james bell associates

2007 Preventing Child Abuse and Neglect through Nurse Home Visitation

Synthesis of Evaluation Findings

Submitted to:

Children's Bureau/ACF/HHS
Divison of Program Innovation
1250 Maryland Avenue, SW
Washington, D.C. 20024

.

December 2014

3033 Wilson Boulevard
Suite 650
Arlington, VA 22201
Phone: (703) 528-3230
Fax: (703) 243-3017

This publication was developed by James Bell Associates on behalf of the Children's Bureau, Administration for Children and Families (ACF), United States Department of Health and Human Services (HHS), under Federal Contract Number GS10F0204K, Order Number HHSP233201100391G. Its contents are the sole responsibility of the author and do not necessarily represent the official views of the Children's Bureau, ACF, or HHS.

Table of Contents

Introduction

Child abuse and neglect often result in long-term psychological, physical, behavioral, and societal consequences. Victims of abuse are more likely to engage in high-risk behaviors which can lead to long-term physical health problems as well as increased direct and indirect costs for society. Thus, as one of the nation's most serious concerns, the Federal government has invested significant resources into research on the prevention and consequences of child maltreatment (Child Welfare Information Gateway, 2013). One area of research investigates the dynamics and relationship of family structure and functioning to child abuse and neglect. Some studies suggest that rates of serious child abuse (including child death) are lowest in intact, married families. In contrast, rates are higher among step families, single-parent households, cohabitating biological parent families, and families in which the mother is cohabiting with a partner who is not the father of her children (Fagan & Johnson, 2002). Consequently, programs that aim to support healthy marriage and relationships and promote responsible fatherhood may lead to benefits for children and families.

Home visiting (HV) is a widely endorsed method for delivering a wide array of preventive and early intervention services to expectant families and families with young children who may be at higher risk of child maltreatment. Home visitors seek to improve child and family outcomes by fostering improved parenting knowledge and skills and increased access to community resources, services, and social supports. Previous research suggests that nurse home visiting can be an effective intervention for reducing child abuse and neglect and improving overall family functioning (Kitzman et al., 1997; Olds, Henderson & Kitzman, 1994; Olds et al., 1997).

The evidence supporting home visiting as an effective prevention strategy, coupled with the theory that healthy marriage/relationship (HM/HR) and responsible fatherhood (RF) programs might produce better outcomes for children and families, prompted the funding of the Preventing Abuse and Neglect through Nurse Home Visitation (NHV) grants. In September 2007, the Children's Bureau, under the Administration for Children and Families (ACF), U.S. Department of Health and Human Services, funded three five-year NHV cooperative agreements with the following organizations: Nurses for Newborns Foundation in St. Louis, Missouri; the Yakima Valley Farm Workers Clinic in Yakima, Washington; and the Spokane Regional Health District in Spokane, Washington. Each grantee was required to select an established evidence-based nurse home visitation model as well an evidence-based model or curricula for RF and HM/HR education, with the principal goal of preventing child abuse and neglect. Grantees were given the option of establishing their own RF and HM/HR programs or referring families to these services provided by other community agencies.

The NHV grantees were expected to conduct process and outcome evaluations with sufficient rigor to demonstrate possible linkages between project activities and improved outcomes. Specifically, ACYF required each demonstration to measure its effectiveness in reducing the incidence of child abuse and neglect; promoting healthy marriages and responsible fatherhood behaviors; and understanding the factors associated with successful program implementation, sustainability, replication, and overall cost-effectiveness. This synthesis presents findings in these areas as reported by the NHV grantees in their final evaluation reports.

Grantee Overview

All of the NHV grantees provided services in high-risk communities and targeted first-time pregnant women. General information about these grantees is summarized in Table 1 and expanded upon below.

TABLE 1: OVERVIEW OF NHV GRANTEES

	Project Name		
	Healthy Hearts and Homes (HHH)	**Enhanced Yakima County Nurse-Family Partnership (EYCNFP)**	**Summer's Project**
Grantee	Nurses for Newborns Foundation (NFN)	Yakima Valley Farm Workers Clinic (YVFWC)	Spokane Regional Health District (SRHD)
Location	St. Louis, MO	Yakima, WA	Spokane, WA
Agency Characteristics	Services focus on providing comprehensive family assessments, nursing care, parent education, immediate material assistance, and referrals to community resources	Provides medical and dental care, behavioral health care and counseling, pharmacy services, community health services, nutritional services, and educational and employment training programs	In addition to NHV services, provides short-term maternity support services through its First Steps program
Agency History	Has provided NHV services since 1992	Has implemented NHV services since 2003	Summer's Project was SRHD's first experience implementing intensive NHV services
Community Characteristics	Urban, primarily African American population with high poverty rates	Rural/semi-rural, transient Hispanic, Native American, and migrant population with high poverty rates	Urban, primarily white population with high poverty rates
Target Population	First-time, low-income pregnant women and their families	First-time, low-income pregnant women < 28 weeks gestation	First-time, low-income pregnant women < 28 weeks gestation

The Nurses for Newborns Foundation (NFN) implemented the Healthy Hearts and Homes Project (HHH) in the greater St. Louis, Missouri area. St. Louis is an urban area with a high rate of poverty that is concentrated disproportionately among African Americans. The HHH program provided nurse home visiting services to all eligible participants and RF and HM services to a subset of the target population, which included young, low-income, first-time mothers and their families.

