

# **MOTHERNET/HEALTHY FAMILIES LOUDOUN**

## **EVALUATION REPORT**

**FY 2004-2008**

Prepared By

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**HEALTHY FAMILIES VIRGINIA**

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## Executive Summary

MotherNet/Healthy Families Loudoun (MN/HFL) was established in 1998 as an expansion and enhancement of the MotherNet Loudoun perinatal home visiting program that had served at-risk pregnant women and teens since 1994. MN/HFL's project area encompasses Loudoun County, a rural/suburban area covering 520 square miles in Northern Virginia. Loudoun, Virginia's fastest-growing county, is experiencing its most rapid growth particularly among young families; with the second-highest birth rate in the state, an estimated 40% of the 5,153 births in 2005 were to first-time mothers, many of whom are Latino. In fact, by the end of FY 2006, 97% of MN/HFL's participants were Latino, which contrasts sharply with the 9.3% Latino population countywide.

Oversight is provided by MN/HFL's Community Advisory Board. Support and critical community-based services are supplied by a network of partners, including partnerships include the Loudoun County Department of Public Health; the Loudoun County Department of Family Services; Loudoun County Department of Parks, Recreation and Community Services; Loudoun County Department of Mental Health, Mental Retardation and Substance Abuse Services; Loudoun Hospital; Loudoun Abused Women's Shelter; Loudoun County Public Schools; Loudoun Literacy Council; Young Parents' Network; Early Head Start; and Parent-Infant Education, among others.

MN/HFL provides in-home parenting education and support services to parents who need individualized and comprehensive support. The goals of Healthy Families programs are to promote optimal child health and development, prevent child abuse and neglect, and promote maternal life course development. To achieve these goals, Healthy Families programs offer ongoing, intensive home visiting services, prenatally to expectant parents or to new parents at birth. Screening of pregnant and parenting women in targeted geographic locations and a systematic risk assessment process are used to identify families who are overburdened and whose children are at high-risk for child abuse and neglect. Families identified as high-risk are offered home visiting services on a voluntary basis. Healthy Families also provides low-risk families with information about parenting resources in the community and referrals to services for identified needs. Healthy Families has several objectives designed to assist families, including:

1. Encouraging positive health behaviors during pregnancy such as initiating early prenatal care and keeping prenatal medical appointments.
2. Promoting infant and child health.
3. Increasing parental knowledge of child development and promoting positive parent-child interactions.
4. Supporting child development and school readiness.
5. Developing the ability to access and utilize community resources.

Healthy Families works with parents because they present the greatest opportunity both for contributing to positive, healthy child-rearing practices and for reducing the risk of child abuse and neglect. Delivering services to the parent and child in their own home allows them to be tailored to the needs of each family. The FY 2004 - FY 2008 Executive Summary presents new scientific findings that constitute a powerful rationale for why prevention is needed followed by a succinct summation of key activities performed by MN/HFL to identify and engage families and outcomes findings in critical child and maternal domains.

### **Adult Health Problems Linked to Traumatic Childhood Experiences**

Many of the most common causes of death and disability in this country may be linked to adverse physical and emotional experiences in childhood, according to a study published today in the American Journal of Preventive Medicine. The Adverse Childhood Experiences (ACE) study, conducted by the Kaiser Permanente Medical Care Program and the Centers for Disease Control and Prevention (CDC&P), suggests that childhood abuse and household dysfunction lead to the development decades later of the chronic diseases that are the most common causes of death and disability in this country, including heart disease, cancer, chronic lung and liver disease, and injuries. Moreover, the risks and lifestyle factors studied were virtually identical to the risks and household characteristics (i.e. having been physically or sexually abused as a child, parental substance abuse, or domestic violence) that describe many HFV participants.

"Abused children may use behaviors such as cigarette smoking, heavy alcohol use, overeating, promiscuity, and drug use as a way of coping with damaging experiences much earlier in life," says a principal investigator of the study, Dr. Vincent Felitti, Chief of Preventive Medicine at Kaiser Permanente in San Diego. Traditionally viewed as public health problems, these behaviors appear to be coping mechanisms for people who have had adverse childhood experiences, the study found. The authors suggest the behaviors may also reflect the effects of the adverse experiences on the developing brain chemistry – effects that may lead to the adoption of the coping behaviors.

A strong relationship was seen between the number of adverse experiences and self-reports of cigarette smoking, obesity, physical inactivity, alcoholism, drug abuse, depression, suicide attempts, sexual promiscuity, and sexually transmitted diseases. Furthermore, persons who reported higher numbers of adverse childhood experiences were much more likely to have multiple health risk behaviors. Similarly, the more adverse childhood experiences reported, the more likely the person was to have heart disease, cancer, stroke, diabetes, skeletal fractures, liver disease, and poor self-rated health as an adult.

**Persons who had experienced four or more categories of adverse childhood experiences, compared to those who had experienced none, had:**

- **a four- to 12-fold increase health risk for alcoholism, drug abuse, depression, and suicide attempt**
- **a 200% to 400% increase in smoking, poor health, greater than 50 sexual intercourse partners, and sexually transmitted diseases**

The findings from the ACE study provide new insights into how and why we become ill. The findings are medically, socially, and economically vital, and they provide strong justification for HFV. The researchers and CDC&P concluded:

- **ACEs were strongly related to the 10 major causes of adult mortality in the United States.**
- **The prevalence of these ACE's and their strength as a predictor of health risks and disease makes ACE's the leading determinate of health and well-being in the United States.**
- **The prevention of ACEs has proven difficult, but that recent research on the long-term benefit of early home visitation on reducing the prevalence of ACEs is promising.**

## Screening, Assessment, Enrollment, and Engagement

### Screening

Between 7/01/03 to 6/30/08, MN/HFL screened 395 women to determine which families were in need of services. The majority of the screens, 92%, were conducted prenatally. Approximately 99% of the screens were positive and 39% of those screens were assessed. During FY 2008, 95 participants were screened. All of the participants were screened prenatally and all were positive. Only 22% of those screens were assessed. For most of the not assessed positive screens, the reason they were not assessed was that the site's capacity for assessing and enrolling new participants has been reached. The large number of positive screens that the site could not assess is an indicator of a large unmet need in Loudoun County.

### Assessment

If the screen is positive, a personal interview is conducted. Of the 152 women who were assessed, approximately 97% were assessed prenatally or postnatally within two weeks of delivery. MN/HFL's performance in FY 2008 was similarly strong (100% assessed prenatally or within two weeks of delivery) than the program's overall performance. MN/HFL's overall performance surpassed the national credentialing standard of 80% set by HFA and also surpassed the highest standard of 95%. Of the 152 families assessed, 134 (88%) were assessed positive. Across the last five program years, 25 (16%) of those families could not be offered services because the program was operating at capacity. This represents a moderate unmet need. Positively, in FY 2008, no individual was excluded because caseloads were full. Of the 109 families with positive assessments who were offered services since 7/01/03, 102 (94%) accepted. This acceptance rate represents an excellent level of success in attracting eligible families.

### Enrollment

The first important step in the Healthy Families model is enrollment. Of the 83 open cases, 99% have been successfully enrolled and received a first home visit. During FY 2008, MN/HFL opened 16 new cases, and 15 (94%) of those families received a first home visit. Since FY 2004, only one family has terminated from the program before they could receive a first home visit. This rate of enrollment represents a high level of performance when compared to other home visiting programs across the state.

### Engagement

The second step in the process, engagement, involves the family regularly participating in services for at least six months. A total of 77 families were eligible for engagement, and MN/HFL successfully engaged 100% of those families. During the last program year, 14 active families were eligible for engagement and all 14 of those families (100%) were engaged. The program's performance in this critical domain is impressive and one of the best in Virginia. This record of engagement, attained by MN/HFL staff over the last five years, represents a very high level of success in maintaining the motivation and involvement of participating families, frequently a major challenge to prevention programs that target high-risk families.

## Child and Maternal Health Outcomes

MN/HFL was highly effective in working with prenatally enrolled women; 96% received the recommended number of prenatal care visits or more. In FY 2008, 93% of the 14 active families received 100% of their scheduled prenatal care visits. This level of performance far exceeds the HFV criterion set for established programs. Moreover, over 90% of women received 100% of their prenatal care visits. MN/HFL had birth weight data recorded on all 27 of the families who gave birth. Of those 27 families, 26 (96%) had babies born with birth weights greater than 2500 grams. MN/HFL's performance clearly surpassed the state criterion of 85%. These healthy birth weights constitute an important indicator of child health. Moreover, the program's healthy birth weight rate is superior to the Virginia general population rate, despite serving families at risk for poor pregnancy outcomes. A review of the program's records revealed that 99% of the 80 target children had a primary health care provider within two months of birth or enrollment. This level of performance surpassed the 85% criterion set for established programs. Even more importantly, 99% of MN/HFL families were continuing with their health care provider after six months of participation in the program, clearly surpassing the state criterion set for established programs. Few programs have attained this level of success in insuring families established and maintain relationships with their primary care physicians.

This evaluation also examined whether children have been adequately immunized against childhood vaccine-preventable diseases. For this evaluation cycle, participating children were considered "up-to-date" if they had all their scheduled immunizations by the cutoff date for this report (06/30/08) or by the date that they were discharged from the program. The 100% criterion represents an extremely high standard. One hundred percent (100%) of the all 79 families enrolled obtained full compliance. Similarly, every child in the 46 active families participating during FY 2008 received 100% of their recommended immunizations. These immunization coverage rates far surpassed the HFV criterion set for established programs.

Placing these findings within the context of national norms and immunization completion rates for higher risk groups may be helpful in interpreting MN/HFL's performance in this domain. The U.S. Department of Health and Human Services (2007) estimated that the national base rate was 77% for FY 2006 for children receiving the recommended immunizations (4:3:1:3:3:1 vaccine series).

For more direct comparison with HFV programs, the 2006 U.S. National Immunization Survey conducted by the Centers for Disease Control and Prevention estimated the FY 2006 vaccination completion rate was 77.4% for the Virginia general population. Furthermore, the Virginia Department of Health (VDH) FY 2006 Sentinel Report estimated the vaccination completion rate for Health Department clients was 51.17%. Moreover, since the Virginia statistics are based on fewer immunizations, (15 for the general population and 14 for health department clients) HFV is actually being evaluated on a higher standard (16 immunizations). On a very positive note, MN/HFL immunization coverage rate of 100% was higher than the evaluation criterion and substantially higher than the Virginia general populations rate. MN/HFL can take pride in this finding and the fact that the overall rate obtained across the last five years was the highest ever attained.

**Scientific alert: Progress towards full immunization of young preschoolers has stalled since 2004,** according to a Child Trends analysis of recently released data from the Centers for Disease Control and Prevention (CDC&P). The national rates for the 4:3:1:3 Series rose from 73.7% to 82.5% between 1995 and 2004. Since 2004, the rates have stalled and the 2006 rate is 82.3%. A similar conclusion is reached by examining the more demanding 4:3:1:3:3 Series, which rose from 55.1% to 80.9% between 1995 and 2004. Those rates have stalled also; the 2006 rate was 80.6%. In Virginia, the situation is the same. For

the 4:3:1:3 Series, the Virginia rates rose from 69.1% to 83.4% between 1995 and 2004. The 2006 rate was 83.4%. For the 4:3:1:3:3 Series, the rates rose from 52.8% to 81.0% between 1995 and 2004. The 2006 rate was 81.5%. Importantly, during the same period, the immunization rates for HFV and for MN/HFL (based on families at high risk for poor outcomes) have not stalled; rather, they have continued to rise and was 100% for the last five years-- the same time period that Virginia stalled.

