

This page intentionally left blank



Olmsted County Public Health Services Healthy Children and Families Five Year Report Update 2009-2013

July 1, 2014

Olmsted County Public Health Services 2100 Campus Drive SE Rochester, MN 55904

Questions regarding this report can be directed to:

Margene Gunderson, Associate Director

<u>Gunderson.margene@co.olmsted.mn.us</u>

(507) 328-7525

Table of Contents

Introduction	2
Executive Summary	2
HCF Programs	
Pregnancy and Birth	2
Parenting	
Child Growth and Development	2
Follow Along Program	
Conclusions and Next Steps	

Introduction

The purpose of this report is to show the condition of parent and child health indicators for families served by the Healthy Children and Families (HCF) Division within Olmsted County Public Health Services (OCPHS).

Improving the health of mothers, infants, and children is an important public health goal. Their well-being determines the health of the next generation and can help predict future public health challenges for families, communities, and the health care system.

The HCF Division serves the population of families in Olmsted County who are pregnant or parenting a child birth to five years through programs provided by public health nurses (PHNs). Some of the services provided are available to all families, such as newborn/postpartum home visits and the Follow Along Program, whereas others are targeted to families with risk factors, such as the targeted family home visiting programs or the Early Hearing Detection and Intervention Program.

The Vision, Mission, and Core Values of the HCF Division are as follows:

Vision

All children and families reach their full potential

Mission

Ensuring that children and families are healthy, safe, and nurtured

Core Values

Compassion, Excellence, Integrity, Respect, Social Justice

The foundation of the services provided by HCF is based on brain development research and Attachment Theory.

Healthy brains begin with a healthy pregnancy and continue to develop in the context of nurturing relationships with healthy caregivers. The first three to five years of a child's life are critical in establishing a foundation for future health and learning. Parents work voluntarily with HCF PHNs, who serve as a parenting guide or coach, in addition to their nursing role as it relates to the child and family's health. HCF PHNs focus on strengthening the parent-child relationship while continually assessing and teaching information related to healthy child growth and development.

Methodology

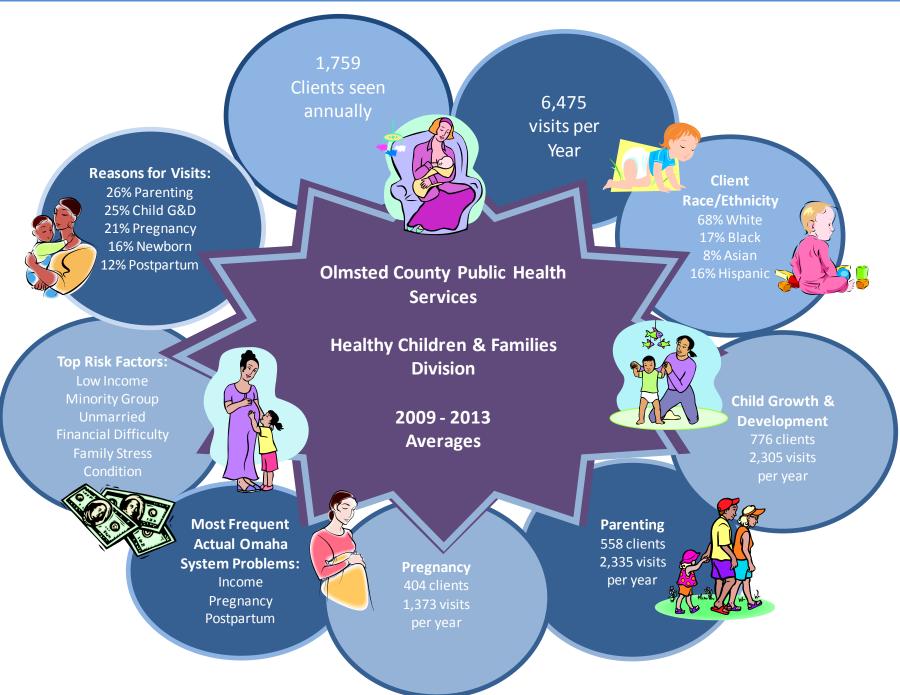
The data in this report was collected from PH-Doc, the electronic health record program used by OCPHS. PH-Doc includes the Omaha System, an American Nurses Association recognized standardized nursing terminology. The Omaha System describes the clients as individuals, the care provided, and the outcomes of that care. It has been formulated to promote health care practice and documentation, and to manage information.

The report combines HCF program information, demographic information about the populations served by HCF, risk factors for these populations, and Family Home Visiting outcomes determined by the Minnesota Department of Health (MDH).

The average change in KBS ratings was calculated using a paired t-test. A p-value of 0.05 was used to determine significance. If a p-value was less than 0.05, the change was considered significant. If it was greater than 0.05, the change was considered not significant.

For information related to the condition of maternal and child health for all of Olmsted County, please refer to the Olmsted County, Minnesota Maternal and Child Health Annual Report 2007-2011, published October 2013.

