

**Healthy Families Connecticut: Final Outcome
Report on a Home Visitation Program to Enhance
Positive Parenting and Reduce Child
Maltreatment**

Center for Social Research

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Healthy Families Connecticut: Final Outcome Report of a Home Visitation
Program to Enhance Positive Parenting and Reduce
Child Maltreatment

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Healthy Families Connecticut: Final Evaluation Report on a Home Visitation Program to Enhance Positive Parenting and Reduce Child Maltreatment

Executive Summary

What is Healthy Families Connecticut?

- Healthy Families Connecticut is a home visitation program intended to strengthen overburdened families through parent education and support. The program objectives include strengthening the bond between the primary caregiver(s) and the child, educating the parent about child development milestones and ways of participating in this development, reducing child abuse and neglect and linking families to services in the community.
- The HFC program operates out of 10 sites throughout the state. Two more sites are scheduled to open this year. The two oldest sites, which began providing services in 1995, are located in Hartford and Waterbury. In 1996, HFC programs were established in Bridgeport, Manchester and Derby. Programs began operating in 1998 in New Haven, Danbury and New London. This past year, services began at program sites in Willimantic and Torrington and two sites are scheduled to begin this year in Norwich and Norwalk.

What is the research strategy for evaluating Healthy Families Connecticut?

- The evaluation consists of two parts—an outcome and a process evaluation. In the outcome evaluation, a pre-post design is used to measure changes that occur among family members in areas that the program is trying to impact. In the process evaluation, interviews, focus groups, surveys and ethnographic field work are used to acquire a better understanding of the program intervention and program dynamics. This report provides a discussion of our outcome assessment. A report on the process evaluation will be completed at the end of this year.

Who are HFC participants?

- At the time of program entry, 90% of mothers were single; one-half were 18 years of age or younger; 64% had not completed high school; 29% were still in middle school, high school or in a GED program; 87% were unemployed; and 59% were viewed as having financial difficulties. The HFC program serves a very diverse group of mothers across the state—32% White, 21% African-American and 39% Hispanic. Approximately one-third of fathers were living with the mother at the time of program entry, while another one-third were at least somewhat involved as a parent. A little more than one-half of fathers were employed (41% full time) and one-third of those employed made less than \$15,000 per year. Forty percent of fathers had less than a high school education, 36% had an arrest history and 10% were incarcerated at the time the mother entered the program. Finally, 46% of HFC mothers were living in their mothers' homes when they enrolled in the program.

What are the risk profiles of HFC participants?

- The Healthy Families Connecticut program uses the Kempe Family Stress Checklist to assess the family's level of risk for poor childhood outcomes including child maltreatment. Scores on the assessment range from 0-100, with 100 indicating the greatest risk. A mother or father must score 25 or above for the family to be eligible for program services. Scores ranging from 0-20 denote low-risk, 25-35 moderate-risk, 40-60 high-risk and 65 and above severely high-risk. The average score for all HFC mothers is 43, which is in the high-risk range. Broken down further, 4% of mothers score in the low-risk range, 36% in the moderate range, 48% in the high-risk range and 12% in the severely high-risk range.
- What can we learn about the Healthy Families Connecticut population from the Kempe Family Stress Checklist? The most salient finding is that 58% of mothers were exposed to severe forms of abuse or neglect as children. In addition, we find that a large proportion of mothers are living in very stressful situations and suffer from low self-esteem, social isolation or depression. We also know that at least one-half of families are not informed about important issues concerning child development and that nearly one-third are either prone to violence or living in households where violent episodes are likely to occur. Finally, our data also suggest that around one-third of families have negative perceptions of their pregnancies or infants and that about one-third are likely to engage in harsh forms of punishment.
- When the results from the Kempe Family Stress Checklist are combined with information from the Child Abuse Potential Inventory, there is strong evidence that HFC is reaching a very vulnerable population of parents in need of intervention. The Child Abuse Potential Inventory provides an overall abuse potential score. The average abuse score for Healthy Families mothers is similar to the average score for samples of known mild physical abusers and single, female parents addicted to alcohol. Furthermore, 44% of mothers score in the range of 'elevated risk of child maltreatment' and 32% score in the range indicating potential for physical abuse.

How long do HFC families stay in the program and are they engaged by program services?

- Since 1995, 983 families have received at least one home visit in the HFC program; about one-half of them (47%) are still in the program. Twenty-two percent of families leave in the first six months of services and 43% in the first year. A little more than one-third of families (37%) are still active in the program after two years.
- From the exit status questionnaires, we find that a majority of families who have terminated from the program have not done so because they were unwilling, hostile, unmotivated, or failed to understand the utility of services. Most are viewed as at least minimally compliant and to have benefited to some degree from program services when they exit the program.
- In summary, when we eliminate families who are discharged for reasons unrelated to program services or who have not participated in the program long enough to judge engagement, we estimate that around 23% of families are never really engaged. Conversely,

around 77% of HFC families become engaged--they receive services for over a year, terminate having met their goals, are readily accepting of services when they do terminate, or are currently receiving the appropriate level of services.

How many HFC families have substantiated reports of child maltreatment filed with the state's child protection services while receiving HFC services?

- Combining both reports from the Department of Children and Families (DCF) and records from program sites, we were able to assess a total of 667 families and 711 children for substantiated reports of child maltreatment filed with DCF. There were a total of 103 reports made, 67 of which were substantiated (5 were either pending or the outcome was unknown). These 67 substantiated reports involved 55 children. The HFC child victimization rate is then calculated at 7.7%. This is not an annual rate, but rather a cumulative rate reflecting all reports during the families' enrollment in the program.
- For families who participated from July 1, 1997 to June 30, 1998, the annualized child victimization rate is 4.6%, while the abuse and neglect rate for families is 5.3%. For the period of 1998-1999, the abuse and neglect rate for HFC families is 6.7%. The HFC child victimization rate is exactly twice as high as the state rate for the same time period. The abuse and neglect rates for HFC families are around two times the rates of towns and zip code areas where HFC services are located. Further, the abuse and neglect rates for HFC families are in the same range as towns in the state that have the highest rates of abuse and neglect (4-6%).
- What can we conclude from these data? Examining these data more closely reveal important patterns. First, 38% of substantiated incidents of abuse and neglect among HFC families were reported to DCF during the first four months of program participation, which is before the program is likely to have had much of an impact. Second, for the 667 families in the program in 1998-1999, only one case of child physical abuse had occurred at *anytime* during their participation in the program. This is a program accomplishment and results in a physical abuse rate that is much lower than national norms. On the other hand, the program had high rates of emotional neglect cases, which is inflating the overall abuse and neglect rate for families in the program. Further, nearly one-third of these cases involved substance abuse and nearly two-thirds involved domestic violence. Clearly, if the program is to reduce child maltreatment among its population, substance abuse and domestic violence will need to be further addressed.

Where are HFC participants referred for additional services?

- Since the program began in 1995, HFC has made 3899 referrals to participants for additional services and participants have complied with 65% of these referrals. The majority of referrals are for education, employment and parenting classes. Seventy percent of family members comply with the referrals to education and employment services and about one-half comply with the referrals for additional parenting classes. There were also large numbers of

referrals made to WIC, the Department of Social Services and Social Security as well as referrals for housing needs, day care and early intervention needs.

Are HFC children linked to a medical provider and are they properly immunized?

- To determine whether HFC families are being properly linked to medical providers, we recorded two outcomes. First, we recorded the frequency of hospital emergency room (ER) use among HFC families while they were participating in the program and asked home visitors to indicate whether the use of the ER was appropriate. Over four years, there have been 400 visits to the hospital ER by HFC families and 90% were deemed appropriate.
- We also collected data on child immunizations to see if the program was effectively encouraging the routine use of medical providers. Using the Health Plan Employer Data Information Set (HEDIS) criteria, 93% of two-year old HFC children had received up-to-date immunizations which compares very favorably to the state rate of 66% for two-year-old children receiving Medicaid.

Do family circumstances change while families are participating in the program?

- The percentage of mothers completing high school increased from 33% to 40% in the first year and to 45% in the second year. The percentage of mothers employed rose from 13% to 42% in the first year, but much of this gain was due to mothers who had left the workforce temporarily to have their babies. Income gains have been modest. The largest increases in mothers' incomes occurred in the \$5000 to \$15,000 range, reflecting earnings mostly from low-wage, part-time jobs. The percentage of mothers establishing independent households also increased significantly from 53% to 63% in first year and to 93% in the second year. With more mothers moving into independent households and with limited income increases, the proportion of families relying on public entitlements did not decrease.
- Because some of the information we document about families is sensitive, we cannot always be sure of the validity of this information when families first enter the program. FSWs become much more familiar with families the longer they are in the program and the information they document about families one or two years later is therefore more likely to be accurate. Our one-year data provide some very disturbing information on domestic violence. One-fourth of mothers were reported to have been physically hurt by a partner during the year that they were receiving services and a little less than one-third are currently living in physically, emotionally or verbally abusive relationships. In addition, one-fifth of fathers were reported to abuse alcohol and drugs.
- We also tracked subsequent births among mothers participating in the program. Of the 231 mothers in the program for at least one-and-a-half years, 13% had a second child, with an average time of 19 months between births. Among the 142 families who were active in the program for at least two years, 18% had a second child, with an average time of 19 months between births. These rates are similar to the rates reported in evaluations of other Healthy Families programs throughout the country.

Do parenting capacities, attitudes and behaviors change while mothers are participating in the program?

- Our data on parenting indicate that participants who remain in the program for at least one year exhibit an improved capacity for parenting. After participation in the program for one or two years, mothers' abuse potential decreased significantly, largely because of decreases in their personal distress and in their rigid attitudes and expectations concerning their children. The changes on the Rigidity subscale are particularly important for they suggest that mothers are developing more flexible and realistic attitudes toward the behaviors of their children. This is a very positive sign, since rigid attitudes toward the behavior of children have been linked with abusive behavior. Results after two years are even more encouraging. They show additional improvements on the Rigidity subscale and on other measures of child abuse potential as well. These are important findings because these are areas that the program directly attempts to change.
- These changes are reinforced by findings from our scales measuring changes in the stimulation of the home environment and parent-child interaction. Our measures demonstrate that greater stimulation in the home environment occurred after one year of program services, indicating that mothers provided more opportunities for a variety of play activities and more books in the home and increased involvement with their children. In addition, mothers in the program for two years showed improved emotional and verbal responsiveness to their children. This finding was better assessed using our observational measures of parent-child interaction. These data indicated significant improvements in behaviors that foster social-emotional growth and cognitive growth, as well as indications that infants were learning to send and read cues better with their parents. The only exception to this was that in the first year parents were not learning to read cues of distress well—such as back arching, fussing and pulling away. We also found that as children age, parents were more likely to express more negative perceptions of their children, which we attribute to the child becoming more active and independent.
- In general, these findings are encouraging, but we have to urge caution in interpreting these results because our study does not include a randomly generated control group. Some of the changes we are finding will occur because of the maturation of mothers or because of increased parenting experience. These findings should be more rigorously tested using a random control study, where comparisons would be made with families whose social-demographic and risk characteristics are the same as HFC families.

What are the lessons learned from four years of studying the Healthy Families Connecticut program?

- In short, we conclude that the Healthy Families program is developing well in Connecticut. It is doing a good job of identifying and recruiting a high-risk population, a reasonable job of retaining and engaging these high-risk families, a good job of reducing child physical abuse and an excellent job of linking families to services in the community. There is also evidence that, on average, mothers who remain in the program for one or two years are achieving educational and employment goals, establishing independent households and making

important improvements in their parenting capacities, attitudes and behaviors. However, we have also documented high rates of substantiated reports of child physical and emotional neglect that are related to substance abuse and domestic violence in the household. Reducing child maltreatment among this population will require more systematic responses to these problems.

After four years of research, this year's report concludes the outcome assessment of the Healthy Families Connecticut (HFC) program. The research for this study was designed in 1995, when HFC was in its infancy. At that time, there were only two program sites in the state. Since then, the program has grown to ten sites, and soon to be twelve. The evaluation research has been conducted by the Center for Social Research (CSR) at the University of Hartford. The research has involved tracking over 900 families and documenting changes that have occurred among family members while they were participating in the program. Three annual reports were published by the CSR from 1996 to 1998 on the HFC program. This year's report is the culmination of four years of research. There are two parts to the final evaluation: an outcome and a process study. In this report, we provide a comprehensive review of the four-year outcome evaluation: the evaluation design, the results, the concluding interpretations and recommendations for future research. The second part of the final report--the process study--will be issued at the end of this year and will include a comprehensive assessment of the program implementation.

This report is organized as follows. We begin with a description of the program and the research design. We then provide a social-demographic profile of program participants as well as their risk characteristics. After we have established who receives services and the degree of hardship and burden in their lives, we then turn to a discussion of program retention and engagement to assess how successful the program has been in retaining these overburdened families. In the next section, we begin presenting our outcome data by analyzing the abuse and neglect reports that were filed on HFC participants while they were participating in the program. Next, we assess how successful the program has been in linking families to other services in the community; in particular, participants' use of medical providers and the extent to which children are properly immunized. Then, we turn to an assessment of changes that occurred in the families' living circumstances while they are participating in the program. We especially focus on personal achievements among participants as well as changes in their families' circumstances. To complete our outcome assessment, we provide an extensive discussion of parenting outcomes, focusing on changes that have occurred in parenting capacity as well as parenting attitudes and behavior. We conclude with some final comments on the lessons that we have learned about the program over the past four years.

What is Healthy Families Connecticut?

Healthy Families Connecticut is a home visitation program intended to strengthen overburdened families through parent education and support. The program objectives include strengthening the bond between the primary caregiver(s) and the child, educating the parent about child development milestones and ways of participating in this development, reducing child abuse and neglect and linking families to services in the community. The program is organized around what Healthy Families America refers to as the 12 critical elements for effective intervention.¹ The critical elements reflect three key areas of program development: Service Initiation, Service Content and Service Provider Selection and Training. They are as follows:

¹ See National Committee to Prevent Child Abuse (1998) "Healthy Families America Training Manual" and Daro and Harding. (1999). "Healthy Families America: Using Research to Enhance Practice," *The Future of Children*.

Service Initiation

- Initiate services pre-natally or at birth;
- Use a standardized assessment tool to systematically identify families who are most in need of services;
- Offer services voluntarily and use positive, persistent, outreach efforts to build family trust.

Service Content

- Offer services intensively (i.e., at least once a week) with well-defined criteria for increasing or decreasing intensity of services over the long-term (i.e., 3-5 years);
- Provide culturally competent services such that the staff understands, acknowledges, and respects cultural differences among participants and use materials that reflect the cultural, linguistic, geographical, racial and ethnic diversity of the population served;
- Focus services on supporting the parent(s) as well as supporting parent-child interaction and child development;
- At a minimum, link all families to a medical provider to assure optimal health and development. Also, depending on the family's needs, link them to additional services such as financial, food, and housing assistance programs, school readiness programs, child care, job training programs, family support centers, substance abuse treatment programs and domestic violence shelters;
- Limit staff caseloads to assure that home visitors have an adequate amount of time to spend with each family to meet their varying needs and to plan for future activities (i.e., for many communities no more than 15 families per home visitor on the most intensive service level and for some communities the number may need to be significantly lower, e.g., less than 12).

Service Provider Selection and Training

- Select Family Support Workers (FSWs) based on their personal characteristics (i.e., non-judgmental, compassionate, ability to establish a trusting relationship, etc.), their willingness to work in or their experience working with culturally diverse communities, and their skills to do the job;
- Select FSWs who possess an educational or experiential framework for handling the variety of situations they may encounter when working with at-risk families. Also, provide all FSWs with basic training in areas such as: cultural competency, substance abuse, reporting child abuse, domestic violence, drug exposed infants, and services in their communities;
- Provide FSWs with intensive training to understand the essential components of family assessment and home visitation (i.e., identifying at-risk families, completing a standardized risk assessment, offering services and making referrals, promoting use of preventative health care, securing medical homes, emphasizing the importance of immunizations, utilizing creative outreach efforts, establishing and maintaining trust

- with families, building upon family strengths, developing an individual family support plan, observing parent-child interactions, determining the safety of the home, teaching parent-child interaction, managing crisis situations, etc.);
- Provide FSWs with ongoing, effective supervision so that they are able to develop realistic and effective plans to empower families to meet their objectives; that they understand why a family may not be making progress and how to work with the family more effectively; and that they express their concerns and frustrations in order to avoid stress-related burnout.

Healthy Families is often referred to as a paraprofessional home visitation program. In essence, this means that home visitors are not required to have professional credentials. Instead, other qualities are more highly valued when selecting home visiting staff. For instance, staff members who can relate to families through shared culture or experience are expected to better connect with families who may be suspicious of or intimidated by professionals. Moreover, the experiences of home visitors are considered important assets in working with families who may be more socially isolated from viable social institutions that are needed to stabilize and strengthen families. The qualifications of home visitors, referred to as Family Support Workers (FSWs), vary considerably in program sites across Connecticut. Based on our 1998 survey, 74% of FSWs had completed some college courses, 29% had completed bachelor degrees and 70% had previous work experience in the human services.² Still, FSWs are selected mostly for their potential to empathize and to understand overburdened families in the targeted service areas. While some college education may be considered an asset for the job, personal characteristics and dispositions, cultural competence and biographical experiences are more highly valued in selecting home visitors.

Because many of the FSWs lack formal clinical or professional training, the Healthy Families program requires introductory training as well as on-going training and professional supervision. Supervisory staff usually have educational backgrounds either in nursing or clinical social work. Supervision includes two-hour weekly meetings with individual FSWs, a weekly group meeting with FSWs and supervised home visits at least on a quarterly basis. The introductory training lasts one week and is intended to prepare home visitors for their role in the program. This training is part of a national effort organized by Prevent Child Abuse America (formerly the National Committee for the Prevention of Child Abuse) to ensure program fidelity. Ongoing trainings are organized by Prevent Child Abuse Connecticut, the state organization responsible for providing technical assistance to the program, and by the individual sites themselves who arrange local trainings to expedite the knowledge and skills of FSWs regarding parenting, child development, domestic violence, substance abuse, health care, psychiatric care and other services in their communities.

The HFC program operates out of 10 sites throughout the state. Two more sites are scheduled to open this year. The two oldest sites, which began providing services in 1995, are located in Hartford and Waterbury. In 1996, HFC programs were established in Bridgeport, Manchester and Derby. Programs began operating in New Haven, Danbury and New London in 1998. Last

²For more on this, see Black et. al., (1999). "Healthy Families Connecticut: Third Year Evaluation of a Home Visitation Program to Prevent Child Abuse and Neglect."

year, services began at program sites in Willimantic and Torrington and are scheduled to begin this year in Norwich and Norwalk.

The organizations through which HFC programs are administered vary across the state. Since the program sites are selected through a competitive grant review process, the types of organizations will vary accordingly. Of the ten sites currently providing services, four are based in hospitals (Waterbury, Manchester, New Haven and New London), three are operated out of Visiting Nurses Associations (VNA) (Hartford, Derby and Danbury) and three are located in community agencies (Bridgeport, Willimantic and Torrington). The organizational structures have important influences on program practices, especially referral practices. Hospital-based programs usually have easy access to first-time mothers through pre-natal clinics and can often coordinate outreach efforts with social workers in the hospitals to identify families likely to meet the risk criteria for eligibility. VNA-based programs can usually rely upon their visiting nurse program as a primary referral source, and usually have close ties to hospitals as well. The VNA-based program in Derby, however, is a little different. The Derby office is a satellite VNA location, with its main office in New Haven. The program is more rural-based and has needed to develop relationships with local hospitals and with a coalition of local human service programs to establish referral sources. Thus, their referral sources are more varied, so more work has been required to standardize the referral process. Working out of local community agencies, Bridgeport and Willimantic also have to utilize community service networks in order to establish referral sources, a process that can be burdensome depending upon how well organized service networks are in each community. The Torrington Healthy Families program is part of a partnership with the local Healthy Start program and receives the majority of its referrals from that program.

While the organizational structure of Healthy Families program sites can have important effects on establishing referral sources, recruiting families into the program, and coordinating and implementing services (issues we will take up more fully in the process evaluation report), what takes place during the home visits is the vital component of the program. Healthy Families Connecticut is not a program for every family, but instead a program for overburdened families. The types of burdens that family members confront vary. Most of the mothers are single parents and therefore undertake the difficult challenge of raising their children themselves, with whatever assistance they can get from extended family, friends or human service programs. Some of the mothers have emotional burdens that stem from being the victims of child abuse and neglect or from being current victims of domestic abuse. Many lack confidence and self-esteem, and live in environments where opportunities to acquire self-worth are limited. Many of the mothers live in poverty, and some in urban areas of concentrated poverty where street activities dominate public spaces in their neighborhoods and, sometimes, even their homes. Many are young, immature and struggling to manage adolescent angst, while simultaneously raising a child. Some are embroiled in destructive histories with members of their extended families. Some suffer from clinical depression. Many have given up on school where the prospects for academic achievement abandoned them long ago. These are the families that Healthy Families Connecticut tries to identify through a screening and assessment process that will be explained in more detail later in the report.

FSWs working with these families play a number of roles. They are, at times, educators, counselors, family mediators; they are, at other times, mentors or just a shoulder to lean on in

times of crisis. The program emphasizes the parent-child relationship and uses a parenting curriculum to teach child development and child-rearing strategies. FSWs also spend time helping families, especially mothers, learn how to utilize existing community services. While most of the FSWs' work is with the mother and child, they do reach out to fathers and extended family members who may also be present in the home. For highly burdened families in the program (which accounts for most of them), weekly home visits are scheduled. As families progress through the program, the frequency of scheduled visits declines. Families can stay in the program for as long as five years. However, no families have reached the five-year mark in Connecticut yet because the program is still in its early stages of development- - the oldest two sites have only been in operation for four years.

In short, HFC is a home visitation program for overburdened families that provides both education and support. The program is administered out of different types of organizations—hospitals, Visiting Nurses Associations and community agencies. The focus of the program is to assist primary caretakers in becoming informed parents who can more actively facilitate the development of their children and to empower mothers so that they can better manage the difficulties of their lives.

What is the research strategy for evaluating Healthy Families Connecticut?

The research design for the evaluation was developed in 1995. Based on suggestions from the then National Committee for the Prevention of Child Abuse, specific protocols were established to track families participating in the program and to measure changes. The evaluation consists of two parts—an outcome and a process evaluation. In the outcome evaluation, a pre-post design is employed to measure changes that occur among family members in areas that the program is trying to impact. In the process evaluation, we attempt to acquire a better understanding of the program intervention and program dynamics. Measured outcomes of program practices can only have meaning if we have a complete, empirical understanding of the program intervention.

For the outcome evaluation, several protocols are used to collect data on all participating families. Families are defined as participants when they receive their first home visit. First, data are collected from the screening and assessment instruments. Then the FSWs are asked to fill out a baseline information form on the participating family within one month of their entry into the program. From this form, basic demographic information is recorded on the mother, the father or the mother's current partner. Household information is recorded, including the number of adults and children residing in the home, household income, and stability and satisfaction with their housing arrangements. Any observed problems in the home are documented, such as alcohol or drug abuse, financial difficulties, domestic violence, social isolation or incarcerations. Measures of social isolation are recorded by documenting the frequency of visits mothers have with family members and friends and their satisfaction with these visits. The baseline form is then updated every year to identify any changes in the maternal life course or in the living circumstances of the family. Additional monthly data are collected on participating families, including the frequency of home visits, community referrals, information from the first child developmental screen and the use of the hospital emergency room. In addition, we use a

statewide database to track immunizations and to determine whether child immunizations among participating families are up-to-date.

Since the focus of the program is on parent-child interaction, several measures of parenting are used to see if parenting attitudes and behaviors change over time. The most concrete measure used is the number of child abuse and neglect reports filed with the State of Connecticut on families while they are participating in the program. Consent is obtained from participating families to check their names against the Department of Children and Families database. For families who refuse to give consent, we rely on program records to determine whether reports have been filed. Several different standardized instruments to measure parenting are also used. The Child Abuse Potential (CAP) Inventory is administered to measure changes in parenting capacity over time. The Home Observation for Measurement of the Environment (HOME) Inventory is employed to measure changes in stimulation in the home environment. Finally, the teaching scale from the Nursing Child Assessment Satellite Training Scale (NCAST) is used to measure parent-child interaction. The CAP is administered by the FSWs around the time of the child's birth and then at each subsequent birthday. The HOME and NCAST are administered by a trained member of the research team in families' homes when the child is three months of age and then at each subsequent birthday. Each of these scales is discussed in more length later in the report and in Appendix C.

Our research design allows us to track and document changes that occur among family members while they are program participants. However, there are several limitations to our research design that should be noted. First, our protocols cannot possibly measure all of the changes that may occur within families due to the Healthy Families intervention. A few protocols were chosen based upon some of the program's goals and objectives. While other measures may have supplemented our findings to provide a better range of program accomplishments, measures had to be selected that would not be too much of a burden on families and home visitors and that were within the constraints of our budget. Second, these measures may not be appropriate for the HFC population. We used validated and normed measures recommended by the national committee, but not all of these measures have been normed on racial minority populations. It is therefore difficult to say whether these are the best measures to use for a population as racially and ethnically diverse as HFC participants. Last, and most importantly, our findings are limited because we did not have the funds to include a control group in our design. Therefore, observed changes cannot be attributed to the program intervention with certainty. The changes documented are, at best, suggestive of program accomplishments, but the findings are not definitive. We cannot know for sure if documented changes would have occurred without any program intervention--if they could, for instance, be attributable to maturation effects. We also don't know if changes may be attributable to other exogenous effects, such as welfare reform, other program services, economic expansion and better job opportunities or selective attrition. What we can document, however, are specific changes that have occurred among a large sample of overburdened families that are consistent with the goals and objectives of the program.

The design of the process evaluation has evolved over the course of the four-year evaluation. We have been particularly interested in better understanding the dynamics of a paraprofessional program, its strengths and weaknesses and its organizational dynamics. To this end, we have surveyed and conducted individual interviews with FSWs, have interviewed and conducted focus

groups with assessment workers, supervisors and program coordinators and are currently conducting a three-year ethnography of program practices. We have focused both on the variation in program practices across sites and on the obstacles that impede effective program implementation. This part of the final report will be released after we have completed our ethnography in the Fall, 2000.

Who are HFC participants?

In the past four years, HFC has reached a large number of families in the state. In total, 983 families have received at least one home visit. Selected social-demographic characteristics of these participants are shown in Table 1 (for additional social-demographic information, see Appendix A). These characteristics provide a profile of HFC participants at the time they enter the program, which is around the time the mother gives birth to her first child. At the point of program entry, 90% of mothers were single; one-half were 18 years of age or younger; 64% had not completed high school; 29% were still in middle school, high school or in a GED program; 87% were unemployed; and 59% were viewed as having financial difficulties. The HFC program serves a very diverse group of mothers across the state—32% White, 21% African-American and 39% Hispanic. Approximately one-third of fathers were living with the mother at the time of program entry, while another one-third were at least somewhat involved as a parent. A little more than one-half of fathers were employed (41% full time) and one-third of those employed made less than \$15,000 per year. Forty percent of fathers had less than a high school education, 36% had an arrest history and 10% were incarcerated at the time the mother entered the program. Finally, 46% of HFC mothers were living in their mothers' homes when they entered the program.