Healthy Families programs also set goals in the area of mother's health, including the avoidance of closely-spaced births (e.g. less than 24 months). There were a total of 53 participating mothers enrolled. To determine if mothers are avoiding closely-spaced births, the length of time between the births of the target child and subsequent births was examined for 12 teen and 41 non-teen mothers, who have been in the program long enough for their children to have reached the age of two. None of those mothers have had a subsequent birth before the end of the 24-month interval. Eleven teen mothers had no subsequent births and one had a subsequent birth after the targeted 24-month interval. This represents a 100% success rate. Of the 41 non-teen mothers, 37 (90%) had no subsequent births. Two mothers (five percent) had a subsequent birth before the 24-month interval and two mothers (five percent) had a subsequent birth after the 24-month interval. This represents an overall success rate of 95%. MN/HFL's performance in this domain is very positive and clearly surpassed the statewide objectives in this domain. Program staff can take pride in the program's ability to help both teen and non-teen mothers avoid closely-spaced pregnancies. Such delays help are associated with improved child health, improved educational and work outcomes for mothers, and decreased infant homicide.

### **Monitoring Child Development**

Healthy Families programs attempt to promote child development by screening children for suspected delays, referring children for developmental evaluation when indicated, and monitoring participation in recommended treatment programs for children with identified delays. An inspection of the children's records reveal that 46 of the 47 children who were old enough for developmental screening had been appropriately screened using the ASQ. This represents a 98% level of success, far exceeding the demanding 90% criterion set for established programs. In FY 200, 29 of 30 children of families who were actively enrolled (97%) received all of their scheduled screenings. This overall level of performance and the most recent annual performance represent an exceptionally high level of success in this domain.

Of the children with at least one ASQ recorded, 7 (15%) had suspected developmental delays. Four of the children had suspected delays on one ASQ, but follow-up ASQ's did not indicate problems. The site's policy is to wait for two successive suspect ASQs to make a referral, so these four were not referred. One additional child with a suspect delay was already receiving services. Both of the children who were appropriate for the site to refer (100%) were referred for further developmental assessment. Both of the referred children had confirmed delays and have received appropriate developmental services.

### **Parent-Child Interaction and the Home Environment**

The overall quality of the home environment and the quality and quantity of the developmental stimulation provided to children by their families is a key factor in child development. Beginning with FY 2006, the program staff was able to administer KIPS to 28 of 41 participating families. Positively, staff were sufficiently motivated to conduct KIPS assessment on 27 of the 31 families who were active participants in FY 2008. One hundred percent (100%) of those KIPS assessments were within normal

limits. This level of performance exceeded the statewide criterion. Staff should be encouraged by the initial positive findings, and strive to conduct assessments for all future participants. One can then determine if these positive findings are equally applicable to all families.

Since FY 2002, there were 47 children who were old enough for the HOME environment assessment. The program conducted at least one in-home assessment on 44 families. Forty-three of those families (98%) had HOME environments that were within normal limits. During FY 2008, MN/HFL conducted home assessments on 28 of 30 active families and 100% of those were within normal limits. This level of attainment easily exceeded the 85% criterion set for established HFV programs. Families are providing stimulating environments that support child development and learning.

### **Child Abuse and Neglect**

In Virginia, during FY 2007, 47,130 children were reported as possible victims of abuse, and 7,330 children were involved in 4,741 founded investigations (i.e., a review of the facts met the legal criteria for abuse or neglect). Thirty-one of Virginia's children died of causes attributable to abuse or neglect. In addition during calendar year 2003, investigations of abuse and neglect reports resulted in 1,101 out-of-home placements of children. One or both parents were identified as the perpetrators in 79% of the cases (DSS, 2006). These statistics demonstrate that there is an urgent need for prevention programs. In fact, in FY 2002, CDC&P issued a strong recommendation that early home visitation programs be implemented or continued, and estimated that 40% of all maltreatment might be prevented if this recommendation is followed.

CPS checks were conducted on all open cases as of 7/1/2007 and all participants who enrolled between 7/1/2007 and 6/30/2008. None of the 62 participants who had received at least six months of service had a founded case of abuse or neglect. This means MN/HFL surpassed the statewide criterion and is doing an excellent job of ensuring children's safety in a participant group in which almost 60% of mothers self-report a childhood history of abuse or neglect. This finding provides some support for the effectiveness of MN/HFL because extensive research has demonstrated that one of the greatest risk factors for abusing or neglecting one's children is a personal history of maltreatment as a child.

### **Conclusion**

Program staff and administrators can take pride in knowing that the MN/HFL's overall performance is among the very best in the Commonwealth. A community collaboration as comprehensive as this one takes time to establish. Given limited resources, the program has done an excellent job in implementing the state-wide evaluation standards, the Program Information Management System (PIMS), and the Supplemental Data System. Program leadership has demonstrated a strong commitment to evaluation and the conscientious collection of data on all participating families. Overall, the program has done a first-rate job of documenting services and tracking child and maternal outcomes. The assessment data suggest that MN/HFL identifies families whose family histories and current mix of risk factors and needs indicate they are at higher-than-average-risk for childhood maltreatment and other poor childhood outcomes. Sadly, at enrollment six in ten women reported a childhood history of abuse.

The evaluation findings are very encouraging, especially the program's ability to assess, enroll, and successfully engage 100% of all eligible families. The results of the child outcome analyses, including prenatal care, immunizations, and connection to medical care providers, indicate that important health outcomes for children are being obtained. The program's performance ensuring that children have a primary healthcare provider was outstanding. Ninety-nine percent of all children had a primary

healthcare provider within two months of birth or enrollment. More importantly, 99% of those families were continuing with their providers after six months of participating in the program, rates obtained by few other programs statewide. MN/HFL was highly successful in assisting high-risk families deliver healthy babies and to successfully immunize their children. Ninety-six percent of all babies were born with healthy birth weights, and 100% of the 79 eligible children received all of their 16 recommended immunizations. This immunization rate far surpassed the state criterion, as well as the rate for the Virginia population. Staff should feel a sense of pride; the healthy birth weight outcomes and the immunization coverage rates were both the highest ever obtained – few programs have excelled across every child health domain. Since initiating services, the program has also done an excellent job ensuring that both teen and non-teen mothers have adequately-spaced subsequent births. Parents display positive parent-child interaction and care-giving and home environments provide developmental assimilation and foster cognitive development. Finally, MN/HFL's performance in the child abuse and neglect domain is excellent, with no founded cases of abuse or neglect.

## MotherNet/Healthy Families Loudoun FY 2008 Evaluation Report

This report focuses on the evaluation of services and participant outcomes for MotherNet/Healthy Families Loudoun (MN/HFL). The report is designed to provide accurate and useful information about how well the MN/HFL is functioning and the extent to which it is achieving its goals and objectives.

MN/HFL, a voluntary program, is part of a national initiative, Healthy Families America (HFA), designed to support new parents in helping their children have a good beginning. Funds from the Virginia General Assembly and public and private organizations provide support for services that promote positive growth and development in order to ensure that all families receive a healthy start.

MN/HFL is part of a national initiative located in over 40 states and over 300 communities, promoted by Prevent Child Abuse America (PCAA), formerly known as the National Committee to Prevent Child Abuse. In the Commonwealth of Virginia all Healthy Families programs are also a part of a state-wide Healthy Families network (32 sites in over 100 Virginia communities) working with Prevent Child Abuse Virginia to ensure that the highest quality services are delivered.

A major study released by the U.S. Department of Health and Human Services reported the number of children abused and neglected rose from 1.42 million in 1986 to 2.81 million in 1993, an increase of 92% (U.S. Department of Health and Human Services, Children's Bureau, 1996). The study also estimated the number of children seriously injured from abuse nearly quadrupled in that time period. Although the nation's overall crime rate fell more than 21% from 1993 to 1997, in Virginia reports of child abuse and neglect grew by eight percent, and confirmed cases increased four percent (DSS, 2004). The most recent statistics on child abuse and neglect reported by the National Clearinghouse on Child Abuse and Neglect Information (NCCANCH, 2004) estimated that in 2002, there were 2.6 million cases of suspected child abuse and neglect, representing 4.5 million children reported to Child Protective Services. Moreover, almost 4 children a day die from abuse or neglect (NCCANCH, 2004). Approximately 30% of the reports included at least one child who was found to be a victim of abuse or neglect. In Virginia, during FY 2004, 47,445 children were reported as possible victims of abuse, and 6,876 children were involved in founded reports (i.e., a review of the facts met the legal criteria for abuse or neglect). Thirty-eight of Virginia's children died of causes attributable to abuse or neglect. In addition during calendar year 2003, investigations of abuse and neglect reports resulted in 1,101 out-of-home placements of children. One or both parents were identified as the perpetrators in 71% of the cases (DSS, 2004). In fact, the Centers for Disease Control and Prevention's Task Force on Community Preventative Services issued a strong recommendation that early home visitation programs be implemented or continued. The Task Force's recent review of the scientific literature on home visiting suggests that approximately 40% of all maltreatment might be prevented if this recommendation is followed (Task Force on Community Preventative Services, 2003).

## **Part II: The Relationship of Childhood Abuse and Family Dysfunction to the Leading Causes of Death in Adults**

The long-term consequences and the enormous associated monetary costs of childhood abuse on mental illness and substance abuse, school failure, criminal health, and serious physical illness in later life are delineated in the full HFV Statewide evaluation (Galano & Huntington, 2004; Appendix A: “*The Relationship Between Child Abuse and Neglect and Other Major Social Problems.*”)

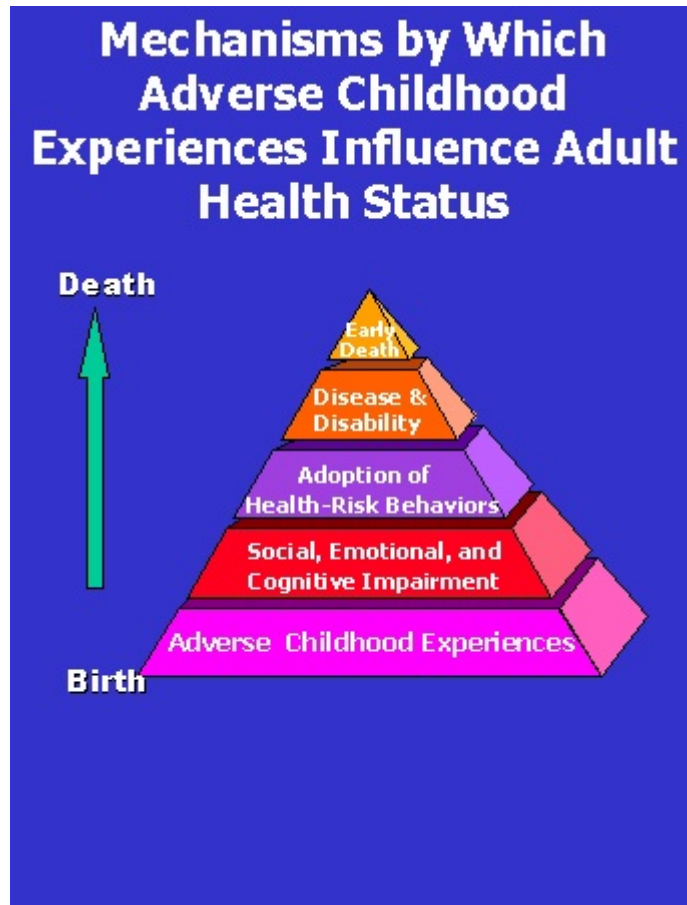
Now, medical investigators are providing remarkable insights into the association among childhood abuse and adult health risk and disease decades later. This relationship is critical because it demonstrates that the ten leading causes of morbidity and mortality in the United States are related to health behaviors and lifestyle factors— factors that are strongly related to adverse experiences in childhood.

