community values and research design elements**

Community needs and research team members' compassion for participants' service needs sometimes diluted the strength of the research design. For example, to allow participants to become familiar with home visitors, one study postponed collecting baseline data until after a few home visits had been completed (McLaren, 1988). In another study, the evaluation was developed by a committee-appointed working group, which decided on a pre/post design rather than a randomized controlled trial (RCT), because the latter had the potential to create controversy and concern in tribal communities (Fisher & Ball, 2002). One study addressed this issue by randomizing participants to treatment or an “active control” condition. In other words, the comparison group received a highly valued level of services rather than “usual care” (Walkup et al., 2009). Although this approach may have increased community buy-in of and participation in the evaluation, the study authors acknowledged that the contrast between the treatment and control condition was reduced, making it harder to detect program effects. Researchers testing the Philani Outreach Programme discovered that, in both RCTs, children in the intervention arm were significantly more at risk; the researchers concluded that the local paraprofessionals who conducted random assignment intentionally steered the needier children into the group that received services and thus compromised the internal validity of the research design (le Roux et al., 2010; le Roux et al., 2011). Concerns about such issues as baseline data collection and random assignment are not unique to tribal communities. It is possible that additional dialogue and knowledge-building activities about the study designs and alternative data collection approaches could address community concerns without weakening the study designs.

## **IV. CONSIDERATIONS FOR TRIBAL HOME VISITING PROGRAM DEVELOPMENT AND RESEARCH**

**The research literature on home visiting models for tribal communities is growing. More work is needed to develop detailed well-operationalized home visiting program models for tribal communities and to test their effectiveness.** The Tribal MIECHV Program allows awardees to fill these gaps in the research literature. Collaborative efforts to plan for, adopt, implement, and sustain home visiting programs, along with rigorous local evaluations, will provide opportunities to build the evidence base. HomVEE suggests that these efforts include research to support model development and implementation. In this section, we propose considerations specifically related to issues identified in the studies reviewed for the HomVEE tribal review and we highlight some suggestions for future research from the general HomVEE review.

### **A. Considerations for supporting program implementation**

As awardees undertake collaborative efforts to plan for, adopt, and implement home visiting programs, and as the provision of services progresses, detailed information about the program models

and awardees' implementation experiences can be documented. This information will increase the feasibility of sustaining and replicating models over time.

**Consideration 1: Developers could provide detailed information about model specifications and minimum requirements**

As demonstrated by the program descriptions provided in the companion report, *Assessing the Research on Home Visiting Program Models Implemented in Tribal Communities—Part 1: Evidence of Effectiveness*,<sup>13</sup> most studies included information about minimum requirements, but few studies provided detailed information about the program models. To replicate models, programs need operations manuals, training manuals, information about qualified trainers, documentation of curriculum or program content, and forms and assessments for service delivery. In addition, developers could identify core elements of the program models, meaning elements of the models that programs must implement with integrity to achieve outcomes. Without this documentation, programs will not have the information they need to implement the models in the way the developers intended.

**Consideration 2: Model developers could create fidelity standards for core model elements**

Measures of implementation fidelity assess the degree to which a program model is implemented as planned. As discussed earlier, few studies presented information about methods and measures for assessing fidelity, and no studies mentioned fidelity standards for service delivery. Such standards could include measures of both structural features of the models (such as the proper frequency of service delivery; the minimum staff qualifications, training, and supervision requirements; and the content to be delivered) and process features (the manner in which content should be delivered).

**Consideration 3: Researchers could examine the challenges of implementation and whether and how they can be met**

As demonstrated by the studies in the HomVEE tribal review that contained information about the average dosage families received, implementing models at the intensity intended by developers is difficult. However, completing visits at the frequency and for the length of time the developers intended may be necessary to produce desired outcomes. Research on this topic can help identify both the levels of service delivery that are feasible and the strategies program staff can use to achieve acceptable dosages. More information is needed about challenges programs face with funding and sustaining models, recruiting and retaining staff, recruiting and enrolling families, and delivering model content, as well as how programs attempted to overcome these challenges. This information can help inform future efforts to implement these models.

