Nurturing Families Network
2016 Annual Report

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Nurturing Families Network: 2016 Annual Report

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EXECUTIVE SUMMARY

NFN home visiting services are provided to high-risk parents starting prenatal through 3 months post-natal and lasting up through the child's 5th year. The NFN program (initially a Healthy Families program) has expanded the services it offers across the state over the past 22 years (since founding in 1995), increasing from two to forty-two program sites. Due to relatively recent site mergers and closures, there are currently thirty-eight program sites across Connecticut. In 2009, NFN services were also expanded to primary father figures.

This report presents evaluation findings based on data collected through the end of 2015, and the findings are comparable to previous years: Overall NFN is doing a good job of identifying, recruiting, and engaging a high-risk population, and a reasonable job of retaining families. Most importantly, the evidence shows that, on average, families who meet high-risk criteria and receive services for at least 6 months (up to 5 years) are making progress in the areas that program services are attempting to improve. Specifically, there is evidence that mothers and fathers are making improvements in parenting attitudes and behaviors, that they have become more knowledgeable about community resources that can assist them in managing the day to day struggles faced by many families, and that they themselves are achieving educational and employment goals. Below are highlights from the report divided into the following subsections: 1) screening and enrollment, 2) family characteristics and stress profiles, 3) program participation and retention, 4) outcomes, and 5) father home visiting services.

Screening and Enrollment

- **Screening:** Since 1999, NFN staff have screened over 86,000 families. Thirty-five percent, or 30,147, of these families have screened at high-risk for poor parenting. This figure includes more than 350 fathers who have entered the program since they began serving fathers in 2009.
- **Enrollment:** In the past six years of the program (2010 through 2015), an average of 744 families enrolled in NFN Home Visiting program each year (ranging between 526 and 865), while the program served an average of 2,084 families each year (ranging between 1,897 and 2,273). In 2015, NFN staff screened 5,003 families, of which 47% screened at high-risk for poor parenting. Of these 2,340 high-risk families, 22% (526) enrolled in home visiting in 2015. Comparisons from year to year show that the *overall* conversion rates (i.e., the percentage of families who ultimately enroll out of the total number of families eligible for services in a given year) have decreased over time, from 30% in 2010 to 22% by 2015. This reduction is likely related to the expansion of the program over time with a corresponding rapid increase in screenings (e.g., screening beyond capacity at some of the sites) and related changes in the screening protocols and recruitment process, which may have become less rigorous and/or less standardized over time. Moreover, there has been an additional expansion of federally funded home visiting programs since 2014, which has resulted in more home visiting options and, at some sites, referrals to programs outside of the traditional, state-funded NFN home visiting program included in the data for this report.
- **Prenatal Enrollment:** In 2015, 10% of all mothers screened (N=5,591) were prenatal at the time of screening. Importantly, of all mothers who ultimately enrolled in the program in 2015 (N=730), 42% (n=307) were prenatal. This is similar to the pattern we reported for 2014

enrollees, where 8% of all mothers screened were prenatal while 42% of all mothers who enrolled were prenatal. In fact, in 2015, prenatally screened mothers were 3.5 times more likely to enroll than postnatally screened mothers. We find a similar pattern for New Haven and Hartford regions when considered separately, although even more pronounced in New Haven than in Hartford and the rest of the state. These findings provide strong evidence suggesting that programmatic efforts targeting prenatal mothers would increase the efficiency of recruitment efforts. Moreover, prenatal enrollment provides an opportunity for the program to affect birth outcomes.

Family Characteristics and Stress Profiles

- **Description of incoming cohort for 2015:** Collecting family demographic information and histories serves a dual purpose. First, the information provides insight on the needs and challenges of the family. Second, the information provides a baseline for evaluating change during the course of participation.
    - Approximately 29% of mothers who enrolled in 2015 were in their teens.
    - The majority of mothers (79%) who enrolled were single and never married.
    - 32% of mothers had not yet received a high school diploma or GED, and approximately 21% of mothers were currently enrolled in school.
    - With regard to employment, only 31% of mothers were employed at the time of program entry, and just 10% of mothers were employed full-time.
    - The home visitors reported that 63% of enrollees were experiencing financial challenges.
    - In terms of government assistance, over 73% of mothers were participating in WIC and 31% of mothers were participating in SNAP (i.e., food stamp support). Another 8% were receiving TANF.
    - Maternal grandmothers lived in 33% of the households and 55% of biological fathers lived in the household with the child's mother.
    - 28% of mothers experienced social isolation as documented by home visitors, and in 9% of cases, the fathers did not see their baby at all.
    - Approximately 52% of mothers live with other family members, while 34% rent a home and 4% of mothers own their home. Two percent live in either a homeless shelter or group home.
- **Stress profiles predictive of risk:** Over 81% of mothers participating between 2009 and 2015 experienced at least two risk factors (at moderate to severe levels), with an average of four risk factors across all families. The most frequently reported risk factors include having a history of maltreatment as a child, a history of crime/ substance abuse/ mental health, low self-esteem/ social isolation/ and depression, and multiple stressors (e.g., multiple financial problems). These findings reinforce the conclusion that the program is successfully reaching its target population of high-risk parents.
- **Regional differences in stress profiles:** Comparing stress profiles across regions (i.e., Hartford region, New Haven region, and Western/Central/Eastern regions) shows that nearly half (48% to 53%) of mothers experienced maltreatment as a child, regardless of region. However, we see regional differences in the prevalence of some of the other key risk factors. For instance, 40% of New Haven mothers and 43% of Hartford mothers have a History of

Crime, Substance Abuse, and/or Mental Illness, which is *lower* than the 59% of mothers in Western/Central/Eastern regions and the statewide average of 51%. In another example, a substantial percentage of mothers from Hartford (85%) and Western/Central/Eastern regions (81%) were experiencing Low Self-Esteem/ Social Isolation/ Depression when they enrolled, while the rate for New Haven mothers, although still high, is relatively lower at 63%, and the statewide rate is 73%. Lastly, the percentage of mothers who were experiencing multiple stressors at enrollment ranges from 59% in New Haven to 74% in the Western/ Central/ Eastern regions to 78% in Hartford, generating a statewide rate of approximately 70%. These findings suggest that, while the program is reaching a high-risk population in all regions of the Connecticut, the specific risk factors, and thus the needs and responsiveness of the mothers, may vary somewhat by region.

- **Acute stress at program entry:** In 2015, 10% of entering families were experiencing acute stress (i.e., a family member experiencing current substance abuse, domestic violence, or mental illness). This is higher than the 8% of families entering with acute stress for the previous two years and on average over the past five years. At program entry, acute mental health problems were noted most often, followed by substance abuse, and finally interpersonal violence.
- **Acute stress at program entry in Hartford and New Haven Regions:** The percentage of mothers reportedly experiencing acute stress (at program entry) in 2015 was lower in New Haven (6%) than in Hartford (10%) and in all other sites (12%). However, the percentage of all mothers who received home visits in 2015, which includes those who continued services from prior years as well as new enrollees, who experienced acute stress at some point during the 2015 program year is similar across regions – 7.3% (n=37) in Hartford, 7.1% (n=37) in New Haven, and 7.5% (n=150) statewide.
- **Birth outcomes:** Twelve percent of births to enrolled mothers were premature in 2015, which is slightly above the rate of 10.5% for the state of CT (Connecticut Vital Statistics Report, 2007) and is consistent with rates for mothers enrolled in prior years. In addition, 10% had low birth weight, which is slightly higher than the state rate of 8.0% (Connecticut Office of Vital Statistics, 2008-2010). This rate is consistent with the 2014 rate (9%) for NFN enrollees, but is a decrease from the rates reported in 2012 and 2013 (14% and 16% respectively). Additionally 15% of children were born with serious medical problems in 2015, which is slightly higher than in prior years. Note that prematurity, low birthweight, and medical complications are not mutually exclusive categories (i.e., there is an overlap in these data), although any one of these outcomes presents a significant challenge for parents that can be mitigated by home visiting.
- **Regional differences in birth outcomes:** The percentage of premature births was much higher in Hartford NFN (18%) than statewide (12%) and in New Haven (4%). The Hartford rate is also well above the rate in Connecticut's population as a whole (10.5%). The percentage of children born with low birth weight was also higher in Hartford (14%) than statewide (10%) and in New Haven (7%). These data further indicate areas where screening, enrollment, and the populations served may differ across regions or program sites, as well as where home visitors may be required to adapt or modify support strategies to address the specific needs of the populations they serve, and, in particular, Hartford stands out as unique.

Program Participation and Retention

- **Home Visiting:** A total of 2,001 families received home visiting services in 2015. The majority of services take place in the home and, on average, families received 2 home visits per month. The rate of completed home visits per family remained stable between 2009 and 2013, but evidenced a decrease in 2014 that continued for 2015 (from 2.2 to 2.0). This decline appears to be due to a deliberate policy change in order to align with national Parents-as-Teachers standards. Previously, "seasoned" or trained home visitors were required to complete 12 to 15 visits per week, but, in 2014, the program reduced the number of required weekly visits to between 10 and 12. However, the policy change did not reduce the number of families per home visitor (i.e., caseloads). As a result, while home visitors may have the same number of families on their caseload, they have decreased the number of home visits per week, necessarily adjusting the frequency of home visits per family to match their particular needs. Upon closer inspection, there was also an approximate 10% decrease overall in the number of families served between 2013 and 2015. This decrease occurred mainly in the Central and Eastern regions, which may be due to staff turnover at several of the sites within these regions. Note that the average number of home visit completions also decreased within these regions, but not below the required average of 2 home visits per family per month. In contrast, during the same period (2013-2015), the number of families served by New Haven sites increased (and was higher than other regions) and, perhaps relatedly, in 2015 New Haven sites completed an average of 1.8 home visits per family per month, which is below the programmatic requirement.
- **Developmental Screening using the Ages & Stages Questionnaire (ASQ-3):** Home visitors attempt to screen for developmental delays with all household children from 2 months through age five. In a given year, they administer an average of 3,911 screens, including screens administered at regular, prescribed intervals to the same child. Importantly, the percentage of children enrolled in NFN home visiting who received at least one developmental screen (i.e., ASQ) has increased from 57% in 2011 to 76% in 2015, and 4.6% were identified with a potential delay. ASQ developmental screens were administered to an additional 1,424 children present in NFN homes (e.g., 2nd or 3rd born). Finally, there were 103 families (approximately 5% of all participating families) in 2015, including 16 identified through ASQ screening, with a concern about their child's development who were referred to Connecticut Birth to Three services for a follow-up evaluation.
- **Retention Rates:** Overall, retention rates at all three time-points (after 6 months, 1 year, and 2 years) have fluctuated only slightly over the past five years. Of those families who entered the program in 2014 (and thus have had the opportunity to be enrolled in the program for at least one year), 64% remained in the program for at least six months and 49% remained in the program at least one year. Two-year retention rates decreased slightly for the 2013 cohort compared to those who enrolled in 2010 through 2012. Of families that have had the opportunity to participate in the program for 5 years, the average length of involvement is 21.4 months and the median is 11.8 months.
- **Retention rates in Hartford and New Haven regions:** Six-month, one-year, and two-year retention rates for the Hartford region have remained steady over the past 5 years, hovering at about 64% for six months, 48% for one year, and 27% for two years, which is comparable to

the statewide rates. For the New Haven region, in contrast, there is much more fluctuation from year to year and the rates are less consistent with statewide rates. Between 54% and 68% of families remained in the program for at least six months, with 33% to 54% of families involved in the program for at least one year. Since 2010, the two-year retention rate has increased from to 23% to 32% in the New Haven region.

Outcomes

- **Are mothers better off after a year of home visits?** The percentage of mothers who obtained a high school degree/GED or higher after one year of participation increased by 6 points and the percentage of mothers who were employed after one year increased by 14 points. These increases are the same in Hartford (6% and 14%, respectively). However, for New Haven, there was *no change* in education after one year, but there was a 12-point increase in the percentage of mothers who were employed.
- **Are mothers' parenting attitudes less rigid after receiving home visits?** The Child Abuse Potential Inventory-Rigidity subscale (CAPI-R) is a standardized self-report instrument that measures the rigidity of parents' attitudes regarding their children, and thus indicates their potential for abuse and neglect. We administer the measure at program entry, six months, one-year and each consecutive year during program participation. For each of the cohorts, 2009 through 2015, there was a significant reduction in CAPI-R scores after one year of participation. The trend shows that each year, mothers are making significant improvements in parenting attitudes (i.e., less rigid). Moreover, the trend in change scores has generally improved over-time (i.e., greater reduction in average scores after 1 year in 2015 as compared with 2009).
- **Does it matter how long they are in the program?** The change in CAPI-R scores indicate that mothers in all five time-point groups (based on their length of time in the program) showed significant reductions in the rigidity of their parenting attitudes after participating in home visiting. The fact that we find significant reductions in CAPI-R scores across all five groups and that the tests compare the last available score to the mother's score upon entering the program (i.e., independent tests for each time point) suggests that the change is not temporary, reversed, or lost over time.
- **Do the effects on parenting attitudes differ by region?** All regions significantly improved in their parenting attitudes as measured by the CAPI-R. This is important, given that there were regional differences in stress profiles, acute status, birth outcomes, and education at program entry as described in above paragraphs (with New Haven still at high risk but overall less so relative to other regions). Across all regions, families are making progress in the areas that program services are attempting to improve.
- **Are mothers more knowledgeable about and using community resources more after receiving home visits?** The Community Life Skills Scale (CLS) is an instrument that measures participants' knowledge and use of community resources (transportation, budgeting, support services, social support-involvement, interests-hobbies, regularity-organization-routines). We administer the measure at program entry, six months, one-year and each consecutive year during program participation. For each of the cohorts who began receiving services from 2009 through 2015, there was a significant increase in CLS scores after one year of participation.

- **Does it matter how long they are in the program?** The scores indicate that parents in all five time-point groups showed significant improvements in their knowledge and use of community resources after participating in NFN home visiting. The fact that we find significant increases in total CLS scores across all five groups and that the tests compare the last available score to the mother's score upon entering the program (i.e., independent tests for each time point) suggests that the change is not temporary, reversed, or lost over time.
- **Do the effects on knowledge and use of community resources differ by region?** All regions improved in their knowledge and use of community resources with little or no differences between the regions. Again, this lack of difference is striking given the clear differences in the populations served within the different regions.

Fatherhood Home Visiting Services

- **Enrollment:** As of the end of 2015, 355 fathers had received home visits at 11 sites, with 56 fathers entering NFN in 2015. Note that fathers are primarily recruited through mother participants.
- **Retention:** For all fathers enrolled in the NFN Father home visiting program since inception, 65% remained in the program for at least 6 months, while 47% of fathers remained for at least 1 year, and 30% participated in the program for at least 2 years. For all fathers who have had the opportunity to be in the program for five years (i.e., who enrolled between 2009-2010), the average length of involvement is approximately 19 months, while the median length of involvement is approximately 8 months, which are shorter than mothers who are involved in the program for 21 months on average, with 11 months as the median length.
- **Stress profiles predictive of risk:** A relatively high percentage of fathers scored in the moderate to severe range for the following items on the Kempe Family Stress Inventory, indicating that the program reached a high-risk population: 65% had a Childhood History of Abuse and Neglect; 64% had a History of Crime, Substance Abuse, and/or Mental Illness; 83% had Multiple Stressors; 63% had Low Self-esteem/ Social Isolation/ Depression subscale; and 24% had a Potential for Violence.
- **Entry scores on the Child Abuse Potential Inventory- Rigidity Subscale (CAPI-R).** For fathers entering NFN in 2009-2015 (N=227), the CAPI-R total mean score was 30.0, more than one standard deviation above the general normative population and equal to the cut-off score of 30. This entry score is significantly higher than mothers entry CAPI-R score of 26.3 (t (3473) = 2.29, $p < .05$).
- **Are fathers' parenting attitudes less rigid after receiving home visits? Do they have stronger beliefs in the importance of their role as fathers?** We found evidence that fathers' rigid parenting attitudes and beliefs (CAPI-R scores) significantly improved after participating in the program for at least six months. We also see small improvements in beliefs about the role of fatherhood (as measured by the Role of Father Questionnaire (ROFQ)), even though average scores at program entry on the ROFQ have been relatively high (higher scores indicate more importance placed on involvement with child), with an average of 62.3 out of a possible 75 points for fathers since the program started.
- **Service delivery for fathers.** Recent program evaluation (Kusotic, 2016), anecdotal information, and concerns related to data collection (i.e., low response rate) combine to indicate that home

visitors' understanding of the curriculum and critical concepts of the program model may be different for fathers as compared with mothers.

Recommendations for Future Evaluation and Research

We recommend that the CSR and OEC collaborate to conduct research (research briefs, "special reports," or white papers) and evaluations to inform program development (through the CQI process) on the following topical areas:

1. Screening, Recruitment and Retention
    a. Analyses that focus on the effects of prenatal screening on the likelihood of program entry, completion, exit/re-entry, and outcomes.
    b. Effective strategies and resources (e.g., Help Me Grow) for screening, recruiting and retaining participants in the program. This would likely involve analyzing existing data (e.g., time between each stage of recruitment) and collecting more systematic information on the strategies (e.g., use of "creative outreach") currently used by Nurturing Connections staff, site staff and others for engaging parents at each stage of the recruitment process. The results would highlight successful strategies and important challenges and assist in developing "best practices" to increase the efficiency and success of recruitment efforts.
    c. Similarly, collect and analyze data on retention strategies, successes, and challenges.
    d. Investigate the feasibility and utility of determining the incoming and outgoing flow of participants, for example on a quarterly basis, to provide a more fine-grained understanding of the overall capacity of the program.
    e. Develop a qualitative research project (observations, interviews) that explores participants' reactions to outreach and recruitment strategies (e.g., why they enroll/do not enroll).
2. Referral Process
    a. Analyze existing data relating to both the referral sources of families entering NFN and for referrals provided to families for community and social service agencies by home visitors and/or Nurturing Connections staff.
    b. Some potential questions to investigate include: Do people facing greater/more varied stressors receive referrals to services more frequently? Is there any relation between referrals and the use of creative outreach strategies, the "acute" status of families, socio-demographic characteristics, outcome measures, etc.?
3. Multi-child households
    a. Analyze existing information on families enrolled at Hartford and New Haven sites who have an existing older child when they enroll in NFN home visiting, comparing outcomes to families who enter as "first time" parents. These families provide an opportunity to better understand the effectiveness of prevention vs. intervention efforts.
    b. Develop a qualitative research project (observations, interviews, and perhaps focus groups) focusing on the unique challenges associated with home visiting in multi-child households and administering child development outcome measures to all children in the household.