Executive Summary



Executive Summary

OCPHS HCF Division Maternal & Child Health Client Quick Facts

2013



BIRTHS

103 births 29% teen births



PREMATURITY

3% of infants were born at least 3 weeks too early



LOW BIRTH WEIGHT

3% of infants were born weighing less than 5.5 pounds



FIRST TIME MOMS

62% first time moms



HOME SAFETY CHECKLIST 80% completed



ER/URGENT CARE VISITS
3.5% had 1 or more visits
due to injury



DEVELOPMENTAL MILESTONES

88% meet developmental milestones



SOCIAL-EMOTIONAL MILESTONES

91% met social-emotional milestones



CHILD MALTREATMENT

0.7% experienced substantiated maltreatment



MATERNAL EDUCATION

42% No HS Diploma or GED 31% HS Diploma or GED 21% Some Post-Secondary or Degree



MATERNAL RACE/ETHNICITY

55% White 29% Black 12% Asian 21% Hispanic



PRENATAL CARE

76% of women received prenatal care in the 1st trimester



OUT-OF-WEDLOCK BIRTHS

51% of births were to unmarried women



SMOKING

13% of pregnant women smoked during pregnancy



POSTPARTUM DEPRESSION SCREENING

73.5% screened for pp depression



BREASTFEEDING

41% of those who breastfed, breastfed 6+ months



SUBSEQUENT PREGNANCY

95% no subsequent pregnancy at 24 mo. postpartum



HCF Programs

All HCF programs provide pregnancy and parenting support, promote an enjoyable parent-child relationship, and encourage the healthy social-emotional and physical development of the child.

Bright Futures is a program for pregnant or parenting teens. Visits are provided by a PHN and/or County social worker until the parent is at least 19 years of age and/or for up to three years.

Babysteps is a program for first time parents with risk factors. Families are enrolled either during pregnancy or within six weeks of the baby's birth. Visits are provided by a PHN and County social worker until the child turns two to three years old.

Steps to Success is a program for families with risk factors who are expecting their second or third child, when their other children are under the age of five. Families are enrolled either during the pregnancy or within six weeks of that child's birth. Visits are provided by a PHN and County social worker until the youngest child turns two to three years old.

Pregnancy and Parenting Connections is a program for families who are either expecting a baby or who have a child birth to five years of age. Visits are provided by a PHN for a few months or up to three years, depending on risks and needs.

New Baby Visits are available to all parents living in Olmsted County. PHNs make home visits within a few days of parents arriving home from the hospital. PHNs provide information about caring for an infant and the new mother, as well as support for new parents, assistance with questions about breast or bottle feeding, baby care, and infant development

Children with Special Health Needs is a program for families who have a child with special needs. PHNs make home visits focusing on early intervention, providing weight checks, assisting in case management, promoting an enjoyable parent-child relationship, and making community resource referrals.

WIC/MCH Clinic is offered to pregnant clients with risk factors, as an adjunct to their WIC nutritional intervention program and health education. The clinic visit is provided by a PHN, who obtains vital signs, completes a brief assessment, and provides information about pregnancy related topics and community resources.

The Minnesota Early Hearing Detection and Intervention (EHDI) Program

PHNs support and assist families whose infant failed a newborn hearing screen to follow up with screening/testing, assure that families of children with a hearing loss are connected to appropriate resources and caregiver supports, and increase the number of children with hearing loss who attain developmental milestones similar to their hearing peers. This is a collaboration between OCPHS, MDH, the medical community, early intervention providers, and parents of children with hearing loss.

Early Childhood Screening Follow-Up Services

OCPHS partners with the Independent School Districts of Bryon, Chatfield, Dover-Eyota, Rochester and Stewartville Early Childhood Screening programs. If an area of need or concern is identified during screening, a public health nurse is available to assist schools and/or families with information, community resource referrals, and support. These coordinated services help assure kindergarten readiness.

HCF Programs

Other OCPHS Programs

Follow Along Program offers parents a periodic assessment of their child's development and ideas for encouraging their development through a computer assisted tracking program. This program is for children birth to 36 months.

Elevated Blood Lead Case Management

Olmsted County residents under 72 months of age who are tested at a clinic and determined to have a blood lead level above 5 ug/dl are reported to MDH. MDH then notifies the blood lead case manager at OCPHS. Case management activities include assessment, education, support, advocacy, and home visiting, as needed by the children and their caregivers. The case manager works closely with the clinic and MDH to assure follow up lead testing is completed in a timely manner. This is a collaborative program with MDH and local clinics.

HCF Program Model

Healthy Families America

Services are provided to clients through home visiting. The HCF Division of OCPHS integrates the Healthy Families America (HFA) model of home visiting with families who qualify based on a parenting risk assessment. HFA is a nationally recognized, evidence-based home visiting model designed to connect expectant parents, and parents of newborns, with parenting and child development assistance in their homes. In 2013, HCF chose HFA because it aligns well with our past relationship-based home visiting model based on attachment theory. HFA is designed to work with overburdened families who have histories of trauma, intimate partner violence, mental health issues, substance abuse issues, and other risk factors. HFA services begin prenatally or right after the birth of a baby and are offered voluntarily, intensively and for three years after the birth of the baby.

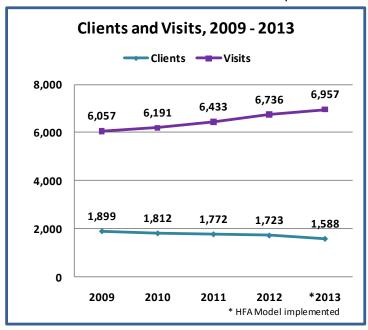


HCF Clients and Visits

* HFA Model implemented

HCF Clients

Between 2009 and 2013, the HCF division PHNs made an average of 6,475 visits to 1,759 clients annually. Since 2009, the number of clients decreased 16% while the visits increased by 15%.