**Consideration 4: Programs could provide detailed information about how they adapt national home visiting models, including how they engage with home visiting model developers to design, implement, and evaluate adaptations**

As documented earlier, the studies HomVEE examined provided some lessons learned about the process for developing program models in tribal communities, program content relevant to participants, and staffing preferences. However, additional information is needed about these topics, as is information from program participants about their preferences. There is an inherent tension

---

<sup>13</sup> Available on the HomVEE website (<https://homvee.acf.hhs.gov/tribal.aspx>).

between maintaining fidelity to core elements of the program model and making culturally relevant adaptations.

## **B. Considerations for strengthening research**

Additional culturally sensitive research using designs that provide unbiased estimates of program impacts is needed on program models implemented in tribal communities. Below we propose considerations based on lessons learned from the tribal and general HomVEE reviews to strengthen the research base for home visiting models used within tribal communities.

### **Consideration 1: Use a utilization-focused participatory evaluation approach**

Evaluators and stakeholders can work together to define an evaluation that is useful to both groups (the evaluators and the stakeholders). This approach is intended to create joint ownership of the evaluation among evaluators and stakeholders and to maximize the usefulness of evaluation data for both evaluation and program purposes (Cousins & Earl, 1995a). Researchers have found that in utilization-focused participatory evaluations (1) stakeholders may derive a powerful sense of satisfaction and professional development from their participation, (2) data are used in program decision-making and implementation, and (3) evaluation may be established as an organizational learning system (Cousins & Earl, 1995b). Additionally, a participatory approach may result in a higher quality evaluation. The Tribal Evaluation Workgroup offers guidelines for conducting culturally sensitive evaluations.<sup>14</sup> Despite these benefits, evaluators and stakeholders should also consider possible drawbacks, including the increased amount of time a participatory process takes and how political influences may affect the evaluation.

### **Consideration 2: Carefully plan and implement research designs with strong internal validity**

The HomVEE tribal review identified 49 effectiveness studies as of this update, with just under half receiving a high or moderate rating. Of these, 35 were randomized controlled trials (RCTs) and 14 were matched comparison quasi-experimental design studies (QEDs).<sup>15</sup> Eighteen of the 35 RCTs received a high or moderate rating, and 17 received a low rating, mainly due to high rates of attrition and lack of baseline equivalence. Only 2 of the 14 QEDs received a moderate rating. The remaining 12 received low ratings because they did not establish baseline equivalence (HomVEE's standards for assessing equivalence are described briefly below). HomVEE and other reviews offer guidelines on constructing and implementing rigorously designed studies. Here, we offer suggestions for addressing the two main reasons that the RCTs and QEDs included in this review did not receive high or moderate ratings—high sample attrition and lack of baseline equivalence:

---

<sup>14</sup> The workgroup's *Roadmap for Collaborative and Effective Evaluation in Tribal Communities* is available at [https://www.acf.hhs.gov/sites/default/files/cb/tribal\\_roadmap.pdf](https://www.acf.hhs.gov/sites/default/files/cb/tribal_roadmap.pdf).

<sup>15</sup> More information is available at the websites for various reviews, including: HomVEE at <http://homvee.acf.hhs.gov/Publications/9/Publications/55/>; the Teen Pregnancy Prevention Evidence Review at <http://tppevidencereview.aspe.hhs.gov/>; the What Works Clearinghouse at <http://ies.ed.gov/ncee/wwc/>; the National Registry of Evidence-Based Programs at <http://nrepp.samhsa.gov/>; the Campbell Collaboration at <http://www.campbellcollaboration.org/>; and Blueprints at <http://www.colorado.edu/cspv/blueprints/index.html>.

1. **Evaluators could encourage all study participants to remain in the evaluation to minimize high sample attrition.** The main reason the RCTs of home visiting program models implemented in tribal communities were rated low was their high levels of sample attrition, which weaken the validity of the study findings. From the onset, evaluators should pay particular attention to the need to maintain the study sample (Box 5).

Evaluators and program stakeholders could encourage participants to continue to participate in the research even if they do not stay involved with the program. Engaging tribal members as home visitors and data collectors may help foster ongoing participation in the study.