These characteristics vary considerably across sites. Some of the unique features at each site are as follows (for a more complete demographic profile of each site, see Appendix A). In Hartford, 83% of families who have received services are Hispanic, 27% of mothers have *an 8th grade education or less* and slightly more than two-thirds of children are receiving Temporary Assistance for Needy Families (TANF) when they enter the program. The Hartford mothers are also very involved with their extended families, seeing on average seven relatives per week. In Bridgeport, 94% of mothers are racial minorities, 71% of mothers have less than a high school education, 37% are still enrolled in school, and 20% of mothers have an arrest history. In New Haven, 86% of mothers are either African-American or Hispanic, no mothers were employed when they entered the program, nearly one-fifth had an 8th grade education or less, and slightly more than 40% were still in high school. Among fathers in New Haven for whom information was available, a little more than one-half were employed and only one-third were reported to be very involved with the child. The mothers in New Haven were also the most socially isolated, having limited contact with family members and friends and very few people to rely on in times of need. In addition, New Haven families were more likely to live in public housing (42%) and had the highest rates of partner abuse compared to other sites.³

³Information on partner abuse is difficult to obtain when families first enter the program. Within one month of the time that services began, FSWs in New Haven were aware that approximately 20% of mothers had been physically abused by a partner in the prior year.

In Derby and Manchester, most participating families are white—76% and 65%, respectively. At both sites, over one-half of mothers had less than a high school education when they entered the program and nearly three-fourths of mothers at each site were reported to have financial difficulties. Over one-half of families in Derby were considered to have unstable housing when they entered the program, while 40% of families in Manchester were reported to have known histories of substance abuse. What is striking about these sites is that nearly one-half of families in Manchester were reported to have a history of psychiatric care and over one-half of families in Derby had either a history of or were currently suffering from depression.

Table 1. Social-Demographic Characteristics of HFC Families

Single, never married (N=755)	90%
Median age of mother at baby's birth (N=901)	18
Race/Ethnicity (N=808)	
Caucasian	32%
African-American	21%
Hispanic	39%
Other	5%
Mother employed (N=752)	13%
Mother employed full time	4%
Mother employed prior to pregnancy (N=758)	41%
Mother employed full time prior to pregnancy	16%
Mother enrolled in school (N=753)	33%
Mother enrolled in middle school, high school, or GED program	29%
Mothers with less than a high school education (N=746)	64%
Mothers with an 8th grade education or less (N=746)	15%
Mothers with financial difficulties (N=748)	59%
Mothers socially isolated (N=746)	29%
Number of relatives the mother sees per week (N=364)	4.7
Mother's mean Kempe score (N=728)	43
High risk	48%
Severely high risk	12%
Mothers with an arrest history (N=747)	17%
Mothers living in public housing (N=739)	15%
Mothers receiving TANF (N=712)	49%
Mothers living with domestic violence in the household (N=425)	5%
Fathers living in the household (N=742)	35%
Father employed (N=733)	53%
Father employed full time	41%
Father enrolled in school (N=731)	12%
Father very involved as a parent (N=717)	47%
Father somewhat involved as a parent (N=717)	20%
Father with less than a high school education (N=729)	40%
Fathers with financial difficulties (N=722)	37%
Father abuses alcohol (N=721)	12%
Father abuses other substances (N=721)	15%
Fathers with an arrest history (N=715)	36%
Fathers incarcerated at baby's birth (N=719)	10%
Fathers working with income of Less than \$15,000 per year (N=377)	32%
Maternal grandmother living in the household (N=742)	46%

Waterbury is the most racially and ethnically diverse site. Since beginning services in 1995, 35% of mothers were reported as white, 26% African-American and 34% Hispanic. Almost one-quarter of families did not have a phone when they entered the program and 61% of mothers had less than a high school education. One-third of mothers at the Waterbury site were reported to have a history of psychiatric care and 56% had either been treated for or were currently suffering from depression. Waterbury also reported the highest rate of fathers who were incarcerated (14%) when mothers entered the program.

In New London, a little more than one-half of families are white and more than one-fourth reside in public housing. About one-half of families have less than a high school education, while 29% are currently enrolled in either high school or a GED program. Employment rates were higher at this location than most sites, with 30% of mothers either employed or actively seeking work around the time of the birth and over one-half employed prior to pregnancy, and with 72% of fathers employed at the time of program entry. In Danbury, 59% of mothers are white, 26% Hispanic and 10% African-American. Danbury is unique in that 22% of the mothers were married when they entered the program, far above the statewide average (7%). Like New London, approximately one-half enter the program without a high school education and over one-half were employed prior to pregnancy. Danbury has served families with the highest rate of employed fathers (86%) and is serving families who are less likely to use public entitlements. For example, only 8% were receiving food stamps when they entered the program. Nonetheless, one-third were still reported to have financial difficulties.

The Torrington and Willimantic programs are the two newest sites, both beginning this past calendar year. When data collection was discontinued in October 1999, we had data on only around ten families at each site; reporting percentages could be misleading because programs have increased their caseloads considerably since then. However, a few general characteristics are noteworthy. Mothers in Torrington are predominantly white and many are married. While some mothers have a college degree or have taken some college courses, the majority of mothers do not have a high school education. A very high proportion of fathers appear to be employed, but apparently at low wage jobs that do not provide enough income to overcome financial difficulties. In Willimantic, the majority of mothers receiving services are Hispanic. None were reported to be married, a very large proportion do not have a high school education and many have either a history of or are currently suffering from depression. The majority of mothers in Willimantic were employed prior to pregnancy and about one-third lived in public housing around the time of birth. Most fathers were reported to have completed high school and around three-quarters of them were working at the time of program entry.

These social-demographic characteristics indicate that HFC has reached a population of families in need. Based upon income, education, marital status and psychiatric problems alone, HFC participants represent a vulnerable population of first-time mothers. While we might expect to find this in urban areas where the consequences of deindustrialization, political and economic neglect, and social isolation are the greatest, it is important to note that sites outside of urban areas are also reaching a population of families who meet a social-demographic risk profile. To assess this issue further and better define the families receiving services, several additional measures of risk were used. This information is particularly important when we examine outcome measures later.

What are the risk profiles of HFC participants?

HFC receives client referrals from a wide range of community sources—hospitals, community and state agencies, schools and health clinics. For families to be eligible for services they must first meet a general screening criteria, referred to as the Early Identification Screen (EID). A reliable referral source may complete the screen when they make the referral, or else program staff will complete the screen based upon a conversation with the referral source or the mother herself. The EID screen consists of 17 risk factors for child abuse and neglect, which are listed in Table 2. The criteria for determining if the mother screens positive and should therefore be referred for a more extensive assessment have changed since the program began in 1995. Initially, mothers who were (a) single, (b) received late or no prenatal care, (c) considered abortion for the present births or (d) had a positive score on any two of the other items were referred for an in-person interview. The criteria were changed recently to be more restrictive and to reflect those variables that we had found to be significantly related to abuse or neglect reports filed on participating families. Specifically, mothers are now referred for an in-person interview if (a) there is a positive score on two items, and at least one of these items includes either a history of substance abuse, a history of psychiatric care, marital or family problems, or a history of or current depression or (b) any three items are positive.

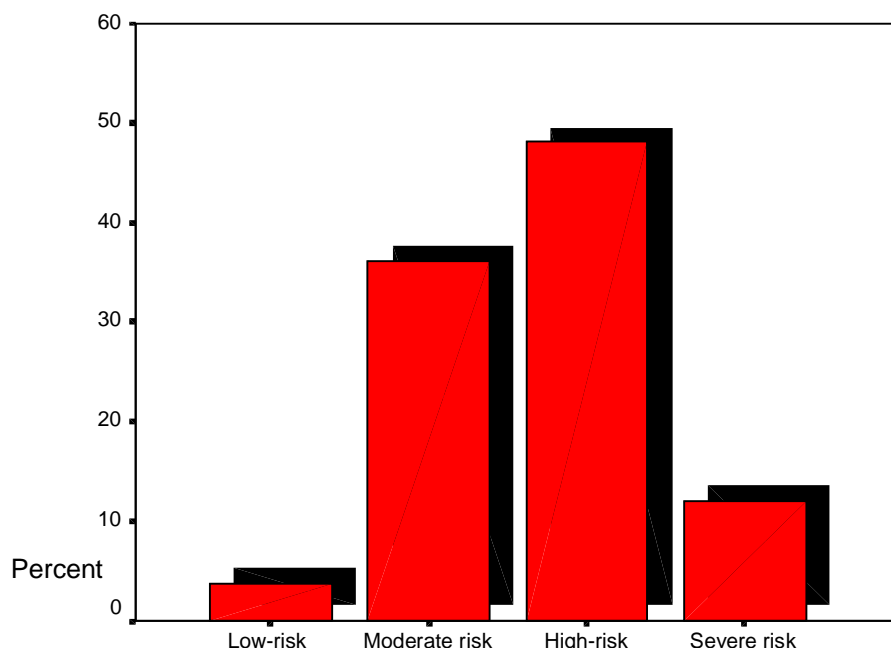
Table 2. Mothers' EID Characteristics

- 1) Mother is single, separated, or divorced**
- 2) Partner unemployed**
- 3) Inadequate income**
- 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 18 years of age or younger**
- 17) Mother has a cognitive deficit**

The purpose of the screen is simply to identify those families who might be appropriate for services and to refer them for further assessment. Trained assessment workers referred to as Family Assessment Workers (FAWs) from each site contact families who screen positively on the EID to schedule an assessment interview at the family's home.

The HFC program uses the Kempe Family Stress Checklist (KFSC) to assess the family's level of risk for poor childhood outcomes including child maltreatment. This instrument was developed by C. Henry Kempe and examines both past and current problems that might impair good parenting practices. The assessment is conducted in a conversational manner and is scored on ten problem areas. The results of assessments completed on 745 HFC participants are included in Figure 1. Scores on the assessment range from 0-100, with 100 indicating the greatest risk. A mother or father must score 25 or above for the family to be eligible for program services. Scores ranging from 0-20 denote low-risk, 25-35 moderate-risk, 40-60 high-risk and 65 and above severely high-risk. The average score for all HFC mothers is 43, which is in the high-risk range. Broken down further, 4% of mothers score in the low-risk range, 36% in the moderate range, 48% in the high-risk range and 12% in the severely high-risk range.

Figure 1. Mothers' Kempe Scores



A more refined description of these data is found in Table 3 where the results for each item are presented. Each category is scored after the conversation with the mother and/or father and is given a value of 0, 5, or 10, depending upon the severity of the problem. The percentages of mothers who scored at 5 and/or 10 are presented. As the first item indicates, many of the mothers in the program had some exposure to abusive or neglectful behavior as children and *nearly 60% of mothers are considered to have been victims of more severe forms of abusive or neglectful behavior as children.* The research literature on child abuse and neglect strongly indicates that mothers and fathers who have been victims of child abuse and neglect are more likely to abuse or neglect their own children.⁴ It is an astonishing finding that three-quarters of

⁴ See Zuravin and DePanfilis (1996) "Child maltreatment recurrences among families served by child protective services," and Caliso and Milner (1992) "Childhood history of abuse and child abuse screening,." *Child Abuse and Neglect.*

all mothers in the program have some experience with abuse or neglect as children. A little more than one-half of families indicated a history of crime, drug abuse or mental illness. Only 13% had prior involvement with the state's child protection services.⁵ There was some variation, however, across sites. One-fifth of mothers in Hartford had some past involvement with child protection services and one-fourth of mothers in Waterbury also indicated past involvement.

Table 3. Mother's Itemized Kempe Scores by Severity of Risk

	5 (Mild risk)	10 (Severe risk)	5 or 10 (Mild/Severe risk)
Childhood history of abuse/neglect (N=827)	19%	58%	77%
History of crime, drug abuse, or mental illness (N=812)	24%	29%	53%
CPS/DYES history (N=803)	5%	8%	13%
Low self-esteem, social isolation, depression (N=831)	41%	50%	92%
Multiple stresses (N=830)	29%	63%	92%
Potential for violence (N=805)	13%	26%	39%
Unrealistic expectations of child (N=824)	41%	16%	57%
Harsh punishment (N=787)	24%	7%	31%
Negative perception of child (N=746)	24%	12%	36%
Child unwanted/poor bonding (N=815)	63%	27%	90%

It comes as no surprise that vulnerable families would demonstrate some degree of low self-esteem, social isolation or depression. According to FAWs, 92% of families indicated some evidence of this, with half of families scoring at the highest level. Similarly, 92% of families experienced multiple stresses in their lives and nearly two-thirds experienced very high levels of stress defined as conflicts within the family, financial stresses, frequent personal crises, recent loss of a loved one, multiple separations or the end of a relationship with a partner, frequent job changes and frequent moves. These types of highly stressful incidences were particularly present among mothers in Hartford (75%) and New Haven (85%).

Almost 40% of mothers live in households where there is either violence or the fear of violence. Over one-half of mothers were considered to have unrealistic expectations of the child, which is based mostly on their understanding of child development milestones, the rigidity of their attitudes concerning child behaviors and their attitudes about spoiling the child. Mothers in New London (78%) and Manchester (85%) scored particularly high in this category. Assessment workers also engage the families in discussions about disciplinary practices and attitudes. If the mother was abused as a child and sees this as justifiable discipline, yells at her infant, shakes the

⁵Of course, these mothers had just given birth to their first child. Nonetheless, the figure also indicates any past involvement that their families may have had with the state's child protection services.

baby, physically punishes an infant or believes that physical punishment should be used as a primary form of punishment for older children, she is considered likely to be a harshly punitive parent. About one-third of HFC parents fell into this category when they entered the program, while slightly more than one-half of mothers in Bridgeport fit this profile.

FAWs also engage the mothers in conversations about their pregnancies and their babies. A little more than one-third of mothers perceive their children as difficult and are more likely to describe their children in negative rather than positive ways. In the conversation about the pregnancy, FAWs explore the mother's attitude about her pregnancy as well as how she expects the child to affect her relationship with her partner. The category is labeled 'Child Unwanted or At Risk of Poor Bonding', but the label is largely misleading. Mothers are scored in the mild range if the baby is delivered prematurely or if the parents are unmarried or have been separated for more than one week. In HFC, 90% of mothers enter the program unmarried and many have unstable relationships. Thus, the scores on this measure will be inflated accordingly and would not be a good measure of whether the child is wanted or whether there is a likelihood of poor bonding. Therefore, we focus on the higher level scores for this category. A high level score (score of 10) is given if the baby is viewed as coming at a bad time in the parent's life and the parent is concerned whether she can handle the situation, if the mother believes the child must have certain characteristics in order to be loved, if the male partner in the home is not the natural father of the baby, if the baby is viewed as a burden on the parent's lifestyle or is expected to patch up a relationship, if the baby is born with medical problems or physical deformities, or if no positive statements are made about the pregnancy or about child rearing. Using only these criteria, we find that 27% of mothers are at risk of poor bonding with their infants and that this percentage rises to 31% in Hartford and 40% in Bridgeport.

What can we conclude from our assessment data? Assessment measures are used to acquire as much information as possible and to make the best decision about whether a family needs services. This is never a perfect process—acquiring honest information about sensitive issues is difficult and scoring conversations with parents using predefined criteria produces some degree of subjectivity. Interpreting the data can be likewise difficult. All of the categories include multiple criteria, each with varying degrees of severity. It is therefore difficult to know specifically which part of the criteria the risk scores refer to—e.g., does the mother shake her baby, did her own abuse as a child affect her attitudes about punishment, or are her attitudes toward physical punishment considered harsh? Given these ambiguities, what can we learn about the HFC population from the KFSC? The most salient finding is that a very large proportion of the mothers were exposed to some form of abuse or neglect as a child, while over one-half experienced severe forms. In addition, we find that a very large proportion of mothers are living in very stressful situations and suffer from low self-esteem, social isolation or depression. We also know that a significant proportion of mothers have an arrest history, some experience with drug use or frequent alcohol use, or a history of psychiatric problems. We can also conclude that at least one-half of families are not informed about important issues concerning child development and that nearly one-third are either prone to violence or living in households where violent episodes are likely to occur. Finally, our data also suggest that around one-third of families have negative perceptions about their pregnancies or infants and about one-third are likely to engage in harsh forms of punishment.

While one of the concerns about any program is that the eligibility criteria are either too restrictive (and therefore not reaching enough of the population) or else too inclusive (and therefore reaching families who really don't need services), it would seem, judging from these data, that HFC is reaching a needy population. It is hard to know if their net is too wide or too narrow using these data alone, but we can conclude that they have nevertheless reached a population that can benefit from services. To examine this issue further, we use an additional measure to assess the potential for child maltreatment among the HFC population. Combined with the social-demographic data as well as data from the KFSC, we believe that information gleaned from the Child Abuse Potential (CAP) Inventory provides strong evidence that HFC is reaching a very vulnerable population of parents in need of intervention.

The CAP Inventory was developed by Joel Milner and is used widely for both clinical and evaluation purposes.⁶ It is a self-report protocol that provides an overall abuse potential score, as well as a variety of subscale scores. These subscales will be elaborated on later. The CAP Inventory is administered to the mother around the time of the baby's birth. The scores are then averaged for all mothers and compared to scores of different populations of parents. Table 4 provides these comparisons. In the CAP manual, Milner provides the mean scores for his normative sample. This sample consists of 836 non-abusive parents from parent-teacher organizations, Developmental Evaluation Centers, Departments of Social Services, and other community organizations. Of course, we would expect the mean score for the HFC mothers, who have been defined as high-risk, to be higher than his normative population. What is useful, however, is comparing our scores to the distribution of scores from Milner's sample and the subsequent categories he develops. For instance, he calculates what he refers to as his 'cutoff score' at 166. Anyone scoring above this is considered to be at 'elevated risk of child maltreatment.' Similarly, he develops a higher risk category by calculating the score at which 5% of his normative sample scores higher. This score--215--represents parents who are at high-risk of physical abuse.

Table 4. Abuse Scale Score on the CAP

	<u>Abuse Score</u>	<u>% of HFC Mothers Above Score</u>
HFC Mothers at program entry (N=609)	170.5	43.8%
Mild physical abusers	170.0	43.8%
Alcoholic, single, female parents	177.0	41.9%
Normative parents	91.0	73.1%
Cutoff score	166.0	44.2%
Highest 5% of scores	215.0	31.7%

As we can see, the mean abuse score for HFC mothers is 170.5, which is almost twice as high as Milner's normative sample mean (91). Moreover, the mean is higher than Milner's cutoff point (166), and we find that 44% of HFC mothers fall into the range of 'elevated risk of child maltreatment.' When we compare the scores to his higher risk category, we find that 32% of HFC mothers score higher than 215, which indicates potential for physical abuse. Milner also provides the mean scores for a sample of known mild physical abusers and a sample of single,

⁶ See Milner (1986) "The Child Abuse Potential Inventory: Manual (2nd ed.)."

female parents addicted to alcohol. These means are similar to the HFC mean and, what is most disturbing, 44% of HFC mothers score higher than the mean score for mild physical abusers and 42% score higher than the mean score for single, female parents addicted to alcohol.

Again, we find some variation across sites (see Appendix A for statistical comparisons on subscales). Excluding Torrington and Willimantic where the numbers completing the CAP are too small to be meaningful, mean scores on the abuse scale range from 240 in New Haven to 124 in Manchester. Not surprisingly, the urban sites have the higher mean scores; in addition to New Haven, Bridgeport mothers' average score was 210 and Hartford mothers' 195. Danbury's mean score (128) was close to Manchester's, while mean scores for the remaining sites fell between 155 and 173.

These data, combined with the above information on social-demographic characteristics and data from the KFSC, provide strong evidence that families receiving services in HFC are indeed high-risk, vulnerable families. The HFC program apparently has been quite successful in identifying and recruiting a high-risk population. This is particularly important in the context of recent reports that despite sustained economic growth over the past nine years, child poverty in Connecticut has increased precipitously.⁷ As the state with the highest per capita income in the country, Connecticut often projects an image of prosperity and opportunity. However, the HFC program demonstrates that in the shadows of this image of well-being lurks a growing population of very vulnerable families and children. Recognizing that HFC has been successful in recruiting a high-risk population, next we need to explore how successful the program has been in keeping these families in the program.

How long do HFC families stay in the program and are they engaged by program services?

Program success depends on, first, the careful selection and recruitment of families and, second, the engagement and retention of these families. Obviously, even the best intentions and designs cannot hope to succeed if the services never make it to the target population, or if families refuse services before they receive significant benefits from the program. The first question we address then is what percentage of families who are identified as potentially appropriate for services actually make it into the program.

As discussed above, all sites rely on the EID screen to identify potentially appropriate families for the program. However, sites vary on how they acquire information for the EID screen. Some sites employ a universal approach to screening by attempting to interview all first-time mothers in the hospital. For example, the Danbury site has been able to reach approximately 90% of their population at Danbury Hospital and around 25% of these first-time mothers screen positively. Manchester also targets the hospital and around 31% of the first-time mothers they interview screen positively. Other sites do not screen universally, but rather interview only those mothers who are referred from within the hospital, Planned Parenthood, school-based health centers, the Visiting Nurses Association, or other sources. Because these referrals are typically made with the prior knowledge that the mother has one or more risk factors present (e.g., knowing that the mother is younger than 18), almost all of these screens are positive. Thus, for example, in

⁷ See Annie E. Casey Foundation (2000) "Kids Count Data Book 2000" and Fordham Institute for Innovation in Social Policies (1999) "The Social State of Connecticut"

Hartford, Derby, New London and New Haven, between 95% and 100% of all screens are positive.

Because sites do not screen universally, it is impossible to get a reliable estimate of the percentage of all first-time mothers who screen positively. We are hoping that research on the First Steps program in Connecticut will provide us with a more reliable estimate.⁸ It is possible, however, to provide a clearer picture of the second step of the assessment process by tracking those families who screen positively and are referred for the more extensive assessment using the Kempe Family Stress Checklist. To understand this process and to determine the percentage of eligible families who come to receive Healthy Families services, data were collected over an average of 18 months from each of the eight longest-running sites and supervisors or assessment workers from each site were interviewed. Data were then averaged to create a picture of "the average month" at each site, which are presented in Table 5.

Table 5 reveals that each month approximately 67 mothers from the eight sites receive positive screens and are, therefore, referred for the in-person interview. Of these mothers, just over one-half (52%) are actually assessed. Program managers and FAWs provided several explanations for why nearly one-half of eligible moms were not assessed: 1) the family had moved or could not otherwise be found, even after repeated efforts to locate them; 2) the mother lived outside the service district; 3) the assessment worker or FSW could not speak the mother's language; 4) the mother already had supports in place and did not want additional services; 5) there was no room in the program for new families; 6) the baby was aborted or miscarried; 7) the baby was given up for adoption; or 8) the family was already involved with the Department of Children and Families.

On average, 35 families per month were assessed, using the KFSC. This interview is conducted in the hospital or shortly after the mother returns home. If a mother or father scores positively on the KFSC (i.e., scores 25 or higher), the family is asked to participate in the program. At the eight sites, 93% of the families who were assessed scored 25 or higher on the KFSC and were therefore eligible to receive services. Of these eligible families, 96% were referred for services. Finally, of those mothers who were referred for services, 91% accepted the program.

⁸ First Steps staff screen all first-time mothers in nine designated hospitals and refer them for services accordingly. If a mother is high-risk, she is often referred to Healthy Families. If a mother is low-risk, she is referred for First Steps services, which include weekly phone calls for the first six months of the baby's life and community service referrals.

Table 5. Assessment Process: Monthly Averages by Site

	<u>Total</u>	<u>Htfd</u>	<u>Dbry</u>	<u>Derby</u>	<u>Brprt</u>	<u>Mchr</u>	<u>NLon</u>	<u>NHav</u>	<u>Wbry</u>
Positive Screens	67.1	12.3	12.8	5.6	11.1	6.3	5.8	4.3	8.9
% of Positive Screens Assessed on KFSC	52%	41%	52%	50%	60%	57%	63%	69%	40%
% Positive Assessments	93%	93%	90%	96%	92%	82%	93%	96%	100%
% of Positive Assessments Referred for Services	96%	100%	94%	100%	97%	81%	97%	100%	92%
% of Families Referred That Accepted Services	91%	95%	77%	100%	91%	94%	95%	84%	100%

Limited resources and program availability make it critical to target those families in greatest need of child abuse prevention services. Data from these eight sites suggest that Healthy Families is successfully recruiting a large pool of at-risk families and informing them of available services. Some families subsequently move or cannot be reached; other families feel that they have enough support already in place in the form of extended family or other social services; and, for others, there simply are not enough program slots available. Over one-half of families who screen positively are reached and further assessed for risk, and of all families who assess positively and are referred for services, 91% end up in the program.

The process of recruiting, assessing and then getting families to agree to services is, of course, only the first step in retaining and engaging them in the Healthy Families program. HFC services are available to families for as long as five years. Since 1995, 983 families have received at least one home visit in the HFC program; about half of them (47%) are still in the program. Twenty-two percent of families leave in the first six months of services and 43% in the first year. A little more than one-third of families (37%) are still active in the program after two years.

In Table 6, we analyze separately families who have left the program and those who are still active in the program. We see that families are disproportionately leaving the program during the first six to nine months of services. Of those who have terminated, 39% did so in the first six months and 57% terminated within the first nine months. This table also reveals that 6% of families who have terminated received services for over two years prior to termination. The average length of time of receiving services before terminating is 10 months. Among currently active families, 24% have been receiving services for two or more years and 8% of participating families have been in the program for three or more years. Families who are still active have been receiving services for an average of 16.6 months.

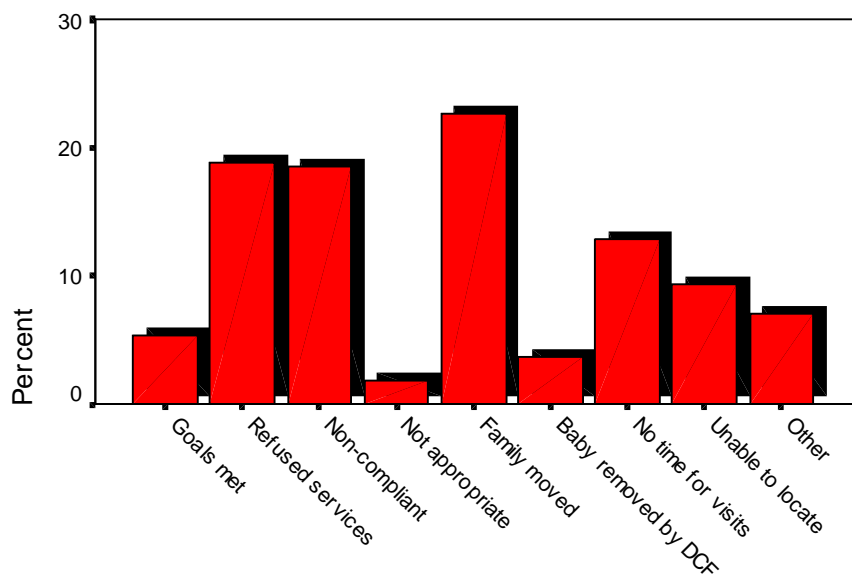
Table 6. Comparison of Active and Terminated Families by Length of Time in the Program

<u>Months in Program</u>	<u>Active (N=453)</u>	<u>Terminated (N=489)</u>
0 - 3	7%	15%
3 - 6	13%	24%
6 - 9	13%	18%
9 - 12	10%	12%
12 - 15	9%	10%
15 - 18	12%	7%
18 - 21	6%	5%
21 - 24	6%	2%
2-3 years	16%	5%
> 3 years	8%	1%
Mean	16.6 months	10.0 months

Families leave the program for a variety of reasons. When this occurs, program staff complete a six-item questionnaire about why a particular family left, the family's attitude toward the program at the time of termination and other related questions concerning aspects of the program's impact on the terminated family.