The Yakima Valley Farm Workers Clinic implemented the Enhanced Yakima County Nurse-Family Partnership (EYCNFP) Program in Yakima, Washington. Yakima County is an economically depressed rural/semi-rural jurisdiction with higher proportions of Hispanic, Native American, and Spanish-speaking residents than in the state as a whole. The population is also more transient than the rest of the state due to migrant and seasonal farmworkers. The EYCNFP program provided nurse home visiting services to all participants and RF and HM services to a subset of the target population, which included low-income, first-time pregnant women. In addition, mental health consultation services were provided to all nurse home visitors.

The Spokane Regional Health District implemented Summer's Project in Spokane County, Washington. Spokane County is one of the most densely populated jurisdictions in the state with a predominantly white population and high rates of poverty. Summer's Project provided nurse home visiting services to all participants and RF and HR services to a subset of the target population, which included low-income, first-time pregnant women.

Program Components

The grantees all implemented three core program components: NHV, RF, and HM/HR services, which are described in more detail below.

Nurse Home Visiting

ACF instructed all three grantees to implement an evidence-based NHV model that has been shown to be effective in preventing child abuse and neglect. Grantees could select the specific NHV model that they wished to implement, but were required to provide a rationale for using their selected model with their identified target populations. The evidence-based models implemented by all three NHV grantees utilized registered nurses to conduct regular home visits to enrolled participants. HHH implemented the Nurses for Newborns (NFN) model while EYCNFP and Summer's Project implemented the Nurse Family Partnership (NFP) model. Both home visiting models entail comprehensive family assessments and screenings, education and support, and assistance and/or referrals for services to meet basic needs; both also offer home visiting through the child's second birthday. However, as summarized in Table 2, program initiation and visitation structures varied by the specific home visiting model. Participants in HHH were offered monthly visits starting prenatally or during the post-partum period, whereas EYCNFP and Summer's Project offered weekly and then monthly visits starting no later than the 28th week of pregnancy.

TABLE 2: OVERVIEW OF NHV SERVICES

	HHH	EYCNFP	Summer's Project
Nurse Home Visiting Model	NFN	NFP	NFP
Service Initiation	Prenatally or during the post-partum period	By the end of the 28th week of pregnancy	By the end of the 28th week of pregnancy
Duration of Enrollment	Through the child's 2nd birthday	Through the child's 2nd birthday	Through the child's 2nd birthday
Frequency of Visits	Monthly	• Weekly for first month after enrollment, then every other week until delivery • Weekly for the first six weeks after the baby is born, then every other week until baby is 20 months old • The last four visits are monthly until child is 2 years old	• Weekly for first month after enrollment, then every other week until delivery • Weekly for the first six weeks after the baby is born, then every other week until baby is 20 months old • The last four visits are monthly until child is 2 years old.

Summer's Project implemented the NFP model, which aims to improve the health, well-being, and self-sufficiency of low-income, first-time parents and their children. NFP activities are designed to link families with needed health and human services, promote sound parental decision-making, assist families in making healthy choices during pregnancy and providing proper care to their children, and help women build supportive relationships with family and friends. EYCNFP implemented an enhanced NFP model that included the use of a mental health consultant to provide support in the areas of public health nursing practices; mental health issues/diagnoses, medication, and referrals; services to Native American families; and secondary trauma experienced by nurses. The consultant provided support through team meetings and case conferences with nurses, as well as through monthly one-on-one meetings with the nurses.

HHH implemented the NFN model, which aims to support the needs of teen parents, parents who have mental health challenges, infants who are medically fragile, and low-income families who lack access to needed services. In addition to case management services, NFN activities focus on monitoring infant health and development, maternal hypertension, and caregiver stress and depression.

Responsible Fatherhood Services

ACF has historically placed importance on RF programs, as demonstrated by its creation of the Promoting Responsible Fatherhood Initiative in 1996. The purpose of this initiative is to provide funding for programs that promote and support responsible parenting, economic self-sufficiency, and healthy relationships. RF programs, provided in conjunction with NHV and HM/HR services, have the potential to reduce the incidence of child abuse and neglect. Grantees were able to select an RF model/curriculum of their choosing, but were instructed to implement an evidence-based RF program and to provide a rationale for using their selected model/curriculum with their identified target populations.

The three NHV grantees partnered with independent agencies to provide RF services to participants. As shown in Table 3, the RF curricula and service formats varied across the three projects.

TABLE 3: OVERVIEW OF RF SERVICES

	HHH	EYCNFP	Summer's Project
Responsible Fatherhood Curriculum	Responsible Fatherhood[1]	Not specified	Nurturing Fathers and Conscious Father Programs
Agency Subcontracted to Provide RF Services	Fathers' Support Center (FSC)	Healthy Families Yakima (HFY)	Spokane Child Abuse and Prevention Center (SCAN)
Format	In-home and workshop	In-home	In-home and workshop

HHH partnered with the Father's Support Center to provide the *Responsible Fatherhood* curriculum using in-home and workshop formats. *Responsible Fatherhood* is an evidence-based curriculum designed to prevent child abuse and neglect and domestic violence by promoting the father's self-esteem, effective discipline for children, and positive parenting practices. It is designed to sensitize, inform, and empower fathers. In addition to the *Responsible Fatherhood* curriculum, *Fathers' Rap* was available on-site at the Father's Support Center to assist fathers with employment and child support or other legal matters.