**Box 5. Engage stakeholders to facilitate ongoing study participation**

One strategy that may help evaluators overcome sample attrition is working closely with tribal elders, service providers, and other community stakeholders early in the planning process to establish buy-in among tribal members and design culturally relevant program models. This early work can help throughout the study as individuals who remain in close contact with study participants can communicate the importance of retaining families in the study.

2. **Evaluators could report information about baseline characteristics to establish baseline equivalence.** To receive a moderate rating in the HomVEE review, matched comparison QEDs (which use a nonrandom process for group assignment), and RCTs with high attrition must establish baseline equivalence between the treatment and comparison groups (Box 6). If the treatment and comparison groups are (statistically significantly) different at onset, the comparison group does not provide a good representation of what would have happened to the treatment group in the absence of program services. A couple of additional points to consider:

**Box 6. Evaluators could report baseline equivalence**

Future evaluators should aim to achieve baseline equivalence between their treatment and comparison groups and report information about baseline characteristics in their studies.

- The HomVEE review standards require RCTs with high attrition and QEDs to establish baseline equivalence between the two groups on four types of measures:  
(1) pre-program outcomes, (2) race, (3) ethnicity, and (4) socioeconomic status. These measures were determined to be key for composing a reasonable comparison group.
- Studies receive a low rating if (1) the treatment and comparison groups differed on key baseline characteristics or (2) information on baseline characteristics was not presented and equivalence could not be determined. Many studies did not provide sufficient data for HomVEE to establish equivalence between the two groups on these measures.

**Consideration 3: Use the highest quality measure feasible**

Researchers should use primary measures<sup>16</sup> when feasible, especially for key outcomes, but they may need to use secondary measures when challenges prevent the use of primary measures. For example, some evaluators may rely on parent reports when the collection of direct observation

---

<sup>16</sup> The HomVEE review defines measures as either primary or secondary. HomVEE has more confidence in primary measures, which include direct assessments; direct observations; data extracted from medical, school, or administrative records; and parent and teacher reports based on standardized measures (standardized measures use a uniform set of procedures for administration and scoring and use established scoring norms based on the performance of a norming sample). Secondary measures are nonstandardized parent, teacher, or youth self-reports.

measures is not culturally appropriate or too costly. Similarly, researchers may encounter limitations in the availability of culturally relevant measures, which may require them to develop or use new measures that are not yet standardized.

#### **Consideration 4: Use culturally relevant measures, when available**

As previously mentioned, one issue that arose was limited availability of measures that were culturally relevant for study participants. Before data collection begins, evaluators could assess measures for cultural appropriateness and identify those that best fit the target population included in the evaluation. To overcome measurement limitations, additional research may be needed to develop measures that are culturally relevant as well as reliable. When assessing measures for cultural appropriateness or developing new measures, researchers should consider ways to engage researchers and other stakeholders from tribal communities (Box 7).

##### **Box 7. Seek input from tribal community on measures**

Researchers and stakeholders from the community may be a resource to recommend alternatives to measures, assist in identifying groups with whom to pilot new measures, and collect and/or provide feedback on new measures.

#### **Consideration 5: Apply lessons from the general HomVEE review to future research on home visiting programs implemented in tribal communities**

Many of these suggestions will be important for evaluators to consider when planning and implementing rigorous evaluations of models implemented in tribal communities. We provide a brief summary of some key findings below; detailed information about these considerations is available on the HomVEE website in a report called *Lessons Learned from the Home Visiting Evidence of Effectiveness Review* (Avellar & Paulsell, 2011).

- **Conduct studies with multiple study samples that seek to replicate the findings of initial efficacy trials.** As the body of research on home visiting models implemented in tribal communities grows, evaluators should consider the importance of conducting replication studies of promising models. Replication is important for confirming findings from earlier studies. Replication studies should be based on a different analytic sample than the original but should use the same outcome measures, if possible, to allow measures to be compared across studies.
- **Select a focused set of outcome measures that (1) are closely aligned to the program model's targets of change, (2) have strong validity and reliability, (3) are appropriate for the study population, and (4) allow for cross-study comparisons.** Home visiting studies typically measure outcomes in a wide range of domains and use multiple measures within domains. Using a more focused set of measures with strong validity and reliability can increase confidence in measurement accuracy and make patterns of findings more apparent. Studies can be strengthened by selecting measures that are closely aligned to the program model's theory of change and hypothesized outcomes.