Figure 2 provides the explanations given by program staff for why individual families leave the program. These data suggest that less than one-half of terminations have anything to do with non-compliance or refusal of further services. Over a quarter of families who have terminated have done so because they have met their goals or have moved out of the service area.

**Figure 2. Reasons Families Leave HFC
(N=486)**



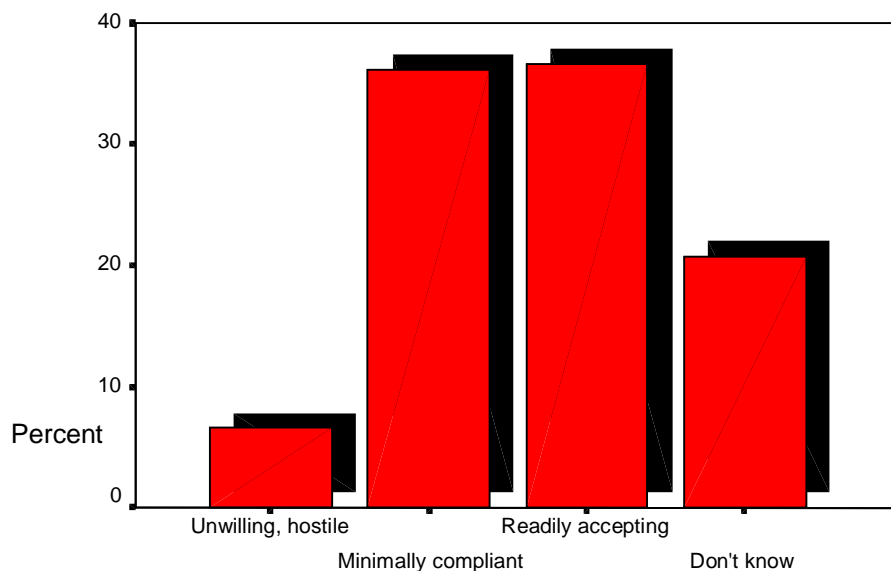
We also found that the reasons for terminating differed significantly ($p < .001$) between programs (See Appendix A for these data). Some of the differences stem from the length of time that program sites have been offering services (e.g., because New London, New Haven and Danbury are newer sites, they have a smaller percentage of families who have terminated because their goals have been met). But even when we compare the five older sites, there are still some interesting differences. In Hartford, families are more likely to leave the program because they have moved (30%) or program staff are unable to locate the family (19%). One possible explanation for this is that 83% of Hartford families are Hispanic, mostly Puerto Rican. Programs working with a Puerto Rican population are faced with high migration patterns in which large numbers of family members move back and forth between Puerto Rico and the U.S. mainland, often in pursuit of work, better living conditions or to meet family obligations.⁹ These patterns of migration are compounded by mobile living patterns in areas of concentrated poverty, where unstable living conditions result in more frequent movement or displacement of families.

There are other interesting differences to note as well. Families in Waterbury are much more likely than other sites to leave because the mother is working full-time or in school (30%). The two sites with the highest percentage of families leaving because they refuse further services or are non-compliant are Manchester (51%) and Derby (45%). There are several possible explanations for this. First, both of these sites have suffered high staff turnover. Family members who develop a rapport with a particular FSW are sometimes reluctant to work with another FSW, or to "start over". This leads to a refusal to continue with program services or non-compliance when a new FSW arrives. Some support for this explanation is provided in the case of Manchester, where in the past year they have established more stability among FSWs in their program and have subsequently experienced a decline in the numbers of families leaving because they refuse or are non-compliant with services (from 70% in last year's report to 51% this year). A second possible explanation is that at sites where more families, on average, tend to be less burdened and/or higher functioning, they no longer view services as necessary once they are beyond the first few months of parenting.

Figure 3 reports program staff's responses to the second question on the survey, which inquired about the attitude of the mother toward the program at the time services were discontinued. Forty-three percent of mothers were considered non-compliant or minimally compliant. When the 21% of families for whom program staff did not know the attitude of the mother are removed from the calculations, we can develop an estimate of the percentage of families who were non-compliant or minimally compliant when they terminated. Of the families who have terminated, 54% fit this description.

⁹See Alicea (1997) "A Chambered Nautilus: The Contradictory Nature of Puerto Rican Women's Role in the Social Construction of Transnational Community." *Gender and Society*

Figure 3. Attitude of Mother at the End of Services (N=488)



The third question asked program staff to state the degree to which the mother understood the relationship between circumstances and stresses in her own life and potential harm to her child at the time she left the program. These responses are listed in Table 7. Thirty-five percent of mothers fully understood and acknowledged this relationship. When we remove the 26% of families the program staff were unsure of, 47% of mothers were believed to have terminated from the program with a full understanding and acknowledgment of the relationship between life stresses and potential harm to the child.

Table 7. Degree that Mothers Discharged from the Program Understood the Relationship Between Life Stresses and Potential Harm to Her Child (N=486)

Fully Understood and Acknowledged Relationship	35%
Partially Understood or Minimized Relationship	26%
Denied or Failed to Understand Relationship	12%
Don't Know	26%

The next question asked program staff to comment on the degree to which the mother viewed services as helping her to better care for her child. The results are presented in Table 8 and are almost identical to the responses to the previous question. Thirty-seven percent of terminated families fully understood and acknowledged the utility of services. Excluding the 25% of families program staff were unsure of, 49% of families who terminated were believed to have fully understood the utility of program services.

Table 8. Degree to Which Mothers Discharged from the Program Understood the Utility of Program Services (N=487)

Fully Understood and Acknowledged Utility of Services	37%
Partially Understood Utility of Services	28%
Denied or Failed to Understand Utility of Services	10%
Don't Know	25%

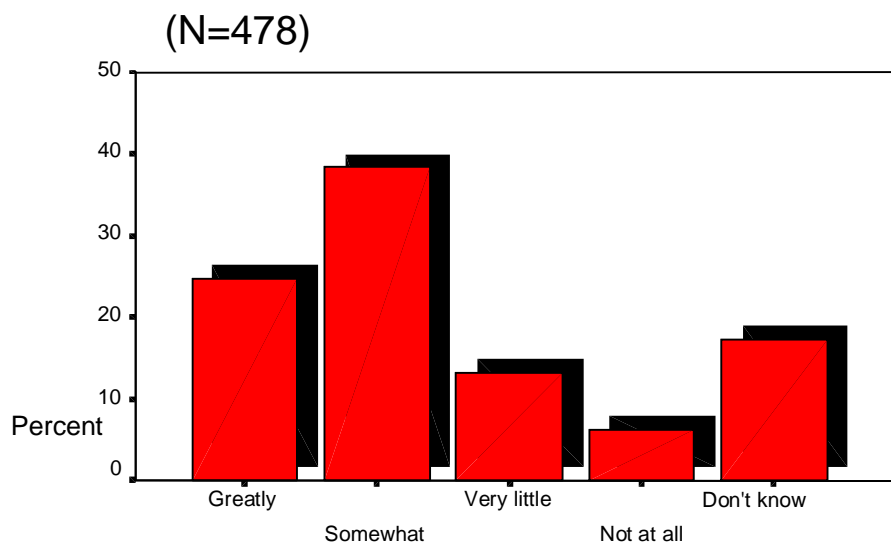
The next question asked program staff to estimate how motivated the mother had been to change herself or her environment so that abuse or neglect did not occur. Table 9 shows that staff were not sure about almost one-quarter of families, but the remaining families fell fairly equally into the three categories.

Table 9. Degree to Which Mothers Discharged from the Program have been Motivated to Change Herself or Environment to Reduce Abuse or Neglect (N=483)

More motivated than most other mothers	23%
About as motivated as most other mothers	29%
Less motivated than most other mothers	24%
Don't know	24%

Finally, program staff assessed the extent to which families who exited the program benefited from services. These results are reported in Figure 4. Sixty-four percent of the families were judged by program staff to have benefited either somewhat or greatly from the program. Excluding the 17% of families FSWs were not sure about, 77% of terminated families were believed to have benefited somewhat or greatly, while only 7% were thought to have not benefited at all.

Figure 4. Degree Families Benefited From Program Services Before Terminating



The picture that is revealed from these six questions is that a majority of families who have terminated from the program have not done so because they were unwilling, hostile, unmotivated, or failed to understand the utility of services. Most are viewed as at least minimally compliant and considered to have benefited to some degree from program services. There are, of course, a small cadre of HFC families who remain resistant, hard to reach, non-compliant and eventually drop out of the program, but our 53% termination rate is not a good indicator of this, nor does it distinguish between those families who drop out immediately and those who remain in the program for several years before leaving. Consequently, we developed a different set of criteria for categorizing families as engaged or non-compliant.

There is no perfect criterion for establishing which families can be clearly labeled as responsive and engaged in the program versus those who, for whatever reason, remain unresponsive or resistant. Home visitation programs in other states have defined attrition and retention in various ways and their estimates vary accordingly.¹⁰

Our measure of participation and engagement in the program is described in Table 10. The first step was to eliminate families who were not classifiable because they had not been in the program long enough to make a determination of their engagement with services. Thus, we did not try to classify currently active families who have been receiving services for less than 3 months. We also did not classify families who left the program in the first year for reasons unrelated to services (e.g., moved out of service area), nor did we try to classify families who were currently in their first year of receiving services, but who had not been receiving the appropriate number of home visits for their current level in the program. We could not be sure that fewer home visits necessarily meant a family was not engaged and, even in cases where this was true, we could not be sure that families would not become engaged at some later date.

The second step was to determine which measures might designate a family as being engaged or responsive. We decided that engagement could be demonstrated three different ways. First, any family who had spent longer than 12 months in the program had shown some engagement, regardless of whether the family was currently active or had terminated. Second, families who had been active in the program less than 12 months and were receiving the appropriate number of home visits each month were considered "engaged." Third, families who terminated before 12 months, but who had terminated because they had met their goals and/or had been willing and accepting of services at the time of termination, were also classified as "engaged." Conversely,

¹⁰Daro and Harding state that the meaning of "successful engagement" varied across HFA programs, but that the typical rate of failing to successfully engage ranged somewhere between 20% and 30%. In the majority of cases, this percentage "referred to participants who, despite repeated attempts by home visitors, never were available for even a single home visit or received only sporadic visits over a six-month period" (p. 171). See Daro and Harding (1999) "Healthy Families America: Using Research to Enhance Practice."

Gomby et.al. report in their analysis of recent home visitation programs that between 20% and 67% of families leave these programs before their intended completion. See Gomby et. al (1999). "Home Visiting: Recent Program Evaluations--Analysis and Recommendations." *Future of Children*.

families who terminated after receiving services for fewer than 12 months because they refused further services or were non-compliant were categorized as unresponsive or resistant.

Table 10. Categorizing Engaged and Non-Compliant Families (N=987)

"Hard to Classify" (N=378; 38%)

- 1) **Still active, participating < 3 months**
- 2) **Still active, participating < 12 months and not currently receiving appropriate number of home visits per month**
- 3) **Terminated < 12 months due to reasons unrelated to services**

"Non-Compliant" (N=140; 14%)

- 4) **Terminated < 12 months because they refused services or were non-compliant**

"Engaged" (N=469; 48%)

- 5) **Received services > 12 months (whether active or terminated)**
- 6) **Still active, participating < 12 months and receiving appropriate number of home visits per month**
- 7) **Terminated < 12 months due to meeting goals and/or willing and readily accepting of services at time of termination.**

By these definitions of engagement and non-compliance, we were not able to classify 38% of families. When these families are eliminated from the analyses, the result is an "engagement rate" of 77%. In other words, 77% of our classifiable families either (a) participated for a year or more; (b) terminated because they had met their goals or were at least willing and accepting of services at the time of termination; or (c) are currently active for longer than three months and receiving the appropriate number of home visits. Conversely, 23% terminate in the first year of receiving services by refusing services or by non-compliance.

We then statistically compared engaged families with non-compliant families on social-demographic characteristics and parenting measures to find a set of predictors that might distinguish between the two groups. The measures were taken around the time families entered the program. Identifying the factors related to patterns of engagement or retention can benefit program staff by providing them with information concerning who is in danger of dropping out and who could be targeted for extra efforts in recruitment and retention. Three variables were found to significantly distinguish engaged and non-compliant families ($p < .05$). In all three measures--one item on the Kempe, one subscale on the NCAST, and one subscale on the CAP--differences revealed greater risk scores in the engaged group than in the non-compliant group. Mothers who became engaged with services showed more negative perceptions of their infants, lower quality parent-infant interaction and more problems with child and self at the time of program entry.

In summary, when we eliminate families who are discharged for reasons unrelated to program services or who have not participated in the program long enough to judge engagement, we estimate that around 23% of families are never really engaged--they remain resistant and non-

compliant. Conversely, around 77% of our families become engaged--they receive services for over a year, terminate having met their goals or at least are readily accepting of services when they do terminate, or are currently receiving the appropriate level of services. There are some data suggesting that families who do become engaged and involved in services tend to be families who are more at-risk on some parenting measures when they enter the program. Put another way, it is the relatively higher functioning families who are not being as successfully retained and engaged. Although this interpretation is tentative, it is further supported in our analyses of outcome data later in the report.

Now that we have provided a social-demographic and risk profile of program participants as well as a sense of how long families remain in the program, their reasons for leaving and an estimate of the proportion who are engaged by services, let's turn our attention to the important question of whether families receiving services abuse or neglect their children.

How many HFC families have substantiated reports of child maltreatment filed with the state's child protection services while receiving HFC services?

The rates of reported child abuse and neglect have skyrocketed in the past two decades in the United States. As the issue of child abuse has become more widely recognized and definitions of abuse and neglect and procedures for reporting abuse and neglect have become more readily known, the number of children reported as victims of abuse and neglect has grown. In 1980, the first National Incidence Study of Abuse and Neglect (NIS-1) indicated that 625,100 children were abused or neglected. In 1993, the third study (NIS-3) reported that 1,553,800 children were abused or neglected, an increase of 149% over the number of children in 1980, with the highest increase in emotional maltreatment.¹¹ According to the National Clearinghouse on Child Abuse and Neglect Information, in 1997, the number of children reported for abuse and neglect was nearly 3 million.¹² Almost one million (984,000) of these children were substantiated as victims of abuse and neglect, which results in an abuse and neglect rate of 13.9 victims per 1,000 children, or 1.4%. In 1997 in Connecticut, 18,178 children were victims of abuse and neglect, resulting in a victimization rate of 22.9 children per 1,000 children, or 2.3%. Moreover, according to the recently released report *The Social State of Connecticut*, child abuse case referrals in the state increased by over 11,000 cases from 1991 to 1996.¹³

While state reports of child abuse and neglect are the best method we currently have of documenting the prevalence of child maltreatment, we should remember that they are only approximations of the true number of incidences that occur. Because abuse or neglect occurs mostly in the privacy of the home, not every act of abuse and neglect is witnessed or reported. Therefore, we can assume that any rate of abuse and neglect is actually an under-representation of all abuse and neglect that occurs. Further, definitions of abuse and neglect differ across states as do the criteria and practices for substantiating reports. In Connecticut, there are currently seven categories of abuse and neglect: physical abuse, sexual abuse and exploitation, emotional

¹¹ See Sedlack and Broadhurst. (1996) "Executive Summary of the Third National Incidence Study of Child Abuse and Neglect."

¹² U.S. Department of Health and Human Services (1999) "Child Maltreatment 1997: Reports From the States to the National Child Abuse and Neglect Data System."

¹³ Fordham Institute for Innovation in Social Policy (1999) "*The Social State of Connecticut*."

abuse, physical neglect, medical neglect, educational neglect and emotional neglect (see Appendix B for how the state defines each type of abuse and neglect). There are two additional categories of abuse and neglect that are no longer used in the state, at-risk and high-risk newborn. These two categories were measures of *risk* for abuse and neglect rather than measures of actual incidences of abuse and neglect. In our analysis, we will only include known incidences of child maltreatment that have been reported and substantiated and will therefore not include at-risk or high-risk newborns in our calculations.

With the assistance of the Children's Trust Fund, we acquired information from the Department of Children and Families (DCF) on HFC families who gave their consent and were active in the program between July 1, 1998 to June 30, 1999. The Torrington and Willimantic sites were not included in this analysis because they started enrolling families in the HFC program only a few months before data analysis began. There were a total of 667 families who received services during this time, which included 711 children in our analysis. Data were collected for these 667 families using two methods. For families who provided written consent and were active as of July 1, 1999, we looked for their names in the DCF database to see if they had any abuse or neglect reports filed during the time they were enrolled in the program. The abuse and neglect rate therefore reflects reports that were filed *at any time while families were in the program*—it is a cumulative rate. Of the 301 families and 329 children assessed using this method there were 73 reports made, 43 of which were substantiated (5 reports were still pending investigation). These 43 substantiated reports involved 33 children,¹⁴ representing 10% of the children assessed using this method.

For families who left the program before July 1, 1999, or refused to give consent, we relied on the records from the program sites to determine if DCF reports had been filed and substantiated. We believe that the data received from site records are reliable because of the close relationships FSWs have with their clients and the frequency of home visits. It is very unlikely that a report would be made without the knowledge of a FSW. There were 366 families and 382 children assessed using site records. There were 30 reports made, 24 of which were substantiated. The 24 substantiated reports involved 22 children, representing 5.8% of children assessed using this method.¹⁵

Combining both CPS reports and site records, we were able to assess a total of 667 families and 711 children for substantiated reports of child maltreatment filed with DCF. There were a total of 103 reports made, 67 of which were substantiated (5 were either pending or the outcome was unknown). These 67 substantiated reports involved 55 children. Our child victimization rate is then calculated at 7.7%. These data are presented in Table 11 below.

¹⁴ Some families had more than one substantiated report involving the same child.

¹⁵ While the discrepancy between the abuse and neglect rates calculated using the DCF database and program records raises a concern about the validity of program records, we should note that the majority of cases assessed using program records consisted of families who had left the program before consent was requested. Many of these families had not been in the program long and had not been reported to DCF during this time. We suspect that this accounts for the discrepancy in the rates. We should also add that 72% of families gave their consent to be assessed using the DCF database; 28% either refused or could not be reached.

Table 11. Cumulative Abuse and Neglect Rates for HFC Population

	<u>CPS Database</u>	<u>Program Records</u>	<u>Total</u>
# of Children	329	382	711
# Families Involved	301	366	667
# Of Reports	73	30	103
# Reports Substantiated	43	24	67
# Of children involved	33	22	55
# Families involved	33	22	55
# Reports Pending/Unknown	5	3	8
% Children Victimized	10.0%	5.8%	7.7%

How do we interpret this rate? What does it mean in terms of program effectiveness? Unfortunately, without a control group consisting of families with the same social-demographic and risk characteristics who have not received HFC services, we cannot determine program effectiveness. Instead, we will provide comparisons with populations living in specified geographical areas--the state, town and zip code areas where HFC services are provided. These are not, however, good comparisons because a majority of families living in each of these geographical areas are not high-risk families.

As shown earlier, the HFC population is a very high-risk population. Mean scores on both the KFSC and the CAP Inventory demonstrate the high-risk characteristics of HFC families. The literature on child abuse and neglect further explains why we would expect higher rates of abuse and neglect among HFC families. According to Prevent Child Abuse America (PCAA), families most likely to have substantiated reports of abuse and neglect are families where substance abuse is present, where poverty or economic strain exists, where parenting capacity or skills are lacking and where domestic violence is common.¹⁶ Based on the EID screen, in 25% of HFC families at least one parent is reported to have a history of substance abuse, 71% of families are reported to have inadequate income, and 58% are reported to have marital or family problems. For mothers who have a partner, 13% are either known or suspected victims of domestic abuse during the year prior to entering the program. Further, we know from the scores on the CAP that limited parenting capacity and skills are particular problems for HFC parents, where the average abuse scale score is equivalent to the score of parents known to be mildly abusive towards their children.

In addition, the NIS-3 research found single parenthood and large family size, as well as other poverty-related factors such as poor education, emotional disorders and inadequate support systems to be related to abuse and neglect. Again referring to our screening data, we know that over 90% of HFC mothers were single when they were initially screened, 64% had less than a high school education, 36% were reported to suffer from current or past depression and 29% were reported as socially isolated. In summary, what the research on child abuse and neglect underscores is that the HFC population fits a profile of very high-risk families, or families that

¹⁶ Prevent Child Abuse America (1999). "Current Trends in Child Abuse Reporting and Fatalities: The Results of the 1998 Annual Fifty States Survey."

have many of the characteristics or dispositions that are highly related to child abuse and neglect. Although we provide comparative data below by calculating abuse and neglect rates for families residing in similar geographical areas where program services exist, it is important to remember that most of these families do not share the high-risk characteristics of HFC families and are therefore not an adequate comparison group.

To make these comparisons, the abuse and neglect rates for HFC families were recalculated. National and state rates of abuse and neglect are reported for a one-year period. The rates reported above on HFC children included reports that were filed at any time while families were receiving services. Thus, families who had been in the program for several years may have had a report filed two or three years ago that was included in our calculations. To make these data comparable, we annualized the HFC rate by only including reports that were filed during the same time period that data from geographical areas were reported, from July 1997 to June 1998.

**Table 12. Annualized Abuse/neglect Rates for HFC Families Active
3 Months, 6 Months, and 1 Year Between July 1, 1997 to June 30, 1998**

	<u>Length of Time Active From 7/1/97 to 6/30/98</u>		
	<u>≥3 Months</u>	<u>≥6 Months</u>	<u>1 Year</u>
# of Children	364	268	153
# Families Involved	342	246	131
# Of Reports	30	26	18
# Reports Substantiated	18	15	10
# Of children involved	14	12	7
# Families involved	14	12	7
# Reports Pending/Unknown	6	2	1
% Children Victimized	3.8%	4.5%	4.6%
Abuse and neglect rate for families	4.1%	4.9%	5.3%

In Table 12 we report the annualized rates for HFC families. Since many families did not receive services for the entire year, it would not be appropriate to include them in our comparisons because state data are based upon the entire year. Nonetheless, we provided rates in Table 12 for all families who received services for at least three months during the year. For families who participated during the entire year, the substantiated child victimization rate is 4.6%, while the abuse and neglect rate for families is 5.3% (we calculate both rates to make them consistent with our comparison groups below). A child victimization rate of 4.6% is exactly twice as high as the state rate (2.3%). In addition, we compared our abuse and neglect rates for HFC families to estimates of abuse and neglect rates for families with children under four residing in selected towns and zip codes in Connecticut.¹⁷ Estimates for towns providing HFC services are included in Table 13 below.

¹⁷ These estimates are based upon data provided by the Department of Children and Families on all substantiated reports from July 1, 1997, to June 30, 1998. These estimates also include the use of 1990 Census data to determine the numbers of families with children under the ages of four living in targeted towns and zip code areas, as well as projected population changes during the 90s made by the U.S. Census Bureau. For a better understanding of the methodology and the results, see Stewart and Black, "Estimated Rates of Child Abuse and Neglect for Towns and Selected Zip Code Areas in Connecticut" (forthcoming).

Table 13. Abuse and Neglect Rates for Families in Towns HFC Serves

<u>Town</u>	<u>Program Site</u>	<u>Abuse/Neglect Rate</u>
Ansonia	Derby	2.01
Bridgeport	Bridgeport	3.56
Danbury	Danbury	4.34
Derby	Derby	3.05
East Hartford	Manchester	3.20
Hartford	Hartford	4.73
Manchester	Manchester	2.69
Milford	Derby	1.01
Naugatuck	Derby	2.87
New Haven	New Haven	5.17
New London	New London	5.48
Orange	Derby	0.56
Oxford	Derby	0.17
Seymour	Derby	2.47
Shelton	Derby	0.66
Vernon	Manchester	3.01
Waterbury	Waterbury	4.04
West Haven	Derby	2.89
Woodbridge	Derby	0.27
Total		
Towns		3.3
Zip Code Areas		3.2

As we can see, the rate of substantiated reports of abuse and neglect for towns providing Healthy Families services is 3.3%. When we examine only zip code areas where HFC services are provided, the rate is virtually the same (3.2%). Table 13 also demonstrates the variation in rates across towns. The rates in New London and New Haven are above 5%, while the rates in Hartford, Danbury and Waterbury are above 4%. The HFC rate for high-risk families (5.3%) is higher than the rate for all families with young children living in towns and zip code areas where HFC services are provided. The HFC rate is in the same range as towns in the state with the highest rates of child abuse and neglect (4-6%).¹⁸ These data are difficult to interpret without a randomly assigned control group. What should we expect the rates for the high-risk HFC population to be relative to the general population? According to Daro and Harding's review of the research literature on child abuse and neglect, the risk of harm for populations comparable to Healthy Families participants is two to three times greater than the general population.¹⁹ If this is the case, then perhaps we can be somewhat encouraged that the rate for high-risk HFC

¹⁸ Child abuse and neglect rates for families with young children were reported to be between 4-6% for ten towns in the state of Connecticut. Three town rates exceeded the HFC rate—Windham (6.1%), New London(5.5%) and Putnam(5.7%). See Stewart and Black (forthcoming) "Estimated Rates of Child Abuse and Neglect for Towns and Selected Zip Code Areas in Connecticut" Although, we did not have comparative state data for the 1998-1999 year, the abuse and neglect rate for HFC families for this time period was 6.7%]

¹⁹ See Daro and Harding (1999) "Healthy Families America: Using Research to Enhance Practice" The Future of Children, p. 168.

families does not exceed twice the average rate in towns where HFC services are provided and is in the same range as towns with the highest rates of child maltreatment in the state.