**Moreover, the risks and lifestyle factors studied were virtually identical to the risks and household characteristics (i.e. having been physically or sexually abused as a child, parental substance abuse, or domestic violence) that describe many HFV participants.**

This research demonstrates the true impact of child abuse and neglect and associated household conditions may actually exert an even greater toll on adults’ health status, quality of life, health care utilization, and mortality than previously recognized. These conclusions are emerging from the Adverse Childhood Experiences (ACE) study, jointly sponsored by the Centers for Disease Control and Prevention and the Kaiser Permanente’s Department of Preventive Medicine. The ACE study is the largest contemporary epidemiological study ever done to examine the health and social effects of adverse childhood experiences over the life span (Felitti et al., 1998; Felitti, 2002). The first wave of the study, with over 18,000 participants analyzed the relationship between current health and earlier adverse childhood experiences. The adverse experiences studied included: three categories of abuse (psychological, physical, or sexual); violence against mother; living with household members who are substance abusers, mentally ill, suicidal, or imprisoned; and not living with both biological parents. Wave two of the study, begun in 1997, is prospective and will track 19,000 participants, to examine the relationship between these eight adverse childhood experiences and pharmacy utilization, emergency room visitations, outpatient visits, morbidity, and mortality.

The findings from the ACE study provide new insights into the etiology of illness. Individual adverse childhood experiences have clear negative effects; however, it was the impact of four or more adverse experiences that was startling.

The figure below depicts the mechanisms by which ACEs lead to social, emotional, and cognitive impairment that result in children, adolescents, and young adults adopting high-risk behaviors (such as smoking, substance use, or promiscuous sexual behavior) that ultimately result in social problems, disease and disability, and early death.



**These adverse childhood experiences were strongly related to the 10 major causes of adult mortality in the United States (Felitti, 1998).**

**The researchers concluded that the prevalence of these ACEs and their strength as a predictor of health risks and disease makes ACEs the leading determinate of health and well-being in the United States.**

**The researchers state that the prevention of adverse childhood experiences has proven difficult, but that recent research on the long-term benefit of early home visitation on reducing the prevalence of adverse childhood experiences is promising. Next, the findings from the Virginia early home visiting initiative are presented.**

## I. Introduction to the Healthy Families Model

Healthy Families programs provide in-home parenting education and support services to parents who need individualized and comprehensive support. The goals of Healthy Families programs are to promote optimal child health and development, prevent child abuse and neglect, and promote maternal life course development and self-sufficiency. To achieve these goals, Healthy Families programs offer ongoing, intensive home visiting services, prenatally to expectant parents or to new parents at birth. Screening of pregnant and parenting women in targeted geographic locations across the state and a systematic risk assessment process are used to identify families who are overburdened and whose children are at high-risk for child abuse and neglect. Families identified as high-risk are offered home visiting services on a voluntary basis. Healthy families also provide low-risk families with information about parenting resources in the community and referrals to services for identified needs.

Healthy Families has several objectives designed to assist families including:

- Encouraging positive health behaviors during pregnancy such as initiating early prenatal care and keeping prenatal medical appointments.
- Promoting infant and child health.
- Increasing parental knowledge of child development and promoting positive parent-child interactions.
- Supporting child development and school readiness.
- Developing the ability to access and utilize community resources.
- Increasing parental self-sufficiency.

Healthy Families works with parents because they present the greatest opportunity for both contributing to positive, healthy child rearing practices, and reducing the risk of child abuse and neglect. Services are delivered to the parent and child in their own home, which allows them to be tailored to the needs of each family. The program also emphasizes parental skill building and development because parents have the most powerful influence on the infant and developing child. Home visitors are more effectively able to assist and engage families who might not go to an office-based program. Families enrolled in the program receive up to four home visits per month for at least six months following the birth of their child (although additional visits are permitted when warranted). The intensity and frequency of subsequent home visits are decreased as families become more independent. Families can choose to participate until the child reaches the age of five.

Much of what is achieved by Healthy Families Programs is accomplished through the Family Support Workers (FSWs) who assist families in their role as new parents and providers. Their roles include role-modeling in problem-solving, developing effective parenting techniques and home management skills, and ensuring well-baby care and proper immunizations for the child. Home visitors are usually hired from the local community because they share the same language and cultural background as the program participants. FSWs are selected because they possess desired personal characteristics (e.g., non-judgmental, able to establish a trusting relationship, a fondness for children, empathetic) and because of their ability to work with culturally diverse participants. In addition, they receive extensive training designed to help them understand and fulfill their role as a home visitor. Training is provided in areas such as observing and teaching parent-child interaction, developing a medical home and promoting well-baby care immunizations, domestic violence, substance abuse issues, abuse and neglect, and offering community services and making referrals.

The program activities emphasize the FSWs' relationship with parents; educational and skill building activities (e.g., goal setting and problem solving) are integrated into that relationship over time. FSWs

assess a family's needs and develop an Individualized Family Support Plan (IFSP) with the family. The IFSP creation is a strength-based process that encourages the family to develop goals that are meaningful to them and to create an action plan to obtain their goals. Home visitors carry a caseload of up to 15 families when visiting families within the first six months of the child's birth. As families become more independent and are visited less frequently, FSWs carry a caseload of up to 25 families.

Finally, the program recognizes that the parent and child are embedded in a larger community and that family and friends, social support, and the use of community resources play an important role. Virginia's Healthy Families programs develop collaborative relationships with other community agencies for needed resources and with a wide network of care providers to conduct universal screenings and coordinate services for infant and child health and development.

## **II. Introduction to MotherNet/Healthy Families Loudoun**

INMED-MotherNet/Healthy Families Loudoun (MN/HFL) was established in 1998 as an expansion and enhancement of the MotherNet Loudoun perinatal home visiting program that had served at-risk pregnant women and teens since 1994. MN/HFL's project area encompasses Loudoun County, a rural/suburban area covering 520 square miles in Northern Virginia. Loudoun, Virginia's fastest-growing county, is experiencing its most rapid growth particularly among young families; with the second-highest birth rate in the state, 5160 births in 2007 (<http://www.vdh.state.va.us/healthstats/VitalEvents07.pdf>), many of whom are Latino. In fact, by the end of FY 2008, 96% of MN/HFL's participants were Latino, which contrasts sharply with the 9.7% Latino population countywide

(<http://www.census.gov/population/www/socdemo/hispanic/files/2006%20countmap.xls>).

Oversight is provided by INMED-MN/HFL's Community Advisory Board. Support and critical community-based services are supplied by a network of partners, including Loudoun County Department of Public Health; Loudoun County Department of Family Services; Loudoun County Department of Parks, Recreation and Community Services; Loudoun County Department of Mental Health, Mental Retardation and Substance Abuse Services; Inova Loudoun Hospital; Loudoun Abused Women's Shelter; Loudoun County Public Schools; Loudoun Literacy Council; NVFS- Loudoun Early Head Start; and Parent-Infant Education, among others.

INMED-MN/HFL provides in-home parenting education and support services to parents who need individualized and comprehensive support. The goals of Healthy Families programs are to promote optimal child health and development, prevent child abuse and neglect, and promote maternal life course development. To achieve these goals, Healthy Families programs offer ongoing, intensive home visiting services, prenatally to expectant parents or to new parents at birth. Screening of pregnant and parenting women in targeted geographic locations and a systematic risk assessment process are used to identify families who are overburdened and whose children are at high-risk for child abuse and neglect. Families identified as high-risk are offered home visiting services on a voluntary basis. Healthy Families also provides low-risk families with information about parenting resources in the community and referrals to services for identified needs. Healthy Families has several objectives designed to assist families, including:

1. Encouraging positive health behaviors during pregnancy such as initiating early prenatal care and keeping prenatal medical appointments.
2. Promoting infant and child health.
3. Increasing parental knowledge of child development and promoting positive parent-child interactions.

4. Supporting child development and school readiness.
5. Developing the ability to access and utilize community resources.

### III. The Evaluation Plan

#### A. Evaluation Methodology

Table 1 illustrates the design of the HFV evaluation. Multiple data collection instruments are used longitudinally to examine the effectiveness of the Healthy Families intervention in each of the five outcome domains. The data collection process requires ongoing collaboration with community agencies and medical care providers, formal agreements between programs, considerable diligence and foresight by Healthy Families program staff and managers, and families who are trusting and willing to participate in this ongoing process.

The methodology chosen for the statewide HFV evaluation project examines the outcomes attained by each Healthy Families site by comparing them with benchmarks selected by the evaluators and the HFV Directors Network. These benchmarks were selected after a careful review of the home visiting literature and the goals and objectives set in Healthy People 2010 and Healthy Virginians 2010. Many of the benchmarks selected by HFV represent significant child and maternal outcomes and, where attained, a high level of program accomplishment. For example, the immunization objective for established programs is, “80% of Healthy Families children will be up-to-date on all immunizations recommended by the American Academy of Pediatrics and the Virginia Department of Health. Healthy Families currently tracks 16 immunizations and bases its completion rates on these 16 immunizations – all of which are recommended if children are to receive the most complete protection. Most of the immunization statistics reported by the state and by most programs are based on only 8 or 11 of these 16 immunizations. This is obviously an easier standard. If Healthy Families used this standard the initiative’s rates of immunization coverage would clearly be higher, but less would be known about the extent to which children were being protected from preventable childhood illnesses.

The evaluation does not include randomly selected control or comparison groups, in which a group of people who are identical to the participants are denied services. From a scientific perspective, utilizing control groups has many advantages and improves the ability to make unambiguous and definitive statements about the program’s impact. Many Healthy Families programs believe it is unethical to deny services to families who have been assessed as high-risk for child abuse and neglect and other poor child outcomes. To add to the validity of the evaluation design Healthy Families has selected highly respected, standardized measures in areas such as parent-child interaction and the home environment, collects data in multiple domains, and employs a longitudinal design which tracks families for up to five years. In addition, as the size of individual programs and the state initiative grow, comparisons that examine relative levels of success as a function of length of time in program or number of home visits received, or teens compared to older mothers will become feasible. This will allow sites to learn more about who benefits most from participating and what intensity or mix of services is necessary to have a positive impact. Finally, each Healthy Families site is contributing to an aggregate statewide evaluation that will generate findings about the extent to which outcomes are consistent across sites in Virginia. These aggregated findings represent a very promising approach to evaluating the impact of the Healthy Families model and HFA programs in Virginia.

**TABLE 1. HEALTHY FAMILIES EVALUATION PLAN**

**EVALUATION POINT**

<b>Measurement Instrument</b>	<b>Intake</b>	<b>Following Birth of Child</b>	<b>6</b>	<b>12</b>	<b>24</b>	<b>36</b>	<b>48</b>	<b>Purpose/Goal</b>	
<b>Screening/Recruiting Measures</b>									
Screening Form	*							Selection	
Assessment Form	*							Selection	
Consent & Release	*							Enrollment	
Intake Form (demographics)	*							Description	
<b>Initial Assessment</b>									
Prenatal Care Tracking Form		*						Prenatal Care Completion	
Keys to Interactive Parenting (KIPS)		*						P-C Interaction	
HOME		*						Home Environment	
Pregnancy/Birth Information Form*						Child Health			
Immunization Schedule		*						Immunization Tracking	
Well-Baby Care Schedule (optional)		*						Well-Baby Care Tracking	
<b>Follow-up Measures</b>									
Keys to Interactive Parenting (KIPS)			*	*	*	*		P-C Interaction	
HOME			*	*	*	*	*	Home Environment	
Follow-up Information Form			*	*	*	*	*	Description	
CPS Reporting Information Form		According to schedule and procedures established with CPS							Child Abuse & Neglect
Immunization Form		As immunizations occur							Immunization Tracking
Well-Baby Care Form		As Well-Baby Care Visits							Well-Baby Care Tracking
IFSP Log		As IFSPs are completed and reviewed							IFSP Tracking
Referral Form		As Referrals are made							Referral Tracking
Monthly Contact Log		Monthly							Services Tracking
Information Change form		As critical contact information changes							Description and Contact Info
Ages and Stages Questionnaire		According to the schedule of the Ages and Stages							Developmental Screening
Termination Form		As Terminations occur							Discharge Information

\* Each asterisk denotes a measurement point

## **B. Evaluation of Healthy Families Goals and Objectives**

In 1999, PCAV, working with the directors and coordinators of Healthy Families (HF) programs from across Virginia, developed a standard statewide outcome evaluation plan. The plan delineates domains in which program effects would be expected, a standard set of goals in each domain, specific outcome objectives for each goal (with specified levels of goal attainment for established and new programs), and benchmarks or measurement instruments for each objective. The domains included in the HFV State-wide Evaluation Plan are Maternal and Child Health, Child Development, Parent-Child Interaction and the Home Environment, and Child Abuse and Neglect.