- **Adjust for multiple comparisons to reduce the risk of identifying statistically significant findings by chance.** Especially because most home visiting studies measure outcomes in multiple domains, steps could be taken to reduce the likelihood of identifying statistically significant findings by chance. Corrections can be made during the analysis, such as the Bonferroni correction, which adjust the alpha levels to account for multiple tests. Another possibility for addressing this issue is to select key or confirmatory variables of interest that are the focus of the program. Multiple comparison corrections are then applied only to key outcomes. For example, if the model targets the reduction of child maltreatment, this could be considered a primary outcome, whereas other outcomes, such as family self-sufficiency, may be less important. The analysis would adjust for multiple indicators of child maltreatment but not for multiple indicators of other outcomes.
- **Determine the appropriate sample size to detect statistically significant findings of interest.** Whereas multiple comparisons increase the risk of mistakenly identifying statistically significant associations, there is also a risk of missing associations that should be statistically significant. This type of error occurs when a study is underpowered—the sample size is too small to be able to detect an effect of an interesting size—and the analysis cannot identify relationships that exist in the population. Determining whether a study is adequately powered (has a large enough sample size) requires a number of considerations, such as the expected effect size of the program. Many computer programs can estimate the power of a sample using these assumptions and help identify the required sample size for a study.
- **Report effect sizes.** Effect sizes show the size of the impact relative to the standard deviation of the measure and are independent of the units in which the outcome is measured. Reporting effect sizes facilitates comparisons of results across outcomes and studies.
- **Measure longer-term effects of promising program models.** If a home visiting model intends to have sustained impacts that last after program services end, these effects could be measured. Researchers and developers will need to carefully consider what length of follow-up is reasonable. The program model's theory of change and expectations about longer-term effects can be used as a guide for making this decision.
- **Select study samples with external validity in mind.** When selecting a model, awardees will be interested in whether a program will be effective in their population; they will want to know whether the study results can be generalized beyond the study sample. An externally valid study sample is representative of a population, such as all those eligible for services in a tribe, a state, or a region. The best way to achieve external validity is to take a random sample so that every member of a population has an equal chance of being included in the study. External validity also may apply to the types of providers delivering the services, community context, or other factors. When designing a study, researchers should think carefully about the population of interest and try to construct a study that represents that population. When reporting their results, researchers could include a statement about how representative their study sample is of a larger population, and to which populations the results can or cannot be generalized. This statement could be supported by showing that demographic variables for the study sample are similar to those for the population to which results are being generalized.

- **Continue to test the effectiveness of the program model periodically, as earlier results may be less applicable to today’s families and context.** Program models are likely to evolve and change over time. Program model developers may modify components based on lessons learned from past evaluations or feedback from practitioners. Further, as successful approaches to service delivery are disseminated and replicated, the counterfactual—what would happen in absence of program services—changes. Therefore, research on a model should continue, not just to replicate past results but also to ensure that the results reflect the current environment and needs of children and families.

We acknowledge that acting on some of these considerations will not be possible in all settings, and it is possible to conduct studies with strong internal validity even when these suggestions cannot be followed. To the extent they can be adopted, evaluations will be stronger and provide a richer evidence base from which to select models that are appropriate for one’s communities and settings.