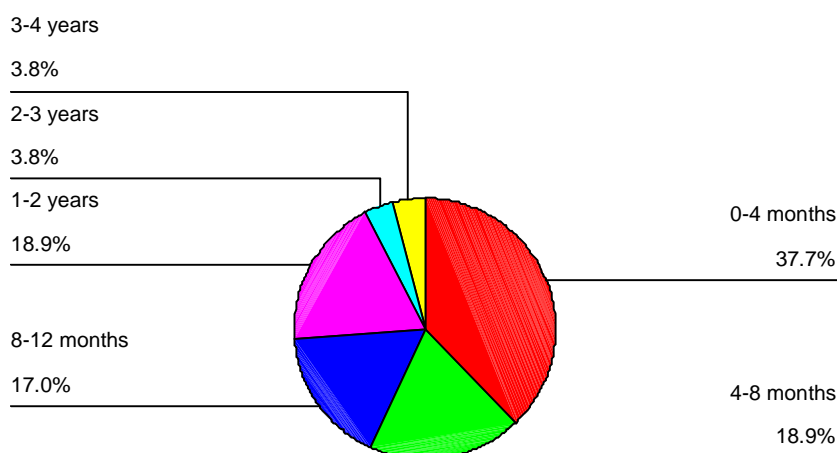
It is not only important to analyze the overall rates of child abuse and neglect among the HFC population, but also to consider how long families had been in the program when incidents occurred and the types of abuse and neglect that were committed. Figure 5 shows how long families had been receiving services when the reports were filed. As we can see, 37.7% of incidents occurred during the first four months of program involvement. One reason for this is that reports are sometimes made by a hospital social worker at the time of the baby's birth. This is also around the time that families usually enroll in HFC services; in fact, in some instances, a hospital social worker makes a dual referral for both DCF and HFC. What is most important about these data is they indicate that most families had only limited exposure to the program when these incidents occurred. Some evaluations of Healthy Families programs around the country do not include in their abuse and neglect rates families who have not been in the program for a period of time that would be reasonable for the program to have an impact. In Arizona, for instance, they only include families who have been in the program for at least 6 months.²⁰ If we did this, our abuse and neglect rates would have been significantly lower.²¹ We decided to include families from the time they entered the program because we believe that this is important information for program leaders. If most reports are made in the first four months of program participation, for instance, then more efforts may need to be directed at reaching mothers pre-natally.²²

²⁰Krysik et. al. (1997). Healthy Families Arizona: Evaluation Report 1992-1996.

²¹If we had only included families who had been in the program for at least 6 months in our calculations then the cumulative abuse and neglect rate presented earlier would have dropped from 7.7% to 5.4%. If we had only included families who had been in the program for four months in the annualized calculations for 1997-98, the abuse and neglect rate for families would have dropped from 5.3% to 2.4%. In the 1998-99 sample, however, the rate would have only dropped marginally from 6.7% to 6.3%.

²²We should note, however, that even though 38% of substantiated reports are filed in the first four months, only 3% of all families who received services for four months had substantiated reports filed. Nevertheless, this does not change the fact that nearly 4 out of every 10 reports are filed within the first four months of program participation before the intervention is likely to have had much of an impact.

Figure 5. Length of Time Families Were Receiving Services When 1st DCF Report Was Made (N=53)



In Table 14, we report the types of abuse and neglect for all HFC substantiated reports. As the table illustrates, among the 667 families who participated in the program last year, there has only been 1 substantiated case of physical abuse at any time during their participation in the program. Moreover, the father of the child was reported as the offender in this case. Most reports are made for physical (48.5%) and emotional (43%) neglect. When we compare our data to nationally available data on families with similarly aged children (0-3), the percentage of substantiated reports of physical abuse for the HFC population is much lower (1% v. 19%), the rates of physical neglect are comparable (48.5% v. 54%), while the percentage of substantiated emotional neglect reports clearly exceeds the national rate (43% v. 3%). Because of the extraordinarily low percentage of emotional neglect cases nationally, we are dubious about these data. It is possible that not all states use this category for reporting; moreover, 14% of cases nationally were reported as unclassifiable or listed under multiple types of abuse and neglect. It is possible that what Connecticut refers to as emotional neglect is being recorded in other states under these categories. Nevertheless, reports for emotional neglect are high in Connecticut. One possible explanation is that, in Connecticut, incidents involving substance abuse or domestic violence are often classified as emotional neglect. Our data show that of the substantiated reports involving emotional neglect, about one-third involved drugs (31.3%) and nearly two-thirds involved domestic violence (62.5%).

Table 14. Types of Substantiated Abuse and Neglect Incidents for HFC and U.S. Populations

	<u>HFC</u>	<u>U.S.</u>
Physical abuse	1%	19%
Physical neglect	48.5%	54%
Emotional neglect	43.4%	3%
Medical neglect	7.1%	-
Sexual abuse	0%	10%
Other	-	14%
Total	100%	100%

What can we conclude from these data? Unfortunately, without a randomly assigned comparison group our conclusions are only tentative. Using both DCF and program site records, 7.7% of the 711 children in families receiving HFC services were victims of child abuse and neglect at any time during their participation in the program. Of course, having a mandated reporter in the home on a regular basis increases the chances of a report being filed. Of the 67 substantiated reports, one-fifth were made by HFC staff. Only one substantiated case involved physical abuse, while the majority of cases involved physical and emotional neglect and 37.7% of incidents occurred within the first four months of program services. When we annualize our data to make comparisons with state data, our child victimization rate is twice the overall state rate. When we calculate rates for families with children four years and younger in geographical areas where HFC services are offered, the HFC annualized abuse and neglect rate for families is almost twice the rate for towns and zip code areas and is in the same range as towns with the highest rates of child maltreatment in the state. Without a control group, any interpretation of these data will be somewhat subjective, but a cautious interpretation would suggest that the program is doing an adequate job of holding incidents of child abuse and neglect to relatively low rates given the high-risk status of participating families. What is evident in these data, however, is that a large number of emotional neglect cases are inflating the overall HFC abuse and neglect rate. The frequent involvement of substance abuse and domestic violence issues in these cases suggest that the best way to reduce the HFC child maltreatment rate is to more directly address these related problems.

For any program to be successful in reducing social problems, it must develop linkages with other programs and services. No program, by itself, is a panacea; however, developing a network of easily accessible services can strengthen families in a community. One of the advantages of a home visitation program is that a knowledgeable home visitor can direct families to needed services and can furthermore provide encouragement and support for family members participating in those services, whether they involve substance abuse, domestic abuse, or psychological counseling. In the next section, we discuss some of the service interlinks that HFC utilizes.

Where are HFC participants referred for additional services?

Since the program began in 1995, HFC has made 3899 referrals to participants for additional services, while participants have complied with 2522 (65%) of these referrals. The types of

service referrals are described in Table 15. As we can see, the majority of referrals are for education, employment and parenting classes. Seventy percent of family members comply with referrals to education and employment services and about one-half comply with referrals for additional parenting classes. Referrals to WIC, DSS and Social Security are mostly for welfare entitlements; together these referrals total 689 for which there has been 79% compliance. Housing needs and day care or early intervention needs were also frequently addressed.

Table 15. Community Resource Referrals and Rates of Compliance

Type of referral	# Made	# Complied With	% Compliance
WIC	258	208	80.6%
DSS	395	310	78.5%
Social Security	36	28	77.8%
Food needs	119	105	88.2%
Housing needs	326	219	67.2%
Energy issues	78	54	69.2%
Household needs	124	104	83.9%
Legal services	121	88	72.7%
Early intervention/day care	251	143	57.0%
Mental health/counseling	203	99	48.8%
Crisis intervention	68	48	70.6%
Parenting classes/support	454	220	48.5%
Substance abuse assistance	12	9	75.0%
Domestic violence services	90	41	45.6%
Employment/education services	585	407	69.6%
Child protection services	72	61	84.7%
Recreation	280	157	56.1%
Neighborhood/religious/ cultural	205	98	47.8%
Other	222	123	55.4%
Total	3,899	2,522	64.7%

Turning to some of the problems discussed in the previous section, there have only been 12 referrals for substance abuse assistance. Given the prevalence of substance abuse problems associated with reports of emotional neglect, more training for responding to these problems as well as better linkages with local substance abuse services may be prudent. We should recognize, however, that the presence of substance abuse in neglect cases may involve family members or friends rather than the mother herself; in which case, outreach efforts may be more difficult to accomplish. Nonetheless, this appears to be a problem that needs programmatic attention.

There were 90 referrals made for domestic violence services, with a 46% compliance rate, and 203 referrals made for mental health services, with 49% compliance. Given the reluctance

among the general population to pursue these services, these compliance rates are relatively high; but also, given the vulnerabilities of this population, these are linkages that need to be very strongly developed.

In general, these data are impressive. The program is doing a good job of linking families with community services. Because of the vital importance of linking families with medical providers in the community, we used different outcomes to assess these linkages, which we report in the next section.

Are HFC children linked to a medical provider and are they properly immunized?

To determine whether HFC families are being properly linked to medical providers, we recorded two outcomes. First, we recorded the frequency of hospital emergency room (ER) use among HFC families while they were participating in the program and asked home visitors to indicate whether the use of the ER was appropriate. When families, especially low-income families, have not established a relationship with a medical provider, they are more likely to use the ER for routine medical services. As our data indicate in Table 16, there have been exactly 400 visits to the hospital ER by HFC families over four years and 361 of these visits, or 90%, were considered by home visitors to be appropriate.

Table 16. Emergency Room (ER) Visits

<u># ER Visits Made</u>	<u># Appropriate</u>	<u>% Appropriate</u>
400	361	90.3%

We also collected data on child immunizations to see if the program was effectively encouraging routine use of medical providers. We attempted to assess all children who were active in the Healthy Families program as of July 1, 1999. We used the Connecticut Infant Registry Tracking System (CIRTS) to collect the information and, with the assistance of Healthy Family program directors, contacted family physicians for additional immunization information.

CIRTS is a centralized database that attempts to record immunizations on all children in Connecticut. As of 1994, state law requires pediatric medical providers to report immunization information to the Department of Public Health (DPH). CIRTS contracts with DPH and the Department of Social Services (DSS) to collect their data. Although reporting is required, the reports are made after queries are done by CIRTS. CIRTS must therefore rely upon generated lists of newborns in order to conduct the queries.

This is an immense task that is fraught with data collection challenges. CIRTS uses two strategies to track child immunizations. First, an enrollment form is given to the mother in the hospital for her to complete. She may choose not to complete the form and thereby refuse to be included in the registry. The enrollment forms contain basic information such as the mother's name, her date of birth, address, phone number and her primary care physician (PCP). These records are checked against the Automated Vital Statistics System (AVSS) which records all births in Connecticut. Approximately 70% of all births are registered through the use of the enrollment form.

Second, information is also collected from Medicaid managed care providers. Once a month these providers send information to CIRTS on families with children less than two years of age. CIRTS uses this information to track the families' PCP and then subsequently queries the PCPs. A query is done when the child is seven months, nineteen months, and then finally at the child's second birthday (twenty-four months). Children could then be missing from the CIRTS database if enrollment forms were not filled out, if they were not enrolled in Medicaid or if they refused registry. Moreover, data collection is not an easy process—managed care providers do not always report the correct PCP for the family and a full-time CIRTS staff member is required to contact PCPs to remind them to provide immunization information. If an incorrect PCP is given or if the doctor does not send the information in a timely manner, then information for the baby is not checked again until the next age marker. Because state law requires reporting unless the mother has refused registry, earlier problems are usually corrected by the last reporting period; therefore, the most complete and reliable data are compiled for children at two years of age.

In our study, we used the CIRTS database as a first option for data collection. We were able to track immunization information for 39% of our families using CIRTS. If a family was considered not up-to-date or was missing on the CIRTS, we sent forms to physicians to either verify their status or to acquire immunization data.²³ Immunization information was obtained for another 34% of families using this method. Thus, of the 454 children whose families were receiving services as of July 1, 1999, we obtained immunization records for 333 of them, or 73%. We computed up-to-date immunization rates for this group, but since the most reliable data reported by CIRTS were documented for two-year-olds, we also computed rates for HFC children who had reached their second birthdays. We used two criteria for determining if immunizations were up-to-date. First, we examined whether children had received all of their immunizations. This criterion did not assess whether immunizations had been given in a timely manner (i.e., on or close to the age markers—2 months, 4 months, etc.) but simply whether they had received all of their immunizations as of July 1, 1999. Of the 333 children for whom we collected data, 93% had received up-to-date immunizations using this criterion. For two-year-olds in the HFC program, 95% had received up-to-date immunizations.

The second criteria were more restrictive. We used the Health Plan Employer Data Information Set (HEDIS) which is used for all commercial plans. We chose these criteria for two reasons: one, HEDIS is a nationally recognized quality assurance measurement tool and, two, the State Department of Social Services (DSS) reports immunization rates for children receiving Medicaid in Connecticut using the HEDIS criteria. By using the same criteria, the DSS rate for children receiving Medicaid provides a good comparison group for HFC children. The HEDIS criteria require the following for children to have up-to-date immunizations: 4 DTP, 2 Hib (one has to be administered at twelve months or older), 3 polio, 1 MMR (has to be administered at twelve months or older), and 3 Hep (one has to be administered at six months or older).²⁴ Results are presented in Table 17.

²³At Waterbury and New Haven Hospitals, forms were sent to the hospital pre-natal clinics where much of the immunization information was obtained on families receiving services at those respective sites.

²⁴The abbreviations, MMR, DTP, OPV/IPV, HIB and HEPB represent the following immunizations: Measles, Mumps, Rubella (German Measles); Diphtheria; Polio (orally administered or injected); Haemophilus Influenzae type b; and Hepatitis B, respectively. We should also note that the Hep B vaccination has not been administered at birth since July 1999, because of concerns regarding mercury contamination. A new vaccine is in the process of being developed.

Table 17. Immunization Rates Using the HEDIS Criteria for Two-Year Olds

	<u>HFC Children (N=74)</u>	<u>Medicaid Children in CT</u>
Up-To-Date	93%	66%

Using the HEDIS criteria, 93% of two-year old HFC children received up-to-date immunizations which compares very favorably to the rate of 66% reported by DSS for children receiving Medicaid in the state. Since the most reliable data are computed for two-year-olds, this comparison is very encouraging and is consistent with the claim made by program managers that child immunization is a high priority in their programs. It should be noted, however, that because of missing immunization data, recent program starts at many sites and the high attrition rate for families in the first two years of program services, we were only able to record immunization data for 74 two-year-old HFC children. Thus, while encouraging, these data should nevertheless be interpreted cautiously.

In addition to tracking the above medical outcomes, we also examined changes that occurred among families over time. In the next section we report on changes that occurred in family circumstances.

Do family circumstances change while families are participating in the program?

When families enter the program we acquire information about their personal circumstances and their living conditions. We then update this information every year, around the time of their children's subsequent birthdays, to see if any changes have occurred. We present these data in Tables 18 and 19.

Table 18. Changes in Maternal and Paternal Life Courses Between Program Entry and One Year

	<u>N</u>	<u>Entry</u>	<u>1 Year</u>
Mothers with < a high school education	256	67.2%	59.8%***
Mothers employed	265	12.8%	41.9%***
Mothers employed full time	265	3.0%	13.6%***
Mothers in school	257	36.2%	35.0%
Mothers with financial difficulties	253	62.1%	56.1%
Mothers socially isolated	252	31.3%	24.2%*
Mothers' satisfaction with her boyfriend/husband	36		
Very/somewhat satisfied		87.7%	88.6%
Rarely/not satisfied		12.3%	11.4%
# of Relatives the Mothers Sees A Week	47	3.96	4.00
How supportive are those relatives?	46		
Very/somewhat satisfied		100%	90.2%
Rarely/not satisfied		0%	9.8%
# of Friends the Mothers Sees A Week	44	2.66	2.25
How satisfied is she with those friends?	32		
Very/somewhat satisfied		94.7%	96.3%
Rarely/not satisfied		5.3%	3.7%
# of People the Mother Can Count On In Times Of Need	46	3.83	3.72
Father very/somewhat involved	242	68.6%	64.0%
Fathers with < a high school education	186	55.4%	53.8%
Fathers employed	201	59.7%	57.2%
Fathers in school	193	17.1%	10.4%*
Father abuses alcohol	144	11.1%	19.4%**
Father abuses drugs	145	22.1%	21.4%
Fathers with financial difficulties	164	54.9%	50.0%
Fathers socially isolated	157	17.2%	10.2%
Mother's income	234		
Under \$5000		96.0%	82.5%
\$5,000 to \$9,999		1.6%	9.4%
\$10,000 to \$14,999		1.6%	4.7%
\$15,000 to \$24,999		0.8%	3.4%
Receiving Medicaid	247	80.6%	85.0%
Mothers living independently	240	53.3%	66.3%***
Mothers receiving food stamps	241	44.0%	50.2%
Mothers receiving WIC	245	84.9%	82.0%

* p< .05 ** p <..01 ***p <.001

Table 19. Changes in Maternal and Paternal Life Courses Between Program Entry and 2 Years

	<u>N</u>	<u>Entry</u>	<u>2 Year</u>
Mothers with < a high school education	95	63.2%	54.7%
Mothers employed	96	8.3%	44.8%***
Mothers employed full time	96	3.1%	15.6%
Mothers with financial difficulties	95	67.4%	56.8%
Mothers socially isolated	94	33.0%	18.1%**
Father very/somewhat involved	83	69.9%	57.8%*
Receiving Medicaid	83	75.9%	90.4%**
Mothers living independently	84	56.0%	93.0%***
Mothers receiving food stamps	88	48.9%	58.0%
Mothers receiving WIC	85	76.5%	89.4%*

* $p < .05$ ** $p < .01$ *** $p < .001$

During the first year, there is a significant increase in the percentage of mothers who complete high school, who are employed, who establish independent households, as well as a significant decrease in the home visitors' perceived social isolation of mothers. For fathers, there is a significant decrease in the proportion who are in school and an increase in the percentage of fathers who abuse alcohol and who have an arrest history. Several of these findings, however, need to be qualified. First, while the changes in the percentage of mothers employed is particularly striking in these data, going from 13% around the time of the child's birth to 42% one year later, we need to remember that this is largely a result of mothers dropping out of the workforce to have a child and then re-entering the workforce later. In fact, among mothers in the program for a year, 45% had been employed prior to pregnancy. Thus, the changes in the first year essentially return the employment rate to the same rate as before pregnancy. For mothers who remain in the program for two years, 45% are employed compared to 37% prior to pregnancy.

Second, several of our measures are based upon home visitors' perceptions of the families. Since the first observations of families are completed shortly after the family enters the program and the second observations one year later, some of the changes may be attributable to the home visitor's familiarity with the family, especially regarding more sensitive issues like drug and alcohol abuse. For instance, in terms of the statistically significant changes, it is difficult to determine whether there has been an *actual* increase in fathers' alcohol abuse and arrest histories, or whether these changes are simply due to the home visitors' increased familiarity with their families. Similarly, home visitors report a decline in social isolation among mothers, but this observation is not based upon an objective set of criteria. We also measured social isolation by asking several questions that were taken from the Maternal Social Support Index.²⁵ These questions, as indicated in Table 18, assess the number of relatives, friends and people with whom the mother has frequent contact, as well as her satisfaction with these relationships and with her partner. As we can see, there are virtually no changes in any of these variables which

²⁵ Pascoe (1984) "The Maternal Social Support Index." We added these questions later in the study, so the number of participants for whom one-year updates were completed is smaller. We do not include data for these variables at the two-year point because of the small number of cases.

suggests that the home visitor's reports on social isolation may be misleading, or a function of the FSWs' increased familiarity with their families.

Finally, without a comparison group, it is very difficult to determine if any of these changes can be attributable to the program intervention. Many of the HFC mothers were in high school when they entered the program and many were still living with their own mothers, so we would expect that some proportion of these mothers would have finished high school and would establish independent households even without the support of the program. Unfortunately, it is impossible to determine these differences without a randomly assigned control group.

These caveats notwithstanding, we can provide a reasonably accurate profile of participants' living circumstances one and two years after they begin services. There are some important findings. In addition to knowing that increasing numbers of mothers are finishing high school, becoming employed, and living independently, we do not see any increases in drug and alcohol abuse among mothers and, as would be expected, there is some increase in income. However, the increase in income is small during both the first and second year of program involvement and mostly results in incomes ranging from \$5000 to \$15,000.²⁶ With more mothers moving into independent households and with limited income increases, the proportion of families relying on public entitlements does not decrease. In fact, there are significant increases in the percentages of families receiving Medicaid and WIC at two years as well as an increase in the use of food stamps, even though this increase does not meet our test for statistical significance.

We also tracked subsequent births among mothers participating in the program. We only included families in our calculations who had been in the program for 1.5 and 2 years, since a reasonable amount of time needs to elapse before we would expect a mother to have a second child (i.e., a mother is not likely to get pregnant in the first three months after giving birth to her first child). Of the 231 mothers in the program for at least 1.5 years, 12.6% had a second child, with an average time of 18.7 months between births. Among the 142 families who were active in the program for *at least two years*, 18.3% had a second child, with an average time of 19.2 months between births.²⁷ These rates are similar to the rates reported in evaluations of other Healthy Families programs throughout the country. An evaluation of Healthy Families Nevada, Oklahoma and Wisconsin report a subsequent birth rate of 10% for families who had been in the program for at least one year. Many of the other state evaluations reported the rates of subsequent births that had occurred *within two years* of the first birth. If we had used this criterion, the HFC rate would be 9.1% compared to 7% in one Healthy Families program in Florida and 11% in another Florida HF program.²⁸

To analyze our data on subsequent births further, we ran statistical tests to see if any of our social-demographic variables or risk measures might predict which mothers were more likely to

²⁶While we recorded data on father's income and household income, it was difficult to obtain this information for a significant number of families. Therefore, we only report mother's income because these data are more reliable.

²⁷We also calculated subsequent pregnancy rates for teen mothers in the program. Subsequent teen birth rates were a little lower than the general HFC population—11% of teen mothers active for 1.5 years and 15% of teen mothers active for two years had a second child.

²⁸The David and Lucille Packard Foundation. (1999). Home Visiting: Recent Program Evaluations. *The Future of Children*. (9), Appendix E.

have a subsequent birth. We only found two predictors. Mothers who had subsequent births indicated greater problems within the family on the CAP Inventory and had their first child with fathers who were older. We also assessed whether mothers with subsequent births differed from mothers who did not have subsequent births on any of our parenting outcomes (change scores on parenting scales described in the next section of the report). We did not find any differences.

We conclude this section of the report with a very disturbing observation. Domestic violence is perhaps the most sensitive information we collect on families. It is therefore difficult to get an accurate understanding of the extent of this problem when families first enter the program. However, we are more confident in our assessment of the problem after families have been receiving services for a year because of the home visitors' increased familiarity with the family and the close rapport they usually develop with mothers. As Table 20 indicates, among the 176 mothers for whom this information was reported, nearly one-fourth of mothers had been physically hurt by a partner during the year that they were receiving services, while 30% were living in physically, emotionally or verbally abusive relationships.²⁹ In addition, only a small number of abused mothers pursued any interventions. When we combine this information with the earlier finding that nearly two-thirds of child emotional neglect cases reported to DCF involved domestic violence, the significance of this problem among HFC participants is magnified, as is the need for program leaders to develop additional strategies for addressing it.

Table 20. Presence of Domestic Violence in Families in First Year of Services

Mothers who have been hit, slapped, or kicked by a partner in the past year (N=176)	23.2%
Mothers' relationships with current partner (N=170)	
Partner is physically abusive	11.2%
Partner is emotionally abusive	15.9%
Interventions mothers sought (N=99)	
None was necessary	66.6%
No, even though incident(s) of abuse occurred	1.0%
Spoke to a social worker/counselor	4.0%
Other	2.0%
Not known	27.3%

In the final section of our report on outcomes, we turn to our measures of parenting. Given the program focus on parenting education and support, we have directed the majority of our research activities to studying changes in parenting capacity, attitudes and behavior among the HFC participants.

Do parenting capacities, attitudes and behaviors change while mothers are participating in the program?

In this section, we focus on parenting outcomes by reporting on the results from a variety of standardized measures of parenting over time. Data have been collected regarding changes in

²⁹These questions were also added later in the study, so the number of observations is comparatively smaller than other variables.

program participants' parenting capacities and child abuse potential, the quality of their home environment and actual parent-child interactions. The scales used to assess these domains have also been utilized in other evaluations of Healthy Families programs and include the Child Abuse Potential (CAP) Inventory (Milner, 1986), the Home Observation of the Maternal Environment (HOME) Inventory (Bradley, Caldwell, and Elardo, 1977) and the Nursing Child Assessment Satellite Training--Teaching Scale (NCAST-T) (Sumner & Spietz, 1994). (See Appendix C for a more detailed description of the standardized instruments.)

For each of these scales, we attempt to do three things: first, compare our data with other samples to put HFC families into a broader context; then analyze and interpret changes in HFC families that take place during the first and second years of receiving services; and finally, use statistical techniques to see if there are any identifiable characteristics that might predict which families are more likely to improve on these measures.

Child Abuse Potential Inventory

The Child Abuse Potential (CAP) Inventory is a self-report measure that has been widely used to assess parenting capacity, level of stress and a person's potential to abuse children. The CAP Inventory is administered to the mother shortly after the birth of her child, around the baby's first birthday and at each subsequent birthday. This allows us to look at changes in the mothers who have been active participants in the Healthy Families Program at yearly intervals. Because Healthy Families Connecticut is a voluntary program that works with first-time mothers, it is difficult to collect data on every participant at every data point--some mothers drop out of the program prior to the first or second administration of the CAP and some are not yet engaged by the program sufficiently to elicit their cooperation in completing this inventory. Additionally, some mothers find the 160-question inventory too laborious to complete. To address the last concern, this past year we have made efforts to increase compliance on this instrument by employing a shorter version of the CAP. The original CAP inventory included validity scales, one of which tests if respondents are answering questions in a socially desirable manner. We performed analyses both with families who had elevated scores on this scale and with these families removed from the sample. The results were very similar between the two sets of analyses, indicating that there was no need or advantage to using this scale to exclude families with elevated social desirability scores from our analyses. Consequently, in consultation with Milner, we began employing a 77-item version of the CAP that did not include the validity scales.³⁰

The CAP Inventory has six subscales plus an overall Abuse scale. For each, a high score indicates that the individual is at higher risk for abuse and neglect. In Table 21, we report outcome data on the 191 mothers who completed the birth and one-year administrations of the CAP. In Table 22 we report data on the 63 mothers who completed the birth and two-year administrations of the CAP.

In addition to providing us with a picture of change over time, these data allow us to view our families in comparison to other populations. Scores above 166 on the CAP Inventory indicate

³⁰The shortened scale also does not include two of the subscales--the ego-strength and the loneliness subscales. Neither of these subscales, however, was central to our assessment of HFC families.

elevated risk of child maltreatment. As discussed earlier in the report, the *average* abuse score on the CAP inventory for HFC mothers is above 166 at the birth administration. At the first administration of the CAP Inventory, 44% of the mothers scored above 166, at the second administration, 41% were above this score and, at the two-year administration, 38% were above this score. A score of 215 or more--which is the top 5% of scores from Milner's normative group--is the highest risk category, an indicator of potential physical abuse.³¹ Thirty-two percent of our families scored above 215 at the birth administration, 33% scored above 215 at the one-year administration and 24% scored above 215 at the two-year administration. These data make it clear that Healthy Families Connecticut is indeed serving clients who are undergoing severe stress and in need of services.

Table 21. Mean Score on the CAP at Birth and One Year (N=191)

<u>Subscale</u>	<u>Birth</u>	<u>1 Year</u>
Abuse	176.22	163.17*
Distress	106.87	97.20*
Rigidity	26.21	20.85***
Unhappiness	15.04	16.53
Problems w/ child & self	1.13	1.82**
Problems w/ family	11.73	12.66
Problems from others	14.40	13.87

*p < .05 **p < .01 ***p < .001

These data also provide further evidence that the families who remain in the program for longer periods of time are the ones who may be in greatest need of services. The first-administration Abuse score for the 191 families who completed the 1-year CAP was 176; the first-administration Abuse score for the 63 families who completed the 2-year CAP was 182. In other words, the 63 families who have stayed in the program for at least two years began services at greater risk for abuse than the families who stayed in the program for only one year.