### **1. Process Objectives**

The process evaluation focuses on the ability to identify families who are at-risk and then to enroll, engage, and retain families in ongoing service delivery consistent with the HFV program model. Information is also provided on the characteristics of the families served and the reasons participants terminate.

Some of the specific process questions addressed are:

- How does Healthy Families identify families at-risk for child maltreatment and other poor childhood outcomes and determine which families are eligible for services?
- Who has Healthy Families enrolled and how effectively they have engaged participants over time?
- Which families leave the program and what are some of the reasons for termination?

### **2. Outcome Objectives**

This report examines the programs' attainment of the objectives adopted by the statewide program director's network. For example, Healthy Families programs aim to improve child and family outcomes, in part, by linking the child and the family to a primary medical care provider so the family will obtain needed well-baby care and immunizations. The evaluation also examines various aspects of parenting and characteristics of the home environment that can affect a child's development. The parent-child interaction of participating families is evaluated and, as parents continue participating in the program, differences that emerge in the parenting and the home learning environments are examined. In addition, a major focus of the evaluation examines whether participation in Healthy Families programs ultimately results in improved child health and reduced child abuse and neglect.

The HFA model has prescribed that all Healthy Families programs document change and has recommended a common set of outcome domains that should be monitored (NCPCA, 1997). HFV has adopted a Statewide Evaluation Plan that includes goals and objectives in four major domains:

- Achieve positive pregnancy and maternal and child health outcomes.
  - 75% of HF prenatal enrollees will make receive adequate prenatal care visits as recommended by the American Academy of Obstetrics and Gynecology (ACOG) or provider.
  - 85% of prenatal enrollees will deliver babies weighing at least 2,500 grams (5 lbs. 8 oz.)

- 85% of HF target children will have a primary health care provider within 2 months after enrollment or birth of the target child.
  - 80% of HF target children will continue with a primary health care provider.
  - 70% of HF target children will receive adequate Well-Baby/Child care visits (optional).
  - 80% of Healthy Families children will be up-to-date on all immunizations as recommended by ACIP, American Academy of Pediatrics, State Health Department, or provider.
  - 85% of teen mothers will have an interval of at least 24 months between the target child's birth and subsequent births.
  - 75% of non-teen mothers will have an interval of at least 24 months between the target child's birth and subsequent births.
- 
- Promote child development by screening for suspected delays, referring children for developmental evaluation, and monitoring participation in treatment programs for children with identified delays.
    - 90% of target children will be screened for developmental delay. Screening of each child will occur at least semi-annually until age 36 months, and annually thereafter.
    - 90% of children showing developmental delay will be referred to appropriate early intervention services for assessment to determine need and therapeutic services.
    - 90% of the children who are referred for assessment will be monitored for follow-through.
  - Demonstrate positive parent-child interaction and stimulating home environments that support child development.
    - 85% of participants will demonstrate an acceptable level of parent-child interaction or show improvement after one year of participation.
    - 85% of families will have optimal home environments to support child development or will show improvement in home environments after one year of participation.
  - Reduce child abuse and neglect.
    - 95% of Healthy Families participants who receive at least 12 months of services will not have founded reports of child abuse and neglect of target child(ren) while enrolled.

## IV. Evaluation Results: Process and Outcome

### A. Process Evaluation Results

#### 1. Introduction to Screening and Family Assessment

In the sections that follow, information is presented on screening and assessment (determining which families were in need of and eligible for services), intake (opening a case and assigning an FSW), enrollment (completing the initial home visit with participants who agreed to participate in the program’s services), engagement (maintaining participation in the program), and attrition (when and why participants leave Healthy Families services). Each area is presented in succession and each has important program and program evaluation consequences.

#### a. Screening process and results

Identifying at-risk families and engaging them in home visitation services are two critical process goals for child abuse prevention programs. In Healthy Families programs, the early identification process identifies at-risk families of newborns using a two-stage screening and assessment protocol. Screening involves a standardized screen to identify indicators of risk. The screening is conducted using a 15-item medical record screen (see Table 2 for a list of the demographic and psycho-social factors that are used to conduct this initial screening). If the standardized screen is negative, the family is considered not at-risk. Because most programs operate under conditions of limited resources, every attempt is made to be systematic about allocating limited program slots for families who are most likely to benefit from the intervention.

**Table 2. Early identification Screening for Referral to Healthy Families**

<u>Medical Record Screen</u>	<u>Family Stress Checklist Interview</u>
<ul style="list-style-type: none"> <li>• Unmarried</li> <li>• Partner unemployed</li> <li>• Inadequate income</li> <li>• Unstable housing</li> <li>• No phone</li> <li>• Education under 12 years</li> <li>• Inadequate emergency contacts</li> <li>• History of substance abuse</li> <li>• Inadequate prenatal care</li> <li>• History of abortions</li> <li>• History of psychiatric care</li> <li>• Abortion unsuccessfully sought or attempted</li> <li>• Adoption sought or attempted</li> <li>• Marital or family problems</li> <li>• History of depression</li> </ul>	<ul style="list-style-type: none"> <li>• Childhood history of abuse or neglect</li> <li>• Substance abuse, mental illness, or criminal history</li> <li>• Previous or current Child Protective Services Involvement</li> <li>• Low self-esteem, poor coping ability</li> <li>• Multiple life stressors</li> <li>• Potential for violent temper outbursts</li> <li>• Unrealistic expectations for child’s development</li> <li>• Harsh punishment of child</li> <li>• Perceives child as being difficult or provocative</li> <li>• Child unwanted or risk of poor bonding</li> </ul>

From 7/1/03 to 6/30/08, 395 women were screened (see Table 3). To assist programs in understanding recent trends or changes in screening, assessment, enrollment, and engagement these data will be

displayed both aggregated for all years and separately for FY 2008. Most of the screens, 92%, were conducted prenatally. Approximately 99% of the screens were positive, and 39% of those screens were assessed. In FY 2008, the proportion of families screened prenatally was 94% and 22% of those individuals were assessed. Since 7/01/03, 61% of all families with a positive screen were not assessed. Most of these (75%) were not assessed because the site has reached its capacity for offering services to new participants. The wide large number of positive screens suggests that Loudoun County has a very large unmet need for Healthy Families Services. Approximately 18% of the families who were not screened could not be located and another three percent were not interested in the services being offered.

**Table 3. Screening Summary**

	FY 2008 n=95		All Screened n=395	
	Number	Percentage	Number	Percentage
<b>Time of Screen</b>				
Pre-natal	89	93.7%	368	93.2%
Post-natal	6	6.3%	27	6.8%
<b>Total:</b>	<b>95</b>	<b>100.0</b>	<b>395</b>	<b>100.0</b>
<b>Screen Outcome</b>				
Positive Screens	95	100.0	390	98.7
Assessed	21	22.1	151	38.7
Not Assessed	74	77.9	239	61.3
Negative Screens	0	0.0	5	1.3
<b>Total:</b>	<b>95</b>	<b>100.0</b>	<b>395</b>	<b>100.0</b>
<b>Reasons Not Assessed</b>				
Assessment Quota Met	60	81.8	179	74.9%
Refused/not interested	1	1.4	7	2.9%
Participating in another program	0	0.0	2	0.8%
No time available to participate	1	1.4	3	1.6%
Moving/moved	1	1.4	2	0.8%
Unable to locate	10	13.5	45	18.8%
Did not meet criteria (inappropriate referral)	1	1.4	1	0.4%
<b>Total</b>	<b>74</b>	<b>100.0</b>	<b>239</b>	<b>100.0</b>

b. Assessment process and results

If the screen is positive, a personal interview is conducted using the Kempe Family Stress Assessment (KFSA). The ten risk factors that constitute the KFSA and that are used to assess need for services are shown in Table 2. The parent is scored on each factor - 0 (no or little risk of maltreatment), 5 (moderate risk), and 10 (severe risk) - for a total score ranging between 0 and 100. If either parent scores 25 or above (the at-risk cutoff), the family is considered eligible for Healthy Family’s home visiting. When a family is considered at-risk and eligible, and if space in the program is available, the Family Resource Specialist (FRS) explains the goals of the program and services available and invites the family to participate on a voluntary basis. Families who accept the invitation sign an informed consent form.

Of the 152 women with assessment data (see Table 4) approximately 97% were assessed prenatally or postnatally within two weeks of delivery (83% prenatally and 14% post-natally within two weeks of delivery). MN/HFL's performance in FY 2008 was similarly strong (100% of the 24 families were assessed prenatally or within two weeks of delivery). MN/HFL's overall performance surpassed the national credentialing standard of 80% set by HFA and also surpassed the highest standard of 95%. Of the 152 women assessed there were 134 families who were assessed positive (88%). Across the last five program years, 25 (16%) of those families could not be offered services because caseloads were full. This represented a moderate unmet need; in FY 2008, for the first time, no family who assessed positive could not be offered services. Staff should continue monitoring sense the inability to serve all eligible families had represented a continuing unmet need. Of the 109 families with positive assessments who were offered services since 7/01/03, 102 (94%) of those accepted. This acceptance rate represents an excellent level of success in attracting eligible families.

Since 7/01/03, seven families refused services. One family was moving out of the service area and the rest the program was unable to contact before the time for enrolling them had expired. Healthy Families is a completely voluntary program, and a family's decision about accepting or declining an invitation to participate is always respected.

**Table 4. Assessments Summary Results**

<b>Time of Assessment</b>	<b>FY 2008 n=24</b>		<b>All Assessed n=152</b>	
	<b>Frequency</b>	<b>% of all Assessments</b>	<b>Frequency</b>	<b>% of all Assessments</b>
Prior to birth/Pre-natal assessment				
First Trimester	0	58.3%	12	7.9%
Second Trimester	14	33.3%	56	36.8%
Third Trimester	8	0.0	59	38.8%
Post-natal assessment				
Within two weeks of birth	2	0.0	21	13.8%
More than two weeks after birth	0	0.0	4	2.6%
<b>Total Assessments Prenatal and Within two weeks after birth</b>	<b>24</b>	<b>100.0</b>	<b>148</b>	<b>97.4</b>
<b>Total Assessments</b>	<b>24</b>	<b>100.0</b>	<b>152</b>	<b>100.0</b>
<b>Post-Assessment Disposition</b>	<b>Frequency</b>	<b>% of all Assessments</b>	<b>Frequency</b>	<b>% of all Assessments</b>
Positive, accepted services	19	79.2%	102	67.1%
Positive, refused services	1	4.2%	7	4.6%
Positive, caseload full	0	0.0%	25	16.4%
Negative, minimal services or referrals given	4	16.7%	18	11.8%
<b>Total number of assessments</b>	<b>28</b>	<b>116.7</b>	<b>170</b>	<b>111.8</b>
Positive assessments offered services	20	83.3	109	71.7
Positive assessments accepting services	19	95.0	102	93.6
<b>Reason for Refusing Services</b>	<b>Frequency</b>	<b>% of all Refusals</b>	<b>Frequency</b>	<b>% of all Refusals</b>
Moving	0	0.0%	1	14.0%
Participating in another program	0	0.0%	0	0.0%
No time available to participate	0	0.0%	0	0.0%
Not acceptable to other family member	0	0.0%	0	0.0%
		100.0		
Other (specify)	1	%	6	86.0%
Unknown	0	0.0%	0	0.0%
<b>Total number of refused services</b>	<b>1</b>	<b>100.0</b>	<b>7</b>	<b>100.0</b>