## REFERENCES

- Anand, S. S., Davis, A. D., Ahmed, R., Jacobs, R., Xie, C., Hill, A., Sowden, J., Atkinson, S., Blimkie, C., Brouwers, M., Morrison, K., de Koning, L., Gerstein, H., & Yusuf, S. (2007). A family-based intervention to promote healthy lifestyles in an Aboriginal community in Canada. *Canadian Journal of Public Health. Revue Canadienne de Santé Publique*, 98(6), 447–452.
- Avellar, S., & Paulsell, D. (2011). *Lessons learned from the home visiting evidence of effectiveness review*. Princeton, NJ: Mathematica Policy Research.
- Bailey, D., Applequist, K., & North, C. U. (1997). *Parent perceptions of home visitors: A comparative study of parents who are American Indian and non-Indian parents*. Washington, DC: U.S. Department of Education.
- Barlow, A., Mullany, B., Neault, N., Goklish, N., Billy, T., Hastings, R., Lorenzo, S., Kee, C., Lake, K., Redmond, C., Carter, A., & Walkup, J. (2015). Paraprofessional-delivered home-visiting intervention for American Indian teen mothers and children: 3-Year outcomes from a randomized controlled trial. *American Journal of Psychiatry*, 172(2), 154–162.
- Barlow, A., Mullany, B., Neault, N., Compton, S., Carter, A., Hastings, R., Billy, T., Coho-Mescal, V., Lorenzo, S., & Walkup, J. (2013). Effect of a paraprofessional home visiting intervention on American Indian teen mothers' and infants behavioral risks: A randomized controlled trial. *American Journal of Psychiatry*, 170(1), 83–93.
- Barlow, A., Varipatis-Baker, E., Speakman, K., Ginsburg, G., Friberg, I., Goklish, N., Cowboy, B., Fields, P., Hastings, R., Pan, W., Reid, R., Santosham, M., & Walkup, J. (2006). Home-visiting intervention to improve child care among American Indian adolescent mothers: A randomized trial. *Archives of Pediatrics & Adolescent Medicine*, 160(11), 1101–1107.
- Bilukha, O., Hahn, R. A., Crosby, A., Fullilove, M. T., Liberman, A., Moscicki, E., Synder, S., Tuma, F., Corso, P., Schofield, A., & Briss, P. A. (2005). The effectiveness of early childhood home visitation in preventing violence: A systematic review. *American Journal of Preventive Medicine*, 28, 11–39.
- Carroll, C., Patterson, M., Wood, S., Booth, A., Rick, J., & Balain, S. (2007). A conceptual framework for implementation fidelity. *Implementation Science*, 2(40). Retrieved December 16, 2010, from <http://www.implementationscience.com/content/2/1/40>.
- Castro, F. G., Barrera, M., Holleran Steiker, L. K. (2010). Issues and challenges in the design of culturally adapted evidence-based interventions. *Annual Review of Clinical Psychology*, 6, 213–39.
- Cousins, J. B., & Earl, L. M. (1995a). Participatory evaluation: Enhancing evaluation use and organizational learning capacity. *The Evaluation Exchange*, 1(3 & 4). Retrieved January 14, 2011, from <http://www.hfrp.org/evaluation/the-evaluation-exchange/issue-archive/participatory-evaluation>.
- Cousins, J. B., & Earl, L. M. (Eds.). (1995b). *Participatory evaluation in education: Studies in evaluation use and organizational learning*. London: Falmer Press.

- Culp, A. M., Culp, R. E., Anderson, J. W., & Carter, S. (2007). Health and safety intervention with first-time mothers. *Health Education Research*, 22(2), 285–294.
- Culp, A. M., Culp, R. E., Hechtner-Galvin, T., Howell, C. S., Saathoff-Wells, T., & Marr, P. (2004). First-time mothers in home visitation services utilizing child development specialists. *Infant Mental Health Journal*, 25(1), 1–15. doi:10.1002/imhj.10086.
- Dane, A. V., & Schneider, B. H. (1998). Program integrity in primary and early secondary prevention: Are implementation effects out of control? *Clinical Psychology Review*, 18(1), 23–45.
- Daro, D., McCurdy, K., & Harding, K. (1998). *The role of home visitation in preventing child abuse: An evaluation of the Hawaii Healthy Start project*. Unpublished manuscript.
- Davis, C. L., & Prater, S. L. (2001). A perinatal intervention program for urban American Indians part 1: Design, implementation, and outcomes. *Journal of Perinatal Education: An ASPO/Lamaze Publication*, 10(3), 9–19.
- Dunsenbury, L., Brannigan, R., Falco, M., & Hansen, W. B. (2003). A review of research on fidelity of implementation: Implications for drug abuse prevention in school settings. *Health Education Research*, 18(2), 237–256.
- Durning, P. (1997). *Parents as First Teachers [Ko Nga Matua Hei Kaiako Tuatahi]: Pilot PAFT process report*. Wellington, New Zealand: Royal New Zealand Plunket Society.
- Fatti, G., Shaikh, N., Eley, B., & Grimwood, A. (2013). Improved virological suppression in children on antiretroviral treatment receiving community-based adherence support: A multicentre cohort study from South Africa. *AIDS Care*. Advance online publication.
- Fergusson, D. M., Horwood, L. J., Grant, H., & Ridder, E. M. (2005). *Early Start evaluation report*. Christchurch, New Zealand: Early Start Project Ltd.
- Fisher, P. A. & Ball, T. J. (2002). The Indian Family Wellness Project: An application of the tribal participatory research model. *Prevention Science*, 3(3), 235-240.
- Gomby, D. S. (2005). *Home visitation in 2005: Outcomes for children and parents* (Invest in Kids Working Paper No. 7). Washington, DC: Committee on Economic Development.
- Grimwood, A., Fatti, G., Mothibi, E., Malahlela, M., Shea, J., & Eley, B. (2012). Community adherence support improves programme retention in children on antiretroviral treatment: A multicentre cohort study in South Africa. *Journal of the International AIDS Society*, 15(2), 17381.
- Harvey-Berino, J., & Rourke, J. (2003). Obesity prevention in preschool Native-American children: A pilot study using home visiting. *Obesity Research*, 11(5), 606–611.
- Karanja, N., Aickin, M., Lutz, T., Mist, S., Jobe, J. B., Maupome, G., & Ritenbaugh, C. (2012). A community-based intervention to prevent obesity beginning at birth among American Indian children: Study design and rationale for the PTOTS study. *Journal of Primary Prevention*, 33(4), 161–174.