4. Program implementation
    a. Use existing data on home visit records (i.e., collected via CTFDS) to more closely examine what actually occurs during home visits and relate home visit activities to parent outcomes.
    b. Analyses can take into consideration: topics covered, implementation of curriculum plans (partial to full implementation), other program activities such as referrals for services, status of the child, who was present and who participated.
5. Family- centered analyses:
    a. Analyses that focus on family- and individual-level (i.e., mothers') change over the course of participation in home visiting would provide more direct, precise and informative results regarding the impact of home visiting on the families and individuals served.
    b. Use existing data on families in the home visiting program collected since 1995 to develop appropriate statistical models for investigating the process of change and outcomes experienced by families. Analyses can take into consideration the moderating or mediating effects of the length of time families participate in home visiting (or "exposure to intervention"), exits and re-entries, time-varying covariates (e.g., changes in program policies, site specific changes), site-specific characteristics (e.g., Nurturing Connections at site, hospital vs. clinic vs. community provider), and family-level covariates vs. individual-level covariates (e.g., risk factors).
    c. Once developed, such models offer the opportunity to investigate how the trajectories of families participating in home visiting differ by important subgroups (e.g., those screened prenatally, those identified as "acute status" at entry), and locations (e.g., regionally).
6. Father home visiting services
    a. Develop a qualitative study (interviews, observations) that incorporates the views and experiences of father home visitors and father participants with the research, evaluation and training on father home visiting.
    b. Use what is learned from the study to make modifications or adaptations to the program model/practices and to the supporting organizational infrastructure.

PROGRAM OVERVIEW

Program Goals and Services

The Nurturing Families Network (NFN) is a statewide intensive home visiting program designed to promote positive parenting and reduce incidences of child maltreatment. NFN home visiting services are offered to high-risk, first-time prenatal and postnatal mothers and fathers. Services are initiated at or before the child's birth, and families can continue to receive the services through the first five years of their child's life.

Causes of child abuse and neglect are generally understood within an ecological framework (https://www.childwelfare.gov/topics/preventing/overview/framework/ecological/). Becoming a parent, especially for the first time, is often a pivotal point in an individual's life. For some, this transition can be very difficult, particularly as a parent experiences the new demands of caregiving and related role expectations. Adjusting to becoming a parent is heavily influenced by life circumstances. Parental abuse and neglect has been related to a complex mix of family, child, community, and societal factors. Parent risk factors include being single (without support), low education, young age, depression, substance abuse, and maltreatment as a child. Younger children and children with special needs are more likely to be abused or neglected. Community-level risk factors include neighborhoods with high poverty, violence, and unemployment, and where residents do not feel they have any control or "voice" in what takes place within their communities. At a societal level, factors include norms of familial privacy and non-interference.

Among families who are at high-risk, protective factors related to lower incidences of child abuse and neglect include the following: knowledge of parenting and child development; access to concrete support in times of need; social connections; parental resilience, and social-emotional competence of children (see literature review by Horton, 2003; http://www.cssp.org/reform/strengthening-families/resources/body/LiteratureReview.pdf). Accordingly, the program's mission is to provide parents with information and education on child development and parenting, connect families to services in the community when needed, support parents' development (e.g., education, employment) as well as the child's development (two generation strategy), and build on the family's strengths.

The first step in preventing child abuse and neglect is identifying and recruiting high-risk families. Due to their histories or life circumstances, often including negative or unhelpful experiences with social service systems in the past, targeted families are understandably suspicious of program intervention, feel alienated from mainstream society, and lack trust or hope that anything can make a difference. Home visitors often live in the communities where they work and are familiar with the culture and language of the families in the program. The first objective of the home visitor is to establish a relationship with the family, as this is essential for creating change. The relationship is directed by specific roles (e.g., a combination of baby expert, advocate, and friend). (See process evaluation by Black & Markson, 2001, http://www.ct.gov/oec/lib/oec/familysupport/research/hfc2001.pdf.) The second objective is to develop a plan that draws on the family's strengths, available resources, and the skills of the home visitor. Importantly, home visitors receive weekly one-to-one clinical supervision. The clinical supervisor helps the home visitor develop a fuller understanding of their work with families, and together they consider approaches for engaging and working with individual families, solving problems, and handling crises as they occur. There are four programmatic areas of

focus (also see NFN policy manual http://www.ct.gov/oec/lib/oec/Program_Manual._update.06.2015.pdf) that are targeted in developing plans for working with individual families.

Nurturing Parenting: Improving parenting attitudes and behavior and child development are central focuses of program services, because improvements in these areas are expected to decrease the likelihood of child maltreatment. Using curricula on positive parenting practices, the home visitors bring developmental and educational activities to home visits and provide activities for parents to facilitate learning on their own. The program's "foundational" curriculum, Parents As Teachers, is a nationally recognized, research-based, up-to-date parenting curriculum, found to be predictive of school readiness and third-grade achievement (Zigler, Pfannenstiel, & Seitz, 2008, https://www.ncbi.nlm.nih.gov/pubmed/18404381).

Healthy Families: Home visitors approach families in a holistic manner; the objective is to gain an understanding of family circumstances and help family members connect to community services as needed (i.e., case management support). For example, home visitors work with each family to ensure they are connected to a primary medical care provider and are receiving basic medical care. If needed, home visitors will also help connect families to services to address issues such as domestic violence, substance abuse, or mental illness.

Parent Life Outcomes: Using a two-generational approach, home visitors create opportunities for and address the needs of both the children and their parents together. In many instances, especially in the beginning stages of home visiting services, parents will have immediate and very concrete needs (e.g., food, diapers, transportation). Home visitors also advocate for parents, mediating interactions with social institutions and often help parents negotiate crises, role model assertiveness and persistence, and provide encouragement and ongoing emotional support. Relatedly, home visitors help many mothers and fathers establish and follow through on educational and employment goals.

School Readiness: Home visitors often help parents to understand their role in their child's learning and education (e.g., by helping them to understand the importance of providing a language-rich environment). In addition, because early detection of developmental or behavioral problems have been shown to improve children's long-term outcomes, home visitors use the Ages and Stages Developmental Monitoring Questionnaire (ASQ & ASQ-SE) to screen for developmental or social-emotional delays (http://agesandstages.com/). They not only help families detect developmental difficulties as they emerge, but they also help parents accept these problems and arrange for appropriate treatment and management (e.g., will facilitate a referral for Birth-to-Three assessment services).

Structure and Organization of Program Services

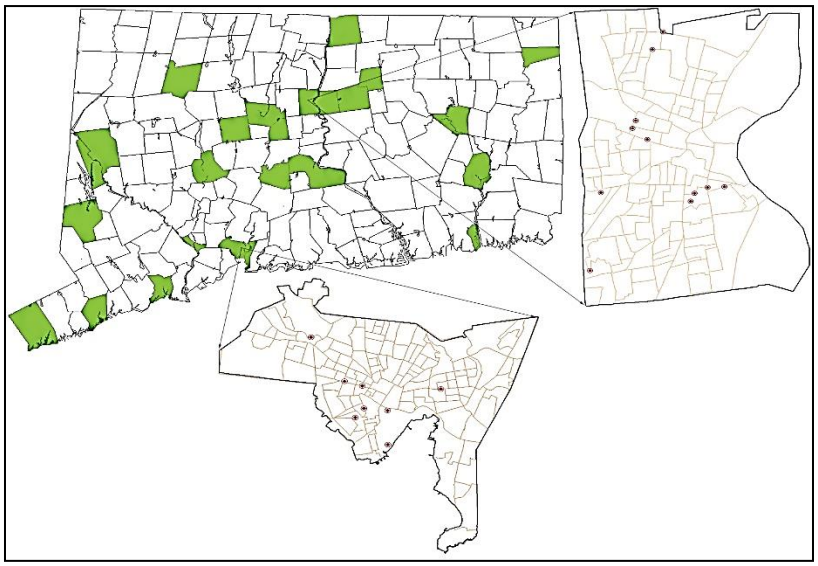
NFN is established statewide with central administration located within Connecticut's Office of Early Childhood (OEC). There are 38 program sites housed within both public and non-profit service centers (from neighborhood-based family resource programs to large hospitals and clinics). In 1999, a program initiative to establish partnerships with all of the state's birthing hospitals was implemented. The purpose of Nurturing Connections (formerly called First Steps) was to create an infrastructure for screening all first-time mothers. In order to complete screenings, the Nurturing Connections coordinator must have access to medical records and to first-time families while they are receiving prenatal services, staying in the hospital, or upon discharge after the birth of their child. Typically, families screened as high risk are referred to home visiting while families screened as low

risk are provided with a packet of parenting information and referred to community services as needed.

Although the home visiting program follows a standardized model, the sites operate in diverse Connecticut communities that are distinctly different in per capita income, poverty level, and population density. In eastern and northwestern towns, many programs operate in rural communities where families face challenges such as lack of public transportation and limited access to resources. Program sites typically have a larger catchment area in these regions spanning across numerous towns. In contrast, in two of the poorest cities in the state, Hartford and New Haven, which are very densely populated, the NFN program expanded the number of sites in an attempt to provide a concentration of services with especially large populations of vulnerable, at-risk families residing in impoverished neighborhoods.

Figure 1 below shows the towns where sites are located (in green). The Hartford and New Haven regions are enlarged to show site locations at the street level. The OEC Family Support Service Division is the lead agency in which program liaisons: 1) Facilitate training on the program model, best practices, and curricula; 2) Provide technical assistance on the day-to-day program operations; and 3) Oversee and monitor program implementation to ensure fidelity to the model. The educational level of home visitors ranges from high school to master's level degree, with the majority holding a bachelor's degree in social services or related fields.

Figure 1. Nurturing Families Network Site locations



**1 site per town, with the exception of Hartford (11), and New Haven (7), and. Waterbury (2).*

Within the first year of hire, home visitors attend 60 hours of hands-on training on the program philosophy, practices, and procedures, 80 hours of training in a Family Development Credentialing program (FDC™), a 16-hour training in anticipatory guidance based on the Touchpoints Model (TouchpointsTM), and three days of training on the prenatal to 3 years Parents as Teachers curriculum. As already noted, home visitors receive weekly clinical supervision.

Clinical supervisors have graduate degrees in the social services field. Reflective supervision addresses issues related to family functioning and dynamics. Clinical supervisors provide feedback to home visitors on what is learned during the initial family assessment, help to identify red flags and adjust strategies as needed, and help home visitor organize thoughts and work with a family over time.

Program Development and Evaluation

Since the model's inception in 1995 as Healthy Families Connecticut, evaluation and research conducted by the Center for Social Research (CSR) have been used to inform and refine program

practices. In 2001, when cumulative research identified practice and policy issues, the parenting curricula, training regime, and supervisory model were significantly improved. Eventually, as changes were made, the Connecticut's Healthy Families Initiative became Connecticut's Nurturing Families Network. In 2002, a Continuous Quality Improvement team was implemented and charged with making policy recommendations that govern the services of the model and provide oversight to program practices. In 2005, the PAT curriculum was adopted across all program sites and all NFN home visitors are now mandated to become certified Parents as Teachers (PAT) parent teachers.

NFN received legislative support to "go to scale" in Hartford in 2005 (the number of program sites were expanded from 2 to 10), and in 2007, the program similarly expanded across the city of New Haven (from 3 to 8 program sites). Together, sites in Hartford and New Haven account for 45% of all program sites, and in 2015, 51% of participants who received home visiting services resided in these two cities. Where relevant, data from these two urban areas are compared with statewide data to better understand differences in family participation or outcomes.

In 2008, via the CQI process, traditional NFN home visiting services were redesigned to be more father-focused, and in 2009, a home visiting pilot program for fathers officially began at five NFN sites. Over the course of two years, 2009 through 2011, Father Home Visiting expanded to 11 sites across Connecticut. In addition, between 2008 and 2009 the Center conducted a series of interviews with 35 fathers of participating children. (See NFN Father Involvement study, Black, Walker, & Keyes, 2010, http://www.ct.gov/oec/lib/oec/familysupport/research/fatherhood_final_report.pdf). Qualitative analysis showed that many fathers, similar to mothers, are struggling with a wide range of problems including any combination of income and resource problems, lack of job opportunities and feelings of emasculation, social exclusion, criminal histories, violent dispositions, parental rejection, and an internalized sense of failure.

Based on what was learned from the study, specialized training is provided to father home visitors that focuses on fathers' beliefs, expectations, and challenges related to being "the provider;" issues of masculinity and control; the quality of relationships with their child and with their partner or ex-partner; and navigating neighborhood violence. In this report, we present data on father participants, including enrollment and retention, demographic data and stress indicators predictive of risk, and data on outcome measures.

From 2009 to 2012, the Center conducted a clinical trial of In-Home Cognitive behavior Therapy for first-time mothers who met criteria for major depression. Group comparisons over time were significantly different: for mothers receiving treatment, self-reported ratings on symptoms of depression were significantly lower at post-treatment compared to the control group. Because of the findings, Medicaid recipients in Connecticut are now able to receive in-home therapy and NFN has built statewide capacity for treating maternal mental health among participants.

In 2013, the NFN program was incorporated under the Family Support Services Division within the newly established Connecticut Office of Early Childhood (OEC), and in 2014, the federally funded Maternal, Infant and Early Childhood Home Visiting (MIECHV) Block Grant, using the same program model, was brought under their central administration. In sum, features of the NFN home visiting program include:

- Targeting a high-risk population and intervening at key points in development (i.e., prenatally or just at or after birth).

- Preventing child abuse and neglect by focusing on strengths-based practice, increasing protective factors (e.g., parenting education, two-generation strategy) and decreasing risk factors (e.g., treatment for mental health, connection to community-based resources).
- A nationally recognized, research-based, up-to-date parenting curriculum, Parents As Teachers, found to be predictive of school readiness and third-grade achievement (Zigler, Pfannenstiel, & Seitz, 2008).
- A home visitor model that emphasizes the central importance of the relationship between the home visitor and the family, as well as the pivotal role of the supervisor in effectively supporting the home visitor.
- Comprehensive training for all program staff and an administrative infrastructure for connecting sites with each other.
- Ongoing evaluation and research since program inception in 1995.
- A Continuous Quality Improvement (CQI) system with a well-developed management information system that provides oversight for programs.

Table 1 presents all active program sites as of 2015 sorted by region. It presents the number of families served since program start date. In addition, in order to capture the general size and capacity of each of the sites, this table also presents the average number of families per year since start year.

Table 1. Number of Families Served at Each Program Site in Connecticut

Program Sites by Region	First Year Services Offered	Total Families Served All Years	Average Number of Families Served per Year Since Start Year
Hartford Region			
Hartford Hospital	1999	Connections & Group services only	
Hartford Healthcare at Home[1]	1995	727	36
Village for Families & Children[2]	2005	245	25
Family Life Education[3]	2005	231	23
Catholic Charities-Asylum Hill	2005	223	22
City of Hartford- MIOP	2005	224	22
Catholic Charities- Southside[2]	2005	209	21
St. Francis Hospital[1]	2000	288	19
Families in Crises	2005	161	16
Catholic Charities- El Centro	2005	123	12
Hispanic Health Council	2005	121	12
New Haven Region			
Yale/New Haven Hospital[1,2]	1998	618	36
So. Central VNA[3]	1996	602	32
Family Centered Services of CT[2]	2006	292	32
Fair Haven[1,2]	2007	254	32
Hill Health (New Haven)/ Cornell Scott[3]	2007 & 2014*	173	25
St. Raphael's Hospital (Merged w. Yale 9/12)	2008	118	25
City of New Haven Health Department[2]	2007	157	20
Children's Community Programs[2]	2007	149	19

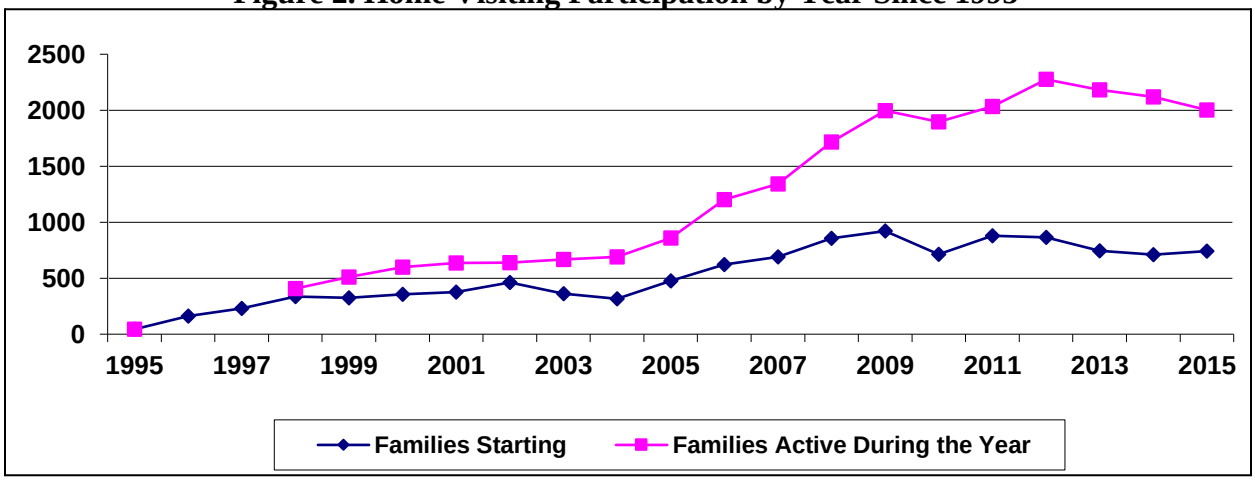
Central Region			
Wellmore (Waterbury)[1]	1995	756	38
Staywell Health Center (Waterbury)	2002	269	21
Community Health Center (Meriden)	2002	231	18
Bristol Hospital (Bristol)	2006	156	17
Hospital of Central Connecticut (New Britain)	2000	231	15
Middlesex Hospital (Middletown)	2002	191	15
UCONN Health Center (Farmington)	2007	94	12
Eastern Region			
ECHN (Manchester)[3]	1996	606	32
Madonna Place (Norwich)[2]	2000	354	24
Generations, Inc. (Willimantic)	1999	323	20
Day Kimball Hospital (Putnam)	2005	190	19
Lawrence & Memorial Hospital (New London)	1998	304	18
Community Health Resources (Enfield, Somers)	2007	131	16
Western Region			
Bridgeport Child Guidance Center (Bridgeport)[3]	1996	683	36
Family Centers (Stamford& Greenwich)	2000 & 2006**	371	26
Family Strides (Torrington)[1,2]	1999	404	25
Families Network of Western CT (Danbury)	1998	385	23
Family & Children's Agency (Norwalk)[1]	2000	279	19
New Milford VNA (New Milford)	2007	79	10
TOTAL		10,952	

[1] Have more home visitors than other sites.
[2] Provide Fatherhood home visiting services.
[3] Covers two hospitals/service areas.
* Site closed in 2011 and reopened in 2014
** Two Family Center sites, Stamford and Greenwich, merged in 2011

As of 2014, the total number of program sites statewide declined from a maximum of 42 to 37 sites due to site mergers and closures. By the end of 2015, 10,952 families had received home visiting services since NFN program inception in 1995. As the table shows, for each region, there is a similarly wide range in the average number of families served site-by-site. For example, in the Western Region, New Milford VNA serves an average of 10 families per year while Bridgeport Child Guidance Center serves and average of 36 families. There is similar diversity in program capacity, as the number of home visitors ranges from 2 to 5 per site.