**Figure 1. Percentage of Assessments at Moderate and High-risk on the Kempe Family Stress Assessment**

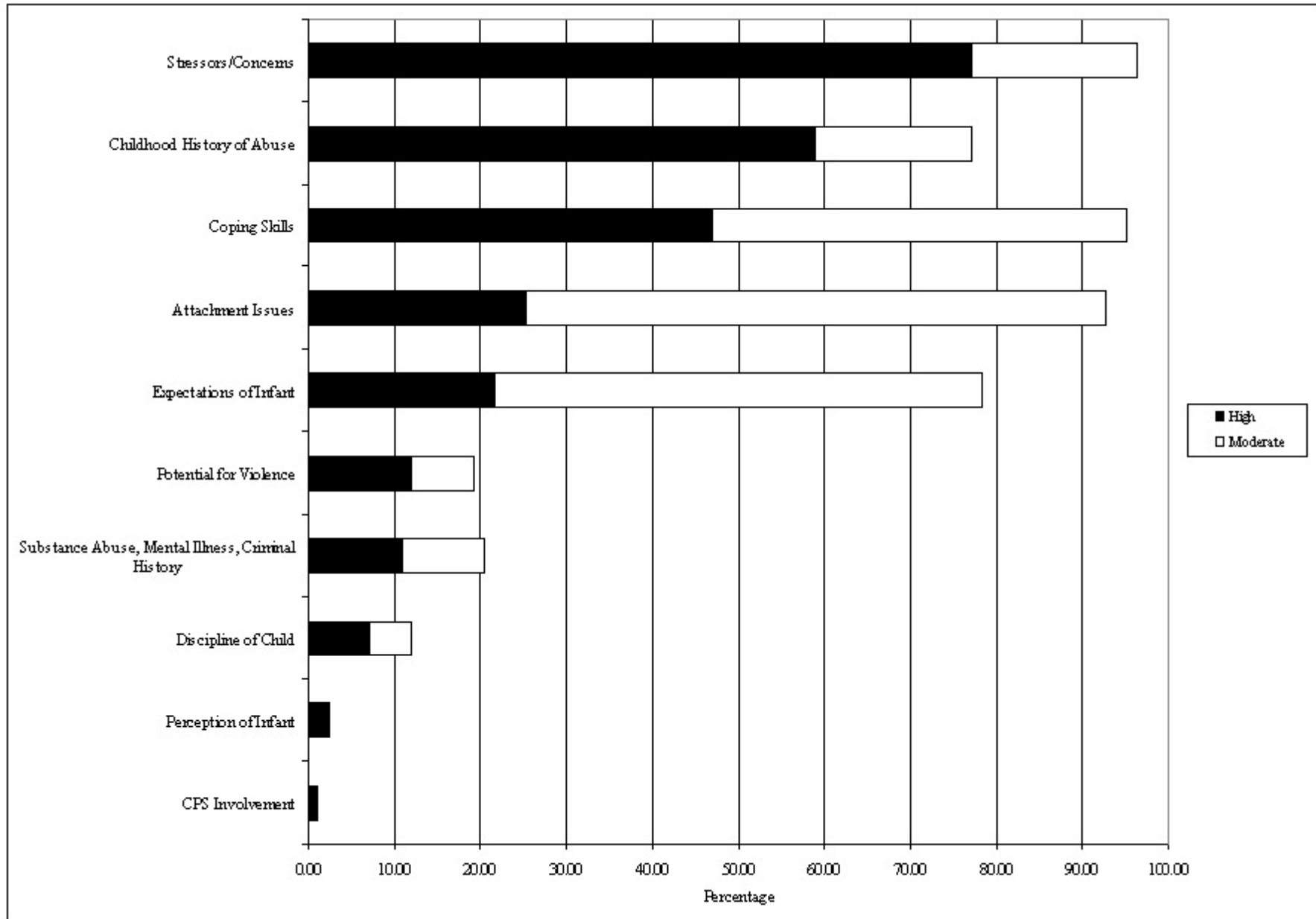


Figure 1 presents the participants’ scores on the KFSa. The figure displays the proportion of MN/HFL families with scores placing them at moderate- or high-risk on each of the ten domains. The highest proportion of participants had high risk scores in the domains of “stressors/concerns,” “childhood history of abuse,” and “coping skills.” A smaller proportion of families were at risk because of “attachment issues,” “expectations of infant,” “potential for violence,” and “substance abuse, mental illness, criminal history.” Still fewer participants had high risk scores in the area of “discipline of child.” The fact that no participants were at risk because of “CPS involvement” is consistent with the fact that Healthy Families is a prevention program that intentionally enrolls families before problems have occurred. Sadly, at enrollment six in ten women reported a childhood history of abuse.

**Figure 2. Percentage of Eligible Participants at Low-, Medium-, and High-Risk on the Kempe Family Stress Assessment**

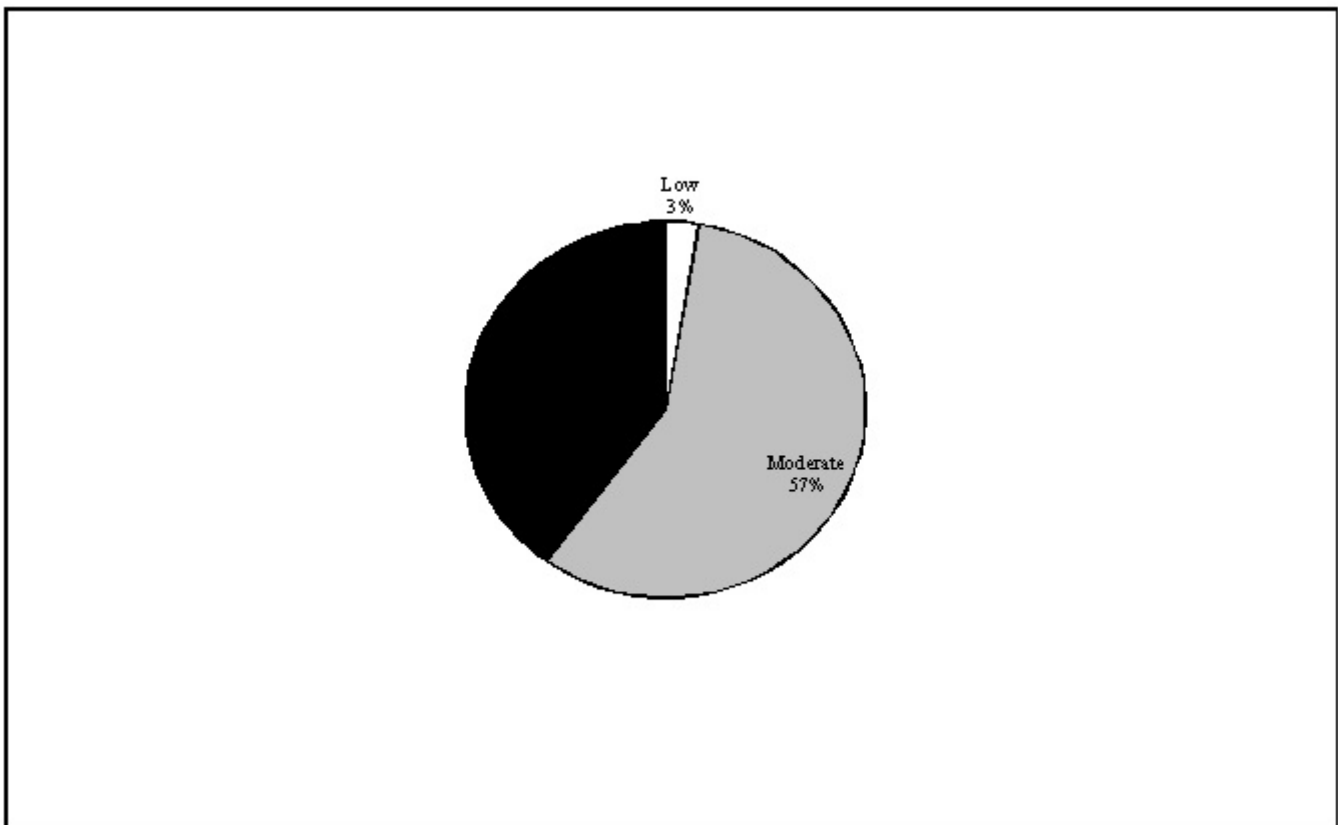


Figure 2 displays the proportion of participants who have low-, moderate-, and high-risk KFSa scores. Participants whose KFSa scores were in the low range were eligible for services because of a moderate- or high-risk score attained by their husbands or male partners. Fifty-seven percent of the participants enrolled in MN/HFL were at moderate-risk compared to 40% of participants whose scores placed them in the high-risk category. These data suggest that MN/HFL identifies families whose family histories and current mix of risk factors and needs indicate they are at a higher-than-average-risk for child maltreatment and other poor childhood outcomes.

## 2. Participant Intake, Enrollment, Demographics, and Birth Information

### a. Characteristics of Participants at Intake

The intake process consists of opening a case file on a participant who has accepted services and assigning an FSW who has the responsibility of contacting the family and developing an individualized plan for services. This section presents a demographic profile of all the participants who assessed positive and accepted the invitation to enroll in the program. These data are helpful in determining whether the sample of participants enrolled match the demographics of the larger community and if participant or background characteristics are differentially associated with those who enroll and remain in the program. These data are also useful in understanding if demographic and psychosocial variables predict which participants benefit most and which benefit least from the program.

A summary of the characteristics of the 66 families who participated in the program between 7/1/03 and 6/30/08 is presented in Table 5. The average age of the participating mothers was 23.6 years of age and they were primarily unmarried. More than half (52%) of the participants were never married, and an additional 29% were living together but not married. Approximately 13% of all participating parents were married for the first time. Thirty-four percent of all participants had completed high school, or attained a GED, but only one individual was a college graduate. Most participants (92%) were Hispanic; another five percent were black, and two percent of the families were white. Only 16% of the participants enrolled in MN/HFL were employed full-time, and 16% were currently enrolled in school. When the participants first enrolled in Healthy Families, only five percent were insured through a private carrier and another four percent were enrolled in Medicaid. At the time of enrollment, 74 families (90%) had no insurance. Four of those families had already applied for insurance at the time of enrollment. However, most of the families enrolled (85%) had not applied. The proportion of families without any insurance is one of the highest rates of any Healthy Families program in Virginia. This group of families represents a significant number of participants that merit additional attention. Moreover, the fact that so many families enrolling in the program have no insurance reflects both their lack of resources and the high-risk circumstances (including many recent Hispanic immigrants from Central and South America with limited English proficiency and no health insurance) that accompany all too many of the families served by MN/HFL.