Turning our attention to change over time, Table 21 shows there was a significant decrease between the birth and one-year administrations in the average score for the overall Abuse scale. There were also significant decreases in the Distress and Rigidity subscales and a significant increase in the Problems with Child and Self subscale. Taken individually, the significant decrease in overall Abuse scores suggests that mothers who stay in the program for at least one year are significantly less likely to choose inappropriate, abusive behaviors toward their children. The decrease in scores on the Distress subscale suggests that, after one year, mothers are experiencing a decrease in personal distress and adjustment problems. They are feeling less frustration, sadness, confusion, worry and anger, and they are less likely to lose emotional and behavioral control.

The decrease in scores on the Rigidity subscale suggests that parents who remain in the HFC Program for at least one year tend to alter their initially rigid and unrealistic attitudes toward their infants. They begin to have a better and more realistic idea about infant behavior that

³¹Milner (1986). "The Child Abuse Potential Inventory: Manual (2nd ed.)."

should allow them to be more flexible in their responses to their babies and in their abilities to meet their infants' needs.

The increase in scores on the Problems with Child and Self subscale is not in the desired direction. Elevated scores on this subscale reflect a tendency for the mother to describe her child in a negative manner. High scores suggest she perceives her child as being slow, bad, getting into trouble and/or as having limited ability or competency. One possible explanation for this finding is that these negative perceptions may be age-related. Perceiving a child as slow, handicapped, troubled, having special problems, or otherwise "bad" may be less likely when the child is a newborn. But as the child develops and becomes more active at one year, he or she is more likely to get into trouble and to exhibit both good and bad behaviors--or at least behaviors that can be perceived as such.

Table 22. Mean Score on the CAP at Birth and Two Years (N=63)

Subscale	Birth	2 Year
Abuse	182.24	145.22***
Distress	110.79	81.92***
Rigidity	29.95	19.71***
Unhappiness	16.29	15.62
Problems w/ child & self	1.59	2.02
Problems w/ family	9.84	12.33
Problems from others	13.46	12.40

***p < .05 **p < .01 ***p < .001**

Table 22 presents data on the birth and two-year administration of the CAP. Again we are finding that the Rigidity subscale, the Distress subscale and the overall Abuse scale are significantly lower at the second-year assessment than at birth. This is promising because it suggests that mothers who remain in the program continue to reflect less rigid attitudes toward their children, are significantly less likely to choose inappropriate, abusive behaviors towards their children and are less likely to feel frustrated, upset, angry, or lose emotional and behavioral control. The increase on the Problems with Child and Self subscale at the two-year administration is in the same direction as seen at one year, but is no longer statistically significant.

Home Observation for Measurement of the Environment Inventory

The Home Observation for Measurement of the Environment (HOME) Inventory is a measure of the quality and stimulation of the home environment. The HOME Inventory has been highly correlated with later child development and intellectual measures.³² The information needed for scoring the scale is obtained by conducting a relaxed, but focused interview with the parent, as well as observing the parent-child interaction and materials available in the home. Research assistants trained to use the instrument administered the HOME Inventory. Interviews and

³² Bradley et. al (1986) "Early Home Environment and the Development of Competence: Findings from the Little Rock Longitudinal Study." *Children's Environmental Quarterly*

observations were conducted within the first three months of the child's birth and again at one year of age and at each subsequent birthday. We were able to collect data on 127 families who completed both the 3-month and 1-year administration of the HOME. These data are presented in Table 23. Data on the 60 families who completed the HOME at 3 months and 2 years are reported in Table 24.

When we compare our families' HOME scores with other samples, we find that the mean score for HFC families at three months (31.65) is slightly higher than the norm of 28.49 reported by Caldwell and Bradley.³³ When we compare HFC families' HOME scores to other HFA families' scores we find that the HFC mean (31.65) is in the range of scores reported by four other programs (26.6–34.6).³⁴

Table 23. Mean Score on the HOME at 3 Months and One Year (N=127)

<u>Subscale</u>	<u>3 Months</u>	<u>1 Year</u>
Responsivity	7.98	8.35
Acceptance	6.45	5.93***
Organization	4.61	4.65
Learning materials	5.83	7.67***
Involvement	3.81	4.22*
Variety	2.94	3.28*
Total Score	31.65	34.13***

*p < .05 **p < .01 ***p < .001

Table 24. Mean Score on the HOME at 3 Months and Two Years (N=60)

<u>Subscale</u>	<u>3 Months</u>	<u>2 Year</u>
Responsivity	7.47	8.42**
Acceptance	6.30	5.45***
Organization	4.65	4.62
Learning materials	5.13	7.62***
Involvement	3.88	4.03
Variety	2.82	3.52***
Total Score	30.27	33.48***

*p < .05 **p < .01 ***p < .001

When we look at our families at three months and one year, data indicate that scores on the HOME Inventory were significantly higher, or more positive, at one year on three of the six subscales as well as on the total HOME score. Significant positive changes were demonstrated after one year of program involvement on the Learning Materials, Involvement and Variety

³³ Caldwell (1984) "Home Observation for Measurement of the Environment rev. ed."

³⁴ The David and Lucille Packard Foundation. (1999). "Home Visiting: Recent Program Evaluations." *The Future of Children*. Appendix E.

subscales. These results suggest that first-time mothers, who have been in the program for at least one year, provided more opportunities for a variety of play activities for their children and were more involved with their children, keeping their babies in visual range, talking to their infants, providing exposure to written materials and exposing their children to an increased variety of people and other activities.

In addition to these positive findings, there was also a significant negative change on the Acceptance subscale. Items on the Acceptance subscale primarily relate to the parent's ability to refrain from exhibiting hostility toward the child and from utilizing physical punishment, criticism and shouting. We suspect this finding may be related to the child's age. As children approach one year of age, they begin to walk and communicate verbally, which may lead these mothers to use more discipline, whether verbal or physical. This interpretation is supported by examining normative scores on this subscale, which show a lower mean score among families with 12-month-old children than families with 6-month-old children.

In comparing scores at 3 months with scores at 2 years, significant differences were found again on the Acceptance, Learning Materials and Variety subscales. Changes in the Involvement subscale, however, no longer met our test for statistical significance. Additionally, scores on the Responsivity subscale increased significantly at two years. This suggests that parents who have been in the program for two years demonstrated improved emotional and verbal responsivity to their children.

One qualification in interpreting these results comes from previous research that shows that HOME Inventory scores tend to "naturally" increase during the first year of life (with the exception of the Acceptance subscale in which there is a decrease). In other words, we would *expect* the HOME Inventory scores to improve over time. In fact, when we reanalyze these data while controlling for normative scores, only two changes are significant during the first year. The Learning Materials subscale continues to show significant improvement above and beyond what would be expected due to maturational effects alone, and the Variety subscale actually shows significantly less increase than would be expected due to "normal" development. It is important to remember, however, that when we make these comparisons we are not comparing groups that have similar risk profiles. The HFC population is a high-risk population and, without a control group that has the same risk profile, it is impossible to know what changes might be expected to occur because of maturation or experience with parenting. We only report the normed population provided by Bradley and his colleagues to provide a benchmark and to demonstrate that we should expect some changes due to maturational effects.

The one finding that is particularly interesting in this analysis is the change on the Acceptance subscale. We had noted before that the scores on this subscale significantly decreased across time and proposed that this would be expected since as the child gets older and more interactive the mother is more likely to view the child negatively and to shout, criticize and exhibit hostility. The changes among the normed population confirmed this explanation--these scores also decreased. When we controlled for these expected changes using the normed scores, the changes on this subscale for the HFC population were no longer significant.

These findings exemplify the difficulty in separating out how much of the positive increases that we are finding among HFC families are due to Healthy Families services and how much are "normal" development or maturational effects. Without a control group, we have no way of knowing how these families would have fared without services. We can still be encouraged, however, that they are making gains on several measures reflecting positive parenting in the home environment.

NCAST Caregiver/Parent-Child Interaction Scale

The NCAST Caregiver/Parent-Child Interaction Scale is an observational instrument designed to assess a variety of domains of parent-child interaction. While the CAP Inventory provided a measure of the parent's views of the child and the HOME Inventory tapped the parent's capacity for fostering an appropriately stimulating environment, the NCAST provides a more direct assessment of the actual interaction between the caregiver and the child. It measures the parent's cues to the infant, the infant's response to the parent's cues, the infant's cues to the parent, the parent's response to the infant cues and the environment in which the interaction occurs. There are two separate NCAST assessment scales, the Feeding scale and the Teaching scale. The evaluation began by using both of these scales to assess parent-child interaction. However, we were not able to obtain sufficient data on the Feeding scale due to the difficulty of scheduling visits when the infant was hungry. Since we were not able to effectively use the Feeding scale, we presently only use the Teaching Scale to assess the interaction between parent and child.

The Teaching scale contains six observational categories--four for the parent and two for the child--as well as total scores for the parent, the child and the parent-child interaction. Scores on these six subscales and three total scores for the 97 families who completed the three-month and one-year NCAST are presented in Table 25. Since we have not been using the NCAST since the beginning of the evaluation, only 37 families have completed both the three-month and two-year administrations. These data are presented in Table 26.

Table 25. Mean Score on the NCAST at 3 Months and 1 Year (N=97)

Subscale	3 Months	1 Year
Caregiver subscales		
Sensitivity to cues	8.32	8.32
Response to distress	10.09	9.51*
Social-emotional growth fostering	7.27	8.20***
Cognitive growth fostering	9.53	11.23***
Caregiver Total	35.20	37.13**
Child subscales		
Clarity of cues	7.48	8.52***
Responsiveness to caregiver	6.92	8.60***
Child Total	14.40	17.22***
Caregiver/Child Total	49.60	54.23***

*p < .05 **p < .01 ***p < .001

Comparing our NCAST data at three-months with Barnard and her colleagues' six-month normative data suggests that our families score somewhat lower on the Caregiver total (HFC=35.20; norm=38.8), about the same on the Child total (HFC=14.40; norm=13.80), and somewhat lower on the overall interaction score (HFC=49.60; norm=52.60).³⁵

Data from the NCAST reveal that families who remain in the program for at least one year demonstrate significant improvement in two of the four caregiver subscales, both child subscales and all three total scores. Taking them one at a time, the first two significant effects are caregiver subscales. Improvements on the Social-emotional growth fostering subscale indicate that after one year in the program, caregivers are better able to vocalize with their children and to avoid yelling at them or making uncomplimentary remarks or critical statements. First-year increases on the Cognitive growth fostering subscale suggest improvements in the parents' capacities to provide stimulation to their infants at a level that is just above their child's current level of understanding.

The significant improvement on the Social-emotional growth fostering subscale at one year raises an interesting contrast to the previous finding from the Acceptance subscale of the HOME. In the Acceptance subscale, significant decreases were found at one year. However, both subscales are measuring similar constructs. Both measure the caregiver's ability to refrain from yelling and making critical comments. The difference between these two subscales--and perhaps the reason why the NCAST subscale revealed improvements while the HOME subscale revealed just the opposite--is that the NCAST also measures much more subtle aspects of the actual parent-child interaction. The NCAST measures such caregiver behaviors as relaxed body posture during the teaching interaction, whether the caregiver positions herself face-to-face with the child during the interaction, whether the caregiver laughs, smiles, gently pats and caresses the child and whether the caregiver immediately and appropriately responds to the child's behavior. Positive parenting outcomes on this measure may be observed because the NCAST is better able to recognize these more subtle forms of interaction.

The next two scales are "child" subscales, the first of which is Clarity of the Infant's Cues. Sometimes a caregiver is very alert to her infant; however, some infants send ambiguous cues. Improvements on this subscale indicate that at one year, the child is better able to send clear cues to the caregiver. For example, the child will smile and frown, clearly reach, clap, wave, pound or point and give clear signals that they have had enough. The Infant's Responsiveness to the Caregiver scale measures whether the infant is able to read the cues sent by the caregiver. First-year increases on this subscale reflect improvements in the child's ability to look toward the caregiver when the caregiver attempts to get his or her attention and to respond to attempts by the caregiver to calm the child when he or she is upset. While we might expect these changes to occur naturally as the child develops, these behaviors are more likely to develop if the mother is actively facilitating them.

Findings from these subscales suggest that mothers who remain in the program for at least one year demonstrate significant improvement in their capacity to foster their infants' social-emotional and cognitive growth. Furthermore, the infants are sending and reading their parents'

³⁵ Sumner, G. & Spietz, A. (1994) "NCAST Caregiver/Parent-Child Interaction Teaching Manual."

cues significantly better. Overall, the data suggest that both mothers and infants are making significant progress in improving parent-child interaction, which is an extremely important finding given the high-risk profile of the HFC population.

The one exception to these positive indications is the finding that scores on one of the caregiver subscales--Response to the Child's Distress--significantly decreased at one year. Because nonverbal infants cannot call out for their parents' help when they need assistance, it is important that parents are able to recognize when their infants need help. This subscale assesses whether the caregivers respond to their infants' signals of distress, such as back arching, fussing and pulling away. Although scores on this subscale decreased during the first year, there was no such decrease at year two, as indicated in Table 26. All of the other significant positive changes found at year one were still present at year two, with the additional finding of a significant improvement on the Sensitivity to the Infant's Cues subscale. This finding indicates that parents who have been in the program two years have an improved awareness of the infant's cues. Parents could more effectively capture an infant's attention, position the baby so that he/she can see the parent easily, praise the child and not use physical force to get the child to perform tasks.

Table 26. Mean Score on the NCAST at 3 Months and 2 Years (N=37)

Subscale	3 Months	2 Year
Caregiver subscales		
Sensitivity to cues	8.22	8.97*
Response to distress	9.70	9.78
Social-emotional growth fostering	6.68	8.62***
Cognitive growth fostering	8.95	11.92***
Caregiver Total	33.24	39.30***
Child subscales		
Clarity of cues	7.68	8.57***
Responsiveness to caregiver	6.41	8.22**
Child Total	14.08	16.78***
Caregiver/Child Total	47.32	56.14***

* $p < .05$ ** $p < .01$ *** $p < .001$

As with the HOME Inventory, there is an important caveat to interpreting these one-year and two-year changes on the NCAST. Normative data collected on the NCAST reveal naturally occurring maturational changes on these measures across time. That is, most of the subscale scores for a normative population increase with age for both the caregiver and the child. To attempt to control for such maturational effects, we analyzed HFC change scores by comparing them to changes in the NCAST normative sample consisting of over 2,000 families observed all over the United States over the past 15 years.³⁶ Unfortunately, this normative sample differs from HFC families in several important respects: the parents in the normative sample are older and more likely to have completed high school, fewer of them are single mothers and the majority are white. Consequently, scores on the NCAST for the normative sample are higher than the scores for HFC families. We did limit the normative sample to families with first-born

³⁶Sumner and Spietz (1994). "NCAST Caregiver/Parent-Child Interaction Teaching Manual."

children, since this was a common characteristic of HFC families. Nevertheless, the comparative sample consists of higher functioning families than the HFC population. Comparing HFC families to this normative sample--or to any sample for that matter--is not an adequate substitute for a randomized control group. Nonetheless, the present comparison group is a helpful guide to understanding how some families change over time, but not the same as knowing how our families would have changed had they received no services during the year.

Looking, then, at changes on the NCAST for our families at 3 months and 1 year, and controlling for changes in the normative sample, we find that most of the previously noted changes are no longer statistically significant. The only changes that remain significant are in the caregiver subscales: one is in the positive direction and three in the negative direction. The one positive change above and beyond "expected" normative differences occurs in the Social-emotional growth fostering subscale. This is an important finding when we consider that the normative group is a higher functioning group of mothers. The three significant negative changes occur in the Sensitivity to Cues and Cognitive-growth fostering subscales and in the Caregiver total score. These comparisons mean that the changes on these scales for the HFC population did not occur at the same rate as they did for the population of higher functioning families.

Of course, these are difficult comparisons to make because the two groups are so different from one another. However, there is encouraging news. When we examine HFC families' change scores at 3 months and 2 years, and control for normative changes as we did before, the only change that remains significantly different is the positive gain made by mothers on the Social-emotional growth fostering subscale. This is encouraging because Social-emotional growth fostering depends on the mother's initiative and ability to play affectionately with her child and to encourage and provide appropriate social reinforcement of the child's desirable behaviors. To do these things requires the mother to be aware of her child's level of development and to be able to adjust her behavior accordingly.

Predicting Changes in Parenting Outcomes

A final set of analyses was conducted to help answer the question of whether specific family characteristics can help us predict outcomes on these three parenting measures. If variables do exist that can help predict which families might have greater difficulties in one or more areas over time, this information could help program leaders better target their services.

To begin, change scores were created for each parenting outcome measure by subtracting scores at the first administration from scores at one year. We focused on first-year data because the number of cases was larger, providing more opportunity for variation. We then conducted a series of stepwise regression analyses designed to find significant predictors of these change scores. Thus, our dependent measures were the changes in the overall Abuse score on the CAP (between the birth and one-year assessments), changes in the total HOME score (between the 3-month and 1-year assessments) and changes in the Caregiver/Child Total score on the NCAST teaching scale (between the 3-month and 1-year assessments).

The independent variables were: whether the mother or other household member was receiving public assistance; whether the mother had a history of arrest(s); whether the mother had suffered

from social isolation, mental illness, a developmental disability or a physical disability; whether the mother was in school, lived independently, or had a good relationship with the child's father; whether the father was involved in raising the child; whether the mother was currently employed or had been employed prior to pregnancy; the 10 items from the Kempe Family Stress Checklist; the 15 items from the Early Identification Screen; as well as the mother's age and race.

Unfortunately, we did not find any meaningful patterns across our three scales. Five variables were found to be significant predictors of CAP change scores. Mothers more likely to improve were predicted on the Kempe to bond better with their children, did not have a history of arrests, lived independently, but in unstable housing, and were likely to be non-Hispanic. Regression analyses on changes in HOME scores only revealed one significant predictor: there was greater improvement on the HOME when the mother did not have negative perceptions of the child as measured on the Kempe. Finally, regressions on the NCAST revealed four significant predictors of change during the first year. There was greater improvement on the NCAST for mothers who tended to have unrealistic expectations of the child when they entered the program, but were not likely to use harsh punishment, mothers who were married and mothers not living independently.

These findings do not reflect any clear picture of which families are doing better on these parenting measures at one year. In some cases, it appears that high-risk mothers are improving the most; however, in almost as many cases, the opposite is true. Nor is there one common factor that seems to predict changes on all three--or even two--of the parenting measures. The one factor that was a significant predictor for two parenting outcome changes was whether the mother lived independently, but in one case it predicted a negative change and in the other a positive one.

There are at least two reasons for the ambiguity of these findings. First, there were high correlations among many of the predictor variables. For example, younger mothers are also more likely to be single and less likely to have a high school education. When two or more independent variables are correlated, the variable that is the best predictor will be entered into the regression equation first, leaving very little unique variance for the remaining independent variables to explain. In other words, some variables that were *independently* correlated with changes in parenting were not correlated to changes once other variables were entered into the regression equation, and therefore were not included in these models. A second problem with this type of analysis is the loss of power it creates by reducing the available sample. In regression analyses, if a family is missing data on even one variable, it is omitted from the entire analysis. Thus, approximately half of the data were lost from the present analyses.

What are the lessons learned from four years of studying the Healthy Families Connecticut program?

To rigorously assess the effectiveness of Healthy Families Connecticut, a random control study would be necessary. Because of budgetary limitations and the infancy of the program, this report is not based upon a random design but upon a pre-post test design in which we tracked all families who participated in the program and identified changes that occurred among this population that were intended by the program.

Data from this type of design are more difficult to analyze for two reasons: one, we need to develop an interpretive context to make the data meaningful. We do this by comparing the HFC risk scores and attrition rates to national norms, the abuse and neglect rates to town and zip code estimates, immunization rates to a Medicaid population and parenting outcomes to national norms. Each of these comparisons provides benchmarks to help us make sense of the data, but none of these comparisons is with populations that have the same social-demographic and risk profiles as the HFC population. Two, while we can identify changes that have occurred among the HFC population, we cannot determine to what extent these changes are a result of program services. It is possible that the changes we are identifying occurred because of maturation or parenting experience, or because of a changing economic environment, welfare reform, or because of other services the families may be receiving. Nevertheless, we are measuring changes that are occurring among a high-risk population that are consistent with the goals and objectives of the program. If we are finding changes in the areas that the program is trying to impact, it is likely that the program is at least partially responsible for these changes. We cannot know, however, how much change would have occurred without the program intervention. We will proceed with some concluding statements about our research that are based upon informed judgment. These conclusions should be further tested with a more rigorous design; for now, they represent judgments that are based upon the research literature and four years of extensive research on the HFC program.

HFC is a program that attempts to identify and recruit families who are at-risk of child maltreatment and who could benefit from parenting education and support. The program attempts to help stabilize vulnerable families, to link them to other services in their communities, to teach them how to actively participate in the development of their children and to reduce the incidences of child maltreatment. Throughout the course of our research, we have attempted to answer several questions that are related to these program goals and objectives.

First, is HFC reaching an appropriate population of families at-risk of child abuse and neglect? We used two measures of risk: the Kempe Family Stress Checklist (KFSC) and the Child Abuse Potential (CAP) Inventory. On the KFSC, the average score for HFC mothers was in the high-risk range; moreover, we discovered that nearly 60% of mothers had been victims of more serious forms of child maltreatment as children themselves. Given the trauma that this can cause and the increased likelihood that as a parent these patterns will be repeated is strong indication that HFC is reaching a population of mothers in need of parenting intervention. In addition, the mean scores on the CAP Inventory also strongly indicate that HFC is reaching a burdened population of parents in need of services. The average score on the CAP was in the range of 'elevated risk for child maltreatment', while nearly one-third of mothers scored in the highest risk category indicating increased potential for physical child abuse. We are confident that the program is doing a good job of reaching a vulnerable population of families who are high-risk for child maltreatment.

Second, is HFC successfully retaining and engaging families in the program? Twenty-two percent of families leave in the first six months of services, 43% in the first year, while only 37% stay in the program for two years. Given that HFC offers families services for as long as five years, these numbers do not look favorable. Before we deliver judgement, though, we need to know the reasons why families are leaving. Our data indicate that one-half of families leave the

program because they move out of the service area, have no time for home visits because they are working or in school, or meet their goals. Since 1995, about 20% of families have left the program because they refused further services or were non-compliant. The research literature does not provide much help in interpreting these rates. Attrition rates vary considerably across evaluations, often depending upon how it is measured. For instance, in a summary of the literature on recent home visitation programs, Gomby and her colleagues report that 20% to 67% of families leave the program before their intended completion. Certainly, our attrition rate falls within this scope, but these parameters do not provide a good criterion for judgement. We also used our data to calculate an engagement rate. We found that among families who were classifiable, the program successfully engaged 77%. This rate is similar to other Healthy Families America sites, where Daro and Harding report that 70 to 80% are successfully engaged. But again, what conclusions can we draw?

Child maltreatment is a serious issue and there is clearly a need to reach parents who might benefit from a parenting intervention. But these programs are strictly voluntary. The state does not have the authority to force compliance with services before an incident of child maltreatment occurs, despite the risk characteristics of families. These are difficult waters for program leaders to navigate. They must conduct outreach practices attempting to identify and recruit vulnerable families. However, if families likely to be reported for child maltreatment are struggling with problems such as poverty, substance abuse, domestic violence or depression, they may not want to open their homes to a weekly home visitor and, even in cases where they do, they may remain resistant to services. As indicated above, the program has done a good job of reaching a high-risk population. These families will nevertheless be difficult to retain and engage. Given the risk profiles of HFC parents, the HFC attrition and engagement rates do not seem unreasonable. Moreover, it may be unrealistic to expect the majority of families to stay in the program for five years. What seems more important is that HFC is reaching a high-risk population and providing services to a large number of parents in the early stages of parenting. As we know, early engagement is important, for it is during this period that many developmental milestones occur.

Third, how often do high-risk families receiving services abuse or neglect their children? When we calculate annual rates for 1997-1998 and 1998-1999, we find that substantiated incidents of abuse and neglect reported to DCF occurred in 5.3% and 6.7% of HFC families while they were receiving services. These rates are around twice the rate for all families with children under the age of four living in towns (3.3%) and zip codes (3.2%) where HFC services are offered. The HFC rates are in the same range as towns with the highest abuse and neglect rates in the state (4-6%). Examining these data more closely reveal important patterns. First, 38% of substantiated incidents were reported to DCF during the first four months of program participation, which is before the program is likely to have made much of an impact. Second, for the 667 families in the program in 1998-1999, only one case of child physical abuse had occurred at *anytime* during their participation in the program. This is a program accomplishment and results in a physical abuse rate that is much lower than national norms. On the other hand, the program had high rates of emotional neglect cases, which is inflating the overall abuse and neglect rate for families in the program. Further, nearly one-third of these cases involved substance abuse and nearly two-thirds involved domestic violence. Clearly, if the program is to reduce child maltreatment among its population, substance abuse and domestic violence will need to be directly confronted. This may involve establishing better programmatic links with battered women's shelters and

substance abuse programs and perhaps developing program interventions for fathers. These program extensions and developments will add cost to the program, but our research strongly suggests that these new strategies are essential to the goal of reducing child maltreatment.

Fourth, is the program effectively linking families to other services in their communities? This is an important part of the program because, while HFC is a parenting education and support program that provides weekly home visitation services, it is not a panacea that is going to resolve the myriad problems that encumber many of these families. HFC must rely upon a network of services in their communities where families can be referred for additional assistance. The program has done an excellent job of linking families to community services. Since 1995, 3899 referrals have been made for a variety of different types of services, including education, employment, parenting, housing and early intervention services, to name a few. Families have complied with 65% of these referrals. The families have also been linked effectively to a regular medical provider. Using criteria that assess whether children are receiving timely immunizations, 93% of two-year-old HFC children were determined up-to-date compared to 66% of children receiving Medicaid in the state. Further, families are apparently relying on their regular medical providers for routine medical needs instead of hospital emergency rooms. Only 10% of hospital ER visits were viewed by home visitors as inappropriate.

Fifth, are families' living circumstances changing while they are participating in the program? In a period of a year, there were significant increases for mothers finishing high school and becoming employed. The percentage of mothers completing high school increased from 33% to 40% in one year, and then to 45% for mothers in the program for two years. The percentage of mothers employed rose from 13% to 42% in the first year, but much of this gain was due to mothers who had left the workforce temporarily to have their babies. Income gains have been modest. The largest increases in mothers' incomes occurred in the \$5000 to \$15,000 range, reflecting earnings mostly from low wage, part-time jobs. The percentage of mothers establishing independent households also increased significantly from 53% to 63% in one year, while 93% of mothers receiving services for two years were living independently of their family members. However, these data are difficult to assess without a comparison group. While we do know that program staff have made a large number of referrals to mothers for educational and employment services and have actively worked with mothers to become more independent, we do not know how many of these young mothers would have completed high school, become employed and established independent households without the program intervention. Given that many of these teen mothers are still in high school and living with their mothers when they enter the program, we can assume that some of them would have finished high school and subsequently established independent households. Further, employment rates have only returned to about the rate of employment prior to pregnancy in the first and second years. It is encouraging that these educational and employment achievements are occurring among a high-risk population and that HFC mothers are establishing independent households, but we would advise caution in attributing too much of this success to the program without a more rigorous assessment.