EYCNFP originally sub-contracted with Healthy Families Yakima (HFY) to provide HM/HR and RF training for nurses as well as classes for participants. Due to a lack of capacity and commitment to the project, HFY was unable to continue providing either RF or HM/HR services. This prompted EYCNFP to incorporate both the RF and HM/HR curricula into nurses' home visits for those participants assigned to receive these services. The specific RF model or curriculum was not identified by the grantee.

[1] A copy of the curriculum is available at http://www.mdrc.org/publication/responsible-fatherhood-curriculum.

Summer's Project partnered with the Spokane Child Abuse and Prevention Center to provide the *Nurturing Fathers* and the *Conscious Fathering* curricula for participants assigned to receive RF services. The *Nurturing Fathers* and *Conscious Fathering* curricula were originally designed to be delivered in a classroom setting, but were modified during the project period to be delivered individually in a home setting. The *Nurturing Fathers* curriculum is a 13-week, evidence-based training course designed to teach parenting and nurturing skills to men. The *Conscious Fathering* curriculum provides men with an overview of infants' basic needs and offers guidance on building a healthy relationship with a child from the first day of its life.

Healthy Marriage/Relationship Services

Similar to its support of RF programs, ACF began the Healthy Marriage Initiative in 2002. This initiative provides funding for marriage education programs aimed at building marital and parenting skills and strengthening relationships. As mentioned above, the NHV grants were focused on the provision of HM/HR programs in conjunction with RF and NHV services. While grantees were able to implement an HM/HR model/curriculum of their choosing, they were instructed to select evidence-based HM/HR programs and to provide a rationale for using their selected model/curriculum with their identified target populations.

Each NHV grantee offered a HM/HR curriculum with the goal of educating participants in building and sustaining stable marriages and relationships that in turn contribute to improved developmental and life outcomes for children. As shown in Table 4, each grantee implemented the *Prevention and Relationship Enhancement Program* (PREP) [2], although the specific delivery format varied across projects. PREP is a comprehensive evidence-based divorce-prevention/marriage strengthening program that teaches communication, problem-solving, and decision-making skills. Given the high rates of poverty in their target populations, both HHH and Summer's Project used the *Within Our Reach*[3]*/Within My Reach*[4] supplements to PREP. *Within Our Reach* is designed for couples with children, whereas *Within My Reach* is geared towards economically disadvantaged single individuals with children.

[2]A description of the PREP curriculum is available at: www.prepinc.com/content/about-us/what-is-prep.htm.
[3]A description of the Within Our Reach curriculum is available at: www.prepinc.com/content/curricula/within-our-reach.htm.
[4]A description of the Within My Reach curriculum is available at: www.prepinc.com/content/CURRICULA/Within-My-Reach.htm.

TABLE 4: OVERVIEW OF HM/HR SERVICES

	HHH	EYCNFP	Summer's Project
Healthy Marriage/ Relationships Curriculum	PREP (Within Our Reach/Within My Reach)	PREP	PREP (Within Our Reach/Within My Reach)
Agency Subcontracted to Provide HM/HR Services	St. Louis Healthy Families (SLHF)	Healthy Families Yakima	Catholic Charities of Spokane
Format	Classes and workshops	In-home	Classes (individual and group)
Curriculum Characteristics	Divorce prevention/ marriage strengthening program that teaches relationship and decision-making skills	Improves partner communication and problem-solving skills	Divorce prevention/ marriage strengthening program that teaches relationship and decision-making skills

Overview of Evaluation Designs

Methodologies

All three NHV grantees assigned eligible families to separate intervention groups to evaluate the impact of nurse home visiting services alone or in combination with RF and HM/HR services. EYCNFP implemented a true experimental design involving random assignment to two intervention groups, while HHH and EYCNFP implemented quasi-experimental designs that assigned families to three intervention groups. The services received in each of the intervention groups varied by project. Table 5 summarizes the treatment groups and sample sizes for each project.

TABLE 5: RESEARCH DESIGNS AND SAMPLING STRATEGIES

	HHH	EYCNFP	Summer's Project
Research Design	Quasi-experimental	Experimental	Quasi-experimental
Sample Population	200 first-time mothers and their children	155 first-time mothers and their children, randomly assigned	210 first-time mothers and their children
Group 1	N=93: Families receive NFN, and enhanced fatherhood/relationship enrichment services	N=80: Families receive enhanced NFP (i.e., mental health consultant services) and HM/RF services	N=92: Single mothers receive NFP with enhanced relationship education; fathers are engaged in fathering and/or relationship services[5]
Group 2	N=88: Families receive treatment as usual (NFN only)	N=75: Families receive enhanced NFP only	N=64: Single mothers receive NFP with enhanced relationship education
Group 3	N=19: Non-random referral to Fathers Support Center; participants with prior exposure to fatherhood curriculum receive NFN and fatherhood/relationship enrichment services		N=54: Single mothers receive treatment as usual (NFP only)

[5] Originally, the proposed design consisted of four groups: Groups 2 and 3 indicated in this table, along with NFP plus RF services and NFP plus RF and HM/HR services. In an effort to increase sample sizes, the latter two groups were combined into Group 1, which increased sensitivity but compromised the project's ability to test the benefits of each service component separately.