- Karanja, N., Lutz, T., Ritenbaugh, C., Maupome, G., Jones, J., Becker, T., & Aickin, M. (2010). The TOIS community intervention to prevent overweight in American Indian toddlers beginning at birth: A feasibility and efficacy study. *Journal of Community Health, 35*(6), 667–675.
- Krysiak, J., & LeCroy, C. W. (2007). The evaluation of Healthy Families Arizona: A multisite home visitation program. *Journal of Prevention & Intervention in the Community, 34*(1), 109–127.
- Kumpfer, K. L., Alvarado, R., Smith, P., & Bellamy, N. (2002). Cultural sensitivity and adaptation in family-based prevention interventions. *Prevention Science, 3*(3), 241–246.
- Lambson, T., Yarnell, V., & Pfannenstiel, J. (2006). *BLA Baby Face program evaluation study: 2005 report*. Overland Park, KS: Research and Training Associates, Inc.
- le Roux, I. M., le Roux, K., Comulada, W. S., Greco, E. M., Desmond, K. A., Mbewu, N., & Rotheram-Borus, M. J. (2010). Home visits by neighborhood mentor mothers provide timely recovery from childhood malnutrition in South Africa: Results from a randomized controlled trial. *Nutrition Journal, 9*(56).
- le Roux, I. M., le Roux, K., Mbeutu, K., Comulada, W. S., Desmond, K. A., & Rotheram-Borus, M. (2011). A randomized controlled trial of home visits by neighborhood mentor mothers to improve children's nutrition in South Africa. *Vulnerable Children & Youth Studies, 6*(2), 91–102.
- le Roux, I. M., Tomlinson, M., Harwood, J. M., O'Connor, M. J., Worthman, C. M., Mbewu, N., Stewart, J., Hartley, M., Swendeman, D., Comulada, W. S., Weiss, R. E., & Rotheram-Borus, M. J. (2013). Outcomes of home visits for pregnant mothers and their infants in South Africa: A cluster randomized controlled trial. *AIDS, 27*(9), 1461–1471.
- le Roux, I. M., Rotheram-Borus, M., Stein, J., & Tomlinson, M. (2014). The impact of paraprofessional home visitors on infants' growth and health at 18 months. *Vulnerable Children and Youth Studies, 9*(4), 291–304.
- Levin, M., Moss, M., Swartz, J., Khan, S., & Tarr, H. (1997). *National evaluation of the Even Start Family Literacy program: Report on Even Start projects for Indian tribes and tribal organizations*. Bethesda, MD: Abt Associates and Fu Associates.
- McCalman, J., Searles, A., Bainbridge, R., Ham, R., Mein, J., Neville, J., Campbell, S., & Tsey, K. (2015). Empowering families by engaging and relating Murri way: a grounded theory study of the implementation of the Cape York Baby Basket program. *BMC Pregnancy & Childbirth, 15*(1), 1.
- McCalman, J., Searles, A., Edmunds, K., Jongens, C., Wargent, R., Bainbridge, R., Ling, R., Tsey, K., & Doran, C. (2014). Evaluating the Baby Basket program in North Queensland: As delivered by Apunipima Cape York Health Council, 2009 to 2013, qualitative and quantitative evaluation. Victoria, Australia: Lowitja Institute
- McLaren, L. (1988). Fostering mother-child relationships. *Child Welfare, 67*(4), 353–365.
- Nevada State Department of Human Resources, Early Childhood Services. (1997). *HAPPY Rural Outreach Project. Final report*. Reno, NV: Author.