**Table 5. Characteristics of Participating Families**

<b>07/01/2003-06/30/2008</b>			
<b>n=82</b>			
<b>Age</b>	Average	23.6	
	Minimum Age	14.5	
	Maximum Age	45.5	
<b>Categorical Breakdown of Participant Characteristics</b>		<b>Frequency</b>	<b>% of all Participants</b>
<b>Age</b>	Under 18	13	15.9
	18 to 19	6	7.3
	20 to 30	50	61.0
	Above 30	13	15.9
<b>Race</b>	Black	4	4.9
	White	2	2.4
	Hispanic	75	91.5
	American Indian, Eskimo or Aleut	0	0.0
	Asian/Pacific Islander	1	1.2
	Multi-racial	0	0.0
<b>Marital Status</b>	Single, never married	43	52.4
	Living together, not married	24	29.3
	Married, first time	11	13.4
	Remarried	0	0.0
	Separated	4	4.9
<b>Education</b>	Less than 7th grade	20	24.4
	7th grade	2	2.4
	8th grade	3	3.7
	9th grade	10	12.2
	10th grade	4	4.9
	11th grade	9	11.0
	12th grade	6	7.3
	High school diploma	23	28.0
	General Equivalency Diploma (GED)	0	0.0
	Post high school training/some college	4	4.9
	College graduate - associate degree	0	0.0
	College graduate - bachelor's degree	1	1.2

**Table 5. Characteristics of Participating Families (Continued)**

<b>Currently in School</b>	Yes	13	15.9
	No	69	84.1
	Unknown	0	0.0
<b>Employment</b>	Full-time employed (35+ hrs per wk)	13	15.9
	Part-time employed (<35 hrs per wk)	11	13.4
	Odd jobs/irregular part time	6	7.3
	Unemployed, but looking	0	0.0
	Unemployed, not looking	49	59.8
	Unemployed, full-time student	0	0.0
	Unemployed, part-time student	0	0.0
	Medical leave/disability	0	0.0
	Other	1	1.2
	Unknown	2	2.4
<b>Primary language</b>	English	10	12.2
	Spanish	70	85.4
	Other	2	2.4
	Unknown	0	0.0
<b>Insurance</b>	Medicaid - regular	3	3.7
	Medicaid - emergency	0	0.0
	Private carrier	4	4.9
	No insurance, have applied	4	4.9
	No insurance, have not applied	70	85.4
	Other	1	1.2
Unknown	0	0.0	

b. Enrollment and Engagement

Once the Healthy Families program has opened a case on a family who has agreed to participate, the program staff work to enroll and engage that family in services. Nationwide, family support programs struggle with the challenge of engaging eligible families and maintaining their involvement over time (Myers-Walls, Elicker & Bandy, 1998; Daro, McCurdy, Rauh, Nelson, & Brown,1999). If preventing child abuse and neglect demands an extended intervention, then a low rate of retention poses a serious threat to programs trying to reach their objectives. The beneficial effects of home visiting would be further undermined if the families who drop out are those most in need of services. Engaging and retaining families in prevention programs like Healthy Families is critically important to program providers, funders, and evaluators.

1) Enrollment

Enrollment is the first step of involving participants in Healthy Families. A family is considered enrolled after they have been assessed as at-risk, offered services, agreed to participate, and received their first home visit. Assessment information and demographics are entered into the evaluation data set for these families once they are enrolled as Healthy Families participants. Most of the analyses conducted in this evaluation are based on all enrolled participants. Setting a more rigorous criterion (longer time in the program) would have excluded most participants from the evaluation. This decision, to include all enrolled participants, seems especially appropriate given that HFV is still a developing initiative and many programs have only been accepting participants for a relatively brief period of time. Although this decision results in more information based on more participants, this strategy can make it more difficult to demonstrate positive impacts, because a participant’s average length of time participating and receiving services is shorter.

Since 7/01/03, MN/HFL has opened 83 cases and 99% of those families were successfully enrolled and received a first home visit (see Table 6). During FY 2008, MN/HFL opened 16 new cases, and 15 (94%) of those families received a first home visit. Since FY 2004, only a single family terminated enrollment before receiving a first home visit. This rate of enrollment represents a very high level of performance when compared to other programs across the state.

**Table 6. Enrollment of Open Cases in Healthy Families Services**

	FY 2008		All Years	
Number of Positive Assessments Accepting Services	19		102	
Number of Open Cases	16		83	
	N	%	N	%
Open- Have not received first home visit	0	0.0	0	0.0
Terminated before first home visit	1	6.3	1	1.2
<b>Enrolled</b>	<b>15</b>	<b>93.8</b>	<b>82</b>	<b>98.8</b>

2) Engagement

The second step in the process, engagement, involves the family regularly participating in program services and receiving home visits by a FSW. The distinction between enrollment and engagement is critical for the accuracy and validity of the outcome evaluation. The criterion used for engagement is that participants must have participated for more than four months. If they participated for 4-5 months,

they must have received at least 50% of their scheduled home visits up to that time. All participants who are enrolled for six months or longer are considered engaged. In the years to come, when HFV programs have been in operation longer and the focus of the evaluation becomes measuring program impact on maternal and child health outcomes over time, it might be appropriate to compare enrolled participants with participants who received fewer services. This would allow examination of how participant’s “dosage” (length of participation) related to program impact. This would ensure that a participant’s length of participation provides a dosage of services sufficient to test program impact.

Table 7 summarizes information on the engagement of families enrolled in MN/HFL. Inspection of Table 7 reveals that a total of 77 families were eligible for engagement, and MN/HFL successfully engaged 100% of those families. During the last program year 14 active families were eligible for engagement, and all 14 of those families were engaged. The program’s performance in this critical domain is impressive and one of the best in Virginia. This record of engagement, attained by MN/HFL staff over the last five years, represents a very high level of success in maintaining the motivation and involvement of participating families, frequently a major challenge to prevention programs that target high-risk families.

**Table 7. Engagement of Healthy Families Participants**

	FY 2008		All Enrolled Participants	
	N	%	N	%
Total Enrolled	15		82	
Eligible for Engagement (Cases Open > 4 months)	14	93.3	77	94.6
Engaged	14	100.0	77	100.0
Enrolled Less than Four Months	1	6.7	5	6.1

c. Termination

Although the Healthy Families model offers services until the target child reaches five years of age, not all participants continue to receive services for that long. Tracking termination and the length of time an individual has participated in the program is important because it allows us to determine if there is a minimal amount of time in the program necessary to reach program objectives. In addition to having varying intensities and duration of program involvement. When they leave the program, participants terminate for many reasons. Some of the reasons for terminating are negative and inconsistent with program goals; however, others are neutral and some reasons are actually commensurate with individual participant and program goals. It is important to understand and differentiate these reasons for participant program termination.

Table 8 summarizes the reasons for termination of the 102 participants who left the program during the period covering 7/01/03 - 6/30/08. To the program’s credit, 23% of all families graduated from the program after being enrolled for on average four years. Among participants who did not graduate, the largest category refused additional services (36%) or could not be contacted. After receiving services for approximately a year and a half another 11 families (11%) had scheduling conflicts with the demands of their current job. Additionally, ten families (ten percent) had moved out of the service area or out of town. Four families left the program because the target child reached the age of five. One participant decided to leave the program after 47 months rather than accept an FSW change that occurred because of staff turnover. This participant may have decided to leave the program because they had developed

close, trusting relationships with their home-visitors. Additionally, one family terminated because the target child entered foster care, and one because the child left home after receiving services for over one year. One family was never engaged. Termination from the program is not desirable; however, it is important to note that most of the families who left had been receiving services for substantial lengths of time and may have made meaningful gains. MN/HFL is a completely voluntary program, and a family’s decision about participation is always respected. In addition, moving to a better neighborhood, a new home, or succeeding at work are frequently part of a family’s long term goal plan and may be entirely consistent with the individualized plan they have established in cooperation with the program.

**Table 8. Reasons for Termination by Participants**

<b>07/01/2003-06/30/2008</b>		
<b>n=102</b>		
	<b>Number of Terminations</b>	<b>% of all Terminations</b>
Participant graduated/met all program goals	23	22.5%
Participant moved out of service area	5	4.9%
Participant moved out of town	5	4.9%
Scheduling conflicts with participant's job	11	10.8%
Participant refused change in Family Support Worker	1	1.0%
Participant refused services/unable to contact	37	36.3%
Target child living with another care giver	1	1.0%
Target child reached age five	4	3.9%
Other	14	13.7%
Unknown	1	1.0%

## B. Outcome Evaluation Results

### 1. Child and Maternal Health Outcomes

#### a. Goal 1: Achieve positive pregnancy and maternal and child health outcomes

HFV home visiting programs attempt to improve pregnancy outcomes, and promote child health and development. This is the first goal in the HFV Statewide Evaluation Plan. One advantage of Virginia's home visiting programs is that the FSW has an opportunity to understand a woman's health-related behavior in the context of her life and circumstances. Thus, the FSW can devise meaningful strategies with a participant to (a) reduce adverse behaviors such as cigarette smoking, alcoholism, and illegal drug use and (b) improve the participant's capacity to follow through with standard health recommendations, such as early identification of pregnancy complications, getting sufficient rest, eating well, etc. This innovative aspect of the Healthy Families model incorporates individualized strategies, allowing a focus on the specific risks for a particular mother, enabling the program to motivate her as an individual and providing her with education within the context of social support. To improve the outcomes of pregnancy, the FSWs educate women using a curriculum that includes fetal growth and development, nutrition, prenatal care, and the importance of mother and infant bonding. They assess the women's cigarette smoking, use of alcohol and illegal drugs and facilitate a reduction in the use of these substances. They also teach women to identify signs and symptoms of pregnancy complications, encourage women to inform the medical provider about those conditions, and facilitate compliance with treatment.

FSWs act as liaisons between the family and their medical provider. After delivery, the FSWs help parents and other caregivers promote the physical and emotional care of their children. The FSWs teach parents to observe the signs and symptoms of illness, take temperatures, and communicate with medical providers about their child's illnesses before seeking inappropriate emergency room care. They also ensure that the family has a primary care provider or "medical home." Healthy Families also emphasizes preventive health care; project staff use a tracking system based on the child's age and the schedule of visits recommended by the American Academy of Pediatrics to track due dates and well care visits.

1) Goal 1, Objective 1a: 75 % of HF prenatal enrollees will make 80% of prenatal care visits on schedule as recommended by the ACOG or provider.

One specific objective of the program is to ensure that pregnant women receive early and regular prenatal care while enrolled in the program. Early and adequate prenatal care often results in earlier education for proper nutrition, exercise, and avoidance of alcohol and drugs; it also may allow earlier detection of and intervention for pregnancy-related problems and the prevention of complications during pregnancy.

There were 27 births to prenatally enrolled mothers, and the program documented prenatal care compliance on 24 families. This is an good level of documentation in an important health domain that many sites experience difficulty in securing. Of those 24 mothers, 96% received 100% of their recommended number of prenatal care visits. This level of performance far exceeds the statewide criterion that 75% of prenatally enrolled mothers will make 80% of all recommended visits. The program's performance during FY 2008 was similarly strong; 93% of the 14 active families received 100% of their scheduled prenatal care visits. The program's overall performance and the most recent annual performance represent the very high levels of success in this domain and reflects the program's commitment to both prevention and health promotion.

**Table 9. Prenatal Care Compliance**

	FY 2008		All Years	
	N	% Children with Data	N	% Children with Data
Total Number of Births to Prenatal Enrollees	15		27	
Missing	1	6.7	3	11.1
100% of Expected Prenatal Care Visits	13	92.9	23	95.8
75-99% of Expected Visits	0	0.0	1	4.2
50-75% of Expected Visits	0	0.0	0	0.0
Less than 50% of Expected Visits	0	0.0	0	0.0

2) Goal 1, Objective 2a: 85% percent of prenatal enrollees will deliver babies weighing at least 2,500 grams (5 lbs. 8 oz.)

Babies that weigh over 2,500 grams (5 lbs., 8 oz.) are considered to be in the healthy birth weight range; low birth weight babies are susceptible to poor health outcomes. Research shows that low birth weight is linked not only to infant death in the neonatal period and during the first year, but also to long term disabilities (Institute of Medicine, 1985). Low birth weight infants who survive are about three times more likely than other babies to experience mental retardation, sight and hearing deficiencies, growth and developmental problems, chronic lung and respiratory problems, and learning difficulties.

Table 10 presents the birth weights of the babies born to mothers enrolled prenatally. MN/HFL had birth weight information documented on all 27 of the families who gave birth since 7/01/03. Of those 27 high-risk families, 26 (96%) had babies born with birth weights greater than 2500 grams. During FY 2008, 14 of the 15 actively enrolled families (93%) delivered babies that were within the healthy birth weight range. MN/HFL’s overall performance in this critical domain is outstanding and clearly surpasses the state criterion of 85% set for established programs. The fact that the program’s healthy birth weight rate is superior to the Virginia general population, given that the program is serving families at risk for poor pregnancy outcomes, is very encouraging.