Data Collection Instruments

Table 6 summarizes the outcome domains and instruments or other data sources employed by each project as part of their evaluations.

TABLE 6: OUTCOME EVALUATION DATA SOURCES

Outcome Domain	HHH	EYCNFP	Summer's Project
Home Environment/ Family Development	Home Observation for Measurement of the Environment (HOME)	HOME	HOME
Parent-Child Interaction		Nursing Child Assessment Teaching Scale (NCATS)	
Child Safety	Home Visitor reports to CPS	NFP Home Visit Encounter Form	
Parenting Stress	Parenting Stress Index (PSI)		Parenting Stress Index (PSI)
Parenting Attitudes	Adult-Adolescent Parenting Inventory (AAPI)		
Depression	Center for Epidemiologic Studies Depression Scale (CES-D)		Brief Symptom Inventory (BSI)
Substance Use/Abuse			Alcohol, Tobacco, and Other Drugs Screener, Addiction Severity Index (ASI)
Relationship/ Family Management Skills	Community Family Life Questionnaire (CHMI) - Section F Relationship Quality and Skills Questionnaire	CHMI - Section F NFP Relationship Assessment	Conflict Tactics Scale Parent Child (CTSPC) The Family Adaptability and Cohesion Evaluation Scales – II (FACES-II)
Fatherhood Skills and Engagement	Fatherhood Survey Father Parenting Questionnaire		
Health			SESS Service Access and Utilization Survey

The above table is useful not only for identifying instruments that are common across projects but also for understanding the range of outcome domains addressed by grantees. Most likely because of ACF's cooperative agreement guidelines, the domains of home environment and relationship/family management skills were addressed by all three grantees. In contrast, the domains of child development, child behavior, and substance use/abuse were each addressed by only one grantee; such domains may have fallen outside of the scope of some projects or proved too difficult and labor intensive for accurate and timely data collection. Fatherhood skills and engagement were reported by only one grantee. All three grantees used the Home Observation for Measurement of the Environment (HOME) and two used the Parenting Stress Index (PSI) and the Community Family Life Questionnaire (CHMI) - Section F. All other instruments were used by only one grantee.

Process Evaluation Findings

Participant Characteristics

The majority of participants across all three projects were low-income, unemployed, young (under 25 years of age) single women with limited education. There were, however, differences in race across the groups, with HHH serving mostly African American women (82%), EYCNFP serving mostly Hispanic/Latina women (72%), and Summer's Project serving mostly White/Non-Hispanic women (84%). Key demographic characteristics about participants are presented in Table 7, with more detailed information available in Appendix A.

TABLE 7: PARTICIPANT CHARACTERISTICS

	HHH	EYCNFP	Summer's Project
Under 25 years Old	70%	87%	77%
Average Age	22 years	20 years	21 years
Primary Race	82% Black/ African-American	72% Hispanic/ Latina	84% White/Non-Hispanic
Single, Never Married	86%	78%	84%
Have Partner	61%	83%	78%
High School Graduate/GED	Not reported	44%	45%
Employed	27%	45%	30%
Annual Household Income ≤ $20,000	46%[6]	66%	67%
English Primary Language	99%	65%	98%

Implementation Fidelity

Although all three grantees strove to implement each project component with fidelity, their success in maintaining fidelity to each component, as well as the ways in which they assessed fidelity, varied considerably. For example, both Summer's Project and EYCNFP reported fidelity findings for NHV services through regular progress reports. Summer's Project produced quarterly reports through the NFP National Service Office (NSO) using data entered into NSO's online data system. EYCNFP reported a number of fidelity indicators to ACF in semi-annual project reports; on most aspects measured, EYCNFP outperformed the NFP fidelity and quality indicators. In addition, EYCNFP conducted a self-assessment of implementation from which a performance improvement plan was developed. Although HHH did not report fidelity data, the project team met regularly to discuss fidelity and improvements to the NFN model.

[6] A significant percentage of participants (45%) had missing income data; therefore, this figure may be inaccurate.

With respect to HM/HR and RF services, all three grantees indicated that they monitored the implementation of these services and modified program components as needed to best meet the needs of families. For example, Summer's Project modified both its RF and HR interventions to deliver them one-on-one during home visits, while EYCNFP modified the HM component of its project by allowing nurse home visitors to deliver the HM curriculum directly rather than through a sub-contracted service provider.

Service Utilization

The three grantees reported data on service utilization at varying levels of detail. For instance, Summer's Project provided data on retention and course completion rates; on average, participants received 19 hours of home visiting services each year. Among participants receiving RF services, 28% completed the entire curriculum for *Conscious Fathering* and 15% completed the entire curriculum for *Nurturing Fathering*. In the HR services group, 38% of couples and 37% of individuals completed the entire HR program. EYCNFP provided data on completed home visits and HM/RF class attendance. Specifically, program participants received a total of 4,077 NFP home visits, while 71 participants randomly assigned to receive HM/RF services received them during home visits by nurses trained in the PREP curriculum. HHH only provided data on the number of participants assigned initially to each service group.

Implementation Challenges and Lessons Learned

All grantees faced implementation challenges and modified project services to address them; key challenges, along with grantees' efforts to address them, are summarized below.