- O'Donnell, C. L. (2008). Defining, conceptualizing, and measuring fidelity of implementation and its relationship to outcomes in K–12 curriculum intervention research. *Review of Educational Research, 78*(1), 33–84.
- Olds, D., Kitzman, H., Hanks, C., Cole, R., Anson, E., Sidora-Arcoleo, K., Luckey, D. W., Henderson, Jr., C. R., Holmberg, J., Tutt, R. A., Stevenson, A. J., & Bondy, J. (2007). Effects of nurse home visiting on maternal and child functioning: Age 9 follow-up of a randomized trial. *Pediatrics, 120*, e832–e845.
- Olds, D. L., Robinson, J., Pettitt, L., Luckey, D. W., Holmberg, J., Ng, R. K., Isacks, K., Sheff, K., & Henderson, Jr., C. R. (2004). Effects of home visits by para-professionals and by nurses: Age 4 follow-up results of a randomized trial. *Pediatrics, 114*(6), 1560–1568.
- Pfannenstiel, J., & Lente-Jojola, D. (2011). The Family and Child Education (FACE) Program and school readiness: A structural model approach in an American Indian reservation context. *Journal of American Indian Education, 50*(2), 84–96.
- Pfannenstiel, J., Yarnell, V., & Seltzer, D. (2006). *Family and Child Education Program (FACE): Impact study report*. Overland Park, KS: Research & Training Associates, Inc.
- Prater, S. L., & Davis, C. L. (2002). A perinatal intervention program for urban American Indians: Part 2: The story of a program and its implications for practice. *Journal of Perinatal Education, 11*(2), 23–32.
- Prinz, R. J., Sanders, M. R., Shapiro, C. J., Whitaker, D. J., & Lutzker, J. R. (2009). Population-based prevention of child maltreatment: The U.S. Triple P System population trial. *Prevention Science, 10*, 1–12.
- Sweet, M., & Appelbaum, M. (2004). Is home visiting an effective strategy? A meta-analytic review of home visiting programs for families with young children. *Child Development, 75*, 1435–1456.
- Walkup, J. T., Barlow, A., Mullany, B. C., Pan, W., Goklish, N., Hasting, R., Cowboy, B., Fields, P., Baker, E. V., Speakman, K., Ginsburg, G., & Reid, R. (2009). Randomized controlled trial of a paraprofessional-delivered in-home intervention for young reservation-based American Indian mothers. *Journal of the American Academy of Child & Adolescent Psychiatry, 48*(6), 591–601.
- Widdup, J., Comino, E. J., Webster, V., & Knight, J. (2012). Universal for whom? Evaluating an urban Aboriginal population's access to a mainstream universal health home visiting program. *Australian Health Review, 36*(1), 27–33.
- Yarnell, V., Lambson, T., & Pfannenstiel, J. C. (2008). *BIE Family and Child Education Program*. Overland Park, KS: Research & Training Associates, Inc.

**This page has been left blank for double-sided copying.**

[www.mathematica-mpr.com](http://www.mathematica-mpr.com)

---

Improving public well-being by conducting high quality,  
objective research and data collection

---

PRINCETON, NJ ■ ANN ARBOR, MI ■ CAMBRIDGE, MA ■ CHICAGO, IL ■ OAKLAND, CA ■  
TUCSON, AZ ■ WASHINGTON, DC ■ WOODLAWN, MD

---

**MATHEMATICA**  
Policy Research

---

Mathematica® is a registered trademark  
of Mathematica Policy Research, Inc.