



A Report on the Home Visitation Program of MOMS Orange County, 2009-2010

October 2011

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A Foreword from the CEO



The decision to evaluate a program is not one we make lightly. Evaluations demand time and resources from key members of the team, but often result in boring data and conclusions that are abstract at best, and useless at their worst. But we also recognize that evaluation, when done right, can provide critical insights on the effectiveness of a program and provide valuable information about how to make a program better. With that goal in mind, MOMS Orange County launched a comprehensive evaluation project early in 2011 that focused on the outcomes of our Home Visitation Program. What we wanted, and what we achieved, was a focused evaluation process that was practical, relevant, scientifically valid, and from which we could draw careful conclusions. Some believe that evaluation is about proving the success or failure of a program. However, this is not true. Programs don't just "succeed" or "fail." The real measurement of a successful program is one that evolves on the basis of continuous feedback from data, clients, staff, and stakeholders, allowing for program growth and development.

At MOMS Orange County, we have made a serious commitment to improve the health and well-being of newborns, mothers and their families. Rather than relying on our instincts and passions to determine what services our clients need to become healthier, we have chosen to dedicate resources to the program evaluation you will see described in this report. The data analyzed and the resulting conclusions verified some things we held as "true," shed light on issues we had not anticipated, and most importantly, provided us with some clear direction on where to steer our program as we continue to serve our community.

While we are very aware of the economic reality of our current environment, we feel that the future is bright for MOMS Orange County because of your support, our clients' desire to raise healthy children, and our ability to determine the best use of our resources. All babies deserve to be born healthy, to be well nourished, and to be in stimulating environments that allow for optimal brain development.

At MOMS Orange County, we help give babies the best opportunity to grow up happy, healthy and ready to learn. Thank you for your support!

Pamela Pimentel, RN
Chief Executive Officer
MOMS Orange County

Program Overview



This report tells the story of the mothers and babies who received home visitation services from MOMS Orange County during 2009. Once a mother voluntarily enrolls in the MOMS Orange County Home Visitation program, she receives home visits while she is pregnant and up to a year after the birth of her baby. During the prenatal home visits, the mother's health and well-being is monitored and she is screened for risks of diabetes, pre-term labor, and depression. Home visitors provide mothers with information about the importance of prenatal care, nutrition, breastfeeding, exercise, and stress management. After giving birth, the mother and her family continue to receive home visitation services, including screenings and education for their baby's healthy growth and development, for up to 12 months.

Program Highlights

In 2009, MOMS Orange County provided the following home visitation services:

- 15,085 home visits, of which there were:
 - 5,334 prenatal home visits focused on education mothers about the importance of prenatal health, and
 - 9,751 postpartum home visits¹ focused on the health of the mothers and the healthy growth and development of the babies; during these visits, mothers were also provided support for breastfeeding and overall nutrition for the babies.
- 2,730 mothers screened for risks of gestational diabetes, pre-term birth and depression
- 2,126 developmental screenings for babies at 4, 8, and 12 months

On average, mothers and their babies received 12 home visits from MOMS Orange County.²

¹ The majority of mothers (79.5%) who enrolled with MOMS Orange County prenatally, continued in the program after their baby's birth.

² The average of 12 home visits includes 3.5 prenatal visits and 8.7 postpartum visits. Women who received only prenatal (no postpartum) or only postpartum (no prenatal) visits are not included in these averages.



Evaluation Methodology

MOMS Orange County maintains a comprehensive database that contains their clients' information, which is regularly collected throughout the mothers' participation in the program. A MOMS Orange County staff member collects demographic and administrative information when a mother enrolls in the program. Trained staff members also collect information during all home visitation sessions. The database includes basic demographic information of the mother, health screening results, self-reported outcomes and service-based information on both the mother and baby. For the majority of clients, the data covers the period from when the mother discovers she is pregnant through the child's first birthday.

This report, prepared by The Olin Group³, focuses on the information collected on babies born to mothers who were enrolled in the MOMS Orange County Home Visitation program during the 2009 calendar year. It includes all mothers who had at least one home visit during the 2009 calendar year, even if it was their last postpartum visit in January or their first prenatal visit in December. For mothers who enrolled in late 2009, data collection continued throughout 2010, until the case closed or the end of the year. A handful of cases were still open when the data for this report was downloaded at the end of 2010.