Figure 2 depicts the number of families who started home visiting during each year since start-up in 1995 through 2015, as well as the number of families active during each calendar year. As NFN expanded across the state (e.g., Hartford and New Haven sites went to scale in 2005 and in 2007), there was a corresponding increase in the number of families starting each year. However, no new sites have been added since 2008, and there have been site closure/mergers. Relatedly the number of families who have started each year from 2011 through 2015 has plateaued. In 2010, there was a decrease or "dip" in the number of families starting. This is attributed to the economic downturn and budgetary uncertainty in the state at that time.

Figure 2. Home Visiting Participation by Year Since 1995



The number of families who were active in a given year (including any who had just entered the program to those who had been receiving services up to 5 years) peaked in 2012 following the dip in 2010. There was also a corresponding increase in rate of retention in 2012, which has remained the same since then.

Screening First-Time Mothers

Each year, there is an estimated 36,000 births among Connecticut residents. Of these births, approximately 15,000 births are to first-time mothers in Connecticut (Connecticut Department of Health, 2016). NFN screens as many first-time mothers as capacity allows.[1] Screening coordinators operate out of all 29 birthing hospitals and several prenatal and community clinics in the state. Other practitioners also make direct referrals (e.g., via Ob-Gyn and WIC offices). Screening coordinators meet with families to introduce the program and related resources. At the same time, families are assessed for program eligibility. The Revised Early Identification (REID) screen is used to determine risk for poor parenting. It consists of 17 items that have been correlated with the increased probablity of child neglect and abuse. A new parent who meets at least one of the following three criteria will receive a "positive" score: Three or more true items on the screen; a history of substance abuse, history of psychiatric care, marital or family problems, history of/current depression, and at least one other true item; or have eight or more items for which the information is not available or is unknown. (See Appendix A for items on the REID screen.)

Since 1999, Nurturing Connections has screened over 85,810 families, of which 35% or 29,843 families were eligible (i.e., high-risk) for home visiting services. As depicted in Figure 16 (see appendix), there has been an increase in screening from 1999 to 2009, with a peak in 2008, corresponding with expansion of the program as above described. In addition, the recruitment process has been refined to ensure face-to-face communication with families. Since 1999, there has been a steady increase in the percentage of families screened at high-risk. This is possibly due to 1) increased

[1] Since 2014, NFN has also screened and recruited a broader population under the Maternal, Infant, and Early Childhood Home Visiting federal grant. In addition to first-time mothers, this grant expands home visiting services to parents of multiple children and parents involved with Department of Children and Families (i.e., child protective services). We report on this recruitment subgroup in the following section.

efficiency and skill at screening, 2) increased awareness community-wide, or 3) change in population.

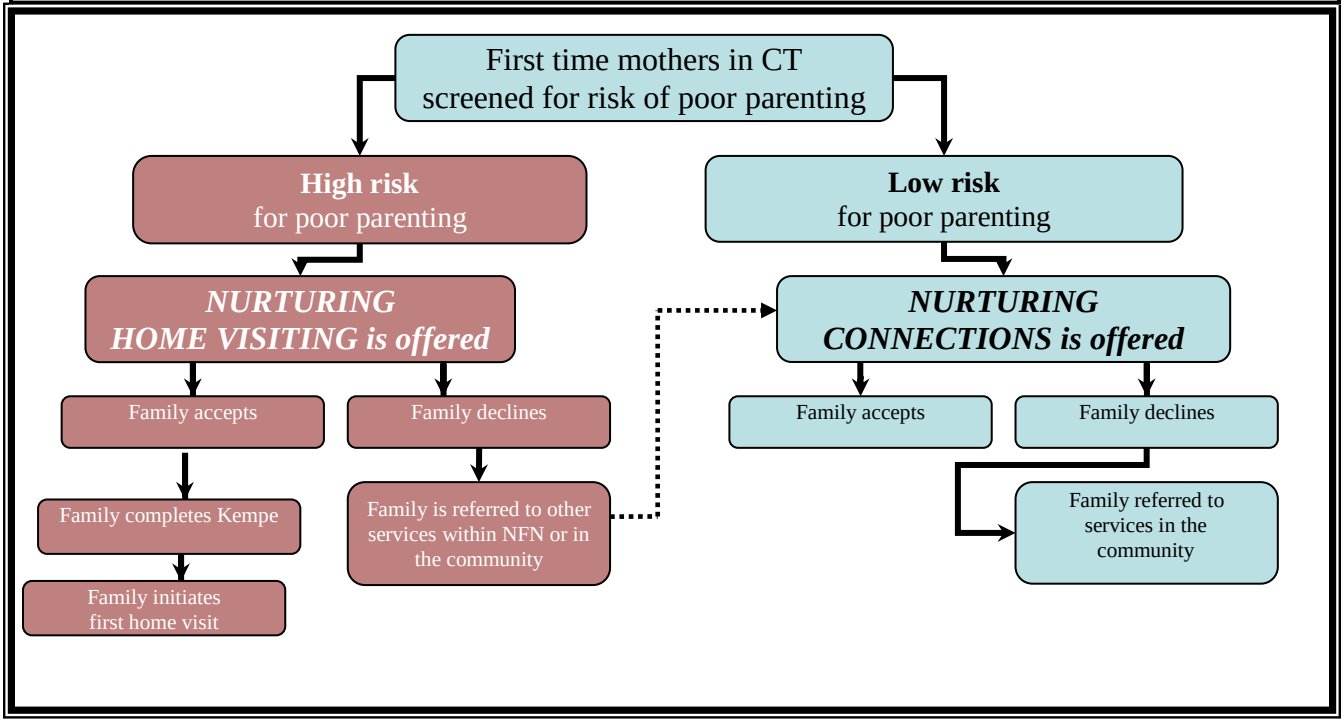
Recruitment and Enrollment

The Nurturing Families Network is designed to provide a continuum of services for families. Figure 3 below illustrates how families enter NFN and the various paths they may follow. All NFN services are voluntary; thus, there are many steps at which families can either refuse services and/ or be referred to other community services. Table 2, below, presents data on screening, recruitment and enrollment for 2015 statewide, as well as for Hartford and New Haven regions separately. Table 15 (in the appendix) presents this information for 2015 and the previous five program years (2010-2015) to provide context and indicate trends in recruitment and enrollment.

Recruiting Low-Risk families into Nurturing Connections

In addition to screening first-time mothers, Nurturing Connections offered a telephone support and referral service to the majority of low-risk families. In 2015, 2,663 (53%) of all families who were screened were identified as low risk, which has decreased considerably since 2010. There have also been noteworthy declines in the number and percentage of low-risk families who were *offered* Nurturing Connections and, of those, in the number and percentage who *accepted* the service (see Table 15 in the appendix).

Figure 3. Nurturing Families Network: *A Statewide System of Care*



Recruiting High-Risk families into Home Visitation

Each stage of engagement towards enrolling high-risk families in home visiting is tracked, including offering the service, family accepting the service, completion of in-home assessment ("Kempe" Family Stress Checklist), and initiating a first home visit. Table 2, therefore, also presents information about the number and percentage of mothers who pass through each stage of enrollment, and where appropriate we compare these findings to those for prior program years. (Table 15 in the appendix presents these data over time, from 2010-2015). Importantly, while the total number of families who have been screened has declined steadily since 2010, the percentage who were identified as high-risk has increased steadily each year (from 34% in 2010 to 47% in 2015), leading to a relatively stable *number* of eligible families during this period. The overall pattern at each stage of enrollment has also remained relatively stable over time. The biggest "drop-off" in the enrollment process occurs at two stages - eligible mothers accepting home visiting services when offered (46%-60% acceptance rate) and mothers completing the in-home Kempe Assessment after accepting home visiting (59%-68% completion rate). Once the Kempe is completed, typically in the parents' homes in a one-on-one meeting, home visitors have an impressive success rate in initiating home visits (92%-98%). The Kempe Assessment covers family history and potentially sensitive topics (described later in this report), which may facilitate a relationship with the family or may serve to self-select those mothers who are willing to initiate home visits.

In 2015, 2,340 mothers (47%) were identified as high-risk on the REID screen, of whom 2,050 (88%) were offered home visiting services, which is a relatively high rate compared to the last five years (see appendix, Table 15). Of those offered NFN home-visiting services, 944 (46%) accepted, which represents a noticeable decrease from previous years in both the percentage and the number of families accepting home visiting. For the following stage, 562 (59%) of those who accepted services subsequently participated in the Kempe assessment, again a decline in the percentage and total number of families compared with previous years. Of those who participated in the Kempe assessment, 526 (94%) initiated home visiting.[2]

Table 2. NFN Screening, Statewide, Hartford, New Haven, 2015

	Statewide	**Hartford**	**New Haven**
Number Identified at Low Risk	**2,663**	**920**	**522**
Offered Nurturing Connections	1459 (55%)	397 (43%)	303 (58%)
Accepted Nurturing Connections	527 (36%)	73 (18%)	80 (26%)
Number Identified as Eligible	**2,340**	**539**	**882**
Offered Home Visiting	2050 (88%)	455 (84%)	845 (96%)
Accepted Home Visiting	944 (46%)	196 (43%)	351 (42%)
Received Kempe Assessment	562 (59%)	135 (69%)	169 (48%)
Initiated Home Visiting	526 (94%)	129 (96%)	154 (91%)

[2] Note that there was an additional 810 parents who were screened and offered services under the Maternal, Infant, and Early Childhood Home Visiting federal grant, which includes a broader population. Of those families, 145 parents accepted and 117 families ultimately enrolled in services.

As shown in Figure 4, however, the overall conversation rate (i.e., the percentage of families who ultimately enter NFN out of the total number of eligible families screened) has declined over the years from 32% in 2011 to 22% in 2015. These conversion rates show the cumulative impact of successfully recruiting parents at each stage of the process described in Table 2. Based on the percentages who pass through each of the stages over time, the decline in overall conversion rates over this period appears to be due to two facts: 1) the pool of eligible families has remained relatively large, while (2) the rates of accepting the program and subsequently completing the Kempe assessment have steadily decreased. Importantly, families who are identified as high-risk but who do not enroll in home visiting are also offered Nurturing Connections phone support, and data for these families is presented in Table 15 (appendix).

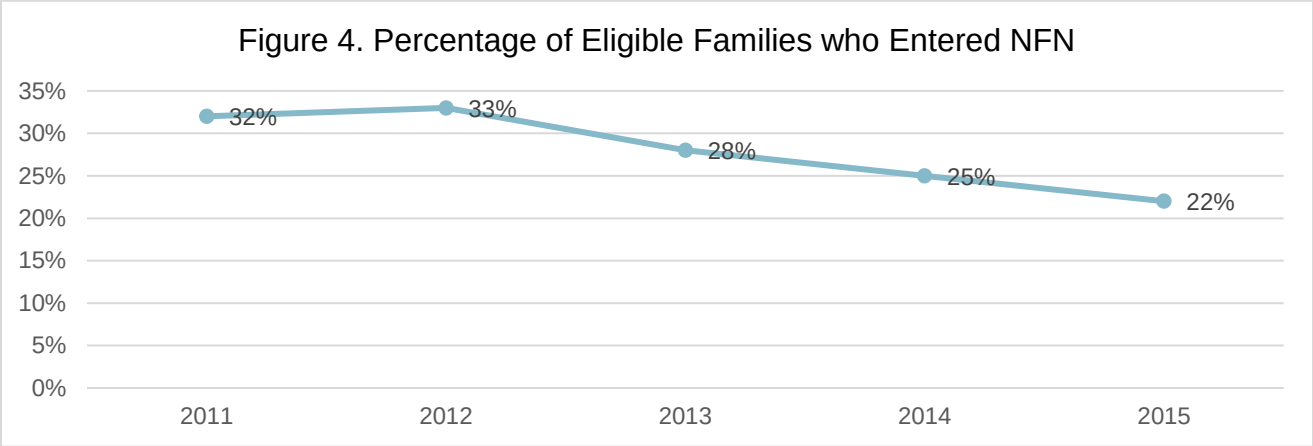


Table 2 also shows recruitment and enrollment rates separately for Hartford and New Haven regions. Compared to statewide, where 88% of eligible families were offered home visiting services, 84% were offered services in Hartford and 96% were offered services in New Haven. One possible reason for these differences may be that New Haven has not yet reached capacity as a region, while Hartford sites regularly screen *beyond* capacity in order to overcome low conversion rates. Other reasons may include differences in staffing or coordination between sites and screening hospitals within the regions. While parent acceptance rates are very similar for the two regions (43% in Hartford and 42% in New Haven), a much higher percentage of those families completed the Kempe assessment in Hartford (69%) than in New Haven (48%). Consistent with the statewide data, once the home visitors engage families in the Kempe assessment, the vast majority initiate home visiting in New Haven (91%) and in Hartford (96%).

Why do some high-risk families not end up enrolling in home visiting? In 2015, 290 eligible parents (i.e., high-risk) were not offered services, and we have data regarding the reasons for 222 of those cases (see Table 16, appendix). The primary recorded reason was that program sites had already met their capacity (34%), whereas for 28% of the cases, screening coordinators were unable to meet face-to-face with the family (e.g., discharged from hospital). For an additional 9%, the family resided outside of the catchment area, and 8%, families were involved in a child protective services case. "Other" reasons families were not offered services (18% of the cases) included such things as infant mortality and families already receiving home visiting or related services, and in the case of prenatal families, delaying visits until the birth of their child. In 2015, 1,124 families refused NFN services

and we have information regarding the reasons for 1,007 of these cases (see Table 17, appendix). As reported, 37% of these parents were unsure if they wanted home visiting, 34% believed they already had enough support, 7% reported that another member of the household did not approve of home visits, and 7% reported they did not have time. Another 19% provided "other" reasons for declining services such as involvement with child protective services, already receiving home visiting/other services, language barriers, or experiencing unstable housing.

Recruiting prenatal mothers

One of NFN's goals is to enroll as many families as possible at the prenatal stage in order to support parents' health early in the pregnancy, and therefore positively affect birth outcomes, and to prepare families for the new child prior to birth. In 2015, 10% of the overall screens were conducted prenatally, slightly higher than the 8% prenatally screened during the previous year. Importantly, data from 2015 (like 2014) suggests that early screening substantially increases the likelihood of a mother enrolling in NFN – 42% of those who ultimately enrolled in 2015 were screened prenatally (similar to the rate of 42% for 2014 enrollees and the rate of 41% for 2013 enrollees). We see a very similar pattern in the effects of prenatal screening on enrollment for the Hartford and New Haven regions analyzed separately. For Hartford, 7% of all screens were conducted prior to the child's birth, while 41% of all enrollees had been screened prenatally. The numbers are even more pronounced for New Haven, where 18% of screens were prenatal, while 61% of mothers who eventually enrolled had been screened prior to their child's birth.

In fact, among those mothers who screened positive on the REID (and were therefore eligible for home visiting) across the entire state in 2015, those who had been screened prenatally were nearly three-and-a-half times more likely to complete their first home visit than those who were screened following birth. Specifically, 54.1% of all high-risk prenatal mothers enrolled compared with only 15.6% of all high-risk postnatal mothers. Non-parametric tests confirm that being screened prenatally (versus postnatally) had a significant, moderate effect on whether eligible mothers actually initiated NFN home visiting ($\chi^2 = 290.07$, $\lambda = .07$, Phi = .352; $p \leq .001$). This effects of prenatal screening on enrollment appears to be even stronger for the urban centers of New Haven and Hartford. For those identified as high risk in the New Haven region, prenatally screened mothers were four times more likely to enroll than those postnatally screened (44% vs. 11%), while in Hartford they were five times more likely to enroll (77% vs. 15%).

These results provide strong evidence that prenatal screening increases the chances that a family will enroll, suggesting that the program may choose to increase prenatal screening in an effort to successfully enroll more parents in the program. In addition, reaching parents prior to the child's birth provides home visitors with the opportunity to affect birth outcomes (e.g., prematurity, low birth weight) and to begin to prepare parents prior to the arrival of their child, desirable effects in and of themselves.

Family Characteristics and Stressors at Program Entry

Within the first month of participation, home visitors interview parents and collect data on family/household characteristics and pregnancy outcomes, as well as assess the parents' history/current experience of stressors through the Kempe assessment. Obtaining personal information serves a dual purpose: First, it functions as a way of establishing a rapport and working relationship with the family (gaining insight into the needs and challenges). Second, the information serves as a baseline for assessing ongoing change over time (e.g., 6 months, 1 year, and so forth).

Table 3 presents demographic characteristics for mothers who enrolled in NFN home visiting in 2015 (including age, marital status, education, and employment), while Table 4 presents information about their households (including financial challenges, use of government assistance, social support/isolation, father involvement, and type of housing). In the following paragraphs, we highlight factors that are either potential sources of stress, and therefore may indicate a heightened need for support services and risk for child maltreatment, or protective factors that represent potential sources of strength to help families cope with and manage those stressors.

Table 3. Mother Characteristics 2015[a]

	State NFN N = 730
Mother's Age at Program Entry	**N = 596**
Under 16 years	3%
16 – 19 years	26%
20 – 22 years	22%
23 – 25 years	16%
26 years and older	33%
Median Age	22 years
Mother's Marital Status	**N= 594**
Single, never married	79%
Married	19%
Divorced, separated, widowed	2%
Mother's Race/ Ethnicity	**N = 546**
African American or Black	13%
Hispanic or Latina	54%
Caucasian	22%
More than one race	1%
Other	10%
Mother's Educational Attainment	**N = 569**
Less than high school	32%
High school degree or GED	21%
Vocational training or some college	28%
College degree or graduate work	19%
Mother Currently Enrolled in School	21%
Mother's Employment Status	**N = 577**
Employed prior to pregnancy	60%
Employed at program entry	31%
Full-time	10%
Part-time/ occasional work/ working more than one job	21%

[a] Differences in N across items are due to missing data for an item

In terms of the characteristics of these newly enrolled mothers, approximately 29% who enrolled in 2015 were teens, and the median age was 22 years old. Furthermore, the majority of mothers (79%) who enrolled were single and never married. Among the enrollees, 32% of mothers had not yet received a high school diploma or GED, and approximately 21% of mothers were currently enrolled in school. With regard to employment, only 31% of mothers were employed at the time of program entry and just 10% of mothers were employed full-time.

In terms of family characteristics, the home visitors reported that 63% of new enrollees were experiencing financial challenges. In terms of government assistance, over 86% of the mothers were receiving some form of aid – 73% of mothers were participating in WIC, 31% of mothers were participating in Supplemental Nutrition Assistance Programs, and another 8% were receiving Temporary Assistance for Needy Families (see Table 18, appendix). With regard to housing, approximately 52% of mothers live with other family members, 34% rent their home, 4% of mothers own their own home, and 3% live in either a homeless shelter, group home or share a home with

strangers. Data on household makeup shows that the maternal grandmother resides with mother in 33% and the biological father resides with the mother in 55% of the households, and in 56% of households, the father is reportedly "very involved," indicating that some families do have filial support networks. Some households, unfortunately, evidence the opposite situation, as home visitors reported that 28% of mothers experienced social isolation, and, in 9% of cases, fathers reportedly had no contact with the baby.