**Table 10. Birth Weights of Children of Prenatal Enrollees**

	FY 2008		All Years	
	N	% Children	N	% Children
Total number of births to prenatal enrollees	15		27	
Unknown	0	0.0	0	0.0
<b>Birth Weight Category</b>	<b>N</b>	<b>% Children</b>	<b>N</b>	<b>% Children</b>
Greater than 2500	14	93.3	26	96.3
1500-2500	1	6.7	1	3.7
750-1499	0	0.0	0	0.0
Less than 750	0	0.0	0	0.0

3) Connection to Medical Providers

All HFV programs have set the goal that every target child will have a primary health care provider within two months of birth or enrollment. Primary care physicians educate and motivate parents about the importance of regular office visits and preventive care, making it less likely that parents will utilize expensive Emergency Room care for routine treatments. In addition, to ensure that children continue to receive quality health services, HFV programs have established the goal that children will continue to maintain their relationship with their health care provider.

a) Goal 1, Objective 1b: 85% of HF target children will have a primary health care provider within 2 months after enrollment or birth of the target child.

The data in Table 11 revealed that 99% of the 80 target children had a primary health care provider within two months of birth or enrollment. The program’s performance during FY 2008 was similar; 100% of the 46 active families were connected to a care provider. This level of performance surpasses the demanding 85% criterion set for established programs and represents a very high level of program success in this important domain.

**Table 11. Connection of Target Children to Medical Care Providers**

	FY 2008		All Years	
	N	%	N	%
Total Number of Births	46		80	
Children With Providers	46	100.00	79	98.8

b) Goal 1, Objective 1d: 80% of HF target children will continue with a primary health care provider.

Table 12 presents information on the program’s success in insuring that families continue with their medical care providers. Across the last five fiscal years, 99% of the 79 families served by MN/HFL were continuing with their medical care providers after an average of six months of participation in the program. MN/HFL can take considerable pride in the program’s performance. During FY 2008, all 46 active families (100%) were maintaining their relationship with their care provider. This overall level of performance is one of the best across the state. It clearly surpasses the state criterion set for established programs and builds on the program’s record of success in this domain.

**Table 12. Continuation of Target Children with Medical Care Providers**

	FY 2008		All Years	
	N	%	N	%
Children with Providers	46		79	
Continuing with Providers	46	100.0	78	98.7

4) Goal 1, Objective 1c: 75% of HF target children will complete 85% of the recommended schedule of Well-baby/Child care visits.

The program model that guides Healthy Families posits that families who have a medical home and a primary care physician will receive earlier and more regular physical exams and health care. This can result in a child who is healthier and more physically ready to learn.

Table 13 presents the data for this objective. Ninety-five percent (95%) of all families received at least the recommended number of well-baby visits or more. This level of performance far exceeds the HFV criterion set for established programs. In fact, staff can take pride in the fact that almost 90% of all families received 100% of the well-baby visits. During FY 2008, the program’s performance was similarly strong; 96% of the 47 active families completed the recommended number of well-baby visits or more. Program staff can take pride in the fact that approximately 90% of all families actually completed 100% of all scheduled visits. This level of performance is clearly one of the highest achieved by a HFV program.

**Table 13. Completion of Well-baby Visits for Participating Mothers**

	FY 2008		All Years	
	N	% Children with Data	N	% Children with Data
Total Number of Children	47		80	
Unknown	0		0	
<b>Completion of Well Baby Visits</b>				
100%	43	91.5	71	88.8
85-99%	2	4.3	5	6.3
Less than 85%	2	4.3	4	5.0

5) Goal 1, Objective 3a: 80% of Healthy Families children will receive all immunizations on schedule as recommended by ACIP, American Academy of Pediatrics, State Health Department, or their provider.

Age appropriate immunizations is one of the most important health indicators for children. Adequate immunization protects a child against several diseases that killed or disabled many children in past decades. Diseases such as measles, mumps, rubella, polio, diphtheria, tetanus, pertussis, and meningitis cause serious illness and even death. As medical science developed more safe and effective vaccines, the opportunity to protect children against serious diseases increased. Vaccines are the most highly effective means for preventing such diseases and provide significant cost benefits. According to the U.S. Department of Health and Human Services (2000), including indirect savings - prevention of work loss by parents to care for ill children, prevention of death and therefore lost earnings from disability, vaccines recommended for children are highly cost-saving (earning \$24.00 for every dollar spent on DtaP to \$2.00 for the more recently approved Hib vaccine). The rate of childhood immunization is one measure of the extent to which children are protected from serious preventable illnesses.

Table 14 presents the data summarizing the number of children who have been adequately immunized against childhood vaccine-preventable diseases. For this evaluation cycle, participating children were considered “up-to-date” if they had all their scheduled immunizations by the cutoff date for this report (06/30/08) or by the date that they were discharged from the program. The 100% criterion represents an extremely high standard. One hundred percent (100%) of the all 79 families enrolled obtained full compliance. Similarly, every child in the 46 active families participating during FY 2008 received

100% of their recommended immunizations. These immunization coverage rates far surpassed the HFV criterion set for established programs.

Placing these findings within the context of national norms and immunization completion rates for higher risk groups may be helpful in interpreting MN/HFL’s performance in this domain. The U.S. Department of Health and Human Services (2007) estimated that the national base rate was 77% for FY 2006 for children receiving the recommended immunizations (4:3:1:3:3:1 vaccine series).

For more direct comparison with HFV programs, the 2006 U.S. National Immunization Survey conducted by the Centers for Disease Control and Prevention estimated the FY 2006 vaccination completion rate was 77.4% for the Virginia general population. Furthermore, the Virginia Department of Health (VDH) FY 2006 Sentinel Report estimated the vaccination completion rate for Health Department clients was 51.17%. Moreover, since the Virginia statistics are based on fewer immunizations, (15 for the general population and 14 for health department clients) HFV is actually being evaluated on a higher standard (16 immunizations). On a very positive note, MN/HFL immunization coverage rate of 100% was higher than the evaluation criterion and substantially higher than the Virginia general populations rate. MN/HFL can take pride in this finding and the fact that the overall rate obtained across the last five years was the highest ever attained.

**Scientific alert: Progress towards full immunization of young preschoolers has stalled since 2004,** according to a Child Trends analysis of recently released data from the Centers for Disease Control and Prevention (CDC&P). The national rates for the 4:3:1:3 Series rose from 73.7% to 82.5% between 1995 and 2004. Since 2004, the rates have stalled and the 2006 rate is 82.3%. A similar conclusion is reached by examining the more demanding 4:3:1:3:3 Series, which rose from 55.1% to 80.9% between 1995 and 2004. Those rates have stalled also; the 2006 rate was 80.6%. In Virginia, the situation is the same. For the 4:3:1:3 Series, the Virginia rates rose from 69.1% to 83.4% between 1995 and 2004. The 2006 rate was 83.4%. For the 4:3:1:3:3 Series, the rates rose from 52.8% to 81.0% between 1995 and 2004. The 2006 rate was 81.5%. Importantly, during the same period, the immunization rates for HFV and for MN/HFL (based on families at high risk for poor outcomes) have not stalled; rather, they have continued to rise and was 100% for the last five years-- the same time period that Virginia stalled.

**Table 14. Immunization Completion of Participating Children**

	FY 2008		All Years	
Total number of children	46		79	
Unknown	0		0	
	% Children with Data		% Children with Data	
Immunization Completion	N	%	N	%
100% up to date	46	100.0	79	100.0
80-99%	0	0.0	0	0.0
75-80%	0	0.0	0	0.0
less than 75%	0	0.0	0	0.0

6) Maternal Health

Extending the time interval between childbirths allows parents to provide the nurturing and constant care needed by their infant and reduces economical and familial stresses that might lead to negative consequences for the child. Conceiving too soon may cause problems because the mother is recovering from vitamin depletion, blood loss, and reproductive system damage from the prior birth - all while stressed about having to care for a newborn. Moreover, particularly for unmarried women, avoiding closely spaced, unplanned pregnancies is associated with higher educational achievements and greater participation in the workforce (Olds, Henderson, Kitzman, Eckenrode, Cole, et al., 1999). HFV developed separate criterion for mothers because there are different challenges associated with serving each group.

a) Goal 1, Objective 4a: 85% of teen mothers will have an interval of at least 24 months between the target child’s birth and subsequent births.

Although avoiding closely-spaced children is a goal for all mothers there are additional concerns regarding repeat teen births. The Healthy Families model is concerned with maternal life course development and assumes that young women who delay subsequent pregnancies to pursue education or employment will ultimately benefit the children as they grow older. This is most true for teen mothers. Experiencing closely spaced births as a teenager is associated with lower educational attainment, increased welfare, lower status jobs, and marital instability (Dryfoos, 1990; Moore, 1995).

There were a total of 53 eligible participating mothers (12 teens and 41 non-teens) enrolled in MN/HFL. The data in Table 15 present the information on the interval between the birth of the target child and any subsequent births for all 12 teen mothers enrolled in the program long enough for their child to have reached the age of two. None of the mothers have had a subsequent birth before the end of the 24-month targeted interval. Eleven mothers had no subsequent births and one mother had a subsequent birth after the 24-month interval. This represents a 100% success rate, surpassing the 85% criterion set for established programs. Thus, these results are encouraging and build on the program’s long-standing record of success in this domain.

**Table 15. Subsequent Births to Participating Mothers - Teens**

Total Number of Participating Mothers	80	
Number of Eligible Mothers	53	66.2
	<b>N</b>	<b>%</b>
Number of Eligible Teens	12	22.6
Subsequent Births Before Target Child is 24 Months	0	0.0
Target Child Younger than 24 Months with Subsequent Births	0	0.0
Target Child Older than 24 Months with Subsequent Birth Before 24 Months	0	0.0
No Subsequent Births Before 24 Months	12	100.0
Target Child Older than 24 Months and No Subsequent Births	11	91.7
Target Child Older than 24 Months with Subsequent Birth After 24 Months	1	8.3

b) Goal 1, Objective 4b: 75% of non-teen mothers will have an interval of at least 24 months between the target child’s birth and subsequent births.

A study by the Centers for Disease Control and Prevention based on 173,000 children found that mothers who became pregnant within six months of a previous birth had a 30-40% greater chance of

producing premature or undersized babies. Informing participants about this increased risks can help reduce birth complications in babies.

The data in Table 16 presents the information on the interval between the birth of a target child and subsequent births for all 41 non-teen mothers who have given birth and who have enrolled in MN/HFL. Of those 41 mothers who have participated long enough for their children to reach the age of two, two (five percent) had a subsequent birth before the targeted 24-month interval. Thirty-seven mothers (90%) had no subsequent births and two mothers (five percent) had a subsequent birth after the targeted 24-month interval. This level of performance represents an overall success rate of 95%. MN/HFL’s performance in this domain has been very positive and clearly surpasses the statewide objective of 75% set by HFV. Program staff can take pride, that over the last five years, staff have helped both teen and non-teen mothers avoid closely-spaced pregnancies. Such delays are associated with improved child health, improved educational and work outcomes for mothers, and decreased infant homicide.

**Table 16. Subsequent Births to Participating Mothers - Non -Teens**

Total Number of Participating Mothers	80	
Number of Eligible Mothers	53	66.2
	<b>N</b>	<b>%</b>
Number of Eligible Non-Teens	41	77.4
Subsequent Births Before Target Child is 24 Months	2	4.9
Target Child Older than 24 Months with Subsequent Birth Before 24 Months	2	4.9
Target Child Younger than 24 Months with Subsequent Births	0	0.0
No Subsequent Births Before 24 Months	39	95.1
Target Child Older than 24 Months with Subsequent Birth After 24 Months	2	4.9
Target Child Older than 24 Months and No Subsequent Births	37	90.2

**2. Child Development**

a. Goal 2: Provide optimal child development by screening for suspected delays and referring children for developmental assessment.

The first three years of life constitute a critical period in a child’s physical, sensory-motor, cognitive and social development. To enhance a child’s optimal development, Healthy Families FSWs provide parent education, model positive parent-child interaction, help parents create stimulating, safe home environments, and routinely use standardized screening for possible developmental delay. In order to reach this goal, Healthy Families has targeted three sets of activities: screening, making appropriate referrals, and monitoring for follow-through. Each of these objectives are also a part of the evaluation, and the specific levels of success that have been set by HFV are shown below.