Summer's Project

Modifications to service delivery methods were implemented to address low rates of participation in all three service components. Specifically, the grantee was challenged with a relatively high rate of no-shows and home visit cancellations. Not surprisingly, participants' multiple risk factors related to mental health, domestic violence, substance abuse, and housing instability posed significant challenges to engagement and effective service delivery. Project staff found social media (e.g., Facebook, text messaging) to be a fairly effective strategy for encouraging greater participant engagement.

The challenge of engaging families with multiple risk factors also contributed to low rates of participation in RF services. While many fathers expressed interest in these services, some were unable to begin or complete them because of their schedules and/or work obligations. Additionally, the father's relationship status with the mother could interfere with the successful provision of home-based parenting education. The effective delivery of RF services was often correlated with prior participation in home visits; that is, fathers who had participated in home visits were more willing to receive the *Conscious Fathering* curriculum, and fathers who participated in *Conscious Fathering* were in turn more likely to participate in the *Nurturing Fathering* program.

Summer's Project also faced low completion rates for its HM/HR services component; again, participants' multiple risk factors created obstacles to full engagement. In particular, the lack of mental health and other community services, coupled with participants' inability pay for services when they were available, negatively impacted completion rates. However, when services were modified and delivered individually, clients valued them more highly and seemed more engaged.

EYCNFP

EYCNFP originally intended to provide HM/HR and RF services in a classroom environment through a subcontracted community service partner (Healthy Families Yakima). However, due to service capacity and a lack of agency commitment this provider was unable to implement HM/HR or RF services as originally planned. In addition, EYCNFP learned that it was difficult to engage its young program participants in more structured learning, especially in a classroom format. Consequently, the grantee assumed full responsibility for providing these services by training home visiting staff in the HM/HR and RF curricula, who then delivered these services directly during home visits to project participants.

EYCNFP also reported challenges related to data collection and information systems in general. While the grantees' home visitors were accustomed to collecting substantial amounts of client data in accordance with the NFP model, the evaluation requirements of the grant necessitated the administration of several additional instruments, including the NCAST, HOME, and CHMI. These additional data collection burdens resulted in higher levels of incomplete, missing, or inaccurate information. In addition, EYCNFP was tasked with developing a new data system that would meet the grant's reporting requirements while remaining compatible with its existing data system. Although the grantee eventually developed a system that met the grant's reporting needs, the process of maintaining two separate systems proved unsustainable as issues such as merging incompatible data fields compromised data quality, caused ongoing operational challenges, and increased costs.

A third data-related challenge involved obtaining child maltreatment data on project participants. Although EYCNFP submitted two applications to the Washington State Department of Social and Health Services' Institutional Review Board, both were denied because the grantee had not acquired participants' consent to access their individual child welfare data. Obtaining participant consent to collect these data from the outset, rather than relying on client self-reports or home visitors' reports, would have resulted in more accurate findings regarding the effects of the project on child maltreatment risk.

HHH

Like Summer's Project and EYCNFP, HHH modified its approach to service delivery in an effort to increase participant engagement and retention. Specifically, HHH offered participants greater flexibility in the delivery of home visits and RF and HR services in terms of times, locations (i.e., center- or home-based), and content to accommodate their schedules and needs. As with Summer's Project, greater flexibility in service delivery improved participation rates.

Outcome Evaluation Findings

As indicated previously in Table 6, the three NHV grantees employed a variety of methods and instruments to measure outcomes in several domains. Table 8 on the following pages provides detailed findings reported by the grantees in most of these same domains. Several factors complicate the synthesis of outcome findings across the grantees. First, most grantees collected and reported data on very small samples, which renders it difficult to draw conclusions regarding the statistical significance of observed changes in outcomes.[7] When outcome comparisons are made, the grantees limited their analyses to within-group comparisons over time rather than changes between groups. Second, grantees studied a wide spectrum of domains that were not addressed consistently across all three projects; some domains were targeted by only one project (e.g., health outcomes). This challenge is compounded by the variety of tools and instruments used to measure outcomes, even within the same domain. Nevertheless, a careful review of the grantees' findings offers insights into the overall impacts of the three NHV projects.

Cost Studies

Along with examining changes in core areas of child and family safety, functioning, and well-being, the NHV grantees conducted limited analyses of the costs of their projects. All three grantees experienced significant challenges with this component of their evaluations, with EYCNFP specifically citing the need for expertise in cost analysis to address this evaluation requirement. Summer's Project reported an average annual cost per participant of $4,646, while EYCNFP reported a slightly higher annual participant cost of $5,453. To serve a family for 2.5 years cost approximately $13,632. This latter figure is slightly higher than estimates in the literature that range between $7,000 to $9,000 per family over a similar time frame (Isaacs, 2007; Karoly, Kilburn, & Cannon, 2005; Lee, Aos, & Miller, 2008); the higher cost may be attributed in part to the enhanced mental health consultations provided to nurse home visitors. HHH did not report any cost study findings.

[7] Consequently, any statistically significant findings reported by the grantees and included in this document should be interpreted with caution.