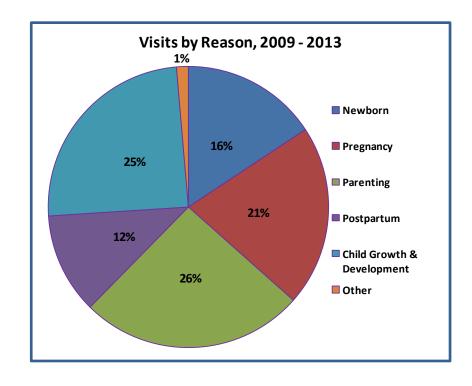
HCF Clients – Health Insurance Coverage

Between 2010 and 2013, an average of 90% of HCF Clients had health insurance coverage.

HCF Visits by Reason

HCF PHNs provide visits for a variety of reasons. Services are primarily provided to enhance parenting skills, maximize the healthy growth and development of infants and children and provide prenatal education for a healthy pregnancy and healthy child.

The most frequent reason for HCF visits is related to parenting (26%), followed by child growth and development (25%), and pregnancy (21%).



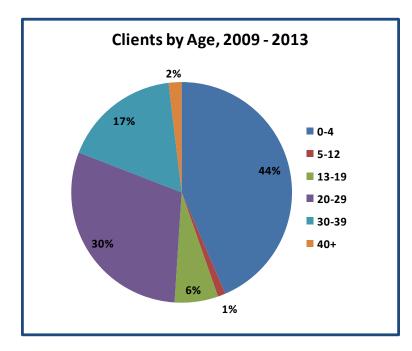
HCF Clients and Visits

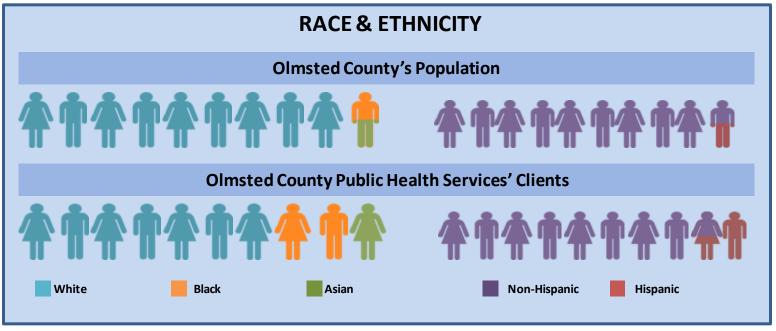
HCF Client Demographics

The HCF client population is more diverse than Olmsted County's general population. The Hispanic population is higher in the HCF Program (14%) compared to Olmsted County (3.5%). This is also true for the black and Asian populations. The racial makeup of HCF clients is 72% white, 16% black, and 9% Asian; Olmsted County's total population is 88.5% white, 4.5% black and 5.1% Asian.

Females represent 74% of HCF clients.

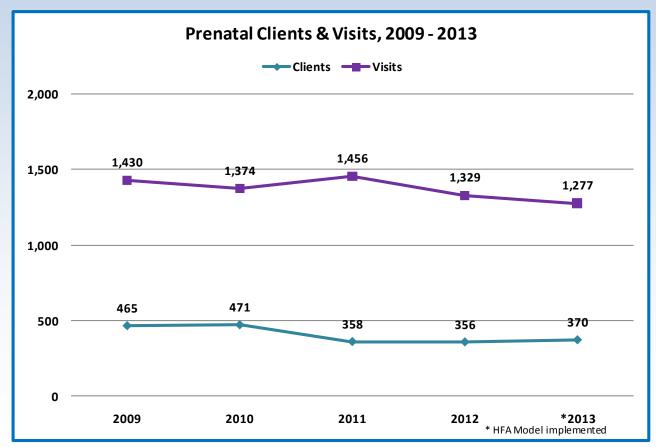
The largest percentage of HCF clients served are children under 5 years of age (44%) followed by those between 20 to 29 years of age (30%).





Prenatal Clients and Visits

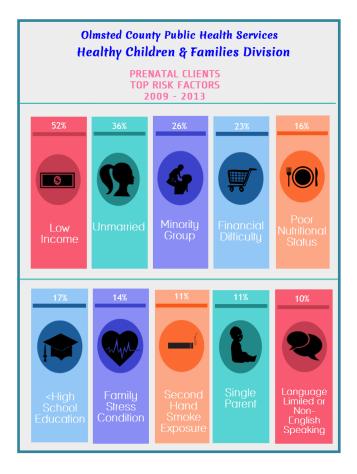
From 2009 to 2013 HCF PHNs made an average of 1,373 visits to 404 prenatal clients annually. There was a 20% decrease in prenatal clients from 2009 to 2013. The number of prenatal visits fluctuated up and down during this period, but there was an overall 11% decrease in visits from 2009 to 2013. This may be due to making more visits to fewer families for a longer period of time, with the implementation of Healthy Families America.



Risk Factors

Client risk factors impact the complexity of client health issues. These risk factors are addressed by the PHN and client during a visit. During the 2009 to 2013 time period, the top risk factors for prenatal clients were low income (52%), unmarried (36%) and in a minority group (26%).

In 2013, 56% of prenatal clients reported an income at 200% or less of federal poverty level.



The Omaha System: Assessment

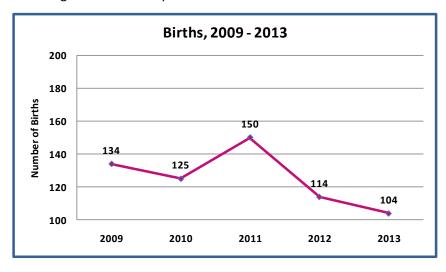
The Omaha System is used by the PHN to assess clients' problems. *Actual* problems are identified as problems with signs and symptoms. *Potential* problems have no signs or symptoms present, but have associated risk factors. When the client requests information about a problem, but they have no signs or symptoms or risk factors present, this becomes a *Health Promotion* problem. The <u>top five</u> actual, potential, and health promotion problems for prenatal clients are listed below.