1) Measurement Instruments

a) Ages and Stages Questionnaire: The Ages and Stages Questionnaire is a child monitoring system completed by parents. The ASQ is designed to identify infants and young children who show potential developmental problems. The questionnaires are designed to be completed by parents when a child is 4, 8, 12, 16, 20, 24, 30, 36 and 48 months of age.

The questionnaire is divided into five domains: Communication, Gross Motor, Fine Motor, Problem Solving, and Personal-Social. Using the ASQ, children are identified as needing further testing and possible referral to early testing services.

b) Denver II: The Denver II is a standardized measure for infants, toddlers and preschoolers. This test is designed to screen for potential developmental problems in children between birth and six years of age. The measure is organized into four domains of development: Personal-Social, Language, Fine-Motor Adaptive, and Gross Motor.

2) Goal 2, Objective a: 90% of target children will be screened for developmental delay. Screening of each child will occur at least semi-annually until age 36 months, and annually thereafter.

The data in Table 17 reveal that 46 of the 47 children who were old enough for developmental screening had been appropriately screened using the ASQ. This represents a 98% level of success, surpassing the demanding 90% evaluation criterion set by HFV for established programs. In FY 2008, 29 of 30 children of families who were actively enrolled (97%) received all of the screenings for which they were scheduled. MN/HFL’s overall level of performance and their most recent annual performance represent an exceptionally high level of success in this domain.

**Table 17. Participants receiving Ages and Stages Assessments**

	FY 2008		All Years	
Total Children Old Enough for ASQ	30		47	
Children With No ASQs Recorded	0	0.0	0	0.0
Children With at Least One ASQ Recorded	30	100.0	47	100.0
	N	%	N	%
Appropriately Screened	29	96.7	46	97.9

3) Goal 2, Objective b: 90% of children showing developmental delay will be referred (with parental consent) to appropriate early intervention services for assessment to determine need for therapeutic services.

Of the 47 children with at least one ASQ recorded, 7 (15%) had suspected developmental delays. Four of the children had suspected delays on one ASQ, but follow-up ASQ’s did not indicate problems. The site’s policy is to wait for two successive suspect ASQs to make a referral, so these four were not referred. One additional child with a suspect delay was already receiving services. Both of the children who were appropriate for the site to refer (100%) were referred for further developmental assessment.

4) Goal 2, Objective c: 90% of the children who are referred for assessment will be monitored for follow-through.

Both children who were referred had confirmed delays and both (100%) have received appropriate developmental services.

**3. Parent-Child Interaction and the Home Environment**

a. Goal 3: Parents will demonstrate positive parent-child interaction and positive parenting knowledge and behavior.

1) Goal 3, Objective b: 85% of participants will demonstrate an acceptable level of parent-child interaction or show improvement after one year of participation.

This evaluation used a recently developed instrument the Keys to Interactive Parenting Scale (KIPS; Comfort & Gordon, 2006) to examine care-giving behaviors and interactions between mothers and their infants and toddlers.

a) Measurement Instruments: The KIPS, was used to examine the status of parent-child interaction. The KIPS was administered to mother-infant dyads within two months of the child’s birth, when the child was six months old, one year old, and annually thereafter until the child was 36 months of age.

The KIPS score is based on an observation of an interactive episode between a mother and her infant or toddler. The subscales examine 12 behaviors demonstrated in the research literature to influence the parent-child relationship and infant development. The subscales are sensitivity of responses, response to emotions, encouragement, promotes exploration/curiosity, involvement in child activities, language experiences, touch/physical interaction, limits and consequences, open to child’s agenda, reasonable expectations, adapts strategies to child, and supportive directions.

**Table 18. Results of KIPS Assessments**

	<b>FY 2008</b>		<b>All Years</b>	
Total Number of Children Old Enough for KIPS	31		41	
Number of Children With At Least One KIPS	27	87.1	28	68.3
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
Within Normal Limits (> 10th Percentile)	27	100.0	28	100.0

MN/HFL staff have adopted the parent child interaction and home environment objectives as program goals. The program, for the first time beginning in FY 2006, administered the Keys to Interactive Parenting Scales (KIPS), a measure of parent-child interaction newly adopted by HFV. KIPS is specifically designed for FSW and home visitor administration. The KIPS score is based on an observation of an interactive episode between a mother and her infant or toddler. The subscales examine 12 behaviors demonstrated in the research literature to influence the parent-child relationship and infant development.

Beginning with FY 2006, the program staff was able to administer KIPS to 28 of 41 participating families. Positively, staff were sufficiently motivated to conduct KIPS assessment on 27 of the 31 families who were active participants in FY 2008. One hundred percent (100%) of those KIPS assessments were within normal limits (see Table 18). This level of performance exceeded the statewide criterion. Staff should be encouraged by the initial positive findings, and strive to conduct assessments for all future participants. In that way we will be able to determine if these positive findings are equally applicable to all families.

2) Goal 3, Objective b: 85% of families will have optimal home environments to support child development or will show improvement in home environments after one year of participation.

In addition to parent-child interaction, the overall quality of the home environment and the quality and quantity of the developmental stimulation provided to children by their families is a key factor in child

development. Empowering parents to realize their potential as the first teacher of their own child is one way Healthy Families addresses this domain. A review of the research literature conducted under the auspices of the Institute of Medicine (IOM, 1994) concluded that a number of interventions have proven effective in improving the family management practices and home environments of low-income parents. Interventions also facilitate the cognitive and social development of the children, preparing them for successful school entry. Most of these childhood interventions had services that were provided intensively over several years and frequently included home visits. The programs worked to involve parents in supporting the behavioral and cognitive development of their children and several (Johnson, 1991) helped the mothers improve their skills to enhance their child’s development and use the home as an environment for learning.

Children also develop better when there are books and stimulating toys in the home, when parents read to their children, and when parents respond in positive ways to attention-seeking (PCAA, 1999). HFA is increasingly working with programs across the country by teaching parents to contribute to their child’s healthy development and school readiness by putting the latest brain development research into practice. Because of the importance of a stimulating environment and the role of parents in child development, optimizing the home environment was established as an important program objective and an important part of the evaluation plan.

a) **Measurement Instrument:** The adequacy of developmental stimulation in each participant's home environment is assessed using the Home Observation for Measurement of the Environment (HOME) (Caldwell & Bradley, 1984). The HOME is a standardized instrument that has been widely researched, and assesses six aspects of the child's home environment that are known to foster cognitive development. It is comprised of 45 items divided into six subdomains: (1) responsivity of mother, (2) acceptance, (3) organization, (4) learning materials, (5) maternal involvement, and (6) variety in daily stimulation. The HOME is administered during a 45-90 minute home visit at one, six, and 12 months, and annually thereafter. The administration is conducted in a manner intended to minimize intrusiveness, yet it provides a way to determine if the program is having the intended impact of strengthening the quantity and quality of the developmental stimulation provided in the home environment.

The summary of the assessments of each family’s home environment are presented in Table 18. Since 7/01/03 there were 47 children who were old enough for the HOME environment assessment. The program conducted at least one in-home assessment on 44 families. Forty-three of those families (98%) had HOME environments that were within normal limits. During FY 2008, MN/HFL conducted HOME assessments for 28 of 30 active families. Again, all of the assessments (100%) were within normal limits. This level of attainment easily exceeded the 85% criterion set for established HFV programs.

**Table 19. Results of HOME Assessment**

	<b>FY 2008</b>		<b>All Years</b>	
Total Number of Children Old Enough for HOME	30		47	
Number of Children With At Least One HOME	28	93.3	44	93.6
			<b>N</b>	<b>%</b>
Within Normal Limits (> 60 %)	28	100.0	43	97.7

#### 4. Child Abuse and Neglect

a. Goal 4: Children will not be abused or neglected.

A major study released by the U.S. Department of Health and Human Services reported the number of children abused and neglected rose from 1.42 million in 1986 to 2.81 million in 1993, an increase of 92% (U.S. Department of Health and Human Services, Children's Bureau, 1996). The study also estimated the number of children seriously injured from abuse nearly quadrupled in that time period. Although the nation's overall crime rate fell more than 21% from 1993 to 1997, in Virginia reports of child abuse and neglect grew by eight percent, and confirmed cases increased four percent (DSS, 2004). The most recent statistics on child abuse and neglect reported by the National Clearinghouse on Child Abuse and Neglect Information (NCCANCH, 2006) estimated that in FY 2004, 3 million children were alleged to have been abused or neglected and received investigations by Child Protective Services. Child fatalities are the most tragic consequence of child maltreatment; over 4 children a day die from abuse or neglect (NCCANCH, 2006). Approximately 872,000 children were determined to be victims of child maltreatment.

In Virginia, during FY 2007, 47,130 children were reported as possible victims of abuse, and 7,330 children were involved in 4,741 founded investigations (i.e., a review of the facts met the legal criteria for abuse or neglect). Thirty-one of Virginia's children died of causes attributable to abuse or neglect. In addition, 28,036 children were placed in "Assessment Track," meaning that a CPS worker completed a family needs assessment and developed a written safety plan. During calendar year 2003, investigations of abuse and neglect reports resulted in 1,101 out-of-home placements of children. One or both parents were identified as the perpetrators in 79% of the founded cases (DSS, 2006). These statistics document that there is an urgent need for home visiting programs in Virginia. In fact, the Centers for Disease Control and Prevention's Task Force on Community Preventative Services issued a strong recommendation that early home visitation programs be implemented or continued. The Task Force's recent review of the scientific literature on home visiting suggests that approximately 40% of all maltreatment might be prevented if this recommendation is followed (Task Force on Community Preventative Services, 2002). In Virginia, prevention programs working with parents clearly have the opportunity to reduce the number of new cases of child abuse and neglect.

1) Goal 4 Objective a: 95% of HF families who receive at least 12 months of services will not have founded reports of child abuse and neglect of target child(ren) while enrolled.

a) Measurement and limitations: This evaluation used data from the Virginia Department of Social Services Child Protective Services Unit. The Central Registry of reports of founded cases of child abuse and neglect was queried for reports on either mothers or target children participating in the program.

Although CPS statistics are widely used to measure child maltreatment, it is important to note two limitations of using these reports as a measure of program impact. The first limitation is statistical; reporting parents to CPS is a rare event and extremely large sample sizes are needed to identify a reduction in reporting rates. An individual Healthy Families program may never have a large enough sample to compare their CPS rates with community or state comparisons.

The second limitation is that child abuse and neglect are under-reported in the general population. FSWs, like doctors, teachers and nurses are required to report situations that suggest possible abuse or neglect. It is possible that families who are visited will be reported more often than comparable families

who are not in the program just because someone has had the opportunity to observe them more often. In fact, FSWs work closely and proactively with families to help them cope with stressful situations without resorting to abuse or neglect. Evaluating this process can be quite complex. In one major study (Olds, Henderson, & Kitzman, 1994), CPS rates did not differ between intervention and control families during the two years after the program ended. There were lasting program effects, however, on the safety of the households, families' use of hospital emergency departments for children's injuries and ingestions, and fewer behavioral and parental coping problems. The intervention was effective in substantial, socially significant ways, but not when measured exclusively by rates of child abuse and neglect.

CPS checks were conducted on all open cases as of 7/1/2007 and all participants who enrolled between 7/1/2007 and 6/30/2008. None of the 62 participants who had received at least six months of service had founded cases of abuse or neglect. This means MN/HFL surpassed the statewide criterion and is doing an excellent job of ensuring children's safety in a participant group in which almost 60% of mothers self-report a childhood history of abuse or neglect. This finding provides some support for the effectiveness of MN/HFL because extensive research has demonstrated that one of the greatest risk factors for abusing or neglecting one's children is a personal history of maltreatment as a child.