TABLE 8: OUTCOME EVALUATION FINDINGS

Outcome Domain	HHH	EYCNFP	Summer's Project
Home Environment/ Family Development	Home Observation for Measurement of the Environment (HOME): • Participants receiving NFN + enhanced HM/RF services (N=71) and those receiving NFN only (N=54) both demonstrated a statistically significant positive change in the domains of Organization of Environment (p=.000 and p<.01, respectively) and Opportunities for Variety (p<.0.01).	HOME: • Participants across both groups showed statistically significant improvement from 12 to 24 months on the HOME Total Score (N=14 matched pre/post administrations) (p<.01).	HOME: • All participants demonstrated significant improvement on the Home Total Scores when measured at 6 and 12 months postpartum (p<.005). • Mothers with high levels of adversity (two or more adverse experiences in the past year) demonstrated statistically significant improvements in the overall quality of the home environment (p<.02). • The enhanced intervention groups demonstrated greater improvements over time on the HOME Involvement subscale than the NFP-only group (findings were not statistically significant). • Mothers with initial social vulnerability (homelessness, housing assistance, legal concerns) showed gains on the HOME Variety scale from 6 to 12 months postpartum (levels of significance were not reported).

Outcome Domain	HHH	EYCNFP	Summer's Project
Parent-Child Interaction		Nursing Child Assessment Teaching Scale (NCATS): • All participants demonstrated improvement on two NCATS scores from 5 to 18-24 months (N=19 matched pre/post administrations) ($p<.05$). • Those receiving enhanced NFP + HF/RF services (matched pre-post test, N=14) showed statistically significant improvements in total and parent scores ($p<.01$); those receiving enhanced NFP services only did not.	
Child Safety	Home Visitor reports to CPS: • Only two reports were made by the HHH team, neither of which was substantiated. A third was made to the CPS Hotline but was also unsubstantiated.	NFP Home Visit Encounter Form (participant self-reports and nurse reports): • 4.5% (7/155) experienced potential child maltreatment events, but there were no differences between those receiving enhanced NFP + HM/RF services and those receiving enhanced NFP only services. • 2.6% (4/155) experienced known CPS referrals.	

Outcome Domain	HHH	EYCNFP	Summer's Project
Parenting Stress	Parenting Stress Index (PSI): • Total stress scores from baseline to 6 months post-enrollment for the NFN-only services group decreased (N = 56), but the change was not statistically significant.[8] • The NFN-only group demonstrated statistically significant declines on the Parental Distress and Parent-Child Dysfunctional Interaction subscales of the PSI (p<.05). • Total stress scores on the PSI for the NFN + enhanced services group increased (N = 67), but change was not statistically significant. • The NFN + enhanced services group demonstrated decreases in two of the four PSI subscales (Parental Distress and Parent-Child Dysfunctional Interaction) over the six month period, but these changes were not statistically significant.		Parenting Stress Index (PSI): • No significant changes in parenting stress at 6 and 12 months postpartum were observed.

[8] A lower score on the PSI indicates a more positive outcome.

Outcome Domain	HHH	EYCNFP	Summer's Project
Parenting Attitudes	Adult-Adolescent Parenting Inventory (AAPI): • In the NFN + enhanced services group (N=56), scores improved from baseline to post-assessment in 4 of 5 subscales, with statically significant improvement in the Empathically Aware of Children's Needs subscale (p<.01). • In the NFN-only group (N=55), scores improved from baseline to post assessment on 3 subscales, with statistically significant improvement in the Empathically Aware of Children's Needs subscale (p<.05).		
Depression	Center for Epidemiologic Studies Depression Scale (CES-D): • Depressive symptoms decreased from baseline to 6-month follow-up for participants in both the NFN + enhanced services group (N = 72) and the NFN-only group (N=60). This change was only statistically significant for the NFN + enhancements group (p<.05).		Brief Symptom Inventory (BSI): • Families participating in the program demonstrated lower levels of anxiety, but observed changes were not statistically significant. • Participants' level of adversity at intake were correlated with their level of emotional distress on all BSI subscales.

Outcome Domain	HHH	EYCNFP	Summer's Project
Depression (cont.)			• For mothers entering the program with high levels of adversity (two or more adverse experiences in the past year), NFP services did not reduce levels of distress among participants at 12 months postpartum ($p<.001$). • Mothers without father involvement had increased emotional distress at 6 months compared to mothers with father involvement (levels of significance were not reported).
Substance Use/Abuse			Alcohol, Tobacco, and Other Drugs Screener, Addiction Severity Index (ASI) • Of the 329 participants with data on smoking behaviors, approximately 20% (N=67) reported smoking at intake. Of these, 18% (N=60) reported smoking at 36 weeks gestation (significance level not reported). • Of the 331 participants with data on alcohol consumption, less than 1% (N=3) reported consuming alcohol at intake. Of these, less than 1% (N=2) reported alcohol consumption at 36 weeks gestation.