Because some of the information we document about families is sensitive, we cannot always be sure of the validity of this information when families first enter the program. FSWs become much more familiar with families the longer they are in the program and the information they

document about families one or two years later is therefore more likely to be accurate. Our one-year data provide some very disturbing information on domestic violence. One-fourth of mothers were reported to have been physically hurt by a partner during the year that they were receiving services and a little less than one-third are currently living in physically, emotionally or verbally abusive relationships. In addition, one-fifth of fathers were reported to abuse alcohol and drugs. Clearly, these are issues that program leaders need to address in order to protect women and to reduce child maltreatment among the HFC population.

The sixth and last question this research has tried to answer concerns parenting changes—do parenting capacities, attitudes and behaviors change while families are receiving HFC services? Our data on parenting indicate that participants who remain in the program for at least one year exhibit an improved capacity for parenting. After participation in the program for one and two years, mothers' abuse potential has decreased significantly, largely because of decreases in their personal distress and in their rigid attitudes and expectations concerning their children. The changes on the rigidity subscale are particularly important for they suggest that mothers are developing more flexible and realistic attitudes toward the behaviors of their children. This is a very positive sign, since rigid attitudes toward the behavior of children have been linked with abusive behavior. Results after two years are even more encouraging. They show additional improvements on the Rigidity measure and on other measures of child abuse potential as well. These are important findings because these are areas that the program directly attempts to change.

These changes are reinforced by findings from our scales measuring changes in the stimulation of the home environment and parent-child interaction. Our measures indicate that greater stimulation in the home environment occurred due to changes among mothers who provided more opportunities for a variety of play activities and more books in the home and increased involvement with their children. In addition, mothers in the program for two years showed improved emotional and verbal responsiveness toward their children. This finding was better assessed using our observational measures of parent-child interaction. These data indicated significant improvements in behaviors that foster social-emotional growth and cognitive growth, as well as indications that infants were learning to send and read cues better with their parents. The only exception to this was that in the first year parents were not learning to read cues of distress well—such as back arching, fussing and pulling away. We also found that as children age, parents were more likely to express more negative perceptions of their children, which we attribute to the child becoming more active and independent.

In general, these findings are encouraging, but again we have to urge caution in interpreting these results because our study does not include a randomly generated comparison group. Some of the changes we are finding will occur because of the maturation of mothers as well as the experience of parenting. Just as we might expect mothers' negative perceptions to increase as children approach age two, we might also expect mothers to become more skilled at interacting with their children, reading their cues, learning how to engage or play with them and responding to their distress as they become more comfortable and experienced in their roles as first-time mothers. We tested these assumptions by comparing some of our results to normative changes that occurred among different populations of mothers. However, these populations were higher functioning and had fewer risk characteristics than the HFC population and therefore did not make good comparisons. Nonetheless, on the HOME scores, we found that HFC mothers

showed significantly more improvement in the use of learning materials in their homes than the higher functioning comparative group, but were not as likely to expose their infants to a variety of people. This suggests that FSWs are doing a good job of encouraging mothers to use learning materials in the home, but that HFC families may be more isolated and have fewer fathers involved than a mainstream population. Regarding our observational measures of parent-child interaction, we found that improvements in fostering social-emotional growth among HFC mothers significantly exceeded the improvements made by a higher-functioning comparison group, but that improvements in sensitivity to infants' cues, in fostering cognitive growth and in the total caregiver score were not keeping pace with changes among higher-functioning families.

Overall, we believe these data are promising. Perhaps the most encouraging changes are on the CAP Inventory where we are finding decreases in maternal distress and in rigid parenting attitudes. These are not only areas that the program is directly attempting to impact, but these are changes that are less likely to occur because of maturation or experience—these areas reflect changes in the mother's ability to cope with difficult environments and changes in her cognitive understanding of being a parent. The changes in our observational measures of stimulation in the home environment and parent-child interaction are more likely to be affected by maturation or personal experience. Nonetheless, we are finding important improvements in many of these measures among a high-risk population of mothers, many of whom were victims of child abuse and neglect themselves as children. These findings are indeed encouraging and deserve to be more rigorously tested using a random control study, where comparisons would not be made with a population of higher functioning families but with families whose social-demographic and risk characteristics were the same as HFC families.

In short, we conclude that the Healthy Families program is developing well in Connecticut. It is doing a good job of identifying and recruiting a high-risk population, a reasonable job of retaining and engaging these high-risk families, a good job of reducing child physical abuse and an excellent job of linking families to services in the community. There is also evidence that, on average, mothers who remain in the program for one or two years are achieving educational and employment goals, establishing independent households and making important improvements in their parenting capacities, attitudes and behaviors. However, we have also documented high rates of substantiated reports of child physical and emotional neglect that are related to substance abuse and domestic violence in the household. Reducing child maltreatment among this population will require more systematic responses to these problems.

When we began this study four years ago, we agreed it would not be prudent to conduct an expensive random control study until the program was well established, had developed its administrative protocols, adjusted its curriculum to meet the needs of differing populations across the state, routinized program dynamics and established a program culture—and until the program had demonstrated some signs of program effectiveness. These conditions have now been met. We are completing our process evaluation in the winter of this year and will issue a series of recommendations for program leaders to consider in modifying the existing program intervention. After this is complete, we strongly recommend that a more rigorous test of program effectiveness be conducted. It is only through a random control design that the public can be sure that its money is fostering effective program interventions.

APPENDIX A
HFC FAMILY CHARACTERISTICS

Information on Mothers

Mother's First Live Birth

	All Sites (N=766)	Hartford (N=199)	Waterbury (N=111)	Derby (N=80)	Bridgeport (N=144)	Manchester (N=91)	New London (N=37)	New Haven (N=35)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=9)
No	4.6	2.0	5.4	5.0	6.9	5.5	2.7	5.7	4.0	0	11.1
Yes	93.2	98.0	93.7	80.0	91.0	94.5	97.3	94.3	96.0	90.9	88.9
Not Known	2.2	0	.9	15.0	2.1	0	0	0	0	9.1	0

Mother's Age at Baby's Birth

	All Sites (N=901)	Hartford (N=220)	Waterbury (N=122)	Derby (N=110)	Bridgeport (N=187)	Manchester (N=98)	New London (N=48)	New Haven (N=37)	Danbury (N=56)	Torrington (N=15)	Willimantic (N=8)
Mean	19.73	18.47	19.92	20.81	18.98	20.28	20.09	20.36	22.44	21.24	20.61
Median	18.41	17.66	18.19	19.35	17.98	19.21	19.22	18.88	20.46	20.47	21.21

Mother's Marital Status

	All Sites (N=755)	Hartford (N=195)	Waterbury (N=103)	Derby (N=87)	Bridgeport (N=137)	Manchester (N=90)	New London (N=37)	New Haven (N=36)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=9)
Single, never married	89.5	93.3	90.3	86.2	92.7	87.8	86.5	94.4	74.0	81.8	88.9
Separated	1.7	1.0	1.9	2.3	.7	4.4	2.7	0	0	0	11.1
Divorced	1.5	0	1.9	0	2.9	2.2	2.7	0	4.0	0	0
Widowed	0.1	0	1.0	0	0	0	0	0	0	0	0
Married	7.2	5.6	4.9	11.5	3.6	5.6	8.1	5.6	22.0	18.2	0

Mother's Relation to the Father of the Baby

	All Sites (N=755)	Hartford (N=195)	Waterbury (N=103)	Derby (N=87)	Bridgeport (N=138)	Manchester (N=90)	New London (N=37)	New Haven (N=36)	Danbury (N=50)	Torrington (N=10)	Willimantic (N=9)
Partner/boyfriend	59.6	65.6	67.0	56.3	58.7	55.6	64.9	41.7	42.0	60.0	77.8
Married, but separated	1.1	1.0	0	2.3	0	2.2	0	0	2.0	10.0	0
Married	6.4	5.6	3.9	10.3	2.9	5.6	8.1	2.8	20.0	10.0	0
No Relationship	30.3	26.7	28.2	26.4	37.0	36.7	27.0	33.3	32.0	10.0	22.2
Father is deceased	.2	.5	0	0	.7	0	0	0	0	0	0
Not known	2.4	.5	1.0	4.6	.7	0	0	22.2	4.0	10.0	0

Is Mother's Current Partner the Father of the Baby?

	All Sites (N=754)	Hartford (N=194)	Waterbury (N=103)	Derby (N=87)	Bridgeport (N=137)	Manchester (N=90)	New London (N=37)	New Haven (N=36)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=9)
No	9.3	9.3	10.7	6.9	10.2	4.4	5.4	11.1	16.0	27.3	0
Yes	65.3	71.1	70.9	67.8	59.1	61.1	64.9	44.4	64.0	63.6	77.8
Not Known	1.6	0	1.0	4.6	.7	1.1	0	13.9	0	0	0
Not applicable: (mother does not have a partner)	23.9	19.6	17.5	20.7	29.9	33.3	29.7	30.6	20.0	9.1	22.2

Is Mother Satisfied with her Partner?

	All Sites (N=386)	Hartford (N=86)	Waterbury (N=38)	Derby (N=33)	Bridgeport (N=44)	Manchester (N=46)	New London (N=37)	New Haven (N=36)	Danbury (N=50)	Torrington (N=8)	Willimantic (N=8)
Very Satisfied	39.9	58.1	42.1	15.2	43.1	34.8	27.0	11.1	56.0	25.0	50.0
Somewhat Satisfied	21.8	17.4	15.8	39.4	15.9	17.4	29.7	22.2	20.0	37.5	37.5
Rarely Satisfied	4.4	1.2	5.3	6.1	2.3	6.5	8.1	11.1	0	12.5	0
Not Satisfied	4.4	0	13.2	6.1	6.8	4.3	2.7	8.3	2.0	0	0
Don't Know	4.4	0	2.6	15.2	2.3	4.3	0	19.4	2.0	0	0
Not Applicable (mother does not have a partner)	25.1	23.3	21.1	18.2	29.5	32.6	32.4	27.8	20.0	25.0	12.5

How Many Relatives Does the Mother See in a Week?

	All Sites (N=364)	Hartford (N=84)	Waterbury (N=37)	Derby (N=19)	Bridgeport (N=45)	Manchester (N=45)	New London (N=37)	New Haven (N=29)	Danbury (N=50)	Torrington (N=10)	Willimantic (N=8)
Mean	4.69	7.36	4.11	3.63	4.58	4.24	2.35	2.59	4.56	5.30	3.38

How Supportive are Those Relatives?

	All Sites (N=383)	Hartford (N=83)	Waterbury (N=37)	Derby (N=32)	Bridgeport (N=45)	Manchester (N=45)	New London (N=37)	New Haven (N=34)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=9)
Very Supportive	63.2	80.7	62.2	56.3	48.9	68.9	56.8	41.2	72.0	63.6	33.3
Somewhat-Supportive	22.7	9.6	10.8	34.4	35.6	22.2	27.0	41.2	18.0	18.2	33.3
Rarely Supportive	2.9	3.6	2.7	6.3	2.2	2.2	2.7	2.9	0	0	11.1
Not Supportive at all	1.6	1.2	10.8	0	0	0	0	0	0	0	11.1
Don't Know	1.6	0	2.7	0	2.2	0	0	8.8	0	9.1	0
Not Applicable (mother does not see any relatives)	8.1	4.8	10.8	3.1	11.1	6.7	13.5	5.9	10.0	9.1	11.1

How Many Friends Does the Mother See Regularly?

	All Sites (N=340)	Hartford (N=86)	Waterbury (N=33)	Derby (N=11)	Bridgeport (N=43)	Manchester (N=40)	New London (N=36)	New Haven (N=21)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=9)
Mean	2.21	2.08	1.76	4.18	2.58	2.53	2.19	.86	2.22	2.73	2.11

How Satisfied is the Mother with Those Friendships?

	All Sites (N=379)	Hartford (N=86)	Waterbury (N=37)	Derby (N=27)	Bridgeport (N=44)	Manchester (N=44)	New London (N=37)	New Haven (N=34)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=7)
Very Satisfied	43.0	44.2	51.4	29.6	36.4	47.7	35.1	8.8	72.0	63.6	22.2
Somewhat Satisfied	20.8	16.3	24.3	18.5	36.4	15.9	29.7	20.6	12.0	27.3	11.1
Rarely Satisfied	2.6	2.3	0	3.7	6.8	2.3	8.1	0	0	0	0
Not Satisfied at All	.3	0	0	0	0	0	0	0	0	0	11.1
Don't know	8.7	0	5.4	37.0	4.5	4.5	5.4	41.2	2.0	0	0
Not Applicable (mother does not see any friends)	24.5	37.2	18.9	11.1	15.9	29.5	21.6	29.4	14.0	9.1	55.6

How Many People Can the Mother Count On In Times Of Need?

	All Sites (N=366)	Hartford (N=85)	Waterbury (N=37)	Derby (N=22)	Bridgeport (N=45)	Manchester (N=43)	New London (N=36)	New Haven (N=30)	Danbury (N=49)	Torrington (N=10)	Willimantic (N=9)
Mean:	3.76	4.06	3.76	4.05	3.00	4.28	3.17	1.90	4.94	4.50	2.78

Mother's Race/Ethnicity

	All Sites (N=808)	Hartford (N=202)	Waterbury (N=121)	Derby (N=101)	Bridgeport (N=149)	Manchester (N=93)	New London (N=37)	New Haven (N=35)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=9)
White	32.2	2.5	35.5	76.2	6.0	64.5	56.8	8.6	58.0	90.9	33.3
African-American	20.8	4.5	26.4	11.9	45.6	15.1	21.6	54.3	10.0	9.1	0
Hispanic	39.0	83.2	33.9	4.0	37.6	14.0	10.8	31.4	26.0	0	55.6
Jamaican	1.9	1.5	.8	0	6.0	2.2	0	0	0	0	0
Asian	.5	.5	0	0	.7	2.2	0	0	0	0	0
Native American	.4	0	1.7	0	0	0	0	2.9	0	0	0
Other	5.0	7.9	1.7	5.0	4.0	2.2	10.8	2.9	6.0	0	11.1
Not known	.4	0	0	3.0	0	0	0	0	0	0	0

Language the Mother is the Most Comfortable Speaking

	All Sites (N=766)	Hartford (N=197)	Waterbury (N=107)	Derby (N=89)	Bridgeport (N=141)	Manchester (N=90)	New London (N=37)	New Haven (N=35)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=9)
English	67.8	32.0	76.6	95.5	66.0	88.9	83.8	82.9	78.0	100	66.7
Spanish	12.0	27.9	9.3	2.2	9.2	3.3	2.7	8.6	6.0	0	22.2
English and Spanish	18.4	39.1	13.1	2.2	20.6	6.7	8.1	8.6	12.0	0	11.1
Other	1.8	1.0	.9	0	4.3	1.1	5.4	0	4.0	0	0

How Well Does the Mother Speak English?

	All Sites (N=764)	Hartford (N=198)	Waterbury (N=106)	Derby (N=88)	Bridgeport (N=141)	Manchester (N=90)	New London (N=37)	New Haven (N=35)	Danbury (N=50)	Torrington (N=10)	Willimantic (N=9)
Very Well	77.4	66.2	76.4	89.8	75.9	80.0	89.2	82.9	86.0	100	77.8
Well	11.9	9.1	16.0	9.1	12.1	20.0	8.1	14.3	8.0	0	11.1
Fair	3.8	8.6	.9	0	5.0	0	0	2.9	4.0	0	0
Poor	3.8	9.1	3.8	0	3.5	0	2.7	0	2.0	0	0
Not at all	3.1	7.1	2.8	1.1	3.5	0	0	0	0	0	11.1

Mother's Education

	All Sites (N=746)	Hartford (N=194)	Waterbury (N=101)	Derby (N=84)	Bridgeport (N=138)	Manchester (N=88)	New London (N=35)	New Haven (N=36)	Danbury (N=50)	Torrington (N=10)	Willimantic (N=9)
No Formal Schooling	.1	.5	0	0	0	0	0	0	0	0	0
8 th Grade or less	15.3	26.8	16.8	6.0	17.4	4.5	0	19.4	4.0	0	33.3
Less than a High School degree	48.7	49.5	44.6	45.2	53.6	48.9	48.6	50.0	46.0	63.6	44.4
High School Degree	20.1	12.4	23.8	27.4	18.8	25.0	31.4	13.9	26.0	9.1	11.1
GED	2.5	2.6	4.0	1.2	2.2	3.4	5.7	2.8	0	0	0
Vocational/Training Certificate	2.1	1.0	4.0	2.4	.7	1.1	0	2.8	8.0	9.1	0
Some College	8.6	7.2	3.0	10.7	6.5	13.6	11.4	11.1	14.0	9.1	11.1
College Degree	1.3	0	3.0	0	0	3.4	0	0	6.0	9.1	0
Graduate Work	.1	0	1.0	0	0	0	0	0	0	0	0
Not Known	1.1	0	0	7.1	.7	0	2.9	0	0	0	0

Is the Mother Currently Employed?

	All Sites (N=752)	Hartford (N=194)	Waterbury (N=102)	Derby (N=87)	Bridgeport (N=138)	Manchester (N=89)	New London (N=37)	New Haven (N=36)	Danbury (N=49)	Torrington (N=11)	Willimantic (N=9)
No	81.9	88.7	72.5	77.0	90.6	73.0	70.3	100	79.6	45.5	77.8
No, but is seeking work	4.7	1.0	14.7	3.4	1.4	3.4	13.5	0	4.1	18.2	11.1
Yes	13.3	10.3	12.7	18.4	8.0	23.6	16.2	0	16.3	36.4	11.1
Not known	.1	0	0	1.1	0	0	0	0	0	0	0

Was the Mother Employed Prior to Pregnancy?

	All Sites (N=758)	Hartford (N=197)	Waterbury (N=106)	Derby (N=87)	Bridgeport (N=140)	Manchester (N=88)	New London (N=36)	New Haven (N=34)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=9)
No	52.5	61.9	55.7	37.9	70.7	23.9	33.3	79.4	36.0	36.4	33.3
No, but seeking work	1.2	1.0	2.8	1.1	0	1.1	5.6	0	0	0	0
Yes	41.4	35.5	39.6	42.5	26.4	42.5	55.6	17.6	64.0	54.5	66.7
Not known	4.9	1.5	1.9	18.4	2.9	18.4	5.6	2.9	0	0.1	0

Is the Mother Enrolled in School?

	All Sites (N=753)	Hartford (N=195)	Waterbury (N=102)	Derby (N=84)	Bridgeport (N=139)	Manchester (N=90)	New London (N=37)	New Haven (N=36)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=9)
No	66.8	62.6	70.6	67.9	62.6	67.8	75.7	58.3	78.0	90.9	66.7
Yes	32.8	37.4	29.4	32.1	37.4	31.1	21.6	41.7	20.0	9.1	33.3
Not known	.4	0	0	0	0	1.1	2.7	0	2.0	0	0

What Type of School is the Mother Enrolled in?

	All Sites (N=748)	Hartford (N=194)	Waterbury (N=101)	Derby (N=84)	Bridgeport (N=138)	Manchester (N=89)	New London (N=37)	New Haven (N=36)	Danbury (N=49)	Torrington (N=11)	Willimantic (N=9)
High School	22.1	22.2	18.8	17.9	27.5	24.7	16.2	36.1	14.3	9.1	11.1
GED program	4.0	5.7	4.0	2.4	2.2	0	10.8	2.8	6.1	0	22.2
College	2.5	3.1	2.0	3.6	2.9	1.1	2.7	0	4.1	0	0
Vocational	.7	.5	0	1.2	2.2	0	0	0	0	0	0
Other	5.9	7.2	7.9	7.1	5.8	5.6	0	2.8	0	0	22.2
Not Applicable (Is not in school)	64.8	61.3	67.3	67.9	59.4	68.5	70.3	58.3	75.5	90.9	44.4

Mother's Total KEMPE Score

	All Sites (N=728)	Hartford (N=195)	Waterbury (N=99)	Derby (N=73)	Bridgeport (N=151)	Manchester (N=74)	New London (N=43)	New Haven (N=38)	Danbury (N=52)	Torrington (N=2)	Willimantic (N=1)
Mean	43.28	43.21	43.33	37.60	48.21	46.08	40.58	43.42	35.29	45.00	35.00

Kempe 1: Mother's Childhood History of Abuse or Neglect

	All Sites (N=827)	Hartford (N=202)	Waterbury (N=94)	Derby (N=112)	Bridgeport (N=175)	Manchester (N=85)	New London (N=46)	New Haven (N=39)	Danbury (N=52)	Torrington (N=15)	Willimantic (N=7)
Mean	6.72	6.01	8.03	5.31	7.63	7.12	6.22	8.33	5.87	5.67	7.14
% scoring 5	18.8	12.4	28.7	22.3	28.0	12.9	10.9	12.8	9.6	6.7	28.6
% scoring 10	57.7	54.0	66.0	42.0	62.3	64.7	57.7	76.9	53.8	53.3	57.1
% scoring 5/10	76.5	66.4	94.7	64.3	90.3	77.6	69.6	89.7	63.4	60.0	85.7

Kempe 2: History of Crime, Drug Abuse, or Mental Illness

	All Sites (N=812)	Hartford (N=197)	Waterbury (N=92)	Derby (N=112)	Bridgeport (N=173)	Manchester (N=85)	New London (N=46)	New Haven (N=39)	Danbury (N=51)	Torrington (N=12)	Willimantic (N=5)
Mean	4.14	3.12	4.78	4.06	3.75	5.24	5.00	5.26	4.51	6.25	4.00
% scoring 5	24.0	17.8	30.4	20.5	24.3	36.5	30.4	23.1	15.7	25.0	40.0
% scoring 10	29.4	22.3	32.6	30.4	25.4	34.1	34.8	41.0	37.3	50.0	20.0
% scoring 5/10	53.4	40.1	63.0	50.9	49.7	70.6	65.2	64.1	53.0	75.0	60.0

Kempe 3: CPS/DYES History

	All Sites (N=803)	Hartford (N=199)	Waterbury (N=92)	Derby (N=113)	Bridgeport (N=168)	Manchester (N=85)	New London (N=46)	New Haven (N=39)	Danbury (N=51)	Torrington (N=6)	Willimantic (N=4)
Mean	1.04	1.58	2.23	1.06	.60	.35	.22	.64	.20	3.33	0
% scoring 5	4.6	8.5	5.4	5.3	2.4	2.4	0	7.7	0	0	0
% scoring 10	8.1	11.6	19.6	8.0	4.8	2.4	2.2	2.6	1.4	33.3	0
% scoring 5/10	12.7	20.1	25.0	13.3	7.2	4.8	2.2	10.3	1.4	33.3	0

Kempe 4: Low Self-esteem, Social Isolation, Depression

	All Sites (N=831)	Hartford (N=202)	Waterbury (N=94)	Derby (N=114)	Bridgeport (N=175)	Manchester (N=85)	New London (N=46)	New Haven (N=39)	Danbury (N=51)	Torrington (N=17)	Willimantic (N=8)
Mean	7.09	6.86	6.44	6.27	8.17	7.12	6.20	7.05	7.75	8.82	5.63
% scoring 5	41.4	43.1	58.5	41.2	26.3	50.6	37.0	48.7	41.2	23.5	62.5
% scoring 10	50.2	47.0	35.1	42.1	68.6	45.9	43.5	46.2	56.9	76.5	25.0
% scoring 5/10	91.6	90.1	93.6	83.3	94.9	96.5	80.5	94.9	98.1	100	87.5

Kempe 5: Multiple Stresses

	All Sites (N=830)	Hartford (N=201)	Waterbury (N=94)	Derby (N=114)	Bridgeport (N=173)	Manchester (N=85)	New London (N=46)	New Haven (N=39)	Danbury (N=51)	Torrington (N=17)	Willimantic (N=8)
Mean	7.71	8.06	6.33	7.98	7.37	8.06	7.28	9.10	7.65	9.41	6.25
% scoring 5	28.7	11.9	54.3	29.8	33.1	36.5	23.9	12.8	39.2	11.8	25.0
% scoring 10	62.8	74.6	36.2	64.9	57.1	62.4	60.9	84.6	56.9	88.2	50.0
% scoring 5/10	91.5	86.5	90.5	94.7	90.2	98.9	84.8	97.4	96.1	100	75.0

Kempe 6: Potential for Violence

	All Sites (N=805)	Hartford (N=196)	Waterbury (N=93)	Derby (N=107)	Bridgeport (N=173)	Manchester (N=85)	New London (N=46)	New Haven (N=38)	Danbury (N=51)	Torrington (N=10)	Willimantic (N=6)
Mean	3.24	3.04	3.12	3.13	4.62	2.94	2.39	3.55	.88	1.00	5.83
% scoring 5	13.0	12.8	19.4	.9	18.5	18.8	8.7	7.9	9.8	0	16.7
% scoring 10	25.8	24.0	21.5	30.8	37.0	20.0	19.6	31.6	3.9	10.0	50.0
% scoring 5/10	38.8	36.8	40.9	31.7	55.5	38.8	28.3	39.5	13.7	10.0	66.7

Kempe 7: Unrealistic Expectations of Child

	All Sites (N=824)	Hartford (N=201)	Waterbury (N=94)	Derby (N=112)	Bridgeport (N=173)	Manchester (N=85)	New London (N=46)	New Haven (N=39)	Danbury (N=52)	Torrington (N=15)	Willimantic (N=7)
Mean	3.67	3.38	2.61	3.62	3.70	4.94	6.09	2.95	2.98	2.67	6.43
% scoring 5	41.1	32.8	41.5	36.6	33.5	70.6	34.8	38.5	59.6	53.3	71.4
% scoring 10	16.1	17.4	5.3	17.9	20.2	14.1	43.5	10.3	0	0	28.6
% scoring 5/10	57.2	50.2	46.8	54.4	53.7	84.7	78.3	48.8	59.6	53.3	100

Kempe 8: Harsh Punishment

	All Sites (N=787)	Hartford (N=195)	Waterbury (N=93)	Derby (N=95)	Bridgeport (N=169)	Manchester (N=85)	New London (N=42)	New Haven (N=39)	Danbury (N=51)	Torrington (N=10)	Willimantic (N=8)
Mean	1.91	1.44	2.20	1.74	3.25	1.41	1.43	1.03	1.08	1.50	1.25
% scoring 5	23.6	17.4	29.0	17.9	37.9	18.8	19.0	10.3	21.6	30.0	25.0
% scoring 10	7.2	5.6	7.5	8.4	13.6	4.7	4.8	5.1	0	0	0
% scoring 5/10	30.8	23.0	36.5	26.3	51.5	23.5	22.8	16.4	21.6	30.0	25.0

Kempe 9: Negative Perception of Child

	All Sites (N=746)	Hartford (N=196)	Waterbury (N=92)	Derby (N=82)	Bridgeport (N=157)	Manchester (N=67)	New London (N=46)	New Haven (N=39)	Danbury (N=51)	Torrington (N=10)	Willimantic (N=6)
Mean	2.35	3.93	2.93	1.04	2.26	2.16	.76	.64	.69	1.50	3.33
% scoring 5	24.0	26.5	41.3	18.3	19.7	34.3	10.9	2.6	13.7	30.0	66.7
% scoring 10	11.5	26.0	8.7	1.2	12.7	4.5	2.2	5.1	0	0	0
% scoring 5/10	35.5	52.5	50.0	19.5	31.4	38.8	13.1	7.7	13.7	30.0	66.7

Kempe 10: Child Unwanted / Poor Bonding

	All Sites (N=815)	Hartford (N=201)	Waterbury (N=94)	Derby (N=103)	Bridgeport (N=174)	Manchester (N=83)	New London (N=46)	New Haven (N=39)	Danbury (N=51)	Torrington (N=16)	Willimantic (N=8)
Mean	5.83	6.24	5.21	5.00	6.93	5.96	5.98	5.26	3.92	5.00	4.38
% scoring 5	63.2	62.2	76.6	45.6	58.0	71.1	67.4	69.2	66.7	75.0	87.5
% scoring 10	26.7	31.3	13.8	27.2	40.2	24.1	26.1	17.9	5.9	12.5	0
% scoring 5/10	89.9	93.5	90.4	72.8	98.2	95.2	93.5	87.1	72.6	87.5	87.5

Does the Mother Abuse Alcohol?