Rank	Most Frequent Omaha Problems Prenatal Clients 2009-2013	% of Clients
	Actual	
1	Income	28.0%
2	Pregnancy	26.3%
3	Mental Health	12.7%
4	Communications with Community Resources	12.0%
5	Nutrition	11.4%
	Potential	
1	Caretaking/Parenting	13.0%
2	Income	11.3%
3	Mental Health	11.2%
4	Role Change	7.5%
5	Interpersonal Relationship	6.5%
	Health Promotion	
1	Caretaking/Parenting	30.1%
2	Family Planning	19.5%
3	Postpartum	20.6%
4	Pregnancy	14.9%
5	Communication with Community Resources	12.9%

Number of Births

From 2009 to 2013 there was an average of 125 births to HCF clients per year.

Births to HCF clients decreased 22% from 2009 (134) to 2013 (104). Births to all Olmsted County residents decreased by 2% during this same time period.



Maternal Age

From 2009 to 2013, half of HCF clients giving birth were in the 20 to 29 age range, the same as Olmsted County. There was a greater percentage of births to those ages 15 to 19 among HCF clients (30%) as compared to Olmsted County (5%).

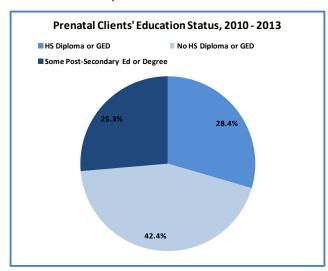
Maternal Race and Ethnicity

The HCF maternal population is more diverse than Olmsted County's maternal population. The Hispanic, black and Asian populations are higher in the HCF Program compared to Olmsted County. The racial and ethnic population of HCF maternal clients is 65% white, 22% black, 10% Asian and 24% Hispanic. Olmsted County's maternal population is 81% white, 8% black, 8% Asian, and 6% Hispanic

Maternal Education

Level of mother's education is defined as the highest level of education achieved within the following categories: high school diploma or GED, no high school diploma or GED, or some post-secondary education or degree.

From 2010 to 2013, 42.4% of HCF prenatal clients do not have a high school diploma or GED. This is not comparable to Olmsted County since 32% of HCF prenatal clients are teens.

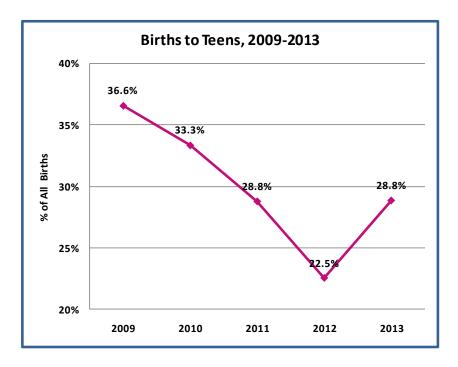


Teen Birth Rates

Teen birth rates are defined as the number of live births to 15 to 19 year olds, expressed as a percentage of all live births.

From 2009 to 2013, teen births among HCF client (32%) were higher compared to Olmsted County (3%). Birth rates among HCF teens decreased 21% from 2009 (36.6%) to 2013 (28.8%). Olmsted County saw a 26% decrease in roughly the same time period.

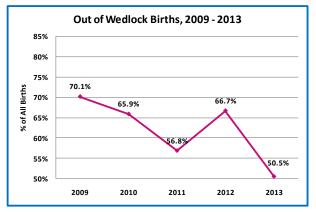
The maternal race and ethnicity of HCF teen clients is 68% white, 17% black, 9% Asian and 22% Hispanic. Olmsted County's black (12.5%) and Hispanic (16%) populations are much smaller.

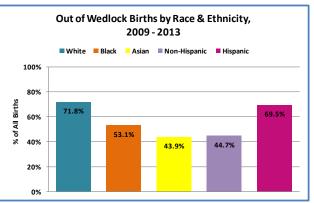


Out-of-Wedlock Births

Out-of-wedlock refers to women who are not married to baby's father at the time of conception, the time of delivery, or any time between conception and delivery.

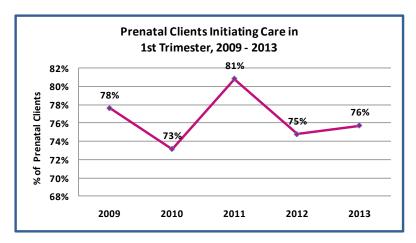
The out-of-wedlock rate is the number of live births to unmarried mothers expressed as a percentage of total live births. From 2009 (70.1%) to 2013 (50.5%) there was a 28% decrease in births to unmarried women. There are 55% more unmarried Hispanic women (69.5%) giving birth than non-Hispanic women (44.7%).

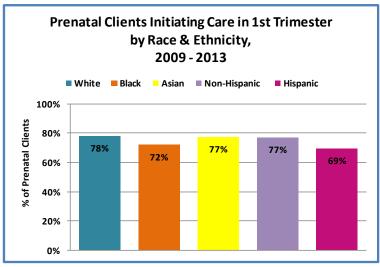




Initiation of Prenatal Care

From 2009-2013 an average of 76% HCF clients received prenatal care in the first trimester. White (78%) and Asian females (77%) were more likely to get prenatal care in the first trimester than blacks (72%). Hispanics (69%) had a 10% lower rate of prenatal care in the first trimester than non-Hispanics (77%).