Outcome Domain	HHH	EYCNFP	Summer's Project
Relationship/ Family Management Skills	Community Family Life Questionnaire (CHMI), Section F: • Participants receiving NFN + enhanced services (N=56) and participants receiving NFN only (N=42) demonstrated improvement in 1 of 7 relationship quality subscales, although results were not statistically significant. Relationship Quality and Skills Questionnaire: • Participants in the NFN-only group (N=41) demonstrated a decrease in frequency of domestic violence involving physical contact, although results were not statistically significant. • Healthy relationship knowledge and behaviors improved for participants in both the NFN + enhanced services group (N=22) and the NFN-only group (N=23), although only the enhanced services group improved at a statistically significant level (levels of significance not reported).	NFP Relationship Assessment: Participants reporting emotional or physical abuse within the last 12 months decreased from intake (N=30) to pregnancy (N=8) and infancy (N=11).	Conflict Tactics Scale Parent Child (CTSPC): • 5% of participants reported relationship violence at intake, with only 2% reporting violence at 36 weeks gestation, (levels of significance were not reported). • Participants presenting with high adversity demonstrate significant reductions in verbal aggression and physical violence from 6 to 12 months postpartum ($p<.05$). • Participants experienced less physical violence from 6 months to 12 months postpartum, with those experiencing 2 or more adverse events at enrollment demonstrating the greatest statistically significant improvements ($p<.01$). • Participants reporting violence at baseline reported significant reductions in their own verbal aggression from baseline to 6 months postpartum (levels of significance not reported).

Outcome Domain	HHH	EYCNFP	Summer's Project
Relationship/ Family Management Skills (cont.)			The Family Adaptability and Cohesion Evaluation Scales – II (FACES-II) • Mothers reporting baseline violence continue to show lower cohesion (i.e., household supports) at 6 months postpartum but significant increases in adaptability (levels of significance not report).
Fatherhood Skills and Engagement	Father Parenting Questionnaire: • Scores for both the NFN + enhanced HM/RF services group (N=13) and the NFN + enhancements group (N=12) although results were not statistically significant. Fatherhood Survey: • 12 participants completed the survey at both assessment points. The NFN + enhanced services group (N=8) demonstrated statistically significant improvements in two areas: 1) activities with children (e.g., reading stories, playing games); and 2) addressing disagreements with the child's mother ($p<.01$ and $p<.05$, respectively).		

Outcome Domain	HHH	EYCNFP	Summer's Project
Fatherhood Skills and Engagement (cont.)	• Participants in the non-randomized NFN + enhanced services group (N=4) also demonstrated improvements in the same two areas.		
Health			SESS Service Access and Utilization Survey: • 100% of women received prenatal care during pregnancy, with nearly 40% beginning prenatal care prior to 16 weeks gestation. • 100% of children had a primary care provider by the time they were 6 months of age. • 90% of children at were reported to be fully immunized at 2 years of age; this rate is higher than the state average of 73% for 2-year olds.

Conclusion and Recommendations

Summary of Key Findings

All three organizations that implemented projects under the 2007 Federal funding opportunity for Preventing Abuse and Neglect through Nurse Home Visitation demonstrated some positive results across a variety of child and family outcome domains. Each project either approached or successfully met its enrollment goal and implemented its core program components (NHV, RF, and HM/RF services) with high to moderate fidelity.

The nature of the populations targeted to receive NHV, RF, and HM/HR services posed a number of implementation and measurement challenges. Most participants were low-income, unemployed, young single mothers with limited education. The stress and uncertainty that characterized their daily lives created ongoing barriers to program enrollment, participation, and completion, and also made it more difficult to collect complete and accurate information in a range of areas (e.g., income levels, reports of domestic violence).

In response to these challenges, all three grantees adapted their interventions to better serve and engage participants. For example, Summer's Project modified both its RF and HR interventions to deliver them one-on-one during home visits. EYCNFP modified its HM project component by allowing nurse home visitors to deliver the HM curriculum in participants' homes rather than in a classroom setting through a subcontracted service provider. HHH also demonstrated flexibility with all three project components by allowing participants to choose the times, locations (i.e., center- or home-based), and content of classes in response to their needs, interests, and schedules.

The NHV grantees reported moderate success in various domains across the home visiting, RF, and HM/HR project components. Statistically significant findings reported by the projects included the following highlights:

- All three grantees demonstrated significant improvements in some aspects of the home environment (e.g., improved organization, more nurturing milieu).
- EYCNFP demonstrated significant improvements in parent-child interactions, reduced levels of depressive symptoms among project participants, and increased fatherhood skills and engagement.
- Summer's Project demonstrated significant improvements in healthy relationship knowledge and behaviors among project participants.

Recommendations

The findings and lessons learned described in this synthesis with respect to implementing and evaluating the NHV projects informs the following recommendations for future home visiting, RF, and HM/HR programs:

- When instituting data collection requirements as part of implementing a new program or practice, be mindful of project personnel's existing service and administrative responsibilities and take measures to reduce additional data collection burdens.
- Plan in advance to obtain participant consent to collect sensitive personal information, such as data on child welfare agency involvement.
- When funding multiple projects that are implementing similar types of programs, funders may wish to require the collection of data in specific outcome domains and/or using the same standardized instruments to facilitate the cross-site evaluation of program impacts.
- Ensure that selected interventions are appropriate for the target population(s) of interest and have a reasonable likelihood of success. For example, certain RF and HM/HR interventions may not be appropriate for young, high-risk, unmarried couples.
- Recognize the need to be flexible and adjust project components (e.g., delivery model, providers, format, location, timing) as necessary. Tailoring services to meet participants' needs will result in increased engagement, more complete and accurate data collection, and improved outcomes. Social media technologies may be a particularly effective way to engage younger clients.
- Understand the impact of complex trauma in the lives of vulnerable families. Extensive engagement efforts should be anticipated in order to establish productive client-provider relationships.
- Home visitors may benefit from enhanced professional development in the areas of adverse childhood experiences and appropriate responses to trauma.
- Increased mental health supports are essential for personnel who provide home visiting services. To help visitors cope with the challenges associated with working in high-stress environments, projects may wish to supplement weekly reflective supervision sessions with regular access to mental health consultants.
- Fathers are central to the mental health, social support, and well-being of their partners and children. The early engagement of fathers results in increased service participation, reduced intimate partner conflict, and improved developmental outcomes for children.