	All Sites (N=746)	Hartford (N=194)	Waterbury (N=102)	Derby (N=82)	Bridgeport (N=139)	Manchester (N=90)	New London (N=36)	New Haven (N=35)	Danbury (N=48)	Torrington (N= 11)	Willimantic (N=9)
No	96.1	98.5	96.1	93.9	95.7	96.7	97.2	88.6	97.9	90.9	88.9
Yes	2.3	1.5	3.9	2.4	2.2	0	0	8.6	2.1	0	11.1
Not known	1.6	0	0	3.7	2.2	3.3	3.3	2.8	0	9.1	0

Does the Mother Abuse Other Substances?

	All Sites (N=743)	Hartford (N=193)	Waterbury (N=102)	Derby (N=81)	Bridgeport (N=138)	Manchester (N=90)	New London (N=35)	New Haven (N=36)	Danbury (N=48)	Torrington (N=11)	Willimantic (N=9)
No	92.3	97.9	90.2	86.4	90.6	93.3	97.1	83.3	93.8	72.7	72.7
Yes	5.9	2.1	9.8	8.6	7.2	3.3	2.9	13.9	4.2	18.2	18.2
Not known	1.8	0	0	4.9	2.2	3.3	0	2.8	2.1	9.1	9.1

Does the Mother Have Financial Difficulties?

	All Sites (N=748)	Hartford (N=194)	Waterbury (N=102)	Derby (N=80)	Bridgeport (N=139)	Manchester (N=90)	New London (N=37)	New Haven (N=36)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=9)
No	39.6	58.8	40.2	22.5	36.7	26.7	32.4	16.7	44.0	27.3	55.6
Yes	59.4	40.7	59.8	72.5	61.9	73.3	64.9	83.3	56.0	72.7	44.4
Not known	1.0	.5	0	5.0	1.4	0	2.7	0	0	0	0

Is the Mother Socially Isolated?

	All Sites (N=746)	Hartford (N=194)	Waterbury (N=101)	Derby (N=80)	Bridgeport (N=139)	Manchester (N=90)	New London (N=37)	New Haven (N=36)	Danbury (N=49)	Torrington (N=11)	Willimantic (N=9)
No	69.2	72.7	77.2	61.3	70.5	60.0	64.9	55.6	79.6	72.7	55.6
Yes	29.1	27.3	21.8	33.8	28.1	36.7	32.4	44.4	16.3	27.3	44.4
Not known	1.8	0	1.0	5.0	1.4	3.3	2.7	0	4.0	0	0

Does the Mother Have an Arrest History?

	All Sites (N=747)	Hartford (N=194)	Waterbury (N=101)	Derby (N=82)	Bridgeport (N=139)	Manchester (N=89)	New London (N=37)	New Haven (N=36)	Danbury (N=49)	Torrington (N=11)	Willimantic (N=9)
No	81.4	85.1	76.2	87.8	77.0	79.8	81.1	75.0	91.8	63.6	77.8
Yes	17.1	14.9	23.8	8.5	20.1	18.0	16.2	25.0	8.2	27.3	22.2
Not known	1.5	0	0	3.7	2.9	2.2	2.7	0	0	9.1	0

Is Domestic Violence a Problem for the Mother in the Household?

	All Sites (N=425)	Hartford (N=57)	Waterbury (N=40)	Derby (N=35)	Bridgeport (N=90)	Manchester (N=61)	New London (N=36)	New Haven (N=36)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=9)
No	78.6	93.0	82.5	71.4	77.8	65.6	88.9	80.6	68.0	90.9	88.9
Yes, I know for certain	2.8	3.5	0	0	1.1	6.6	8.3	5.6	0	0	0
Yes, I suspect so	2.1	0	7.5	0	2.2	3.3	5.6	0	0	0	11.1
Not known	9.2	3.5	2.5	22.9	7.8	11.5	0	11.1	8.0	9.1	0
Not applicable (doesn't have a partner)	7.3	0	7.5	5.7	11.1	13.1	0	2.8	14.0	0	0

Has the Mother been hit, slapped, kicked, or otherwise physically hurt by a partner within the last year?

	All Sites (N=424)	Hartford (N=56)	Waterbury (N=39)	Derby (N=36)	Bridgeport (N=89)	Manchester (N=62)	New London (N=36)	New Haven (N=36)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=9)
No	66.3	91.1	76.9	13.9	66.3	66.1	80.6	50.0	68.0	63.6	77.8
Yes, I know for certain	7.8	5.4	5.1	0	10.1	6.5	11.1	19.4	4.0	9.1	11.1
Yes, I suspect so	1.9	1.8	5.1	5.6	1.1	0	0	2.8	0	0	11.1
Not known	18.6	1.8	7.7	80.3	12.4	21.0	5.6	25.0	18.0	18.2	0
Not applicable (has not had a partner)	7.3	0	5.1	0	10.1	6.5	2.8	2.8	10.0	9.1	0

Mother's Relationship with her Partner

	All Sites (N=416)	Hartford (N=48)	Waterbury (N=40)	Derby (N=36)	Bridgeport (N=90)	Manchester (N=60)	New London (N=36)	New Haven (N=36)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=9)
No abuse is noticeable	54.8	64.6	62.5	38.9	60.0	53.3	55.6	27.8	60.0	63.6	55.6
Partner is physically abusive	2.6	2.1	2.5	0	3.3	5.0	5.6	0	0	0	11.1
Partner is emotionally or verbally abusive	6.5	2.1	12.5	2.8	3.3	3.3	8.3	19.4	4.0	9.1	22.2
Not known	12.7	12.5	2.5	41.7	8.9	8.3	2.8	30.6	10.0	9.1	0
Mother does not have A partner	24.5	20.8	22.5	16.7	26.7	30.0	27.8	22.2	26.0	18.2	22.2

Has the Mother Pursued any of the Following Interventions due to Abuse Within the Past Year?

	All Sites (N=413)	Hartford (N=46)	Waterbury (N=40)	Derby (N=35)	Bridgeport (N=91)	Manchester (N=60)	New London (N=36)	New Haven (N=36)	Danbury (N=49)	Torrington (N=11)	Willimantic (N=9)
No, none was necessary	54.0	58.7	72.5	14.3	59.3	51.7	63.9	36.1	55.1	72.7	66.7
No, even though incident(s) of abuse occurred	2.7	2.2	5.0	2.9	3.3	0	5.6	0	0	9.1	11.1
Spoken to social worker/ counselor	3.9	2.2	0	0	2.2	5.0	8.3	13.9	2.0	9.1	0
Stayed in a shelter at least one night	0.7	0	2.5	0	0	1.7	0	2.8	0	0	0
Took part in a domestic violence program	0.2	0	2.5	0	0	1.7	0	0	0	0	0
Other	1.7	0	5.0	0	2.2	1.7	2.8	2.8	0	0	0
Not known	18.9	6.5	5.0	74.3	9.9	23.3	2.8	25.0	24.5	9.1	11.1
Mother does not have A partner	18.9	30.4	10.0	8.6	24.2	18.3	19.4	19.4	18.4	0	11.1

Mothers' EID Characteristics

Mother is Single, Separated, or Divorced

	All Sites (N=892)	Hartford (N=216)	Waterbury (N=117)	Derby (N=109)	Bridgeport (N=183)	Manchester (N=100)	New London (N=48)	New Haven (N=39)	Danbury (N=54)	Torrington (N=17)	Willimantic (N=9)
True	93.5	94.0	96.6	88.1	96.2	97.0	93.8	97.4	75.9	94.1	100

Partner Unemployed

	All Sites (N=892)	Hartford (N=216)	Waterbury (N=117)	Derby (N=109)	Bridgeport (N=183)	Manchester (N=100)	New London (N=48)	New Haven (N=39)	Danbury (N=54)	Torrington (N=17)	Willimantic (N=9)
True	52.2	53.2	65.8	52.3	61.7	36.0	16.7	59.0	33.3	58.8	11.1

Inadequate Income

	All Sites (N=892)	Hartford (N=216)	Waterbury (N=117)	Derby (N=109)	Bridgeport (N=183)	Manchester (N=100)	New London (N=48)	New Haven (N=39)	Danbury (N=54)	Torrington (N=17)	Willimantic (N=9)
True	70.9	71.8	80.3	80.7	69.4	53.0	62.5	74.4	63.0	94.1	77.8

Unstable Housing

	All Sites (N=892)	Hartford (N=216)	Waterbury (N=117)	Derby (N=109)	Bridgeport (N=183)	Manchester (N=100)	New London (N=48)	New Haven (N=39)	Danbury (N=54)	Torrington (N=17)	Willimantic (N=9)
True	31.8	17.6	33.3	54.1	33.3	23.0	37.5	59.0	25.9	47.1	11.1

No Phone

	All Sites (N=892)	Hartford (N=216)	Waterbury (N=117)	Derby (N=109)	Bridgeport (N=183)	Manchester (N=100)	New London (N=48)	New Haven (N=39)	Danbury (N=54)	Torrington (N=17)	Willimantic (N=9)
True	13.9	17.1	22.2	5.5	14.8	13.0	8.3	23.1	3.7	0	0

Education under 12 years

	All Sites (N=892)	Hartford (N=216)	Waterbury (N=117)	Derby (N=109)	Bridgeport (N=183)	Manchester (N=100)	New London (N=48)	New Haven (N=39)	Danbury (N=54)	Torrington (N=17)	Willimantic (N=9)
True	68.3	77.8	70.9	60.6	77.6	55.0	60.4	69.2	42.6	58.8	66.7

Inadequate Emergency Contacts

	All Sites (N=892)	Hartford (N=216)	Waterbury (N=117)	Derby (N=109)	Bridgeport (N=183)	Manchester (N=100)	New London (N=48)	New Haven (N=39)	Danbury (N=54)	Torrington (N=17)	Willimantic (N=9)
True	32.4	25.5	50.4	49.5	28.4	33.0	27.1	43.6	7.4	11.8	0

History of Substance Abuse

	All Sites (N=892)	Hartford (N=216)	Waterbury (N=117)	Derby (N=109)	Bridgeport (N=183)	Manchester (N=100)	New London (N=48)	New Haven (N=39)	Danbury (N=54)	Torrington (N=17)	Willimantic (N=9)
True	24.7	19.0	18.8	25.7	23.0	40.0	35.4	38.5	20.4	11.8	22.2

Late, None, or Poor Prenatal Care

	All Sites (N=892)	Hartford (N=216)	Waterbury (N=117)	Derby (N=109)	Bridgeport (N=183)	Manchester (N=100)	New London (N=48)	New Haven (N=39)	Danbury (N=54)	Torrington (N=17)	Willimantic (N=9)
True	25.9	21.8	27.4	25.7	28.4	36.0	25.0	25.6	16.7	17.6	22.2

History of abortions

	All Sites (N=892)	Hartford (N=216)	Waterbury (N=117)	Derby (N=109)	Bridgeport (N=183)	Manchester (N=100)	New London (N=48)	New Haven (N=39)	Danbury (N=54)	Torrington (N=17)	Willimantic (N=9)
True	7.5	4.6	10.3	4.6	6.0	17.0	10.4	5.1	3.7	5.9	22.2

History of Psychiatric Care

	All Sites (N=892)	Hartford (N=216)	Waterbury (N=117)	Derby (N=109)	Bridgeport (N=183)	Manchester (N=100)	New London (N=48)	New Haven (N=39)	Danbury (N=54)	Torrington (N=17)	Willimantic (N=9)
True	24.7	14.8	32.5	31.2	9.3	49.0	39.6	25.6	33.3	5.9	11.1

Abortion Unsuccessfully Sought or Attempted

	All Sites (N=892)	Hartford (N=216)	Waterbury (N=117)	Derby (N=109)	Bridgeport (N=183)	Manchester (N=100)	New London (N=48)	New Haven (N=39)	Danbury (N=54)	Torrington (N=17)	Willimantic (N=9)
True	4.1	4.6	4.3	2.8	1.6	8.0	6.3	5.1	3.7	5.9	0

Adoption Sought or Attempted

	All Sites (N=892)	Hartford (N=216)	Waterbury (N=117)	Derby (N=109)	Bridgeport (N=183)	Manchester (N=100)	New London (N=48)	New Haven (N=39)	Danbury (N=54)	Torrington (N=17)	Willimantic (N=9)
True	4.1	1.4	7.7	5.5	2.7	8.0	6.3	5.1	1.9	0	0

Marital or Family Problems

	All Sites (N=892)	Hartford (N=216)	Waterbury (N=117)	Derby (N=109)	Bridgeport (N=183)	Manchester (N=100)	New London (N=48)	New Haven (N=39)	Danbury (N=54)	Torrington (N=17)	Willimantic (N=9)
True	57.6	27.3	84.6	84.6	55.2	48.0	62.5	87.2	64.8	64.7	55.6

History of, or Current Depression

	All Sites (N=892)	Hartford (N=216)	Waterbury (N=117)	Derby (N=109)	Bridgeport (N=183)	Manchester (N=100)	New London (N=48)	New Haven (N=39)	Danbury (N=54)	Torrington (N=17)	Willimantic (N=9)
True	36.1	20.4	56.4	57.8	24.6	34.0	39.6	61.5	37.0	5.9	55.6

Mother is age 18 or Younger

	All Sites (N=892)	Hartford (N=216)	Waterbury (N=117)	Derby (N=109)	Bridgeport (N=183)	Manchester (N=100)	New London (N=48)	New Haven (N=39)	Danbury (N=54)	Torrington (N=17)	Willimantic (N=9)
True	3.1	4.2	0	0	3.8	1.0	2.1	0	1.9	35.3	33.3

Mother has a Cognitive Defect

	All Sites (N=892)	Hartford (N=216)	Waterbury (N=117)	Derby (N=109)	Bridgeport (N=183)	Manchester (N=100)	New London (N=48)	New Haven (N=39)	Danbury (N=54)	Torrington (N=17)	Willimantic (N=9)
True	.8	0	0	.9	.5	1.0	0	0	3.7	5.9	11.1

Mothers' Reasons for Leaving the Program

	All Sites (N=492)	Hartford (N=93)	Waterbury (N=81)	Derby (N=89)	Bridgeport (N=109)	Manchester (N=58)	New London (N=28)	New Haven (N=10)	Danbury (N=23)	Torrington (N=1)	Willimantic (N=0)
Goals were met	5.3	2.2	7.4	10.1	6.4	1.7	3.6	0	0	0	0
Family refused further services	18.7	14.0	14.8	22.5	11.0	22.4	28.6	30.0	47.8	0	0
Family was non-compliant	18.5	17.2	11.1	22.5	21.1	29.3	10.7	20.0	4.3	0	0
Family was not appropriate for program	1.8	0	4.9	0	3.7	0	0	0	4.3	0	0
Family moved out of service area	23.0	29.0	12.3	16.9	27.5	27.6	21.4	50.0	17.4	0	0
Baby removed from home by DCF	3.7	4.3	3.7	2.2	2.8	3.4	10.7	0	0	0	0
Mother working or in school, no time	12.6	0	29.6	13.5	6.4	12.1	7.1	0	8.7	0	0
Unable to locate mother	9.3	19.4	8.6	7.9	6.4	0	14.3	0	8.7	100	0
Other	7.1	5.4	7.4	4.5	14.7	5.1	3.6	0	4.3	0	0

Information on Fathers

Father's Race / Ethnicity

	All Sites (N=745)	Hartford (N=194)	Waterbury (N=105)	Derby (N=83)	Bridgeport (N=134)	Manchester (N=89)	New London (N=36)	New Haven (N=35)	Danbury (N=49)	Torrington (N=11)	Willimantic (N=9)
White	22.3	1.0	26.7	48.8	4.5	43.8	41.7	8.6	46.9	63.6	33.3
African-American	23.5	11.9	29.5	9.8	39.6	27.0	36.1	45.7	12.2	0	11.1
Hispanic	41.0	76.8	36.2	17.1	37.3	21.3	5.6	31.4	28.6	27.3	55.6
Jamaican	2.7	1.0	1.0	3.7	7.5	2.2	0	2.9	0	9.1	0
Asian	.7	0	1.9	0	.7	1.1	0	0	2.0	0	0
Native American	3.8	1.0	1.0	17.1	3.7	2.2	5.6	5.7	0	0	0
Not known	6.0	8.2	3.8	3.7	6.7	2.2	11.1	5.7	10.2	0	0

How Well Does the Father Speak English?

	All Sites (N=742)	Hartford (N=190)	Waterbury (N=104)	Derby (N=83)	Bridgeport (N=135)	Manchester (N=89)	New London (N=37)	New Haven (N=35)	Danbury (N=49)	Torrington (N=11)	Willimantic (N=9)
Very Well	64.2	64.2	66.3	54.2	62.2	67.4	83.8	54.4	67.3	81.8	55.6
Well	13.9	5.3	16.3	26.5	14.1	23.6	10.8	17.1	4.1	9.1	11.1
Fair	5.3	10.0	7.7	1.2	5.9	1.1	0	0	2.0	0	11.1
Poor	3.4	7.4	2.9	1.2	2.2	0	0	2.9	4.1	0	11.1
Not at all	3.0	6.8	1.9	1.2	3.0	0	0	0	2.0	0	11.1
Not known	10.4	6.3	4.8	15.7	12.6	7.9	5.4	28.6	20.4	9.1	0

Father's Education

	All Sites (N=729)	Hartford (N=184)	Waterbury (N=100)	Derby (N=84)	Bridgeport (N=132)	Manchester (N=89)	New London (N=37)	New Haven (N=36)	Danbury (N=48)	Torrington (N=10)	Willimantic (N=9)
No Formal Schooling	.3	.5	0	0	.8	0	0	0	0	0	0
8 th Grade or less	6.6	11.4	7.0	4.8	5.3	1.1	2.7	5.6	6.3	10.0	11.1
Less than a High school degree	33.5	42.9	31.0	34.5	29.5	34.8	32.4	13.9	25.0	50.0	11.1
High School Degree	26.2	28.3	29.0	21.4	22.0	29.2	27.0	22.2	29.2	20.0	33.3
GED	3.8	1.1	3.0	2.4	6.1	10.1	5.4	0	4.2	0	0
Vocational/Training Certificate	1.5	1.1	2.0	0	1.5	1.1	5.4	0	4.2	0	0
Some College	6.4	4.9	6.0	4.8	5.3	9.0	5.4	2.8	12.5	10.0	33.3
College Degree	1.6	.5	3.0	0	1.5	3.4	0	0	6.3	0	0
Graduate Work	.3	0	2.0	0	0	0	0	0	0	0	0
Not Known	19.8	9.2	17.0	32.1	28.0	11.2	21.6	55.6	12.5	10.0	11.1

Is the Father Employed?

	All Sites (N=733)	Hartford (N=186)	Waterbury (N=101)	Derby (N=84)	Bridgeport (N=131)	Manchester (N=89)	New London (N=37)	New Haven (N=36)	Danbury (N=49)	Torrington (N=11)	Willimantic (N=9)
No	25.6	30.1	25.7	20.2	35.9	20.2	16.2	25.0	12.2	9.1	22.2
No, is incarcerated	5.7	4.8	8.9	4.8	8.4	5.6	5.4	5.6	0	0	0
No, but is seeking work	2.0	1.6	5.0	3.6	.8	2.2	2.7	0	0	0	0
Yes	52.8	55.9	49.5	52.4	35.9	59.6	62.2	33.3	75.5	90.9	77.8
Not known	13.8	7.5	10.9	19.0	19.1	12.4	13.5	36.1	12.2	0	0

Is the Father Enrolled in School?

	All Sites (N=731)	Hartford (N=186)	Waterbury (N=100)	Derby (N=82)	Bridgeport (N=132)	Manchester (N=89)	New London (N=37)	New Haven (N=36)	Danbury (N=49)	Torrington (N=11)	Willimantic (N=9)
No	74.6	83.3	85.0	64.6	67.4	74.2	67.6	55.6	71.4	72.7	100
Yes	12.2	12.9	9.0	7.3	17.4	12.4	16.2	13.9	16.3	18.2	0
Not known	12.6	3.8	6.0	28.0	15.2	13.5	16.2	30.6	12.2	9.1	0

Type of School the Father is Enrolled in

	All Sites (N=683)	Hartford (N=185)	Waterbury (N=96)	Derby (N=63)	Bridgeport (N=127)	Manchester (N=81)	New London (N=34)	New Haven (N=32)	Danbury (N=46)	Torrington (N=10)	Willimantic (N=9)
High School	7.2	5.4	5.2	4.8	7.9	7.4	8.8	15.6	10.9	20.0	0
GED	1.8	1.1	1.0	0	3.1	2.5	5.9	0	2.2	0	0
College	2.2	2.2	1.0	1.6	2.4	3.7	2.9	0	4.3	0	0
Vocational	.7	.5	1.0	1.6	.8	0	0	0	2.2	0	0
Other	1.9	3.8	0	0	3.9	1.2	0	0	0	0	0
Not Known	5.0	2.7	1.0	4.8	9.4	3.7	5.9	18.8	2.2	0	0
Not Applicable	81.3	84.3	89.6	87.3	72.4	81.5	76.5	65.6	78.3	80.0	100

Does the Father Abuse Alcohol?

	All Sites (N=721)	Hartford (N=184)	Waterbury (N=99)	Derby (N=80)	Bridgeport (N=129)	Manchester (N=88)	New London (N=37)	New Haven (N=36)	Danbury (N=48)	Torrington (N=11)	Willimantic (N=9)
No	61.7	77.7	73.7	35.0	48.1	75.0	59.5	16.7	62.5	63.6	88.9
Yes	12.1	7.6	7.6	17.5	19.4	11.4	2.7	19.4	10.4	9.1	11.1
Not known	25.4	13.0	16.2	47.5	32.6	13.6	37.8	63.9	25.0	18.2	0
Not Applicable	.8	1.6	1.0	0	0	0	0	0	2.1	9.1	0

Does the Father Abuse Other Substances?

	All Sites (N=721)	Hartford (N=185)	Waterbury (N=99)	Derby (N=80)	Bridgeport (N=130)	Manchester (N=87)	New London (N=37)	New Haven (N=36)	Danbury (N=47)	Torrington (N=11)	Willimantic (N=9)
No	57.7	73.0	71.7	35.0	43.1	67.8	59.5	19.4	57.4	45.5	66.7
Yes	15.1	12.4	9.1	15.0	18.5	18.4	8.1	22.2	14.9	36.4	33.3
Not known	27.2	14.6	19.2	50.0	38.5	13.7	32.4	58.3	27.7	18.2	0

Does the Father Have Financial Difficulties?

	All Sites (N=722)	Hartford (N=185)	Waterbury (N=98)	Derby (N=80)	Bridgeport (N=130)	Manchester (N=89)	New London (N=37)	New Haven (N=36)	Danbury (N=47)	Torrington (N=11)	Willimantic (N=9)
No	39.1	57.8	43.9	22.5	33.1	36.0	29.7	2.8	34.0	36.4	77.8
Yes	36.6	30.3	43.9	35.0	32.3	46.1	32.4	44.4	39.3	54.5	22.2
Not known	24.3	11.9	12.2	42.5	34.6	18.0	37.8	52.8	27.7	19.1	0

Is the Father Socially Isolated?

	All Sites (N=721)	Hartford (N=185)	Waterbury (N=99)	Derby (N=80)	Bridgeport (N=130)	Manchester (N=89)	New London (N=37)	New Haven (N=35)	Danbury (N=46)	Torrington (N=11)	Willimantic (N=9)
No	65.3	74.6	83.8	42.5	63.1	71.9	62.2	14.3	58.7	72.7	77.8
Yes	9.2	10.3	3.0	7.5	7.7	13.5	5.4	11.4	13.0	18.2	22.2
Not known	25.5	15.2	13.1	50.0	29.3	14.6	32.4	74.3	28.3	9.1	0

Does the Father Have an Arrest History?

	All Sites (N=715)	Hartford (N=185)	Waterbury (N=98)	Derby (N=79)	Bridgeport (N=127)	Manchester (N=87)	New London (N=37)	New Haven (N=36)	Danbury (N=46)	Torrington (N=11)	Willimantic (N=9)
No	39.6	42.7	43.9	27.8	35.4	50.6	32.4	8.3	52.2	54.5	55.6
Yes	35.9	43.8	39.8	29.1	30.7	37.9	35.1	30.6	23.9	27.3	44.4
Not known	23.8	13.5	16.3	43.0	33.9	11.5	32.4	58.3	23.9	18.2	0

Is the Father Currently Incarcerated?