Data on household demographics/characteristics highlight that the program is, in fact, reaching its target population, as well as the reality that home visitors' must balance supporting the basic and social needs of the family while promoting positive parenting and child development education.

Table 4. Household Characteristics 2015[a]

	N = 594
Financial Difficulties	63%
Social Isolation	28%
Arrest History	15%
Receiving Gov. Assistance	86%
Living in Household	**N = 563**
Maternal Grandmother	33%
Father	55%
Type of Housing	**N = 543**
Home owned/ rented by parent	39%
Shared home with other family members	52%
Shared home with friends	3%
Shared home with strangers	1%
Homeless shelter/ Group home/ treatment center	2%
Other	3%
Father's Involvement with Child	**N = 466**
Not applicable (prenatal)	26%
Very involved	56%
Somewhat or occasionally involved	8%
Very rarely Involved	2%
Does not see baby at all	9%

[a] Differences in N across items are due to missing data for an item

While the statewide data offers insight on the entire population, data on Hartford and New Haven regions illuminates the extent to which these regions are unique (see Table 18, appendix). On the one hand, the age distribution of participants is similar across the regions, and the proportion of single, never married mothers was only slightly higher in Hartford (84%) than New Haven (80%), with both just above the statewide average (79%).

On the other hand, data on race/ethnicity show distinct differences between these two regions and the program statewide. First, 80% of mothers enrolling in Hartford and 55% of mothers enrolling New Haven home visiting were Hispanic/Latina, compared to 54% statewide. Second, 10% of mothers enrolling in Hartford and 24% of mothers enrolling in New Haven were African American or Black, compared to 13% statewide. Finally, 8% of Hartford mothers and 12% of New Haven mothers were white, compared to 22% of mothers statewide. Education and employment at program entry also show possible differences between the populations served. Specifically, 36% of mothers in Hartford had less than a high school education compared to 30% of mothers in New Haven and 32% of mothers statewide, while 28% of mothers in Hartford were employed at program entry compared to 32% of mothers in New Haven and 31% statewide.

In terms of household characteristics, home visitors documented that 73% of mothers in Hartford were experiencing financial difficulties at entry, compared to 67% of mothers in New Haven and 63% of mothers statewide. Interestingly, of the mothers entering NFN in Hartford, 76% were already receiving WIC and 48% were receiving Food Stamps, compared to lower rates in New Haven (69% and 29%, respectively) and statewide (73% and 31% respectively).

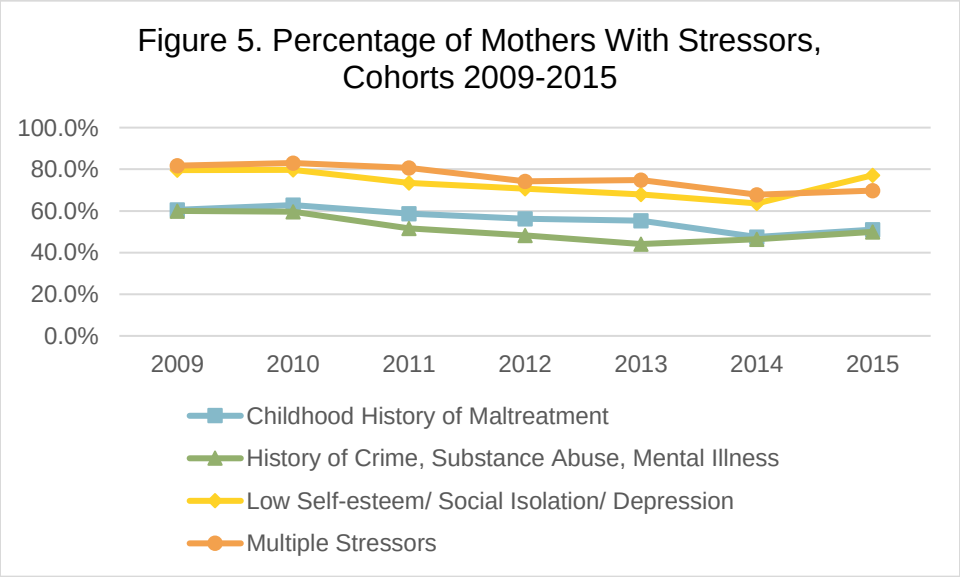
Finally, there is evidence that mothers in these two urban centers have less familial support, at least within their households, than is typical of participants statewide. For instance, 23% of mothers enrolling in the Hartford region and 28% of mothers enrolling in the New Haven region lived with

their own mothers (i.e., the child's maternal grandmother), which is much lower than the rate statewide (33%). Similarly, the percentage of fathers who live in participating households in Hartford (32%) and New Haven (41%) are dramatically lower than the statewide rates (55%).

In sum, comparing these two large urban regions with statewide data, mothers served in Hartford are disproportionately Hispanic/ Latina while mothers served in New Haven are disproportionately African American or Black. While mothers from all regions face significant social and economic disadvantages, mothers enrolling in Hartford sites face substantially greater disadvantages in that they are less educated, less likely to be employed, more likely to face financial difficulties and to receive government assistance, and less likely to live in the household with the baby's father or their own mother. These differences highlight that NFN serves a rather diverse population and this diversity means that, in the least, home visitors in the different regions must tackle distinct barriers and problems and therefore provide different types of support for the mothers with whom they work.

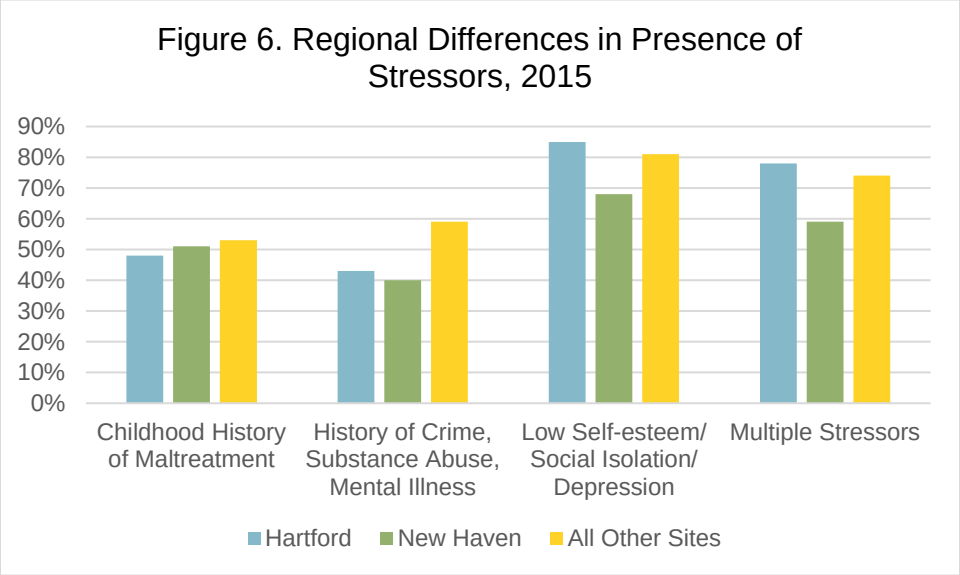
Stress Profiles Predictive of Risk

The Kempe Family Stress Checklist, administered through a semi-structured interview prior to program enrollment, is one of the most widely used assessments for risk of child maltreatment. It covers ten areas: Childhood History of Maltreatment; History of Crime, Substance Abuse, Mental Illness; CPS (Child Protective Services) History; Low Self-esteem, Isolation, or Depression; Multiple Stresses; Potential for Violence; Unrealistic Negative Expectation of Child; Harsh Punishment (or beliefs in harsh punishment); Negative Perception of Child; and Child Unwanted or at Risk of Poor Bonding. Moreover, research has shown that for families who experience two or more factors, there is cumulative risk (Appleyard, Egeland, van Dulmen, & Sroufe, 2005). Over 81% of mothers participating in NFN since 2009 had experienced at least two of the above risk factors (at moderate to severe levels), with an average of four across all families. Figure 5 presents the percentage of families entering each year since 2009 with severe or moderate levels of each of the four most common items (see Tables 19-21 in the appendix for full details).



As indicated in Figure 5, there has been a consistently high rate of mothers experiencing overlapping risk factors. For each of the past seven program years, more than 67% of mothers (and as many as 83%) experienced multiple and significant stressors in their lives, often related to financial challenges. Over 64% of mothers (and as many as 80%) indicated they experience low self-esteem, social isolation and depression. At least 50% (and as many as 60%) of mothers had at least some childhood history of abuse or neglect, and over 44% (and as many as 60%) were noted as having a history of crime, substance abuse, or mental illness. The results of the Kempe indicate that the program identifies, recruits, and serves a population of parents who experience a tremendous degree of stress, and therefore who are at risk of maltreatment.

Figure 6 shows the regional findings for each of the four main items associated with risk for child maltreatment, comparing Hartford, New Haven, and all other sites.

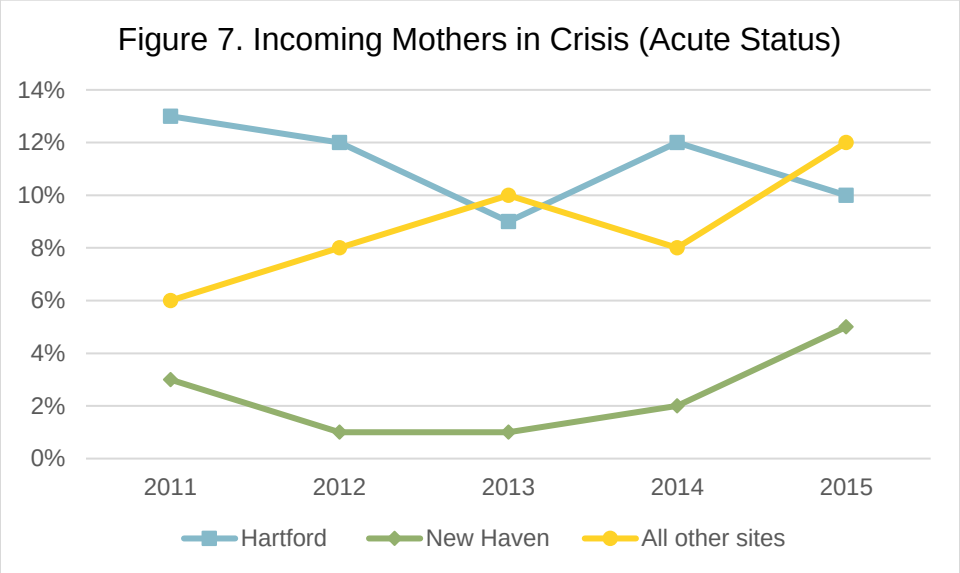


Whereas the percentage of enrolling mothers who had experienced maltreatment as a child is relatively constant across all regions of Connecticut (ranging from 48% to 53%, no significant differences), Figure 6 shows some regional variation in the other stressors. For instance, while 40% of New Haven mothers and 43% of Hartford mothers have a History of Crime, Substance Abuse, and/or Mental Illness, 59% of mothers from Western/ Central/ Eastern regions had such a history, and this difference is statistically significant ($p<.001$). In contrast, 85% of mothers from Hartford and 81% of mothers from Western/ Central/ Eastern regions enter the program experiencing Low Self-Esteem, Social Isolation, and/or Depression, which is significantly higher than the 68% of New Haven mothers. ($p<.01$). Lastly, 74% of mothers from the Western/ Central/ Eastern regions and 78% of mothers from Hartford mothers entered the program experiencing multiple stressors, while a significantly lower 59% of mothers from New Haven did ($p<.001$). In sum, these data indicate that NFN families confront a multitude of stressors of varying magnitudes that also vary by region of the state, indicating that home visitors are required to adapt or modify support strategies to meet a wide variety of needs unique to the families and communities they serve.

Families with Acute Stress

A subgroup of families within the population of high-risk families enter the program experiencing particularly "acute" levels of stress. According to NFN policy, families are documented as acute status when it is determined, through conversation or observation, that one or both parents are experiencing problems related to mental health, substance abuse, or interpersonal violence. When a family is experiencing acute stress, the clinical supervisor and home visitor attempt to link the family to appropriate services (e.g., In-Home Cognitive Behavioral Therapy) and, based on the family's progress over time, determine if the family is still appropriate for home visiting or is in need of more comprehensive or targeted services.

In 2015, 10% of entering families were experiencing acute stress. This is higher than the 8% of families entering with acute stress for the previous two years and on average over the past five years. At program entry, acute mental health problems were noted most often, followed by substance abuse, and finally interpersonal violence. Figure 7 shows the percentage of families experiencing acute stress when they enter home visiting for the past five years separately for Hartford, New Haven, and Western/ Central/ Eastern regions. Comparing across regions, the percentage of mothers experiencing acute stress (at program entry) in 2015 was lower in New Haven (6%) than in Hartford (10%) and in all other sites (12%). However, the percentage of all families who received home visits in 2015, which includes those who continued services from prior years as well as new enrollees (n=2,001), who experienced acute stress at some point during the 2015 program year is similar across regions – 7.3% (n=37) in Hartford, 7.1% (n=37) in New Haven, and 7.5% (n=150) statewide.



Over the course of five years, Hartford has shown a relatively high percentage of families enrolling with acute stress, ranging between 9% and 13%. New Haven has substantially fewer mothers enrolling with acute stress, ranging between 1% and 6%, while all other sites are somewhere between New Haven and Hartford (ranging between 6% and 12%). On average over the five years,

2% of New Haven mothers enrolled with acute stress, compared to an average of 11% of Hartford mothers and 9% of mothers from all other sites.

Pregnancy and Birth Outcomes

Home visitors record maternal health behaviors during pregnancy, including cigarette smoking, alcohol use, and other substance use. From 2011 to 2015, the rate of cigarette smoking during pregnancy has ranged from 5% to 10%, the rate of alcohol consumption during pregnancy has ranged from 2-4%, and illicit drug use held steady at approximately 5% annually (see Table 22 in appendix).

Mothers whose babies were born prematurely, with low-birth weight, or with serious medical concerns face additional challenges and stress, potentially requiring additional support and services (see Table 22 in appendix for detailed birth outcome data from 2011-2015). Table 5 presents data on birth outcomes for mothers who enrolled in 2015 statewide as well as separated for Hartford and New Haven regions. Twelve percent of births were premature in 2015, which is slightly above the rate of 10.5% for the state of CT (Connecticut Vital Statistics Report, 2007) and is consistent with prior years. In addition, 10% had low birth weight, which is slightly higher than the rate of 8.0% for the general population of the state (Connecticut Office of Vital Statistics, 2008-2010) and is consistent with 2014 rates (9%) in NFN. The 2015 rate is, however, a decrease from the rates reported in 2012 and 2013 (14% and 16%, respectively). Additionally 15% of children were born with serious medical problems in 2015, which is slightly higher than prior years for mothers enrolling in NFN.

Table 5. Mothers' Pregnancy & Birth Information, 2015

	2015 Statewide	Hartford	New Haven
Pregnancy and Birth Outcomes	***N = 535***	***N = 98***	***N = 175***
Mother's Risk behaviors during pregnancy			
Smoked Cigarettes	5%	2%	3%
Drank alcohol	3%	2%	1%
Used illicit drugs	5%	3%	3%
Birth Outcomes			
Premature Birth (before 37 weeks gestation)	12%	18%	4%
Low Birth Weight (under 5lbs 8oz)	10%	14%	7%
Born with serious medical problems	15%	16%	13%
Child has a Pediatrician	96%	90%	99%

The rates of cigarette smoking, alcohol consumption, and drug use during pregnancy in Hartford and New Haven regions are less than statewide. However, there was a much higher percentage of premature births in Hartford NFN (18%) compared to NFN statewide (12%) and especially compared to New Haven (4%). The Hartford rate is also well above the rate in the Connecticut population overall (10.5%). There was also a sizable difference between rates of children born with low birth weight in Hartford (14%) compared to statewide (10%) and New Haven (7%). These data further indicate areas where home visitors are required to adapt or modify support strategies as needed, in particular in Hartford.

Home Visiting Activity

NFN home visitors meet regularly with mothers (roughly two times each month) to provide parenting education using the evidence-based PAT curriculum, social and emotional support, and assistance in connecting to and utilizing resources. Table 6 depicts the number of families that participated in NFN each year from 2011 through 2015, as well as the average number of completed home visits per family and the rates of various activities occurring during those visits.

Table 6. Home Visiting Activity, Statewide 2011 – 2015

	2011	2012	2013	2014	2015
Number of families served in NFN	2034	2275	2181	2118	2001
Average number of completed home visits per family per month	2.2	2.3	2.2	2.0	2.0
Percentage of ASQ Screens administered to primary child	57%	65%	63%	60%	76%
Percentage with up-to-date well-child visits for primary child	96%	96%	95%	93%	95%
Percentage of parents receiving Shaken Baby Prevention material in home visits	41%	44%	42%	36%	55%
Percentage of families provided education on the hazards of smoking	23%	22%	19%	19%	22%

A total of 2,001 families received home visiting services in 2015. The majority of services take place in the home and, on average, families received 2 home visits per month. The rate of completed home visits per family had remained stable at around 2.2 visits per month from 2011-2013 (and in years prior), but then it significantly decreased to 2.0 in 2014 where it remained for 2015. This decline is attributed to policy change: Previously "seasoned" or trained home visitors had been required to complete 12 to 15 visits per week but, in 2014, the required number of weekly visits was reduced to 10 to 12. However, the policy change was not meant to reduce the number of families per home visitor (i.e., caseloads), so while home visitors may have the same number of families on their caseload, they have decreased the number of home visits per week, necessarily adjusting the frequency of home visits per family based on need. In terms of regional variation, the average number of home visits per family in Hartford in 2015 was 2.1, similar to the statewide average, while New Haven did not reach the expected two visit-per-month quota, completing an average of 1.8 home visits per family per month (see Table 23 in the appendix).