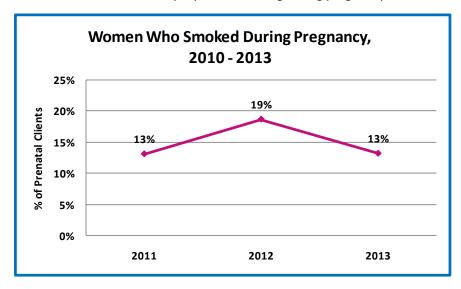
Prematurity

Premature infants are those born at less than 37 weeks gestation.

Between 2010 to 2013, the percentage of premature births was lower among HCF clients (8%) compared to Olmsted County (9%). HCF clients had an average of 9.5 premature births per year.

Smoking

Fewer HCF prenatal clients reported smoking during pregnancy from 2012 (19%) to 2013 (13%), which is a 32% reduction. In 2011, 13% of women in Olmsted County reported smoking during pregnancy.



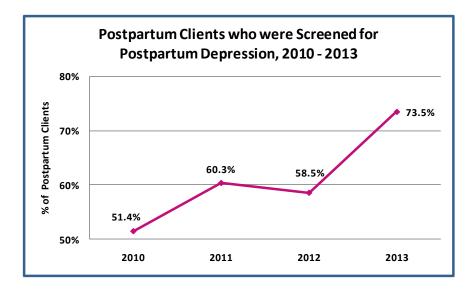
Low-Birth Weight

Low-birth weight infants are those born weighing less than 2,500 grams, or about 5.5 pounds.

From 2010 to 2013, there were an average of 7 low-birth weight babies a year among HCF clients, 6% of total births; the same as Olmsted County in roughly the same time period.

Postpartum Depression Screening

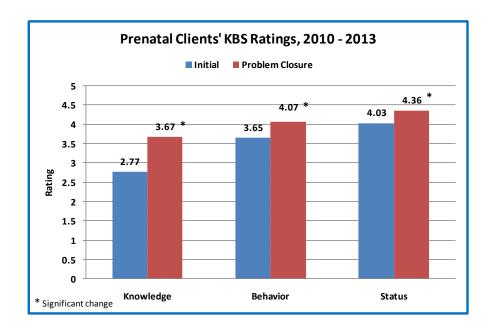
The number of postpartum clients that were screened for postpartum depression increased 43% from 2010 (51.4%) to 2013 (73.5%)



The Omaha System: KBS

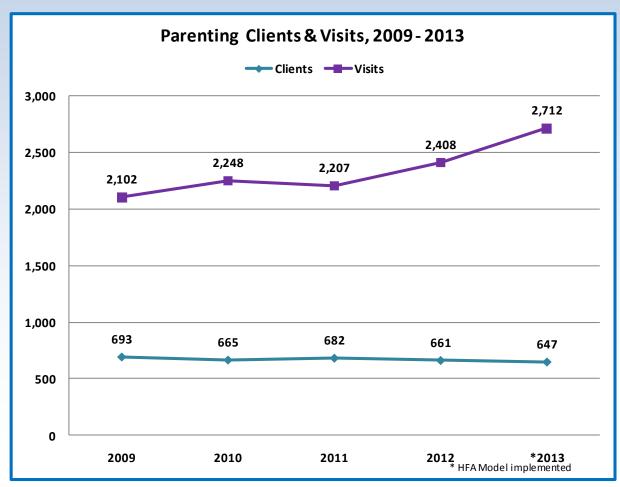
Knowledge, Behavior and Status (KBS) ratings are used to evaluate a client's progress in relation to one of the 42 health-related problems within the Omaha System, using a one to five likert scale.

Ratings increased significantly from 2010 to 2013 in all three KBS areas. Client's knowledge rating increased the most from 2.77 to 3.67, while client's status rating increased the least from a 4.03 to 4.36. This indicates significant Pregnancy and Parenting improvement in Knowledge, Behavior and Status ratings among prenatal clients served.



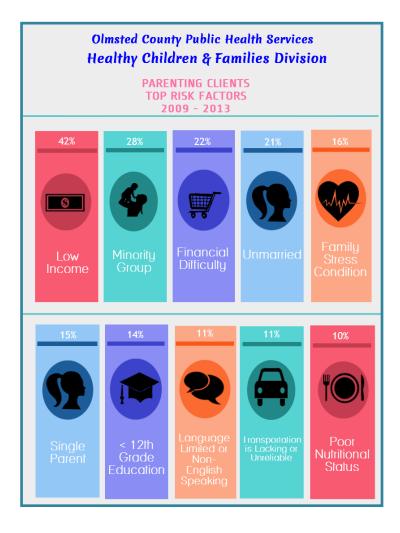
Parenting Clients and Visits

From 2009 to 2013, HCF PHNs made an average of 2,335 visits per year to 670 parenting clients. The number of visits increased by 29%, but the number of clients decreased by 7%. This may be due to making more visits to fewer families for a longer period of time, with the implementation of Healthy Families America.



Risk Factors

Client risk factors impact the complexity of client health issues that are addressed by the nurse and client during a visit. The top risk factors for parenting clients are low income (42%) and in a minority group (28%).