	All Sites (N=719)	Hartford (N=185)	Waterbury (N=99)	Derby (N=77)	Bridgeport (N=131)	Manchester (N=88)	New London (N=37)	New Haven (N=36)	Danbury (N=46)	Torrington (N=11)	Willimantic (N=9)
No	75.0	82.2	78.8	61.0	65.6	81.8	73.0	69.4	73.9	81.8	0
Yes	9.6	8.1	14.1	7.8	12.2	9.1	8.1	11.1	4.3	9.1	100
Not known	15.4	9.7	7.1	31.2	22.2	9.1	18.9	19.4	21.8	9.1	0

Father is a Primary Caregiver

	All Sites (N=717)	Hartford (N=181)	Waterbury (N=99)	Derby (N=80)	Bridgeport (N=128)	Manchester (N=87)	New London (N=37)	New Haven (N=36)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=8)
Very involved	47.4	61.9	46.5	38.8	40.6	44.8	43.2	25.0	46.0	54.5	75.0
Somewhat involved	20.2	13.3	22.2	26.3	21.9	18.4	27.0	33.3	14.0	36.1	12.5
See the child occasionally	7.5	8.3	6.1	6.3	10.2	8.0	5.4	5.6	8.0	0	0
Very rarely involved	5.2	2.2	5.1	7.5	4.7	5.7	10.8	8.3	6.0	9.1	0
Does not see the baby at all	19.7	14.4	20.2	21.3	22.7	23.0	13.5	27.8	26.0	0	12.5

Father's Age at Baby's Birth

	All Sites (N=650)	Hartford (N=187)	Waterbury (N=86)	Derby (N=88)	Bridgeport (N=102)	Manchester (N=80)	New London (N=34)	New Haven (N=10)	Danbury (N=44)	Torrington (N=11)	Willimantic (N=8)
Mean	22.74	21.64	23.39	23.39	21.88	23.01	23.48	20.40	25.65	22.42	26.20
Median	20.95	20.27	21.55	20.88	19.98	20.96	21.82	18.72	24.83	21.88	23.00

Father's Total KEMPE Score

	All Sites (N=80)	Hartford (N=7)	Waterbury (N=12)	Derby (N=21)	Bridgeport (N=6)	Manchester (N=16)	New London (N=10)	New Haven (N=1)	Danbury (N=7)	Torrington (N=0)	Willimantic (N=0)
Mean	31.56	41.43	35.42	18.57	41.67	35.31	37.00	25.00	30.00	-	-

Household Information

Mother's Unassisted Income

	All Sites (N=742)	Hartford (N=189)	Waterbury (N=102)	Derby (N=85)	Bridgeport (N=136)	Manchester (N=89)	New London (N=37)	New Haven (N=36)	Danbury (N=50)	Torrington (N=10)	Willimantic (N=8)
Under \$5000	5.1	4.8	7.8	4.7	3.7	9.0	2.7	0	4.0	10.0	0
\$5000 to \$9,999	2.8	2.6	2.9	2.4	2.9	4.5	2.7	0	2.0	10.0	0
\$10,000 to \$14,999	1.5	.5	2.0	0	.7	3.4	2.7	0	4.0	0	12.5
\$15,000 to \$24,999	1.1	1.1	0	1.2	0	2.2	5.4	0	2.0	0	0
\$25,000 to \$34,999	.4	0	0	1.2	0	2.2	0	0	0	0	0
Over \$35,000	.3	0	0	0	0	2.2	0	0	0	0	0
Not known	5.7	2.1	2.9	9.4	5.1	5.6	8.1	13.9	4.0	30.0	25.0
Not applicable (is not working)	83.2	88.9	84.3	81.2	87.5	70.8	78.4	86.1	84.0	50.0	62.5

Father's Unassisted Income

	All Sites (N=731)	Hartford (N=188)	Waterbury (N=100)	Derby (N=83)	Bridgeport (N=134)	Manchester (N=88)	New London (N=35)	New Haven (N=36)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=6)
Under \$5000	3.8	5.3	4.0	1.2	4.5	2.3	2.9	5.6	2.0	9.1	0
\$5000 to \$9,999	5.9	12.2	4.0	3.6	.7	6.8	2.9	0	6.0	18.2	0
\$10,000 to \$14,999	7.5	9.6	5.0	8.4	1.5	10.2	8.8	0	16.0	9.1	33.3
\$15,000 to \$24,999	6.2	7.4	5.0	4.8	5.2	5.7	17.1	0	4.0	9.1	0
\$25,000 to \$34,999	1.9	0	3.0	2.4	0	6.8	0	0	2.0	18.2	0
Over \$35,000	1.0	0	1.0	0	0	2.3	2.9	0	4.0	0	16.7
Not known	36.5	27.1	36.0	44.6	34.3	37.5	32.4	66.7	48.0	36.4	16.7
Not applicable (is not working)	37.2	38.3	42.0	34.9	53.7	28.4	32.4	27.8	18.0	0	33.3

Household Unassisted Income

	All Sites (N=735)	Hartford (N=186)	Waterbury (N=99)	Derby (N=84)	Bridgeport (N=135)	Manchester (N=88)	New London (N=37)	New Haven (N=36)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=9)
Under \$5000	5.9	9.7	5.1	3.6	5.9	4.5	2.7	5.6	4.0	0	0
\$5000 to \$9,999	8.8	23.7	9.1	1.2	3.0	6.8	0	0	2.0	0	0
\$10,000 to \$14,999	8.0	16.1	5.1	4.8	4.4	4.5	2.7	0	10.0	0	44.4
\$15,000 to \$24,999	9.5	13.4	7.1	8.3	8.1	8.0	21.6	0	4.0	18.2	11.1
\$25,000 to \$34,999	3.5	1.1	5.1	6.0	.7	6.8	10.8	0	2.0	18.2	0
Over \$35,000	4.1	2.7	4.0	6.0	.7	8.0	8.1	0	8.0	0	11.1
Not known	42.3	19.9	34.3	53.6	53.3	52.3	35.1	69.4	60.0	63.6	22.2
Not applicable (is not working)	17.8	13.4	30.3	16.7	23.7	9.1	18.9	25.0	10.0	0	11.1

Is the Household Income Based Solely on the Mother?

	All Sites (N=726)	Hartford (N=186)	Waterbury (N=95)	Derby (N=82)	Bridgeport (N=134)	Manchester (N=88)	New London (N=37)	New Haven (N=35)	Danbury (N=50)	Torrington (N=10)	Willimantic (N=9)
No	75.2	83.3	72.6	72.0	67.2	69.3	89.2	62.9	84.0	70.0	77.8
Yes	13.8	11.8	21.1	11.0	15.7	15.9	10.8	20.0	2.0	0	22.2
Not known	11.0	4.8	6.3	17.1	17.2	14.8	0	17.1	14.0	30.0	0

Does the Mother Receive Child Support from the Father?

	All Sites (N=737)	Hartford (N=188)	Waterbury (N=100)	Derby (N=84)	Bridgeport (N=136)	Manchester (N=88)	New London (N=37)	New Haven (N=36)	Danbury (N=49)	Torrington (N=11)	Willimantic (N=8)
No	56.9	58.5	57.0	54.8	66.2	47.7	45.9	58.3	49.0	45.5	87.5
Yes	29.2	36.7	37.0	14.3	19.1	40.9	40.5	11.1	18.4	54.5	12.5
Not known	13.9	4.8	6.0	31.0	14.9	11.3	13.5	30.6	32.7	0	0

Does the Mother/Family Receive AFDC/TANF?

	All Sites (N=712)	Hartford (N=186)	Waterbury (N=100)	Derby (N=77)	Bridgeport (N=129)	Manchester (N=82)	New London (N=37)	New Haven (N=33)	Danbury (N=48)	Torrington (N=11)	Willimantic (N=9)
No	51.3	32.3	44.0	70.1	49.6	61.0	64.9	45.5	81.3	90.9	55.6
Yes	48.6	67.7	56.0	29.9	50.4	37.8	35.1	54.5	18.8	9.1	44.4
Not known	.1	0	0	0	0	1.2	0	0	0	0	0

Does the Mother/Family Receive General Assistance?

	All Sites (N=696)	Hartford (N=183)	Waterbury (N=94)	Derby (N=76)	Bridgeport (N=128)	Manchester (N=78)	New London (N=36)	New Haven (N=33)	Danbury (N=48)	Torrington (N=11)	Willimantic (N=9)
No	98.3	99.5	98.9	100	100	98.7	91.7	90.9	97.9	81.8	100
Yes	1.6	.5	1.1	0	0	0	8.3	9.1	2.1	18.2	0
Not known	.1	0	0	0	0	1.3	0	0	0	0	0

Does the Mother/Family Receive SSI?

	All Sites (N=698)	Hartford (N=183)	Waterbury (N=95)	Derby (N=76)	Bridgeport (N=128)	Manchester (N=78)	New London (N=37)	New Haven (N=33)	Danbury (N=48)	Torrington (N=11)	Willimantic (N=9)
No	88.3	82.0	92.6	97.4	88.3	94.9	97.3	57.6	89.6	100	88.9
Yes	11.6	18.0	7.4	2.6	11.7	3.8	2.7	42.4	10.4	0	11.1
Not known	.1	0	0	0	0	1.3	0	0	0	0	0

Does the Mother/Family Receive SSDI?

	All Sites (N=697)	Hartford (N=183)	Waterbury (N=94)	Derby (N=76)	Bridgeport (N=128)	Manchester (N=78)	New London (N=37)	New Haven (N=33)	Danbury (N=48)	Torrington (N=11)	Willimantic (N=9)
No	95.4	96.7	93.6	94.7	97.7	94.9	97.3	90.9	89.6	100	100
Yes	4.5	3.3	6.4	5.3	2.3	3.8	2.7	9.1	10.4	0	0
Not known	.1	0	0	0	0	1.3	0	0	0	0	0

Does the Mother/Family Receive Food Stamps?

	All Sites (N=706)	Hartford (N=186)	Waterbury (N=96)	Derby (N=76)	Bridgeport (N=128)	Manchester (N=82)	New London (N=37)	New Haven (N=33)	Danbury (N=48)	Torrington (N=11)	Willimantic (N=9)
No	59.3	39.8	53.1	81.6	57.8	78.0	51.4	42.4	91.7	90.9	77.8
Yes	40.5	60.2	46.9	18.4	42.2	20.7	48.6	57.6	8.3	9.1	22.2
Not known	.1	0	0	0	0	1.2	0	0	0	0	0

Does the Mother/Family Receive WIC?

	All Sites (N=712)	Hartford (N=184)	Waterbury (N=97)	Derby (N=80)	Bridgeport (N=128)	Manchester (N=85)	New London (N=37)	New Haven (N=33)	Danbury (N=48)	Torrington (N=11)	Willimantic (N=9)
No	18.3	12.0	18.6	13.8	28.1	16.5	16.2	15.2	35.4	0	11.1
Yes	81.6	88.0	81.4	86.3	71.9	82.4	83.8	84.8	64.6	100	88.9
Not known	.1	0	0	0	0	1.2	0	0	0	0	0

Does the Mother/Family Receive Section 8 Housing?

	All Sites (N=695)	Hartford (N=183)	Waterbury (N=94)	Derby (N=76)	Bridgeport (N=127)	Manchester (N=78)	New London (N=37)	New Haven (N=32)	Danbury (N=48)	Torrington (N=11)	Willimantic (N=9)
No	92.1	88.0	92.6	92.1	93.7	97.4	91.9	84.4	97.2	90.9	100
Yes	7.6	12.0	6.4	7.9	6.3	1.3	8.1	15.6	2.1	9.1	0
Not known	.2	0	1.1	0	0	1.3	0	0	0	0	0

Does the Mother/Family Receive Other Government Entitlements?

	All Sites (N=697)	Hartford (N=183)	Waterbury (N=94)	Derby (N=76)	Bridgeport (N=128)	Manchester (N=79)	New London (N=37)	New Haven (N=32)	Danbury (N=48)	Torrington (N=11)	Willimantic (N=9)
No	92.5	94.0	94.7	88.2	96.9	87.3	91.9	90.6	95.8	100	55.6
Yes	7.2	6.0	4.3	11.8	3.1	11.4	8.1	9.4	4.2	0	44.4
Not known	.2	0	1.1	0	0	1.3	0	0	0	0	0

Number of Adults Living in the Household (Excluding the Mother)

	All Sites (N=397)	Hartford (N=86)	Waterbury (N=38)	Derby (N=31)	Bridgeport (N=57)	Manchester (N=47)	New London (N=37)	New Haven (N=31)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=9)
Mean	1.78	1.92	1.97	1.61	1.63	1.83	1.59	1.42	1.86	1.82	2.22

Adults Living in the Household

	All Sites (N=740)	Hartford (N=189)	Waterbury (N=99)	Derby (N=86)	Bridgeport (N=136)	Manchester (N=89)	New London (N=36)	New Haven (N=35)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=9)
Mother is the only adult	11.5	10.6	12.1	18.6	11.8	12.4	8.3	2.9	8.0	9.1	11.1
Father	34.7	37.6	34.3	40.7	25.0	29.2	44.4	22.9	48.0	36.4	55.6
Mother's spouse	2.2	2.1	1.0	1.2	1.5	0	2.8	2.9	8.0	9.1	11.1
Mother's partner	2.2	1.6	3.0	2.3	1.5	1.1	2.8	0	2.0	0	33.3
Maternal Grandmother	45.7	48.7	42.4	50.0	52.2	46.1	36.1	42.9	28.0	45.5	22.2
Maternal Grandfather	16.1	13.8	15.2	31.4	9.6	25.8	8.3	8.6	12.0	18.2	11.1
Mother's sibling(s)	27.0	31.2	29.3	26.7	31.6	24.7	8.3	22.9	18.0	18.2	22.2
Father's sibling(s)	3.4	4.2	6.1	4.7	2.2	1.1	2.8	2.9	0	0	11.1
Other relatives of mother	13.0	12.2	12.1	15.1	16.9	14.6	11.1	2.9	10.0	9.1	11.1
Other relatives of father	7.0	3.2	8.1	9.3	8.8	7.9	8.3	5.7	10.0	9.1	0
Other relatives of mother's Partner	0.3	0.5	0	0	0	0	0	0	2.0	0	0
Non-relatives	7.4	6.9	6.1	2.3	9.6	9.0	5.6	14.3	8.0	18.2	0
Other shelter residents	0.8	0	0	0	1.5	0	0	11.4	0	0	0

Infant's Primary Caregivers

	All Sites (N=752)	Hartford (N=194)	Waterbury (N=103)	Derby (N=87)	Bridgeport (N=137)	Manchester (N=89)	New London (N=36)	New Haven (N=35)	Danbury (N=50)	Torrington (N=11)	Willimantic (N=9)
Mother	98.4	99.5	97.1	95.4	97.8	100	97.2	100	100	100	100
Father	46.0	44.8	48.5	44.8	44.5	47.2	47.2	36.1	52.0	36.4	77.8
Maternal											
Grandmother	39.5	43.8	35.9	41.4	46.7	30.3	44.4	41.7	26.0	18.2	22.2
Maternal											
Grandfather	5.9	1.5	6.8	12.6	6.6	9.0	5.6	5.6	2.0	9.1	0
Paternal											
Grandmother	7.7	8.2	4.9	6.9	13.9	7.9	2.8	5.6	2.0	0	11.1
Paternal											
Grandfather	1.6	0.5	1.9	2.3	4.4	1.1	0	0	0	0	0
Mother's Sibling(s)	8.1	8.2	7.8	8.0	14.6	1.1	8.3	13.9	0	9.1	0
Father's Sibling(s)	0.9	0.5	0	1.1	2.2	1.1	2.8	0	0	0	0
Mother's Extended											
Family	4.4	4.6	7.8	3.4	3.6	2.2	5.6	8.3	0	9.1	0
Father's Extended											
Family	1.1	1.0	2.9	0	1.5	1.1	0	0	0	0	0
Mother's Partner	1.5	1.0	1.0	2.3	0.7	2.2	2.8	0	4.0	0	0
Other	3.3	2.6	1.0	4.6	5.8	1.1	5.6	5.6	4.0	0	0

CAPI

	All Sites (N=610)	Hartford (N=156)	Waterbury (N=107)	Derby (N=62)	Bridgeport (N=89)	Manchester (N=84)	New London (N=37)	New Haven (N=17)	Danbury (N=50)	Torrington (N=6)	Willimantic (N=8)
Abuse	170.52	194.51	154.50	155.10	209.85	124.07	172.68	239.82	128.20	194.00	144.63
Distress	101.94	114.55	88.30	94.87	128.45	75.44	108.41	151.29	74.59	120.83	77.88
Rigidity	26.67	33.08	24.79	19.73	32.20	16.62	21.41	28.29	33.20	16.67	17.00
Unhappiness	14.94	17.31	15.21	12.24	17.48	10.75	13.22	18.88	12.02	14.67	17.25
Problems w/ child-self	1.05	1.15	1.00	1.35	.89	1.04	1.11	2.24	.52	0.0	.25
Problems w/ family	12.10	12.06	11.34	12.97	13.87	9.46	12.62	20.88	7.93	26.50	15.75
Problems from others	13.62	15.06	13.00	13.05	15.65	10.12	15.11	16.65	11.34	15.33	10.13

3 Month Home

	All Sites (N=267)	Hartford (N=91)	Waterbury (N=43)	Derby (N=40)	Bridgeport (N=69)	Manchester (N=24)
Emotional and Verbal Responsivity of Mother Avoidance of Restriction and Punishment	8.11	7.90	8.58	8.65	7.43	9.12
Organization of Environment	6.39	6.31	6.33	6.93	6.22	6.38
Provision of Play Material	4.67	4.63	4.56	5.15	4.32	5.29
Maternal Involvement with Child	5.93	5.86	5.26	6.82	5.58	6.88
Variety in Daily Stimulation	3.94	4.20	3.91	3.90	3.28	4.96
Total	2.91	2.90	2.74	3.43	2.62	3.21
	31.96	31.81	31.40	34.87	29.45	35.83

3 Month NCAST Subscale

	All Sites (N=205)	Hartford (N=76)	Waterbury (N=29)	Derby (N=31)	Bridgeport (N=50)	Manchester (N=19)
Sensitivity to Cues	8.24	7.96	8.31	8.90	8.18	8.32
Response to Distress	10.00	9.92	10.48	10.32	9.76	9.63
Teaching Social-Emotional Cognitive Growth	7.46	7.28	7.34	7.55	7.18	9.00
Caregiver Total	9.63	9.63	10.17	10.52	8.48	10.42
Clarity of Clues	35.18	34.64	35.97	37.29	33.58	36.84
Responsiveness to Caregiver	7.60	7.59	7.14	7.42	7.62	8.53
Child Total	6.73	6.87	7.10	6.19	6.14	8.05
Caregiver / Child Total	14.33	14.46	14.24	13.61	13.76	16.58
	49.47	49.11	50.21	50.90	47.02	53.95

APPENDIX B

State of Connecticut's Definitions of Abuse and Neglect

Appendix B: State of Connecticut's Definitions of Abuse and Neglect

Physical abuse- a physical injury inflicted other than by accidental means, or injuries at variance with the history given of them, or a child's condition which is the result of maltreatment such as malnutrition, deprivation of necessities or cruel punishment. Examples of physical abuse include: head injuries, bruises, lacerations, internal injuries, burns and broken bones.

Sexual abuse- any incident of sexual contact involving a child which is inflicted or allowed to be inflicted by the person responsible for the child's care. Examples of sexual abuse include: rape, sodomy and incest.

Emotional abuse- the result of cruel or unconscionable acts and/or statements made, threatened to be made, or allowed to be made by the person responsible for the child's care which have a direct effect on the child. Examples of emotional abuse include: repeated acts or statements directed at the child, exposure to repeated violent, brutal, or intimidating acts or statements among members of the household, cruel or unusual actions used in the attempt to gain submission, enforce maximum control, or to modify the child's behavior and rejection of the child.

Physical neglect- the failure to provide adequate shelter, food, clothing, or supervision which is appropriate to the climatic and environmental conditions. Physical neglect may also include leaving a child alone for an excessive amount of time given the child's age and cognitive abilities and holding the child responsible for the care of siblings or others beyond the child's ability.

Medical neglect- the refusal or failure on the part of the person responsible for the child's care to seek, obtain and/or maintain those services for necessary medical, dental, or mental health care. Medical neglect may also include withholding medically indicated treatment from disabled infants with life-threatening conditions. Failure to provide children with immunizations or well child care visits does not constitute medical neglect.

Educational neglect- the person responsible for a child, age seven through fifteen, does not enroll the child in school, or allow them to attend school.

Emotional neglect- the denial of proper care and attention to the child, emotionally and/or morally, by the person responsible for the child's care which may result in the child's maladaptive functioning. Examples of emotional neglect include: encouraging the child to steal or engage in other illegal activities, encouraging the child to use drugs and/or alcohol and having inappropriate expectations of the child given the child's developmental level.

At-Risk – actions or statements conveying threats of physical or mental injury, a real threat to the child’s well-being as perceived by the child, or the person responsible for the child’s care exposing the child to dangerous and/or violent situations.

High-Risk Newborn- newborns are considered high-risk because of a combination of both their own special needs and their mother’s condition or behavior. Examples of special needs newborns include: a positive urine or meconium toxicology for drugs, a positive test for HIV virus, or a serious medical problem. Examples of mother’s condition or behavior include: substance abuse, intellectual limitations which may impair the mother’s ability to nurture or physically care for the child, a major psychiatric illness, or young age, causing inability to care for self or newborn.

APPENDIX C

DESCRIPTION OF STANDARDIZED INSTRUMENTS

CHILD ABUSE POTENTIAL INVENTORY (CAP)

Joel Milner, Ph.D.
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Primary purpose--to screen individuals suspected of abuse or to screen individuals such as foster parents, day care staff and others who work directly with children. Has been used successfully in numerous studies as a pre and posttest to evaluate interventions.

Self- administered screening device, 160 questions to which the subject answers agree or disagree.

Scores:

Abuse Scale Score

Measures traits and parenting styles that are characteristics of physical child abusers

Elevated abuse scores:

- History of childhood abuse
- Low self-esteem & poor ego development
- Perceive themselves as socially isolated--low social support
- Believe in punishment for wrong doing
- Lonely
- Stressed
- Somatic complaints
- Report negative life events--pessimistic
- Report more depressed, anxious, and uncomfortable feelings--irritable
- Low frustration tolerance--become emotional when frustrated
- More reactive to parent-child stressors than other stressors
- More family discord
- Perceive more behavior problems in children
- Less adequate child attachments
- Less developed cognitive mastery and coping skills
- More reactive, aggressive, temper outbursts
- Unhappy about their ability to meet life's demands

ABUSE SCALE FACTOR SCORES:

DISTRESS FACTOR SCALE

- High degree of personal distress & adjustment problems
- Feeling frustrated, sad, lonely, depressed, worried, afraid, out of control, confused, mixed-up, upset, worthless, rejected, misunderstood, and angry.
- Poor reaction to perceived stress
- High levels of depression, anxiety & loss of emotional and behavioral control

RIGIDITY FACTOR SCALE

- Rigid attitudes toward the appearance and behavior of children
- Beliefs that children should be neat, orderly, obedient, clean, be seen & not heard, need strict rules
- Related to authoritarian styles

UNHAPPINESS FACTOR SCALE

- General unhappiness with life
- May have relationship difficulties
- Rarely laughs
- Feels unhappy
- Negative outlook on life
- Lacks emotional ties

PROBLEMS WITH CHILD AND SELF FACTOR SCORE

- Describes children in a negative manner
- Perception of having a child who is slow, gets into trouble or is bad
- Perception of their children as having limited ability or competency

PROBLEMS WITH FAMILY FACTOR SCORE

- Numerous problems with familial relationships
- Doesn't get along with family
- Lots of family fights
- Highly conflictual and possibly violent family

PROBLEMS FROM OTHERS FACTOR SCALE

- General problems in social relationship both within and outside of the family
- Social relationships perceived as cause of personal problems
- Do not see others as dependable
- Relationships are not viewed as a resource

EGO-STRENGTH SCALE SCORES

- Has the ability to maintain emotional stability & self worth in relationships
- In relationships more talkative, cheerful, expressive, alert, active, genial, & friendly
- Less likely to feel depressed, be afraid & upset without knowing why

LONELINESS SCALE SCORES

- Measures degree of perceived loneliness more than the objective degree of social isolation
- Perception of being isolated and alone
- Feels others are not available
- When others are available as resources does not use them effectively

HOME OBSERVATION FOR MEASUREMENT OF THE ENVIRONMENT (HOME)

First developed in 1969. Based on a large body of research suggesting that the quality of stimulation available in the home to a child early in life is correlated with subsequent development. The intent was to develop a more sensitive measure of environmental influence than the gross measure of SES. Research suggests that the HOME scores are significantly related to measures of cognitive development taken in early childhood and are a better predictor of later IQ than SES.

Developed as a screening instrument. The HOME grew out of a body of literature underscoring the importance of environmental stimulation and the characteristics of developmentally stimulating environments. Items intended to reflect aspects of the home environment include stability and amount of adult contact, vocal stimulation, emotional climate, avoidance of restrictions on exploratory behavior, play materials, and parental interest in achievement.

Items are arranged on scales to assess diverse types of stimulation found in the home. The current version of the HOME is a 45-item scale that was derived from a factor analysis of a longer 72-item version of the HOME. The current version was subjected to an item analysis and reliability estimates were obtained for the 6 subscales. The reliability coefficients ranged in magnitude from .49 to .78 for the six subscales. The internal consistency of the total scale was .84.

Scale I	Responsivity	Items relate to parent's emotional and verbal responsivity to the child.
Scale II	Acceptance	Items relate to positive parenting and acceptance of the child's behavior (does not shout, slap, scold, criticize etc.).
Scale III	Organization	Items relate to organization of the physical and temporal environment. Provides child with a safe and predictable environment. Substitute care is with people well known to the child, child is taken for doctor's visits, child has outings on a regular basis, etc.
Scale IV	Learning Materials	Items relate to provision of appropriate play activities. Provides children opportunities for a variety of play activities to facilitate their small and gross motor abilities and cognitive development

Scale V	Involvement	Items relate to parental involvement with the child. Parent keeps baby in visual range, encourages interest in maturing toys, talk to child while doing household work.
Scale VI	Variety stimulation. activities such as	Items relate to opportunities for variety in daily Exposure to a variety of people and other reading and books.

NCAST—CAREGIVER/PARENT-CHILD INTERACTION SCALE

This is an observational instrument designed to assess a variety of domains of parent-child interaction. Therefore, this is a more direct measure of actual parent-infant interaction than any of our other measures. This observational instrument has been developed and revised over a number of years by clinical researchers at The University of Washington.

The subscales of this instrument have been derived from the literature and research on caregiver/parent-child interaction. The 73-item Teaching Scale is clustered into six broad categories: sensitivity to cues, response to child's distress, social-emotional growth fostering, cognitive growth fostering, clarity of cues, and responsiveness to caregiver. These categories take into account the reality that the interaction is impacted by what both the caregiver and child bring to the interaction.

To administer this scale the observer/rater must be certified as reliable in their ratings. Training of these raters can be done only by trainers who have been certified by NCAST after taking a 6-day course at The University of Washington.

NCAST Teaching Scale Subscales:

1) SENSITIVITY TO THE INFANT'S CUES.

This scale has a variety of items that indicate whether a caregiver is aware of the infant's cues and state. In order to effectively interact with an infant the caregiver must understand how to capture an infant's attention, position the baby so that he/she can see the parent easily, praise the child, and not use physical force to get the child to perform tasks.

2) RESPONSE TO THE CHILD'S DISTRESS.

Nonverbal infants cannot call out for their parent's help when they need assistance. It is important that parents are able to recognize when their infant needs help. This scale assesses whether the caregivers respond to their infant's signals of distress, such as back arching, fussing, and pulling away.

3) SOCIAL-EMOTIONAL GROWTH FOSTERING.

In an effort to foster an infant's social-emotional growth it is essential that caregivers vocalize with their child, avoid yelling at them or making uncomplimentary remarks or critical statements.

4) COGNITIVE GROWTH FOSTERING.

Does the caregiver use an explanatory style more often than an imperative style when helping their baby learn a new task? Do they talk about the perceptual qualities of objects and tasks?

5) CLARITY OF THE INFANT'S CUES.

Sometimes a caregiver is very alert to her infant: however, some infants send ambiguous cues. Does the infant smile and frown? Do they clearly reach, clap, wave, pound, or point? And, does the infant give clear signals that they have had enough?

6) INFANT'S RESPONSIVENESS TO THE CAREGIVER.

Is the infant able to read the cues sent by the caregiver? Does the child look toward the caregiver when the caregiver attempts to get their attention? When the child is upset do they respond to attempts by the caregiver to calm them?

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