While meeting with parents in their homes, NFN home visitors attempt to screen all children from in the household who are 2 months through five years for developmental delays, using the Ages and Stages Child Development Questionnaire (ASQ). Of the children who were the primary focus of NFN home visiting services in 2015 (i.e., the "target child"), 76% were screened at least once during the year using the ASQ, and this rate has increased from 57% in 2011 (see Table 25 in the appendix for full details). Of these children, 59 (4.6%) were identified as having a potential delay, and 16 of these children were referred to the Birth-to-Three program for follow up assessment. Furthermore, developmental screens were administered for an additional 1,424 children present in the home (e.g., 2nd or 3rd born). Overall, an average of 3,911 screens were administered over the past five years (i.e., includes repeat screens administered at regularly prescribed intervals). In addition to assisting in the

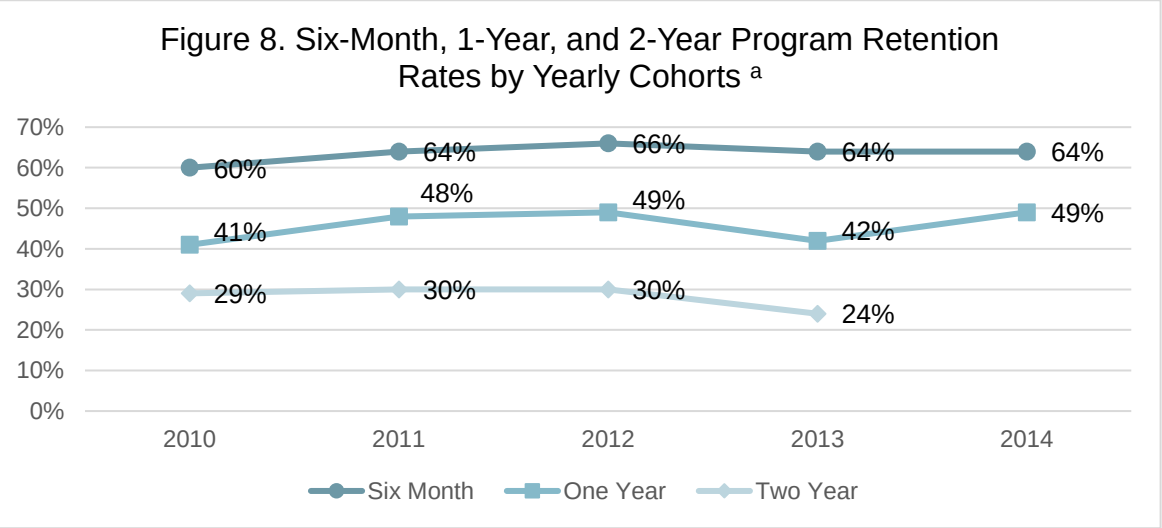
early identification of children with potential developmental challenges, ASQ screening provides home visitors with a means for initiating meaningful discussions with parents about age-specific expectations for the development of their child, which is a beneficial outcome in and of itself.

Home visitors are also responsible for documenting whether children are up-to-date with their immunizations (typically received during well-child visits), and in 2015, 95% of participating children were current with their immunizations. Home visitors also provide supplemental educational materials to parents on such topics as Shaken Baby Syndrome Prevention and smoking cessation as needed. In 2015, home visitors reported that they provided information on Shaken Baby Syndrome Prevention to 55% and smoking cessation to 22% of families.

Program Retention

Program retention rates show the length of time mothers are engaged with the program. Figure 8 displays six-month, one-year, and two-year retention rates shown by the year families enrolled in the program (i.e., "cohorts").

Figure 8. Six-Month, 1-Year, and 2-Year Program Retention Rates by Yearly Cohorts [a]



[a] Retention is based on time spent in the program from the initial start date. For re-enrollees, the initial start date is still used but the length of involvement is recalculated so that any "inactive" time is not included.

Overall, retention rates at all three time points (6 months, 1 year, and 2 years) have fluctuated only slightly over the past five years. For families who entered the program in 2014 (and thus have had the opportunity to be enrolled in the program for at least one year at the time of this report), 64% remained in the program for at least six months and 49% remained in the program at least one year. Two-year retention rates decreased in the 2013 cohort compared to those who enrolled in 2010 through 2012. Overall, there was a dip in retention at six months, one year, and two years for the 2013 cohort, and a relatively consistent rate for the 2014 cohort compared to the 2011 and 2012 cohort. It is important to keep in mind that these changes in retention rates may reflect random fluctuations, and so we caution against over-interpretation.

Retention rates for Hartford and New Haven regions are presented in the appendix, Figures 15 16. Six-month, one-year, and two-year retention rates for the Hartford region have remained steady

over the past 5 years hovering at about 64% for six months, 48% for one year, and 27% for two years, which is comparable to the statewide rates. For the New Haven region, there is much more fluctuation from year to year and the rates are less consistent with statewide rates. Between 54% and 68% of families remained in the program for at least six months with 33% to 54% of families involved in the program for at least one year. Since 2010, the two-year retention rate increased from 23% to 32% in the New Haven region.

For all families who have had the opportunity to be in the program for five years (1995-2010), the average length of involvement statewide is approximately 21.4 months, while the median length of involvement is approximately 11.8 months. For families served in Hartford region, the average length of involvement for all those who had the opportunity to be in the program for 5 years is approximately 23 months, and the median length of involvement is approximately 12 months. Finally, in New Haven region, the average length of involvement is approximately 19 months, and the median length of involvement is approximately 10 months, both slightly lower than the statewide averages.

The more time home visitors spend with families, the more opportunities they have to make a positive impact. When a family misses a schedule appointment, the home visitor will attempt to re-engage the family. Typically, the home visitor will attempt to contact the family by phone, mail, and unannounced visit to the home. Following the third attempt or after a total of six weeks without a completed home visits, the case is closed and we treat the family as having "exited" home visiting. However, the family may re-enroll in the program at any time until the child is five years of age. As home visitors build relationships with and help families achieve their goals, families will occasionally leave, but return to the program. Since 2010, approximately 6% of families left the program and returned for services at least one time, while less than 1% of families exited and returned a second or a third time.

Despite efforts to retain families through the child's fifth year, some families leave the program after meeting their goals while some drop out and do not return to home visiting. For the past five years, there has been minimal variation in rates at which families exit the program for various reasons (see Table 26 in the appendix for full details). For instance, between 10% and 15% of families graduated from NFN or stopped receiving home visits because they met their personal goals. During this period, 13 to 19% families decided to leave the program for unspecified reasons, while 9% to 14% of families said they had no time for home visits due to work and school commitments. Twelve to 16% moved out of the catchment area and, for another 29% to 33% of the cases, home visitors were unable to locate the families (e.g., due to transitory nature of the population). Over the course of five years, only 1% to 2% of families were withdrawn from NFN services because they became involved in a Child Protective Services investigation.

Outcomes: Change in Mothers' Life Circumstances, 2009-2015

Home visitors complete a questionnaire measuring the mother's life circumstances at entry, after 6 months, and then on their anniversary every year (up to 5 years). By tracking this data for each mother over the course of participation in the program, we can assess the effects of the program on one of the primary outcomes it attempts to improve – parents' life-outcomes. Importantly, the change in percentage of employed mothers provides an estimate of the impact of the program, as well as the probability of change for an average participant, although the experiences of specific individuals vary.

Have Mothers' Life Circumstances Improved after One Year of Home Visits?

Table 7 presents data regarding changes in education, employment, financial difficulties, and receipt of government assistance for mothers who completed at least one year for all sites statewide and separately for Hartford and New Haven regions. We test change between entry and the one-year time-point using the nonparametric Cochran Q Test.

Table 7. Percentage Point Change in Mother's Life Circumstances after One Year, 2009-2015

Mothers who participated for at least 1 year and were…	**Statewide (n = 1439)**	**Hartford (n = 304)**	**New Haven (n = 320)**
A high school/GED graduate or higher	6%***	8%***	0%
Employed	14%***	14%***	12%***
Employed full-time	5%***	6%**	3%
Experiencing financial difficulties	0%	7%	1%[a]
Receiving government assistance	4%***	3%	8%***

[a] All percentages reflect an *increase* with the exception of the percentage reported in this cell, which reflects a decrease.

Analyses show that mothers experienced significant improvements in most aspects of education and employment after 1 year of participation. Specifically, the percentage of mothers who graduated from high school or obtained a GED significantly increased after one year in the program for the state as a whole and for the Hartford region (6% and 8% respectively), but did not increase for the New Haven region as a whole. Additionally, the percentage of mothers who were employed significantly increased after one year in the program for the state as a whole, as well as for both Hartford and New Haven regions.

While financial difficulties are a source of stress for parents, even those who are somewhat financially stable are economically vulnerable and need some assistance to provide for their families. Therefore, whereas one might expect effective home visiting to correspond to a decrease in financial difficulties as home visitors educate and support parents in making sound financial decisions and in locating and connecting to community resources, one might also expect the utilization of government assistance programs to increase for these very same reasons. In fact, families learn about available government assistance programs, such as WIC, TANF, and SNAP, at the start of their program involvement, as staff help to reduce stigma and promote health, safety, and stability. Based on the data presented in Table 7, the percentage of mothers who were receiving government assistance increased significantly across all sites statewide and in the New Haven region, but not within the Hartford region. The percentage of those reportedly experiencing financial difficulties was not consistently or significantly lower after a year of home visiting, although clearly many factors affect financial matters of families outside of home visiting's sphere of influence.

These findings are important in documenting the success of the NFN program's two-generation focus, even though there are clearly forces other than participation in the home visiting that affect mothers educational, occupational, and financial outcomes. For instance, it seems only reasonable to expect that, in general, the longer mothers are in the program, the more likely they are to (return to) work or to continue their education, because their child is simultaneously getting older and is more likely to attend daycare. However, given that home visitors often provide intensive support and role-modeling for mothers' own personal development, which recall is one of the main goals targeted by the program model, it is very likely that home visitors' support contributes to these gains. In the least, these indicators reflect how parents' life circumstances change, and therefore how the nature of the support provided by home visitors changes, during the course of program involvement.

Outcomes: Change in Parenting Attitudes, 2009-2015

The Child Abuse Potential Inventory (CAPI) is a standardized self-report instrument that was designed to measure a parent's potential to abuse or neglect a child, and has been used by Child Protective Services agencies to determine if a more intensive (and intrusive) investigation into potential abuse and neglect is warranted (Milner, 1986). We use the Rigidity Subscale of the CAPI (i.e., CAPI-R) to assess changes in rigid parenting attitudes from entry to 6 months, 1 year and each consecutive year of family participation. The subscale is based on the theoretical assumption that rigid attitudes and beliefs lead to a greater probability of child abuse and neglect; mothers who have less rigid expectations of their children are less likely to treat their children forcefully. The average score for a normative population (i.e., parents who have not been investigated for child maltreatment) on the CAPI-R is 10.1, with a standard deviation of 12.5. The cut-off score on the CAPI-R is 30, with higher scores indicating an elevated risk for child maltreatment and poor parenting. For the purposes of this report, we analyze changes in mothers' CAPI-R scores after one year of home visiting in a pre-post design to assess the effects of program participation. A significant decrease on the Rigidity subscale would indicate that mothers are less likely to feel that their children should, for example, *always* be neat, orderly, and obedient. We also use average change in CAPI-R scores to assess the overall impact of the program in terms of meeting the *nurturing parenting* outcomes, and analyze trends at the program level and potential variation across regions.

In 2015, NFN mothers entered the program with an average score of 25.33 (N=590), more than one standard deviation above the normative mean (10.1). Moreover, while 37.5% of the 2015 NFN cohort were at or above the cut-off of 30 points at program entry, only 5% of the normative population (i.e., those who have never been investigated for abuse or neglect) scores at or above the cut-off. These findings indicate that the mothers who enrolled in NFN in 2015 held very rigid parenting attitudes were therefore at an elevated risk for child maltreatment – the program reached its target population.

Have Mothers' Parenting Attitudes become Less Rigid after Receiving Home Visits?

In Table 8, we divide mothers who participated in home visiting between 2009 and 2015 into 6 independent "time-point groups" based on the length of their involvement in the program (i.e., those that completed 6 months, 1 year, 2 years, and so forth). For instance, mothers who completed entry, 6 month and 1 year measures but none after 1 year would only be included in the "1 year" time-point group. Table 8 presents the average CAPI-R scores for mothers when they entered the program, at the last time-point for which they completed the measure, the difference between these means, and standard deviation for this difference. To answer this first question, as shown in Table 8, participants showed significant improvements at all five time-points (consistent with past annual reports), demonstrating that the program has the desired effect in terms of fostering nurturing parenting. Moreover, these results demonstrate that even those who only participated for 6 months had significantly less rigid parenting attitudes after receiving home visits, indicating that keeping families in the program for even a modest amount produces important benefits.

Table 8. Change in Rigid Parenting Attitudes, 2009 – 2015

Time-Point Group	N	Mean at Entry	Mean at Time-Point	Mean Difference	Standard Deviation
6 Month	559	28.2	22.4	5.8***	15.0
1 Year	677	26.8	20.7	6.1***	14.9
2 Year	336	28.6	19.1	9.4***	16.5
3 Year	389	26.3	18.0	8.8***	14.0
4 Year	141	24.3	15.5	8.8***	17.5
5 Year	64	30.8	18.3	12.5***	22.1

* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001 (pairwise t-test).

[a] Six-month Time-Point collected at Hartford and New Haven sites from 2009-2012 and collected across all sites beginning in 2013.

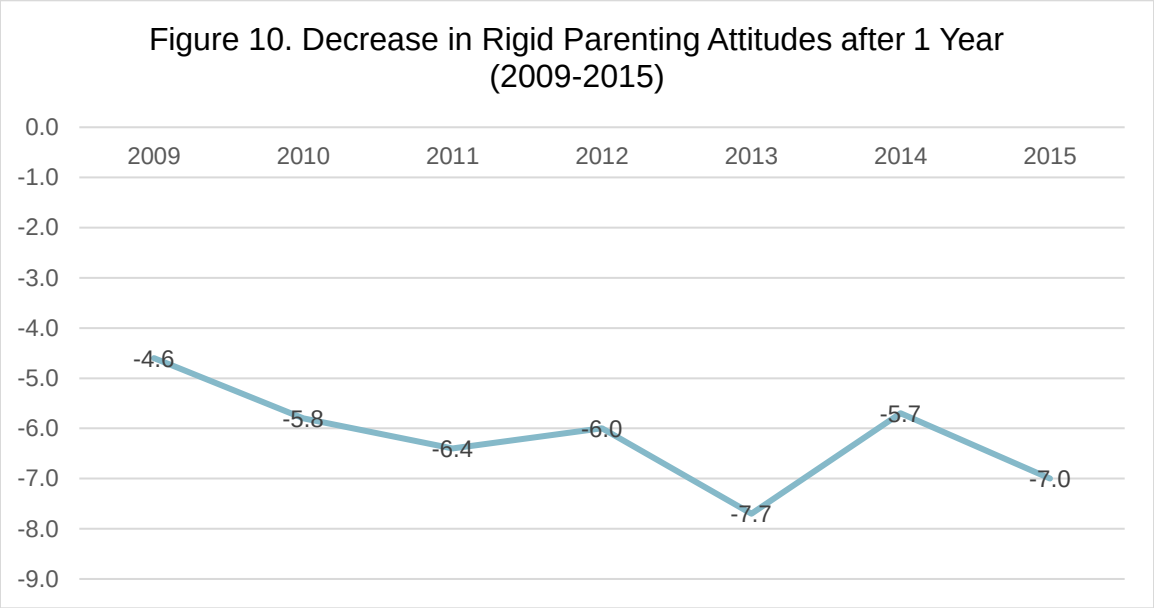
Does Change in Mothers' Parenting Attitudes Depend on How Long They Have Been Receiving Home Visits?

Because Table 8 presents change in CAPI-R scores for independent groups based on the length of their participation in the program, the findings provide insight into the different effects of different lengths of participation. That is, they can address the question – does it matter how long mothers stay in the program? Based on repeated measures analysis of variance for the data in Table 8, there is clear evidence that (a) participation in the program significantly and moderately reduces rigid parenting attitudes, regardless of the length of time in the program ($F = 342.79$, $p<.001$, $\eta^2 = .137$); (b) the longer mothers stay in the program *generally*, but not uniformly and only weakly, is associated with greater reductions in rigidity ($F = 5.166$, $p<.001$, $\eta^2 = .012$); and (c) mothers who stay in the program for different lengths of time appear to be significantly different in terms of their rigidity, independent of how much they change ($F = 4.389$, $p<.001$, $\eta^2 = .010$). In other words, the program has the intended effect in terms of the nurturing parenting goals, generally has more impact the longer mothers stay in the program, and mothers who stay in the program longer are less rigid (on their own) than mothers who stay in for less time. This interpretation is supported by the fact that CAPI-R scores at entry differed significantly across the time-point groups ($F = 2.727$, $p = 018$), although this is not a

linear effect. Overall, this analysis provides evidence of both causal and selection effects on this outcome measure.

Are There Trends in the Program's Effects from 2009-2015?

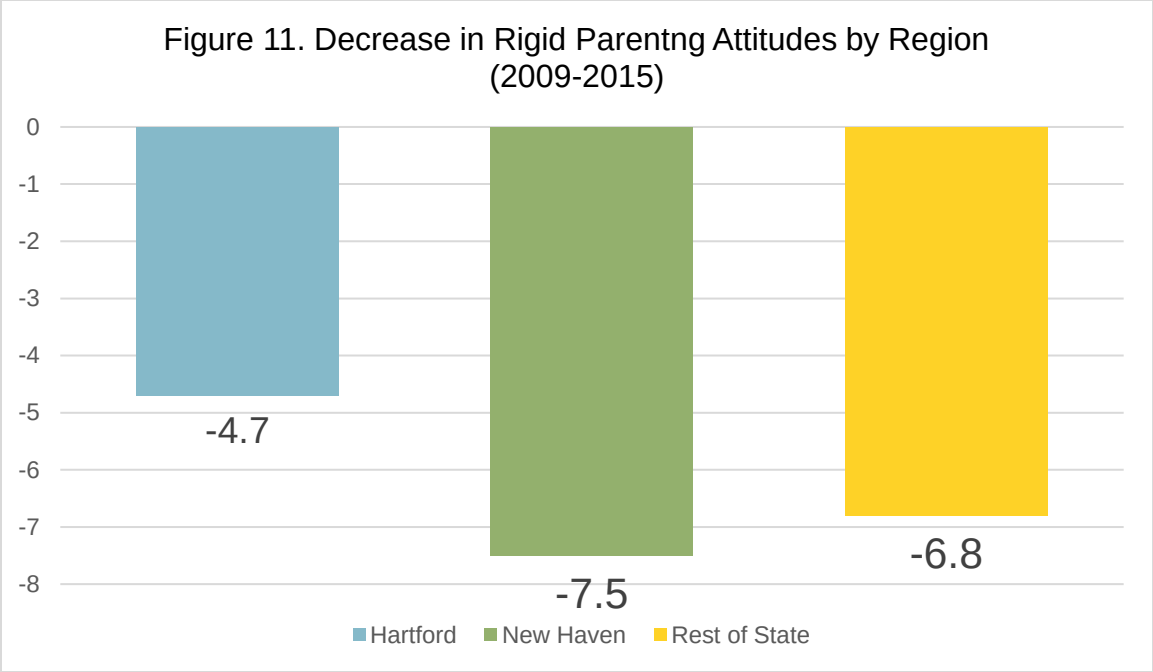
In Figure 10, we present 1-year change scores on the Child Abuse Potential Inventory-Rigidity subscale (CAPI-R) for each cohort of mothers who began receiving home visits each year between 2009 and 2015. As such, trends in these scores tracks the *performance of the program over time*, and allows us to use past performance as a baseline by which to evaluate the degree of current performance. The more negative the score from program entry to one year, the more substantial the reduction in rigidity, which is the goal of the program.