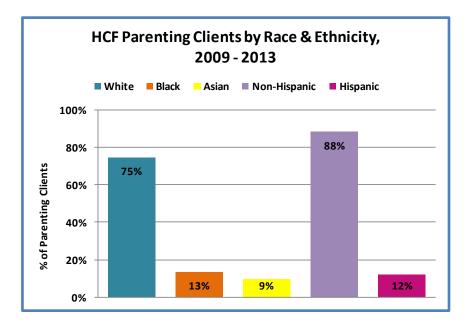
The Omaha System: Assessment

The Omaha System is used by the PHN to assess clients' problems. *Actual* problems are identified as problems with signs and symptoms. *Potential* problems haven no signs or symptoms present, but have associated risk factors. When the client requests information about a problem, but has no signs or symptoms or risk factors present, this becomes a *Health Promotion* problem. The top five parenting client problems in each category are listed below.

Rank	Most Frequent Omaha Problems Parenting Clients 2008-2013	% of Clients
	Actual	
1	Income	22.2%
3	Postpartum	19.8%
2	Caretaking/Parenting	18.3%
4	Pregnancy	11.6%
5	Communication with Community Resources	10.5%
	Potential	
1	Caretaking/Parenting	13.3%
2	Mental Health	8.7%
3	Income	8.2%
4	Postpartum	7.5%
5	Residence	4.9%
	Health Promotion	
1	Caretaking/Parenting	59.7%
2	Postpartum	41.4%
3	Family Planning	22.2%
4	Communication with Community Resources	8.6%
5	Pregnancy	7.5%

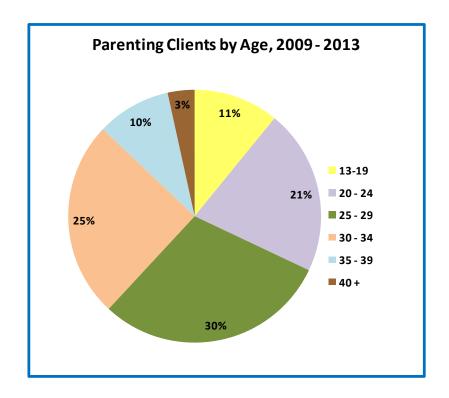
Parenting Clients – Race & Ethnicity

The racial makeup of HCF parenting clients is 75% white, 13% black and 9% Asian, with 12% of Hispanic ethnicity.



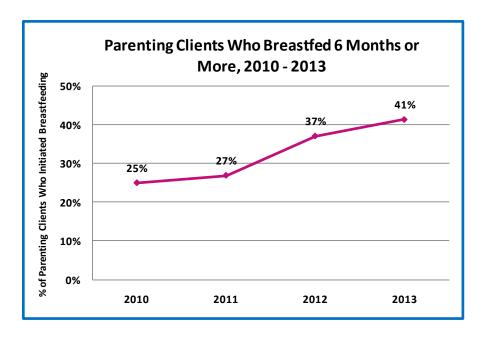
Parenting Clients - Age & Gender

The majority of parenting clients are 20 to 34 years old (76%), followed by teen parents, 13 to 19 years (11%). Females represent 97% of all parenting clients.



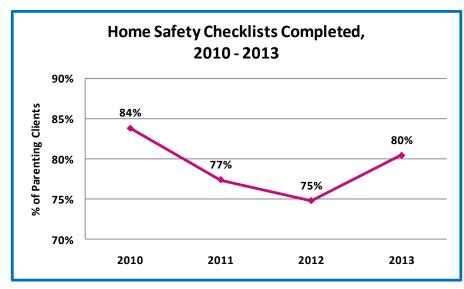
Breastfeeding

The number of clients reporting that they breastfed for 6 months or more increased from 2010 (25%) to 2013 (41%). This is an increase of 64%.



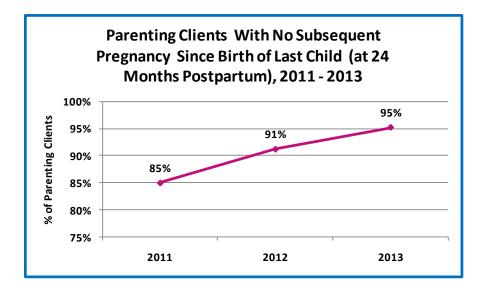
Home Safety Checklist

The percentage of home safety checklists completed from 2010 (84%) to 2012 (75%) decreased by 10% but increased by 7% from 2012 (75%) to 2013 (80%).



Subsequent Pregnancy

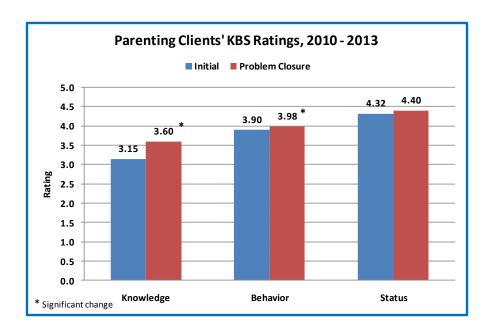
From 2011 (85%) to 2013 (95%), the percentage of clients reporting they had no subsequent pregnancy at 24 months postpartum increased by 12%.