References

Child Welfare Information Gateway. (2013). Long-term consequences of child abuse and neglect. Washington, DC: U.S. Department of Health and Human Services, Children's Bureau. Available at https://www.childwelfare.gov/pubs/factsheets/long_term_consequences.cfm.

Fagan, P. F. & Johnson, K. A. (2002). Marriage: The safest place for women and children. *Backgrounder, No. 1535*. Washington, DC: The Heritage Foundation.

Isaacs, J. B. (2007). *Cost-effective investments in children*. Washington, DC: The Brookings Institution.

Karoly, L. A., Kilburn, R. M., & Cannon, J. S. (2005). *Early childhood interventions: Proven results, future promise*. Santa Monica, CA: RAND Corporation.

Kitzman, H., Olds, D. L., Henderson, C. R., Hanks, C., Cole, R., Tatelbaum, R., & Barnard, K. (1997). Effect of prenatal and infancy home visitation by nurses on pregnancy outcomes, childhood injuries, and repeated childbearing: a randomized controlled trial. *Journal of the American Medical Association, 278*(8), 644-652.

Lee, S., Aos, S., & Miller, M. (2008). *Evidence-based programs to prevent children from entering and remaining in the child welfare system: Benefits and costs for Washington*. Olympia, WA: Washington State Institute for Public Policy.

Olds, D. L., Eckenrode, J., Henderson, C. R., Kitzman, H., Powers, J., Cole, R., & Luckey, D. (1997). Long-term effects of home visitation on maternal life course and child abuse and neglect: Fifteen-year follow-up of a randomized trial. *Journal of the American Medical Association, 278*(8), 637-643.

Olds, D. L., Henderson, C. R., & Kitzman, H. (1994). Does prenatal and infancy nurse home visitation have enduring effects on qualities of parental caregiving and child health at 25 to 50 months of life? *Pediatrics, 93*(1), 89-98.

Appendix A: Detailed Participant Characteristics

	HHH		EYCNFP		Summer's Project	
	# or N or Mean	%	# or N or Mean	%	# or N or Mean	%
Maternal Age	N=200		N=152		N=187	
<15 years	73	36%	3	2%	0	0%
15-17 years			48	32%	15	8%
18-19 years			31	20%	36	19%
20-24 years	66	33%	42	28%	93	50%
25-29 years	38	19%	22	14%	30	16%
>30 years	19	10%	6	4%	13	7%
Unknown	4	2%	N/A	N/A	N/A	N/A
Average Age (years)	22.41		20		22	
Maternal Race	N=200		N=149		N=193	
American Indian/ Native American	0	0%	6	4%	13	7%
Black/African-American	165	82%	2	1%	7	4%
Asian/Pacific Islander	0	0%	1	1%	2	1%
White/ Non-Hispanic	27	13%	16	11%	162	84%
Hispanic/Latina	7	4%	108	72%	9	5%
Other (specify)	1	1%	16	11%	0	0%
Maternal Ethnicity	N=199					
Hispanic/Latina	2	1%	N/A	N/A	N/A	N/A
Not Hispanic/ Latina	197	99%	N/A	N/A	N/A	N/A
Marital Status	N=199		N=149		N=187	
Married	23	12%	32	22%	23	12%
Single, never married	172	87%	116	78%	158	85%
Widowed	1	0%	0	0%	1	1%
Divorced	0	0%	0	0%	3	2%
Separated	2	1%	0	0%	2	1%
Other (cohabitating)	1	0%	N/A	N/A	N/A	N/A
Partner Status	N=191		N=77		N=217	
Yes	116	61%	64	83%	28	13%
No	75	39%	13	17%	159	87%

	HHH		EYCNFP		Summer's Project	
Maternal High School Diploma/GED	N=200		N=152		N=136	
Yes	73	36%	94	62%	57	42%
No	59	30%	58	38%	79	87%
Maternal Employment	N=200		N=74		N=187	
Employed	53	26%	33	45%	57	30%
Unemployed	147	74%	41	55%	79	58%
Annual Household Income	N=200		N=123		N=188	
≤ $3,000	28	14%	20	16%	17	9%
$3,001-$6,000	5	3%			41	22%
$6,001-$9,000	17	8%	32	26%	27	14%
$9,001-$12,000	22	11%			14	7%
$12,001-$15,000	15	7%	29	24%	15	8%
$15,001-$20,000	5	3%			14	7%
$20,001-$30,000	5	3%	13	11%	18	10%
$30,001-$40,000	7	3%	10	8%	13	7%
Over $40,000	5	3%	5	4%	2	1%
Don't know	0	0%	14	11%	27	14%
Missing	91	45%	N/A	N/A	N/A	N/A
Primary Language	N=200		N=146		N=187	
English	198	99%	95	65%	185	98%
Spanish	2	1%	51	35%	1	1%
Other (specify)	0	0%	0	0%	1	1%