For the previous 7 years, on average the score significantly decreased from 26.9 at entry to 20.6 after one year (-6.3 points from entry to year one across 7 years, $p<.001$). It is noteworthy that the average score after one year of home visits falls within the normative range for this instrument (i.e., within one standard deviation from the mean of 10.1 for the normative population). Furthermore, Figure 10 shows that each year, the program is having a significant positive effect on mothers' parenting attitudes. Moreover, the trend in change scores has improved over time, such that the reduction has generally gotten bigger from 2009 (-4.6) to 2015 (-7.0). Based on this evidence, it appears that the program may be becoming more effective in terms of nurturing parenting outcomes.

Do the Effects on Rigid Parenting Attitudes Differ by Region?

In Figure 11, we compare Hartford, New Haven, and Western/ Central/ Eastern regions on the aggregate 1-year change score for the CAPI-R from 2009 to 2015. The lower the score from program entry to one year, the more substantial the change in rigid parenting attitudes (and the lower the bar in the graph).



First, based on this data, all regions significantly improved in terms of rigid parenting attitudes as measured by the CAPI-R. Second, while it appears that New Haven mothers improved more than mothers in other regions, this is not a statistically significant difference and may therefore simply reflect random error. Moreover, analysis of change scores for different lengths of involvement (e.g., 6 months, 1 year) show contradictory patterns to those for 1 year change scores (e.g., New Haven mothers improved less than others after 6 months). Given these equivocal results, we conclude that no matter the risk level or other factors associated with the region, families are making progress in an important area that program services are attempting to improve – nurturing parenting. This is important given that we found systematic regional differences in stress profiles, acute status, birth outcomes, and education at program entry, such that mothers in New Haven, while still at high risk, were overall less high-risk than mothers in the other regions.

Outcomes: Change in Utilization of Community Resources, 2009-2015

The Community Life Skills (CLS) scale is a standardized self-report instrument that measures knowledge and use of resources in the community. We administer the measure at program entry, six months, one-year and each consecutive year during program participation. The CLS produces an overall score as well as scores on six subscales: Transportation, Budgeting, Support Services, Support Involvement, Interests/Hobbies, and Regularity/Organization/Routines. The overall (total) score on the CLS ranges from 0-33, with higher scores indicating more knowledge and effective use of community resources. This measure provides an outcome relevant to the goal of promoting healthy families, and research shows that greater knowledge and use of community resources results in a reduction personal/ familial stress, and therefore reduces the likelihood of child maltreatment.

Are Mothers More Knowledgeable about and Using Community Resources More after Receiving Home Visits?

In Table 9, we again divide mothers who participated in home visiting between 2009 and 2015 into 6 independent "time-point groups" based on the length of their involvement in the program (i.e., those that completed 6 months, 1 year, 2 years, and so forth). The table presents the average Total CLS scores for mothers when they entered the program, at the last time-point for which they completed the measure, the difference between these means, and the standard deviation for this difference. Based on Table 9, participants showed significant improvements at all five time-points (consistent with past annual reports), demonstrating that the program has the desired effect in terms of fostering healthy families. Moreover, these results demonstrate that even those who only participated for 6 months had significantly greater knowledge and utilization of community resources after receiving home visits, indicating that keeping families in the program for even a modest amount of time produces important benefits.

Table 9. Change in Utilization of Community Resources, 2009 – 2015

Time-Point Group	N	Mean at Entry	Mean at Time-Point	Mean Difference	Standard Deviation
6 Month[a]	587	24.5	26.0	1.5***	4.2
1 Year	792	24.6	26.2	1.6***	4.4
2 Year	366	24.9	27.2	2.3***	4.2
3 Year	238	24.7	27.6	2.9***	4.9
4 Year	167	24.7	28.4	3.7***	5.1
5 Year	87	23.3	28.6	5.2***	4.7

* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001 (pairwise t-test).

[a] Six-month Time-Point collected only at Hartford and New Haven sites from 2009-2012 and collected across all sites beginning in 2013.

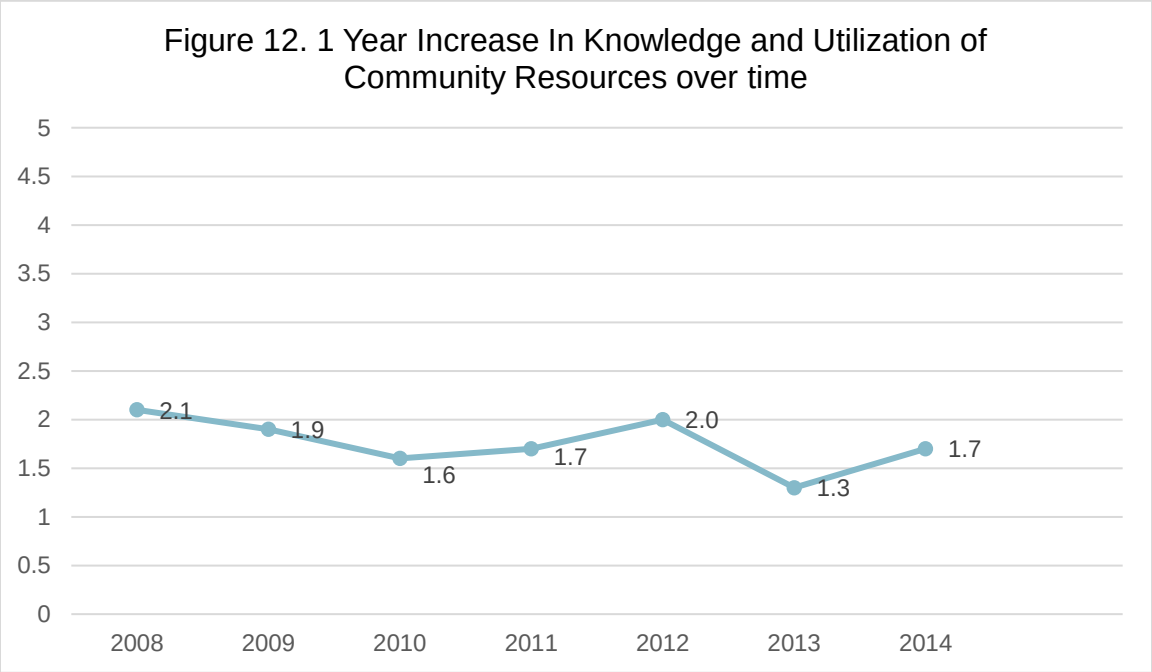
Does Change in Knowledge and Utilization of Community Resources Depend on How Long They Have Been Receiving Home Visits?

Because Table 9 presents change in CLS scores for independent groups based on the length of their participation in the program, the findings provide insight into the different effects of different lengths of participation. That is, they can answer the question – does it matter how long mothers stay in the program? Based on repeated measures analysis of variance for the data in Table 9, there is clear evidence that (a) participation in the program significantly and moderately increases knowledge and utilization of community resources, regardless of the length of time in the program ($F = 549.568$, $p<.001$, $\eta^2 = .198$); (b) the longer mothers stay in the program is *consistently* associated with greater increases in CLS scores ($F = 19.297$, $p<.001$, $\eta^2 = .041$); and (c) mothers who stay in the program for different lengths of time appear to be significantly different in terms of their CLS scores, independent of how much they change ($F = 5.69$, $p<.001$, $\eta^2 = .013$). In the case of CLS scores, unlike CAPI-R, there were no significant differences across the time-point groups *at entry*, but there were significant differences across groups at their final measurement before leaving the program. In other words, the program has the intended effect in terms of the goal of connecting families to community resources, appears to have consistently more impact the longer mothers stay in the program, and mothers who stay in the program longer are more connected and knowledgeable (in general) than mothers who stay

in for less time.

Are There Trends in the Program's Effects from 2009-2015?

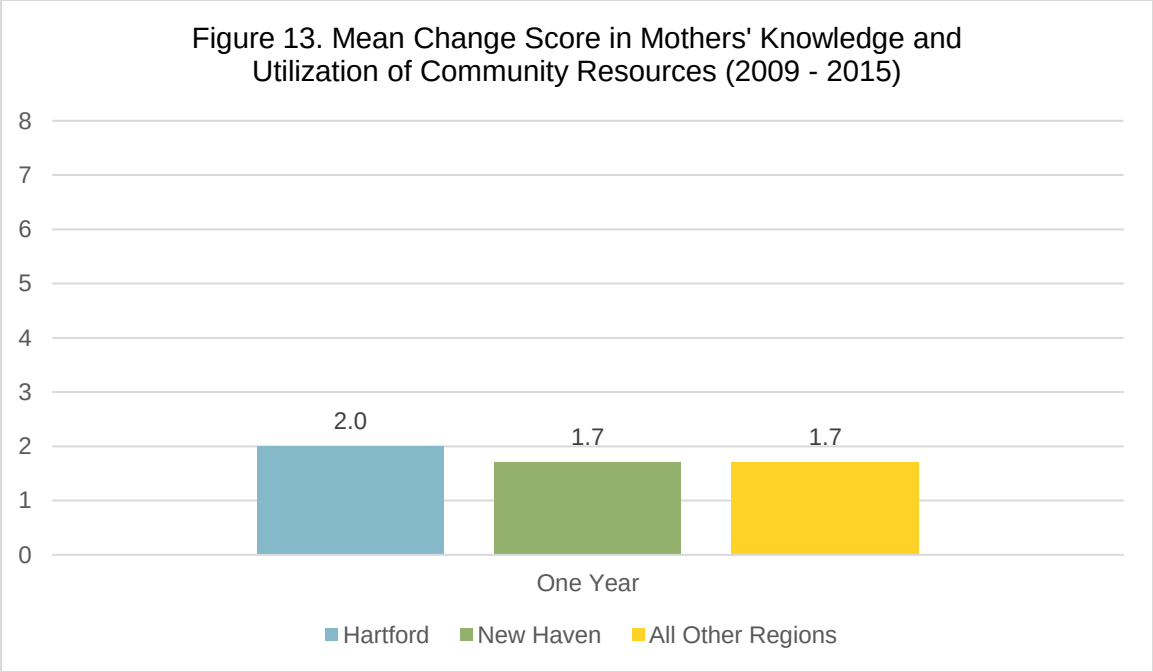
In Figure 12, we present 1-year change scores on the Community Life Skills (CLS) scale for each cohort of mothers who began receiving home visits each year between 2009 and 2015. The average change score is calculated by subtracting the entry score from the one-year score. A positive score indicates improvement after one year, and the higher the score from program entry to one year, the more substantial the change. As such, trends in these scores tracks the performance of the program over time, and allows us to use past performance as a baseline by which to evaluate the degree of current performance.



For each of the cohorts, 2009 through 2015, there was a significant increase in CLS scores after one year of participation. In contrast to the trend in CAPI-R scores, however, the trend in CLS change scores shows a slight decrease over time, indicating that there may be slightly less of an effect on knowledge of or connection to community resources in 2015 as compared with 2009, although this decline may be simply due to random error.

Do the Effects on Knowledge and Utilization of Community Resources Differ by Region?

In Figure 13, we compare Hartford, New Haven, and Western/ Central/ Eastern regions on the aggregate 1-year change score for the CLS from 2009 to 2015. The higher the score from program entry to one year, the more substantial the change in mothers' knowledge and utilization of community resources and the higher the bar.



Based on this data, all regions significantly improved in their knowledge of and use of community resources as measured by the CLS, and there are no significant differences across the regions. This is important given that there were regional differences in stress profiles, acute status, birth outcomes, and education at program entry, such that mothers in New Haven, while still at high risk, were overall less high-risk than mothers in the other regions. That is, no matter the risk level or other factors associated with the region, families are making progress in an important area that program services are attempting to improve – promoting healthy families.

Father Home Visiting Program

While fathers have always been invited to participate in home visits, NFN home visiting services have typically focused on mothers. In 2008, via the CQI process, traditional NFN home visiting services were redesigned to be more father-focused, and in 2009, a home visiting pilot for fathers officially began at five NFN sites. Over the course of two years, 2009-2011, Father Home Visiting expanded to 11 sites across Connecticut.

Although male home visitors are trained on particular approaches for engaging fathers (versus mothers) as noted in the program overview (see page 12), in many ways, home visits for fathers are comparable to standard NFN home visits. That is, services are offered on a weekly, bi-weekly or monthly basis; home visitors use an evidence-based foundational parenting curriculum (Parents as Teachers) during home visits; and case management services are provided as needed (e.g., related to employment, education, mental health). As of the end of 2015, a total of 355 fathers received home visits at 11 sites with 56 fathers entering NFN in 2015. Fathers are primarily recruited through mother participants and are screened on 17 items on the REID screen adapted for primary father figures (see appendix, Table 14).

In this section, we present data on recruitment rates for the past 3 years, fathers' demographic characteristics, family history of and current stressors that are predictive of risk, retention rates, and outcome data on parenting attitudes and beliefs. Where possible, we compare findings with data on traditional home visiting services for mother participants.

Father Characteristics and Levels of Stressors

On average, father participants are older than mother enrollees. Over 40% of fathers who enrolled in NFN services in 2015 were 26 years and older (compared to 33% for mother enrollees). The median age of fathers who enrolled in NFN services in 2015 was 24 years old (22 for mothers). Twelve percent of participating fathers were African American or Black, and just over two-thirds (67%) of fathers reported Hispanic origin, while less than one-tenth (6%) of fathers indicated White. While 68% of mothers had completed high school, it was 63% for fathers. Approximately 47% of fathers were employed, and of these fathers, 36% were employed full-time. There was a higher rate of prior arrests among father participants (53% compared to 15% for mothers), and 83% of fathers were experiencing financial difficulties (as documented by the home visitors), compared to 63% of mothers. However, a similar percentage of fathers and mothers were experiencing social isolation (27% compared to 28%, respectively).

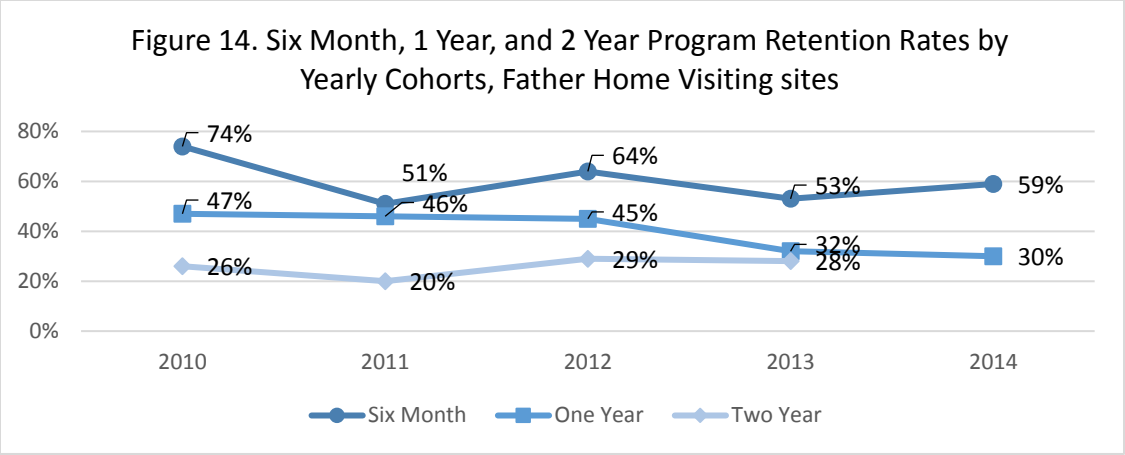
Table 10 presents results from the Kempe Family Stress Inventory assessing history and current indicators of stress for all fathers enrolled since 2011. Indicating that the program reaches a high-risk population, fathers who have enrolled scored in the mid to severe range for the following items on the Kempe Family Stress Inventory: 65% for a Childhood History of Abuse or Neglect; 64% for a History of Crime, Substance Abuse, or Mental Illness; 83% for Multiple Stressors; 63% for Low Self-esteem/ Social Isolation/ Depression; and 24% for Potential for Violence. Compared to mothers statewide (see appendix, Table 19), a higher percentage of fathers scored in the mid to severe range for Childhood History of Abuse/ Neglect, History of Crime, Substance Abuse, or Mental Illness, multiple stressors, and Potential for Violence. However, a lower percentage of fathers, as compared with mothers, scored in the mid to severe range on Low Self-esteem/Social Isolation/Depression. These data indicate that the stressors experienced by fathers (past and current) may differ from those experienced by mothers, which may indicate that home visitors face unique challenges in meeting fathers' needs.

Table 10. Fathers' Scores on the Kempe Family Stress Inventory, 2011-2015

Items on Kempe Checklist (N=141)	% Experiencing at a Moderate to Severe Level
Childhood History of Abuse/ Neglect	65%
History of Crime, Substance Abuse, Mental Illness	64%
CPS History	12%
Low Self-esteem/ Social Isolation/ Depression	63%
Multiple Stressors	83%
Potential for Violence	24%
Unrealistic Expectation of Child	45%
Harsh Punishment	5%
Negative Perception of Child	16%
Child Unwanted/ Poor Bonding	82%
Mean Total Score	29.8

Program Retention- Father Home Visiting

Program retention rates show the length of time fathers are engaged with the program. Figure 14 displays six-month, one-year, and two-year retention rates shown by the year fathers enrolled in the program (i.e., "cohorts").



Over the course of the previous five years, retention rates for each length of involvement have fluctuated. For families who entered the program in 2014 (and thus have had the opportunity to be enrolled in the program for at least one year), 59% remained in the program for at least six months and 30% remained in the program at least one year. This most recent cohort has a much lower six-month and one-year retention rate compared to the traditional mother home visiting services (i.e., 66% of mothers remained in the program for six months, and 50% remained in the program for one year), and than was found for earlier years of the program. Two-year retention rates increased from 20% in 2011 to 29% in 2012, which is relatively similar to the traditional statewide retention rates (for mothers). It is important to keep in mind that these changes in retention rates may reflect random fluctuations, especially given the relatively small sample size, and so we caution against over-interpretation. For all families who have had the opportunity to be in the program for five years (2009-2010), the average length of involvement is approximately 19 months, while the median length of involvement is approximately 8 months. These are shorter than similar measures for mothers, who are, on average, involved in the program for 21 months, with 11 months as the median length.

Change in Parenting Attitudes, Father Home Visiting, 2009-2015

As with mothers, we use the Rigidity Subscale of the CAPI (CAPI-R) to assess changes in rigid parenting attitudes over time as an indicator of the goal of fostering nurturing parenting. As with mothers, in Table 11, we divided groups based on the length of involvement in the program and compared change scores for those who completed 6 months, 1 year, or 2 years (longer time-point groups are too small for meaningful analysis). The lower the score from program entry (pre) to the given time point (post), the more substantial the change.

Table 11. Change in Rigid Parenting Attitudes, 2009 – 2015

Time-Point Group	N	Mean at Entry	Mean at Time-Point	Mean Difference	Standard Deviation
6 Month	45	32.4	25.7	6.7**	16.5
1 Year	27	28.0	22.1	5.9	20.3
2 Year	15	25.5	19.7	5.9	18.9

* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001 (pairwise t-test).