The Omaha System: KBS

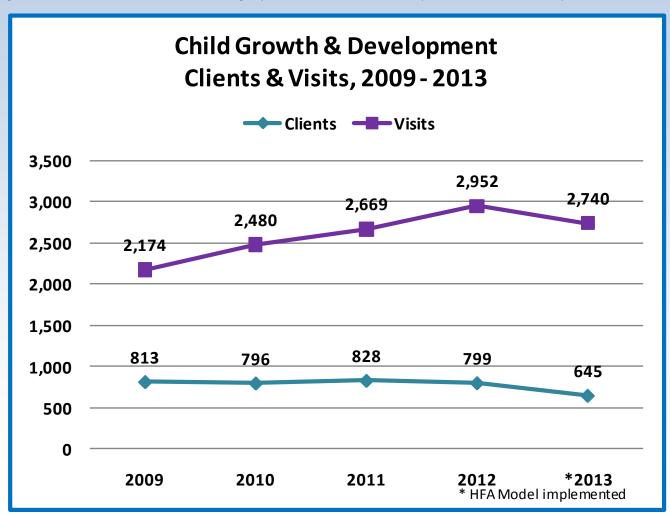
Knowledge, Behavior and Status (KBS) ratings are used to evaluate a client's progress in relation to one of the 42 health-related problems within the Omaha System, using a one to five likert scale.

The average parenting KBS ratings for closed clients from 2010-2013 all increased. However, only knowledge and behavior average ratings had a significant change from the initial rating to the problem closure rating. While rated the highest overall, the status rating increase was not significant. These ratings indicate significant parenting improvement in Knowledge and Behavior rating among families served.



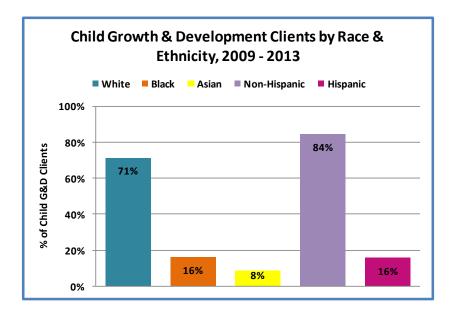
Child Growth and Development Clients and Visits

HCF PHNs make an average of 2,603 visits to 776 children annually. There was a 36% increase in child growth and development visits from 2009 (2,174) to 2012 (2,952), but a 7% decrease from 2012 (2,952) to 2013 (2,740). The number of clients has decreased by 21% since 2009. This may be due to making more visits to fewer families for a longer period of time, with the implementation of Healthy Families America.



Child Growth & Development Clients Demographics

HCF child growth and development clients' race and ethnicity makeup is 71% white, 16% black and 9% Asian, and 16% Hispanic ethnicity. Males represent 52% of the child population. The majority (90%) of child growth and development clients are newborn to two years old.



Risk Factors

Client risk factors impact the complexity of client health issues that are addressed by the nurse and client during a visit. During the 2009 to 2013 time period, the top risk factors for child growth and development clients were low income (36%) and in a minority group (28%).



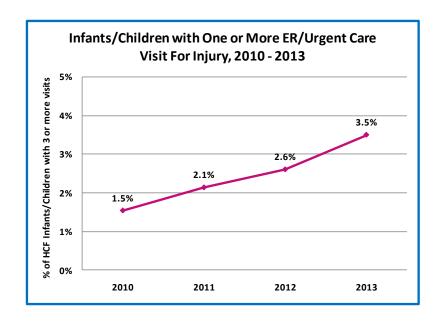
The Omaha System: Assessment

The Omaha System is used by the PHN to assess clients' problems. *Actual* problems are identified as problems with signs and symptoms. *Potential* problems haven no signs or symptoms present, but have associated risk factors. When the client requests information about a problem, but has no signs or symptoms or risk factors present, this becomes a *Health Promotion* problem. The top five child growth and development client problems in each category are listed below.

Rank	Most Frequent Omaha Problems Child Growth & Development Clients 2009-2013	% of Clients
	Actual	
1	Growth & Development	15.4%
2	Income	1.6%
3	Nutrition	1.2%
4	Digestion-Hydration	1.2%
5	Neglect	1.2%
	Potential	
1	Growth & Development	15.3%
2	Abuse	2.9%
3	Neglect	2.8%
4	Health Care Supervision	0.7%
5	Nutrition/Hearing	0.6%
	Health Promotion	
1	Growth & Development	58.2%
2	Health Care Supervision	3.8%
3	Abuse	1.6%
4	Nutrition	1.2%
5	Neglect	1.2%

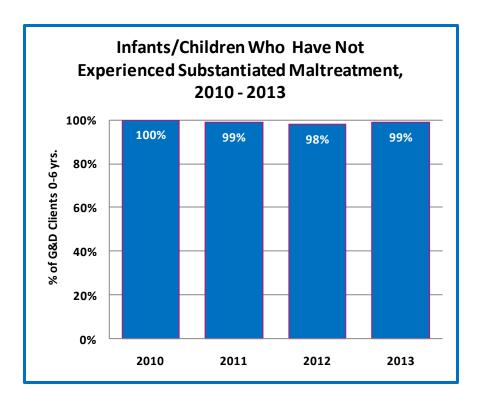
ER/Urgent Care Visits

From 2010 to 2013, there was an increase in the reports of infants/children with one or more visits to the emergency room/urgent care center for injury. This increase represents a report of one child in 2010 to five children in 2013.



Substantiated Maltreatment

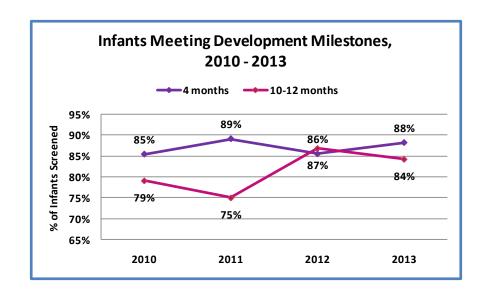
In the past four years, at least 98% of children served by HCF did not experience substantiated maltreatment.