[a] Six-month Time-Point collected at Hartford and New Haven sites from 2009-2012 and collected across all sites beginning in 2013

Analysis of the CAPI-R data show that NFN fathers come into the program with scores indicative of high-risk. For fathers entering NFN from 2009-2015 (N=227), the CAPI-R total mean score was 30.0, more than one standard deviation from the general normative population and equal to the cut-off score of 30. This entry score is significantly higher than mothers entry CAPI-R score of 26.3 ($t = -2.29$, $p < .05$). Moreover, there are significant reductions on the rigidity subscale for all fathers who completed six months of program services, whereas differences for the longer time-point groups are not significant, perhaps due to the small sample sizes.

Beliefs about the Role of Fathers, Father Home Visiting, 2009-2015

The Role of the Father Questionnaire (ROFQ) is a self-report inventory that assesses an individual's beliefs about how important the role of fathering is in raising a child. Scores on the ROFQ range from 15 to 75, with higher scores reflecting belief in greater involvement and a strong emotional relationship with their child. For instance, items on the ROFQ include: "it is essential for the child's well-being that fathers spend time interacting and playing with their children", "the way a father treats his baby in the first six months has important life-long effects on the child", "it is difficult for men to express tender and affectionate feelings toward babies"; and "mothers are naturally more sensitive caregivers than fathers."

Participants in the fatherhood home visiting program complete the ROFQ at program entry, after six months, and then annually, as an indicator for nurturing parenting. For fathers who entered in 2015, the average entry ROFQ score was 60.1 (N=31), comparable to the fathers that entered in 2014, 63.9 (N=39), p<07, and all father enrollees since services began for fathers, 62.3 (N=176). These relatively high scores *at entry* indicate that fathers who enroll in the program value their involvement with their children prior to program interventions.

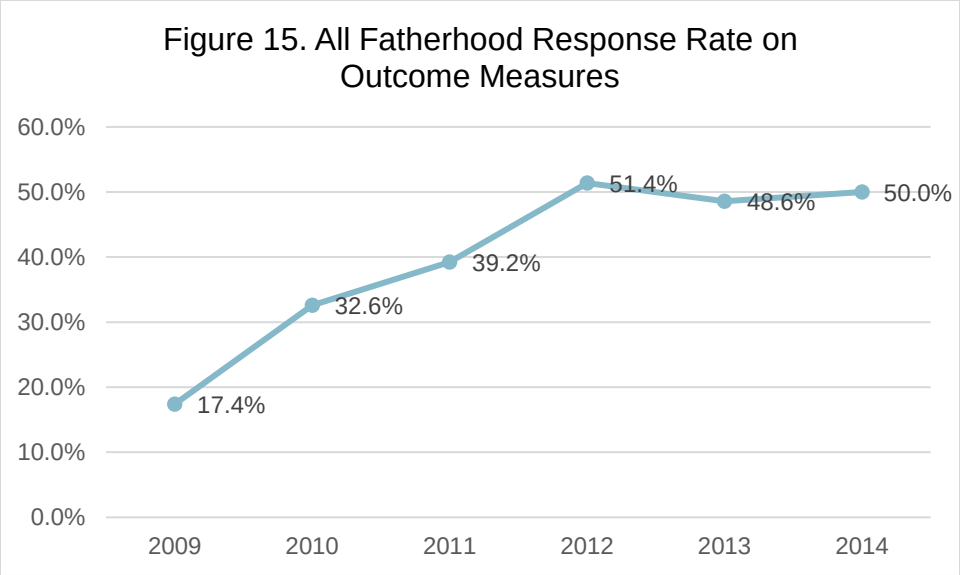
Table 12 presents all available data for fathers who have participated in fatherhood home visiting since the program started in 2009. Even though fathers have high scores at program entry, data in Table 12 show small improvements for fathers who completed 6 months and 1 year of program services, though none of the differences are significant.

Table 12. Change in Role of Father Beliefs, Father Home Visiting Data, 2009 – 2015

Time-Point Group	N	Mean at Entry	Mean at Time-Point	Mean Difference	Standard Deviation
6 Month	45	63.0	64.8	1.8	9.2
1 Year	27	62.6	66.3	3.7	11.7
2 Year	11	64.6	67.1	2.5	6.1

* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001 (pairwise t-test).

Note that due to a low response rate for outcome measures, we recommend caution in interpreting the findings on father home visiting services. Figure 15 displays the percentage of fathers who completed outcome measures out of those who were confirmed to be receiving home visits at the time point (e.g., 6 months, 1 year), and thus were expected to complete the measure.



While the response rates for fathers are certainly troubling and make meaningful evaluation challenging, also note that the rate of completed measures for each year has improved from 39% in 2011 to 50% in 2014. In comparison, the traditional home visiting program for mothers, which has over 20 years experience participating and utilizing systematic evaluation, has maintained a very respectable average response rate of *at least* 78% on outcome measures for each of the past 6 years. Data collection/submission for the fatherhood program should be more closely monitored at the programmatic level to ensure this improving trend continues, as reliable data collection is necessary to tell the full story of program progress and its effects.

Recommendations for Future Evaluation and Research

We recommend that the CSR and OEC collaborate to examine or conduct research (research briefs, "special reports," or white papers) and conduct evaluation to inform program development (through the CQI process) on the following topical areas:

1. Screening, Recruitment and Retention
    a. Effective strategies and resources (e.g., Help Me Grow) for screening, recruiting and retaining participants in the program. This would likely involve analyzing existing data (e.g., time between each stage of recruitment) and collecting more systematic information (e.g., use of "creative outreach") on the strategies currently used by Nurturing Connections staff, site staff and others for engaging parents at each stage of the recruitment process. The results would highlight successful strategies and important challenges and assist in developing "best practices" to increase the efficiency and success of recruitment efforts.
    b. Similarly, collect and analyze data on retention strategies, successes, and challenges.
    c. Analyses that focuses on the effects of prenatal screening on the likelihood of program entry, completion, exit/re-entry, and outcomes.
    d. Investigate the feasibility and utility of determining the incoming and outgoing flow of participants for example on a quarterly basis, to provide a more fine-grained understanding of the overall capacity of the program.
    e. Develop a qualitative research project (observations, interviews) that explores participants' reactions to outreach and recruitment strategies (e.g., why they enroll/do not enroll).
2. Referral Process
    a. Analyze existing data relating to both the referral sources of families entering NFN and for referrals provided to families for community and social service agencies by home visitors and/or Nurturing Connections staff.
    b. Some potential questions to investigate include: Do people facing greater/more varied stressors receive referrals to services more frequently? Is there any relation between referrals and the use of creative outreach strategies, the "acute" status of families, socio-demographic characteristics, outcome measures, etc.?
3. Multi-child households
    a. Analyze existing information on families enrolled at Hartford and New Haven sites who have an existing older child when they enroll in NFN home visiting, comparing outcomes to families who enter as "first time" parents. This provides an opportunity to better understand the effectiveness of prevention vs. intervention efforts.
    b. Develop a qualitative research project (observations, interviews, and perhaps focus groups) focusing on the unique challenges associated with home visiting in multi-child households and administering child development outcome measures to all children in the household.
4. Program implementation
    a. Use existing data on home visit records (i.e., collected via CTFDS) to more closely examine what actually occurs during home visits and relate home visit activities to parent outcomes.

b. Analyses can take into consideration: topics covered, implementation of curriculum plans (partial to full implementation), other program activities such as referrals for services, status of the child, who was present and who participated.

5. Family- centered analyses:
    a. Analyses that focus on family- and individual-level (i.e., mothers') change over the course of participation in home visiting would provide more direct, precise and informative results regarding the impact of home visiting on the families and individuals served.
    b. Use existing data on families in the home visiting program collected since 1995 to develop appropriate statistical models for investigating the process of change and outcomes experienced by families. Analyses can take into consideration the moderating or mediating effects of the length of time families participate in home visiting (or "exposure to intervention"), exits and re-entries, time-varying covariates (e.g., changes in program policies, site specific changes), site-specific characteristics (e.g., Nurturing Connections at site, hospital vs. clinic vs. community provider), and family-level covariates vs. individual-level covariates (e.g., risk factors).
    c. Once developed, such models offer the opportunity to investigate how the trajectories of families participating in home visiting differ by important subgroups (e.g., those screened prenatally, those identified as "acute status" at entry), and locations (e.g., regionally).

Appendix

Table 13. The Revised Early Identification (REID) Screen for Determining Eligibility
1. Mother is single, separated, or divorced
2. Partner is unemployed
3. Inadequate income or no information
4. Unstable housing
5. No phone
6. Education under 12 years
7. Inadequate emergency contacts
8. History of substance abuse
9. Late, none, or poor prenatal care
10. History of abortions
11. History of psychiatric care
12. Abortion unsuccessfully sought or attempted
13. Adoption sought or attempted
14. Marital or family problems
15. History of, or current depression
16. Mother is age 18 or younger
17. Mother has a cognitive deficit

***FOR THE SCREEN TO BE POSITIVE**, 3 items must be true or 8 items must be unknown **or items 8, 11, 14, or 15 are present with one other item**

Table 14. The Revised Early Identification (REID) Screen for Determining Eligibility– Primary Father Figure
1. PFF is single, separated, or divorced
2. PFF is unemployed
3. Inadequate income or no information
4. Unstable housing
5. No phone
6. Education under 12 years
7. Inadequate emergency contacts
8. History of substance abuse
9. PFF has a history of arrests
10. PFF has experienced interpersonal violence (victim or perp)
11. History of psychiatric care
12. Abortion of considered by either parent
13. Adoption considered by either parent
14. Marital or family problems
15. History of, or current depression
16. PFF is age 18 or younger
17. PFF has a cognitive deficit

FOR THE SCREEN TO BE POSITIVE, 3 items must be true or 8 items must be unknown **or items 8, 10, 11, 14, or 15 are present with one other item**

Figure 16. Number of First Time Families Screened, 1999-2015

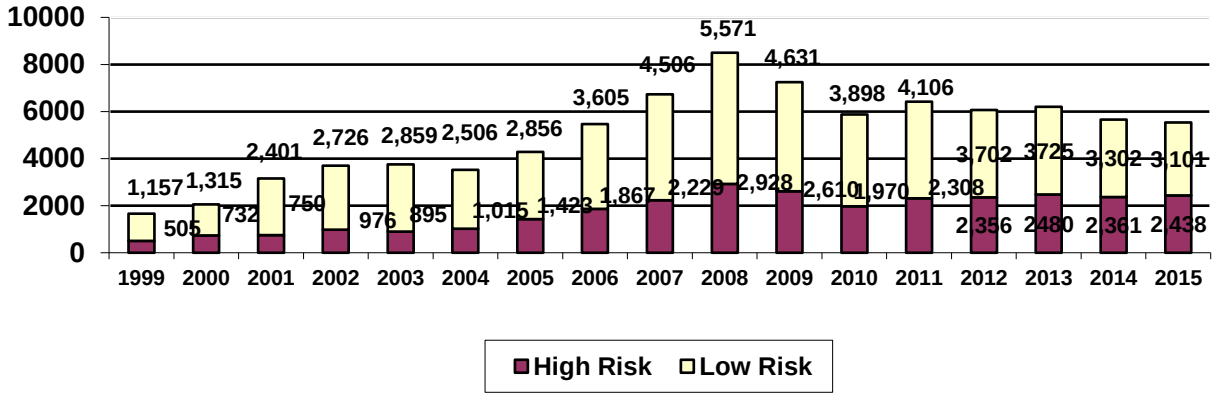


Table 15. NFN Screening, Statewide, 2010-2015						
	2010	**2011**	**2012**	**2013**	**2014**	**2015**
Number Identified at Low Risk	**3,898**	**4,106**	**3,702**	**3,725**	**3,302**	**2,663**
Offered Nurturing Connections	2740 (70%)	2689 (65%)	2329 (63%)	2044 (55%)	1862 (60%)	1459 (55%)
Accepted Nurturing Connections	1508 (55%)	1469 (55%)	1063 (46%)	866 (42%)	715 (38%)	527 (36%)
Number Identified as Eligible	**1,970**	**2,308**	**2,356**	**2,480**	**2,361**	**2,340**
Offered Home Visiting	1572 (81%)	2030 (88%)	2023 (86%)	2133 (86%)	1944 (82%)	2050 (88%)
Accepted Home Visiting	938 (60%)	1144 (56%)	1214 (60%)	1157 (54%)	1045 (54%)	944 (46%)
Received Kempe Assessment	645 (69%)	758 (66%)	824 (68%)	739 (64%)	639 (61%)	562 (59%)
Initiated Home Visiting	592 (92%)	743 (98%)	780 (95%)	695 (94%)	602 (94%)	526 (94%)
Offered Nurturing Connections	562 (29%)	525 (23%)	529 (22%)	524 (21%)	488 (21%)	618 (26%)
Accepted Nurturing Connections	312 (56%)	249 (47%)	248 (47%)	217 (41%)	162 (33%)	186 (30%)

Table 16. High-risk Families Not Offered Home Visiting, 2015*	N=222
Home visiting was full	30%
Unable to get face to face contact/family discharged from Hospital	30%
DCF involved	9%
Out of catchment area	8%
Language barrier	4%
Other	19%
High-risk families offered Nurturing Connections	113 (51%)
High-risk families accepted Nurturing Connections	38 (34%)
* actual number of families not offered services is 290	

Table 17. Reasons High-risk Families Decline Home Visiting, 2015[ab]	N=1007
Family has enough support	34%
Family not sure if they wanted home visiting	37%
Other member of household does not approve	7%
No time for home visits	7%
Other	19%
Family offered Nurturing Connections	505 (50%)
Family accepted Nurturing Connections	148 (29%)
[a] response are not mutually exclusive [b] actual number of families not offered services is 1106	

Table 18. Mother and Household Characteristics of Enrollees, 2015

	State NFN	Hartford NFN	New Haven NFN
Mothers Enrolled	**N = 730**	***N = 164***	***N = 232***
Screened Prenatally	42%	41%	61%
Mother's Age at Program Entry	**N = 596**	**N = 108**	**N = 183**
Under 16 years	3%	3%	4%
16 – 19 years	26%	20%	25%
20 – 22 years	22%	28%	25%
23 – 25 years	16%	14%	14%
26 years and older	33%	35%	33%
Median Age	22 years	22 years	22 years
Mother's Marital Status	**N= 594**	**N = 104**	**N = 188**
Single, never married	79%	84%	80%
Married	19%	15%	19%
Divorced, separated, widowed	2%	1%	1%
Mother's Race/ Ethnicity	**N = 546**	**N = 98**	**N = 181**
African American or Black	13%	10%	24%
Hispanic or Latina	54%	82%	55%
Caucasian	22%	8%	12%
More than one race	1%	1%	1%
Other	10%	7%	8%

Mother's Educational Attainment	**N = 569**	**N = 101**	**N = 187**
Less than high school	32%	36%	30%
High school degree or GED	21%	14%	30%
Vocational training or some college	28%	29%	27%
College degree or graduate work	19%	20%	13%
Mother Currently Enrolled in School	21%	20%	20%
Mother's Employment Status	**N = 577**	**N = 94**	**N = 183**
Employed prior to pregnancy	60%	56%	55%
Employed at program entry	31%	28%	32%
Full-time	10%	3%	12%
Part-time/ occasional work/ working more than one job	21%	25%	20%
	N = 594	**N = 91**	**N = 173**
Financial Difficulties	63%	73%	67%
Social Isolation	28%	26%	23%
Arrest History	15%	11%	13%
Receiving Gov. Assistance	**N = 535**	**N = 88**	**N = 181**
WIC	73%	76%	69%
Food Stamps	31%	48%	29%
TANF	8%	7%	11%
Living in Household	**N = 563**	**N = 164**	**N = 232**
Maternal Grandmother	33%	23%	28%
Father	55%	32%	41%
Type of Housing	**N = 543**	**N = 89**	**N = 180**
Home owned/ rented by parent	39%	40%	35%
Shared home with other family members	52%	56%	56%
Shared home with friends	3%	0%	1%
Shared home with strangers	1%	1%	0%
Homeless shelter/ Group home/ treatment center	2%	0%	4%
Other	3%	3%	2%
Father's Involvement with Child	**N = 466**	**N =77**	**N = 137**
Not applicable (prenatal)	26%	29%	39%
Very involved	56%	51%	44%
Somewhat or occasionally involved	8%	9%	5%
Very rarely Involved	2%	0%	2%
Does not see baby at all	9%	12%	10%

[a] Differences in N across items are due to missing data for an item

Table 19. Mothers' Scores on the Kempe Family Stress Inventory - Statewide, Data, 2015[a]			
Items on Kempe Checklist (N=456)[a]	0 Low	5 Moderate	10 High/Severe
Multiple Stressors	30%	38%	32%
Childhood History of Abuse/ Neglect	64%	12%	21%
History of Crime, Substance Abuse, Mental Illness	53%	27%	20%
Low Self-esteem/ Social Isolation/ Depression	28%	55%	17%
CPS History	93%	3%	4%
Potential for Violence	84%	5%	11%
Child Unwanted/ Poor Bonding	33%	62%	4%
Unrealistic Expectation of Child	66%	31%	3%
Harsh Punishment	89%	8%	3%
Negative Perception of Child	89%	9%	2%
Mean Total Score (N=456)		23.9	

[a] N = 456 for the overall measure, but sample sizes vary by item due to missing data.

Table 20. Mothers' Scores on the Kempe Family Stress Inventory - Hartford Data, 2015[a]			
Items on Kempe Checklist (N=84)[a]	0 Low	5 Moderate	10 High/Severe
Multiple Stressors	18%	55%	27%
Childhood History of Abuse/ Neglect	71%	11%	18%
History of Crime, Substance Abuse, Mental Illness	64%	30%	6%
Low Self-esteem/ Social Isolation/ Depression	24%	65%	11%
CPS History	94%	1%	4%
Potential for Violence	80%	10%	10%
Child Unwanted/ Poor Bonding	55%	44%	1%
Unrealistic Expectation of Child	65%	33%	2%
Harsh Punishment	90%	9%	1%
Negative Perception of Child	94%	6%	0%

[a] Differences in N across items reflects differences in missing data (i.e., list-wise deletion of missing data).

Table 21. Mothers' Scores on the Kempe Family Stress Inventory - New Haven Data, 2015[a]			
Items on Kempe Checklist (N=164)	0 Low	5 Moderate	10 Severe
Multiple Stressors	41%	33%	27%
Childhood History of Abuse/ Neglect	41%	15%	27%
History of Crime, Substance Abuse, Mental Illness	60%	23%	17%
Low Self-esteem/ Social Isolation/ Depression	37%	44%	19%
CPS History	97%	2%	1%
Potential for Violence	82%	6%	12%
Child Unwanted/ Poor Bonding	23%	74%	3%
Unrealistic Expectation of Child	65%	33%	3%
Harsh Punishment	87%	10%	3%
Negative Perception of Child	94%	5%	1%

[a] Differences in N across items reflects differences in missing data (i.e., list-wise deletion of missing data).