Developmental Milestones

The ASQ-3 is a developmental screening tool that helps determine the overall physical development of a child as reported by parents. Areas screened include: gross motor, fine motor, communication, problem solving, and personal/social.

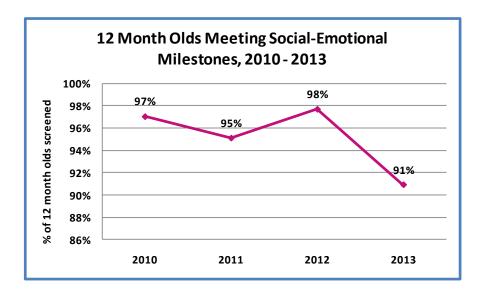
Overall, many infants are meeting developmental milestones. From 2010 to 2013, there was a 4% increase in 4 month olds and a 6% increase in 10 to 12 month olds meeting developmental milestones.



Social-Emotional Milestones

The ASQ-SE is a social-emotional screening tool, reported by the parent, which helps determine the social-emotional development of children.

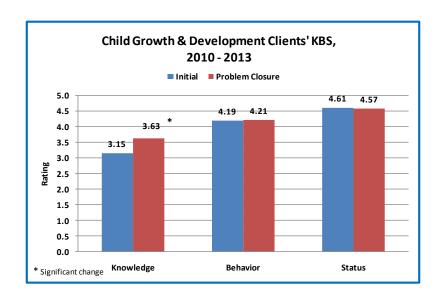
From 2012 (98%) to 2013 (91%) there was a slight (7%) decrease in infants meeting social-emotional milestones.



The Omaha System: KBS

Knowledge, Behavior and Status (KBS) ratings are used to evaluate a client's progress in relation to one of the 42 health-related problems within the Omaha System, using a one to five likert scale.

Client's knowledge rating was the only rating to increase significantly from initial (3.15) to problem closure (3.63). (The knowledge rating is based on the caregiver.) Client's behavior rating did increase (.018) but it was not significant. Client's status rating decreased slightly (-.42); however, this decrease was not significant (behavior and status are based on child). These findings indicate that infants start out healthy at birth and maintain health through closure.



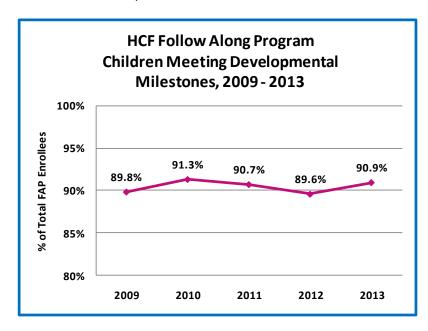
Follow Along Program

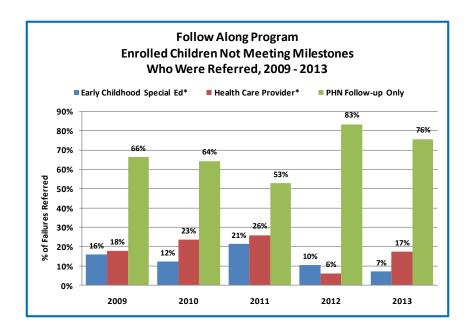
Follow Along Enrollment

The HCF PHN's and other community partners refer infants to the Follow Along Program (FAP), which offers a periodic assessment of a child's development and ideas for encouraging their development through a computer assisted tracking program. This program is for children birth to 36 months.

From 2009 to 2012, 12% (1,070) of all first-borns in Olmsted County were enrolled in FAP.

During this time period, an average of 91% of children met developmental milestones. Of those not meeting developmental milestones, 100% received follow-up from a public health nurse, 13% of them were referred to Early Childhood Special Education and 18% to a health care provider.





A public health nurse follows up with all children who do not meet milestones and/or whose parents have concerns. Some of these children are also referred to ECSE and/or a health care provider.

Conclusions and Next Steps

Conclusions

The HCF Division serves the population of families in Olmsted County who are pregnant or parenting a child birth to five years through programs provided by public health nurses. All HCF programs provide pregnancy and parenting support, promote an enjoyable parent-child relationship and encourage the healthy social—emotional and physical development of the child. These services are valuable to improving the health of mothers, infants and children in Olmsted County.

Overall, the HCF client population is more diverse in regards to race and ethnicity than Olmsted County's general population. HCF serves a high percentage of Hispanics, blacks and Asians; knowing this, it is not recommended to generalize HCF outcomes to the full Olmsted County population.

Over the past five years (2009-2013), measured improvements have been made among those served in the HCF Division, including:

- 64% increase in breastfeeding duration (≥6 months)
- 43% increase in postpartum depression screenings
- 21% reduction in teen births
- 12.5% lower rate of premature births compared to Olmsted County
- 12% reduction in subsequent pregnancies at 24 months postpartum

Along with the above improvements, many measures continue to remain positive, including:

- Children meeting developmental milestones and receiving PHN follow-up
- Parents gaining knowledge to help their children learn, grow and be healthy
- Children living in safe homes that are free of neglect and maltreatment
- Families remaining covered by at least one form of health insurance

Next Steps

The mission of the HCF Division is to ensure that children and families are healthy, safe and nurtured. In the next year, HCF will strive to fulfill this mission by:

- Fully implementing the strategies of the evidence-based Healthy Families America model to connect expectant parents, and parents of newborns, with parenting and child development assistance in their homes
- Educating HCF staff about the impact of maternal depression and the use/standards of depression screening and referral
- Developing and monitoring additional performance measures to further enhance describing how services provided by HCF improve maternal and child health outcomes