Table 22. Mothers' Pregnancy & Birth Information, 2011 - 2015

	2011	2012	2013	2014	2015
Pregnancy and Birth Outcomes	*N = 632*	*N = 626*	*N = 525*	*N = 464*	*N = 535*
Mother's Risk behaviors during pregnancy					
Smoked Cigarettes	10%	8%	7%	8%	5%
Drank alcohol	2%	4%	2%	3%	3%
Used illicit drugs	5%	5%	4%	5%	5%
Birth Outcomes					
Premature Birth (before 37 weeks gestation)	11%	13%	14%	15%	12%
Low Birth Weight (under 5lbs 8oz)	12%	14%	16%	9%	10%
Born with serious medical problems	13%	13%	11%	13%	15%
Child has a Pediatrician	98%	97%	96%	92%	96%

Table 23. Hartford Program Participation, 2013 - 2015

	2013	2014	2015
Number of families served in NFN	518	557	507
Average number of attempted home visits per family per month	2.8	2.7	2.8
Average number of completed home visits per family per month	2.3	2.1	2.1
Average number of office/ out of home visits	0.1	0.1	0.1
Average number of NFN social events attended	0.1	0.1	0.1
Total average of visits completed	2.5	2.3	2.3

Table 24. New Haven Program Participation, 2013 - 2015

	2013	2014	2015
Number of families served in NFN	492	502	518
Average number of attempted home visits per family per month	2.9	2.8	2.7
Average number of completed home visits per family per month	2.2	2.0	1.8
Average number of office/ out of home visits	0.1	0.1	0.1
Average number of NFN social events attended	0.1	0.1	0.1
Total average of visits completed	2.4	2.2	2.0

Table 25. Completed Ages and Stages Questionnaires, 2011-2015					
	2011	**2012**	**2013**	**2014**	**2015**
Number of families served in NFN Home Visiting	2034	2275	2181	2118	2001
Number (%) of "target" children completing screens	1,164 (57%)	1,357 (65%)	1,377 (63%)	1,232 (60%)	1,275 (76%)
Number of all other children completing screens	1,448	1,415	1,496	1,351	1,424
Total Number of screens completed (including repeats)	3,155	4,303	4,242	3,736	4,117

Figure 18. Six Month, 1 Year, and 2 Year Program Retention Rates by Yearly Cohorts, Hartford Region[a]

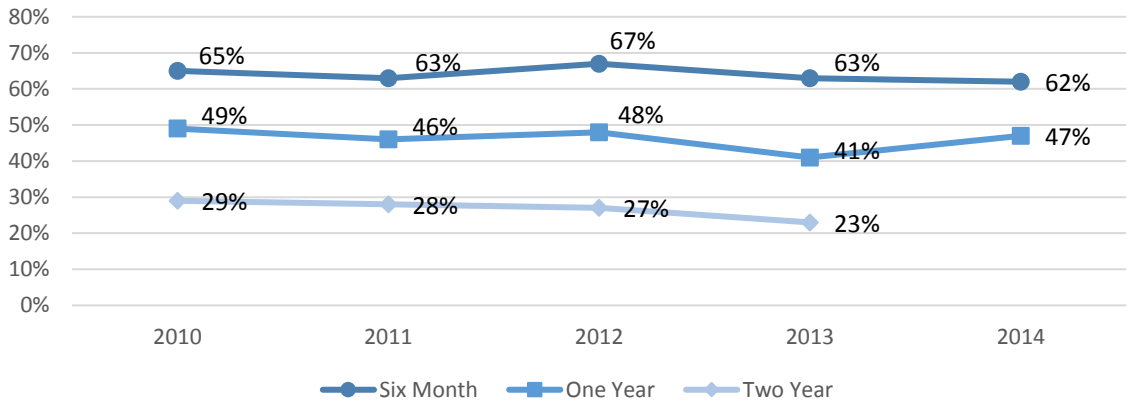


Figure 19. Six Month, 1 Year, and 2 Year Program Retention Rates by Yearly Cohorts, New Haven Region[a]

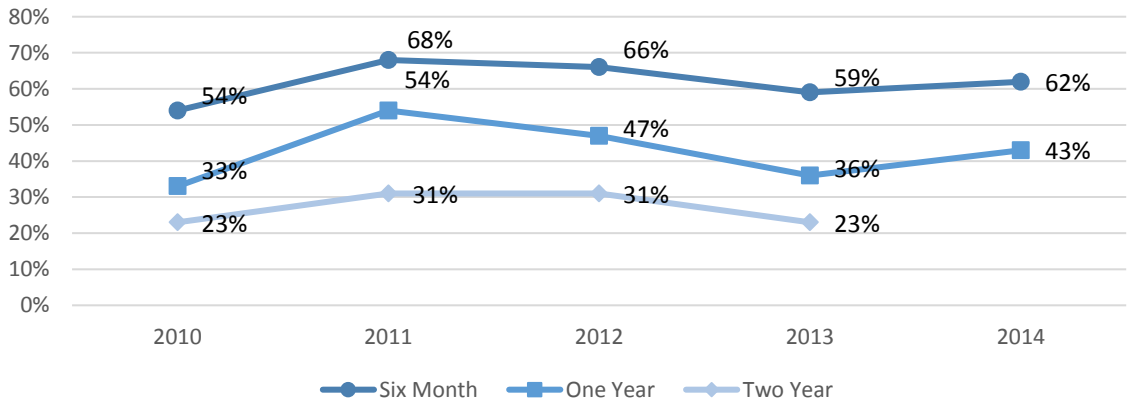


Table 26. Reasons Families Left NFN Home Visiting [a]

	2011 N = 784	2012 N = 653	2013 N = 906	2014 N = 747	2015 N = 680
Family met their goals/ Graduated	10%	10%	13%	15%	11%
Family moved	16%	16%	14%	12%	14%
Unable to locate family	33%	32%	30%	30%	29%
Family decided to discontinue services	13%	16%	19%	16%	15%
Caregiver had no time for home visits- working or in school	14%	14%	11%	9%	14%
Baby removed from home by DCF	2%	2%	1%	2%	2%

[a] Remaining percent left for other reasons

Table 27. Percentage change of Mother's Life Circumstances at entry and at one year

Mothers who participated for at least 1 year (1-Year Time-Point Group) and were…	**Statewide % at Entry and at 1 year (n = 1439)**		**Hartford % at Entry and at 1 year (n = 304)**		**New Haven % at Entry and at 1 year (n = 320)**	
A high school/GED graduate or higher	63%	69%***	57%	65%***	67%	67%
Employed	26%	40%***	23%	37%***	25%	37%***
Employed full-time	10%	15%***	8%	14%**	10%	13%
Experiencing financial difficulties	70%	70%	71%	78%	66%	64%
Receiving government assistance	87%	91%	91%	94%	84%	92%***

Table 28. Change in Rigid Parenting Attitudes, Hartford(2013-2015)

Time-Point Group	N	Mean at Entry	Mean at Time-Point
6 Month	194	29.5	25.5***
1 Year	100	28.2	26.0
2 Years	22	28.5	22.0*

* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001 (pairwise t-test).

Table 29. Change in Rigid Parenting Attitudes, New Haven (2013-2015)

Time-Point Group	N	Mean at Entry	Mean at Time-Point
6 Month	209	26.3	22.0***
1 Year	82	22.9	16.8**
2 Years	35	29.3	17.5***

* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001 (pairwise t-test).

Table 30. Statewide Data (2013-2015): 6-month Change in CAPI-R Scores by Score at Entry		
	Mean at Entry	Mean after 6 Months
Scored Below Cut-Off at Entry (N=434)	15.5	14.6
Scored At or Above Cut-Off at Entry (N=342)	42.4	31.2***
* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001		
1-Year Change in CAPI-R Scores by Score at Entry		
	Mean at Entry	Mean after 1 Year
Scored Below Cut-Off at Entry (N=237)	14.7	13.3
Scored At or Above Cut-Off at Entry (N=161)	42.8	29.3***
* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001		
2-Year Change in CAPI-R Scores by Score at Entry		
	Mean at Entry	Mean after 2 Years
Scored Below Cut-Off at Entry (N=74)	16.3	13.0
Scored At or Above Cut-Off at Entry (N=56)	42.5	24.5***
* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001		

31. Hartford Data (2013-2015): 6-month Change in CAPI-R Scores by Score at Entry		
	Mean at Entry	Mean after 6 Months
Scored Below Cut-Off at Entry (N=102)	17.7	16.8
Scored At or Above Cut-Off at Entry (N=59)	17.0	19.5***
* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001		
1-Year Change in CAPI-R Scores by Score at Entry		
	Mean at Entry	Mean after 1 Year
Scored Below Cut-Off at Entry (N=59)	17.0	19.5
Scored At or Above Cut-Off at Entry (N=41)	44.2	35.4***
* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001		
2-Year Change in CAPI-R Scores by Score at Entry		
	Mean at Entry	Mean after 2 Years
Scored Below Cut-Off at Entry (N=12)	17.9	17.4
Scored At or Above Cut-Off at Entry (N=10)	41.2	27.4**
* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001		

Table 32. Change in CAPI-R Scores by Score at Entry, 6 month, New Haven (2013-2015)		
	Mean at Entry	Mean after 6 Months
Scored Below Cut-Off at Entry (N=119)	14.3	14.8
Scored At or Above Cut-Off at Entry (N=90)	42.0	31.4***
* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001		
Change in CAPI-R Scores by Score at Entry, 1 Year (2013-2015)		
	Mean at Entry	Mean after 1 Year
Scored Below Cut-Off at Entry (N=55)	13.8	12.2
Scored At or Above Cut-Off at Entry (N=27)	41.4	26.1***
* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001		
Change in CAPI-R Scores by Score at Entry, 2 Years (2013-2015)		
	Mean at Entry	Mean after 2 Years
Scored Below Cut-Off at Entry (N=16)	15.2	9.1*
Scored At or Above Cut-Off at Entry (N=19)	41.2	24.4**
* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001		

Table 33. Change in Scores on the Community Life Skills Scale, Statewide Data (2013-2015)		
6-Month Time-Point Group: Mothers who participated for at least 6 months (N = 833)	**Mean at Entry**	**Mean at Time-Point**
Total CLS Score	24.9	26.2***
Transportation	3.3	3.4**
Budgeting	3.5	3.8***
Support services	4.4	4.6***
Support/Involvement	4.5	4.9***
Interests/Hobbies	2.6	2.7
Regularity/Organization/Routines	6.7	6.9***
1-Year Time-Point Group: Mothers who participated for at least 1 year (N = 489)	**Mean at Entry**	**Mean at Time-Point**
Total CLS Score	25.1	26.6***
Transportation	3.3	3.6***
Budgeting	3.7	3.9**
Support services	4.5	4.6***
Support/Involvement	4.6	5.0***
Interests/Hobbies	2.6	2.7
Regularity/Organization/Routines	6.7	7.0***
2-Year Time-Point Group: Mothers who participated for at least 2 years (N = 138)	**Mean at Entry**	**Mean at Time-Point**
Total CLS Score	25.2	26.9***
Transportation	3.3	3.5**
Budgeting	3.9	4.3**
Support services	4.4	4.6**
Support/Involvement	4.5	5.0**
Interests/Hobbies	2.7	2.7
Regularity/Organization/Routines	6.8	7.0
* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001 (pairwise t-test).		

Table 34. Change in Scores on the Community Life Skills Scale, Hartford Data (2013-2015)		
6-Month Time-Point Group: Mothers who participated for at least 6 months (N = 192)	**Mean at Entry**	**Mean at Time-Point**
Total CLS Score	24.3	25.9***
Transportation	3.4	3.5
Budgeting	3.3	3.7***
Support services	4.4	4.5
Support/Involvement	4.2	4.9***
Interests/Hobbies	2.6	2.7
Regularity/Organization/Routines	6.6	6.9**
1-Year Time-Point Group: Mothers who participated for at least 1 year (N = 110)	**Mean at Entry**	**Mean at Time-Point**
Total CLS Score	24.6	26.7***
Transportation	3.4	3.7**
Budgeting	3.2	3.6
Support services	4.4	4.6
Support/Involvement	4.3	5.0***
Interests/Hobbies	2.7	2.8
Regularity/Organization/Routines	6.7	7.1**
2-Year Time-Point Group: Mothers who participated for at least 2 years (N = 20)	**Mean at Entry**	**Mean at Time-Point**
Total CLS Score	24.8	27.1
Transportation	3.5	3.9**
Budgeting	3.5	4.8**
Support services	4.4	4.6
Support/Involvement	4.4	4.8
Interests/Hobbies	2.7	2.8
Regularity/Organization/Routines	6.9	7.0
* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001 (pairwise t-test).		

Table 35. Change in Scores on the Community Life Skills Scale, New Haven Data (2012-2014)		
6-Month Time-Point Group: Mothers who participated for at least 6 months (N = 211)	**Mean at Entry**	**Mean at Time-Point**
Total CLS Score	25.3	26.9***
Transportation	3.4	3.5*
Budgeting	3.6	4.0***
Support services	4.5	4.7***
Support/Involvement	4.7	5.1***
Interests/Hobbies	2.7	2.8
Regularity/Organization/Routines	6.8	7.2**
1-Year Time-Point Group: Mothers who participated for at least 1 year (N = 106)	**Mean at Entry**	**Mean at Time-Point**
Total CLS Score	25.4	27.5***
Transportation	3.3	3.7***
Budgeting	3.8	4.3***
Support services	4.5	4.7
Support/Involvement	4.8	5.3**
Interests/Hobbies	2.8	2.8
Regularity/Organization/Routines	6.7	7.3***
2-Year Time-Point Group: Mothers who participated for at least 2 years (N = 35)	**Mean at Entry**	**Mean at Time-Point**
Total CLS Score	26.1	28.1**
Transportation	3.3	3.5
Budgeting	3.9	4.2
Support services	4.4	4.7*
Support/Involvement	4.6	5.4**
Interests/Hobbies	2.9	2.9
Regularity/Organization/Routines	7.0	7.4*
* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001 (pairwise t-test).		

Table 36. NFN Fatherhood Screening and Recruitment, 2013-2015			
	2013	**2014**	**2015**
Number Identified at Low Risk	**12**	**17**	**16**
Number Identified as Eligible	**45**	**41**	**40**
Offered Home Visiting	57	58	56
Accepted Home Visiting	57	58	56
Received Kempe Assessment	57	58	56
Initiated Home Visiting	57	58	56

Table 37. Father Characteristics

	2015 Program Entry (N=52)
Characteristics	
Father's Age at Baby's Birth	**N = 40**
Under 16 years	5%
16 – 19 years	18%
20 – 22 years	13%
23 – 25 years	25%
26 years and older	40%
Median Age Fathers	24 years
Father's Race/ Ethnicity	**N = 33**
African American or Black	12%
Hispanic	67%
Caucasian	6%
Other	6%
Multiracial	9%
Father's Highest Level of Education	**N = 37**
Less than High School degree	35%
High school degree or GED	27%
Vocational training or some college	24%
College degree or graduate work	11%
Father's Employment Status	**N = 32**
Employment	47%
Full-time	36%
Part-time, occasional work, or more than 1 job	11%
Fathers enrolled in school	20%
Fathers with Financial difficulties	83%
Receiving Gov. Assistance	69%
Food Stamps	34%
SSDI	9%
Fathers social isolation	27%
Fathers with an arrest history	53%

Table 38. Father Home Visiting Participation, 2013 - 2015

	2013	2014	2015
Number of families served in NFN	133	119	114
Average number of attempted home visits per family per month	2.9	3.2	2.8
Average number of completed home visits per family per month	2.2	2.2	1.9
Average number of office/ out of home visits	0.3	0.3	0.2
Average number of NFN social events attended	0.1	0.1	0.1
Total average of visits completed	2.6	2.6	2.2

Table 39. Change in Fathers' Life Circumstances for 6 month and 1 year Participants, Statewide Data (2009-2015)			
Fathers who participated for at least 6 months (6-Month[a] Time-Point Group) and were…	**N**	**% at Entry**	**% at Time-Point**
A high school/GED graduate or higher	72	63%	63%
Employed	73	45%	53%
Employed full-time	75	19%	32%*
Socially isolated	60	15%	5%
Experiencing financial difficulties	65	83%	75%
Fathers who participated for at least 1 year (1-Year Time-Point Group) and were…	**N**	**% at Entry**	**% at Time-Point**
A high school/GED graduate or higher	44	72%	75%
Employed	45	49%	58%
Employed full-time	49	18%	33%*
Socially isolated	33	21%	21%
Experiencing financial difficulties	41	83%	78%

[a] Six-month Time-Point collected at Hartford and New Haven sites from 2009-2012 and collected across all sites beginning in 2013

Table 40. Change in Rigid Parenting Attitudes, Fatherhood Home Visiting, 2009-2015

Time-Point Group	N	Mean at Entry	Mean at Time-Point	Mean Difference	Standard Deviation
6 Month	51	29.0	22.1	6.9**	18.4
1 Year	18	30.2	22.0	8.2	23.2

* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001 (pairwise t-test).

[a] Six-month Time-Point collected at Hartford and New Haven sites from 2009-2012 and collected across all sites beginning in 2013.

Table 41. Change in Scores on the Community Life Skills Scale, Father Home Visiting Data (2009-2015)		
6-Month Time-Point Group: Fathers who participated for at least 6 months (N = 46)	**Mean at Entry**	**Mean at Time-Point**
Total CLS Score	24.6	25.1
Transportation	3.5	3.5
Budgeting	3.6	3.6
Support services	4.4	4.6
Support/Involvement	4.3	4.5
Interests/Hobbies	2.8	2.7
Regularity/Organization/Routines	6.3	6.3
1-Year Time-Point Group: Fathers who participated for at least 1 year (N = 36)	**Mean at Entry**	**Mean at Time-Point**
Total CLS Score	25.1	25.3
Transportation	3.6	3.6
Budgeting	3.4	3.6
Support services	4.5	4.5
Support/Involvement	4.2	4.5
Interests/Hobbies	2.7	2.8
Regularity/Organization/Routines	6.8	6.7
2-Year Time-Point Group: Fathers who participated for at least 2 years (N = 21)	**Mean at Entry**	**Mean at Time-Point**
Total CLS Score	25.9	26.6
Transportation	3.3	3.4
Budgeting	3.7	4.3*
Support services	4.3	4.6
Support/Involvement	4.8	4.4
Interests/Hobbies	3.1	3.0
Regularity/Organization/Routines	7.0	7.0
* Significant at p<0.05, ** Significant at p<0.01, *** Significant at p<0.001 (pairwise t-test).		

Table 42. Reasons Fathers Left NFN Home Visiting, 2013 -2015

Items on Exit Form	2013 N = 48	2014 N = 53	2015 N = 52
Family met their goals/ graduate	8%	4%	8%
Other family member did not approve of services	0%	0%	0%
Family moved	6%	2%	13%
Home visitor left program	0%	0%	0%
Family decided to discontinue services	29%	23%	16%
Baby removed from home by DCF	2%	0%	0%
Unable to locate family	29%	30%	30%
Caregiver had no time for home visits due to work or school	13%	13%	23%
Discharged, family not appropriate for program	4%	4%	0%
Discharged, family was noncompliant	0%	0%	0%
Other	8%	15%	10%