The pages that follow provide an overview of the characteristics of mothers served by MOMS Orange County during this time, as well as the birth outcomes for these mothers and babies. Some outcomes are measured against a MOMS Orange County "dosage," or number of prenatal and postpartum home visits received by each mother, to test the effect of MOMS Orange County services on healthy birth outcomes.⁴ Where possible, MOMS Orange County outcomes are also compared to county wide data.



³The Olin Group, which supports the core business needs of organizations that are working toward social impact and the public good, provided an independent evaluation of the data for MOMS Orange County.

⁴Tests for significance were conducted with a simple t-test reporting at a significance level of $\alpha=0.05$

Client Profile



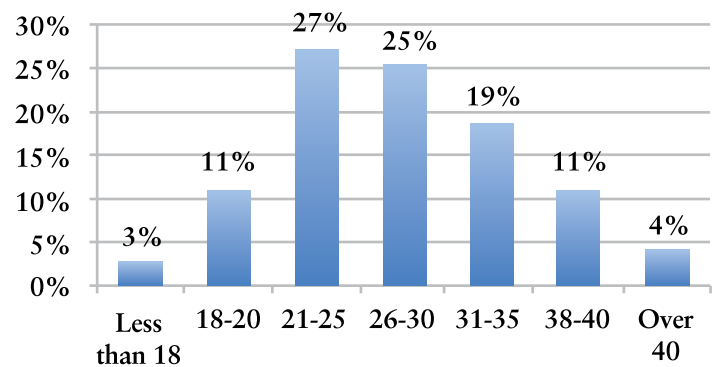
Who Are the Mothers Served by MOMS Orange County?

In 2009, 2,730 mothers received home visiting services. At the time of their first visit:

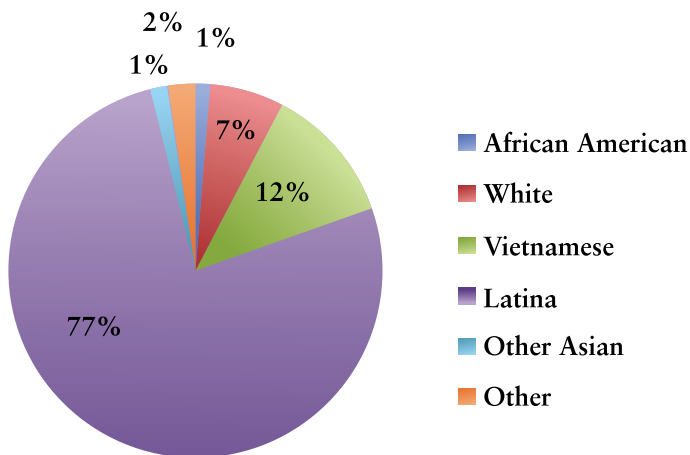
- More than half of the mothers (52%) were between 21 and 30 years old
- Less than one-sixth of the mothers (14%) were 20 years old or younger
- One-third of mothers (33%) were over 30 years old

The average age of mothers was 27.8 years.

Mother's Age



Mother's Ethnicity



Almost all of the mothers (96%) came from one of three ethnic backgrounds:

- Latina, 77%
- Vietnamese, 12%
- White, 7%

By comparison, Orange County's low-income population, which provides the best available comparison to the mothers served by MOMS Orange County, is:

- Latina 57%
- Vietnamese 7%
- White 24%

Almost all mothers (98%) spoke one of three languages, primarily:

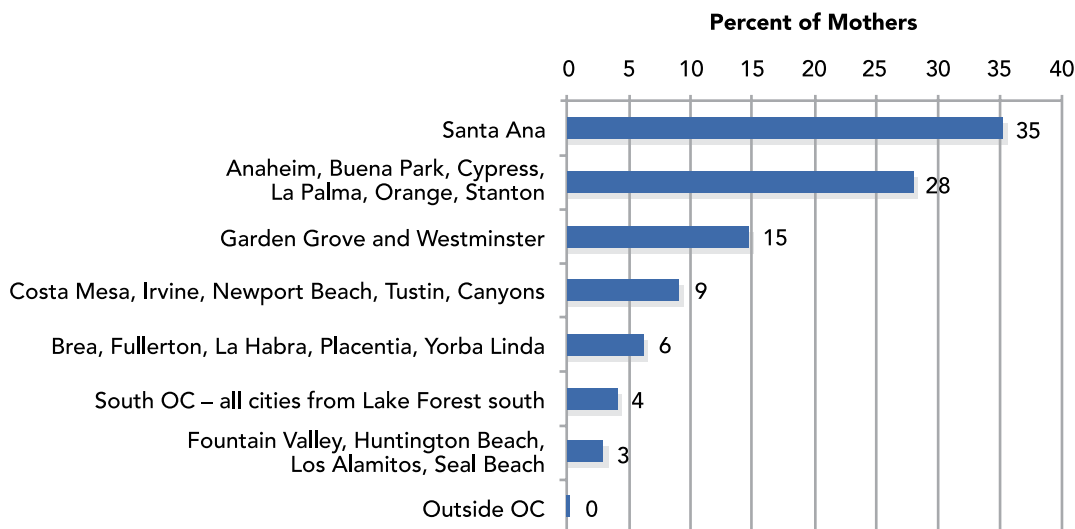
- Spanish, 47%
- English, 33%
- Vietnamese, 10%
- Bilingual – Spanish/English, 8%

Client Profile

One-third of mothers served by MOMS Orange County (34%) were born in the United States. Almost half of the mothers (47%) were born in Mexico, and about one-tenth of the mothers (11%) were born in Vietnam. The remaining mothers (8%) were born in 45 different countries including El Salvador, Guatemala, Philippines, Peru, and Egypt.

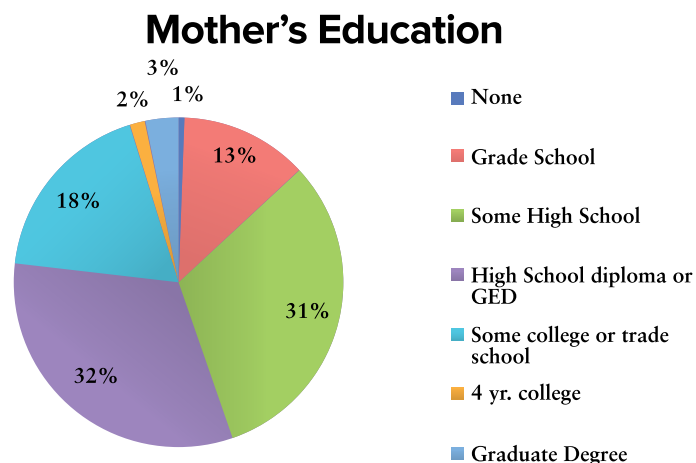
MOMS Orange County serves mothers who live throughout Orange County, with the majority residing in the central and northern regions of the county.

Mother's City of Residence



The mothers in the MOMS Orange County program are slightly less likely than other women in Orange County to have a high school diploma or GED. More than half of the mothers (55%) have at least a high school diploma or GED, compared to the county wide average of 59% and the statewide average of 62%⁵.

The lower educational attainment of mothers served by MOMS Orange County puts their babies at a greater risk of poor birth outcomes. A recent US Census report shows that people with some high school earn about half the annual income of people with a high school diploma (\$10,996 compared to \$21,569). The median annual earnings of people with a Bachelor's degree is \$42,783. Moreover, people without a high school diploma are much less likely to be employed in a full-time, year-round job.⁶ Poverty is known to be associated with a number of adverse birth outcomes, including higher rates of low birth weight babies, infant mortality, and delayed cognitive development in infants.⁷



⁵State of California, Department of Public Health, Birth Records, 2006.

⁶Education and Synthetic Work-Life Earnings Estimates <http://www.census.gov/prod/2011pubs/acs-14.pdf>

⁷Brooks-Gunn and Duncan, *The Effects of Poverty on Children*, https://www.princeton.edu/futureofchildren/publications/docs/07_02_03.pdf

Client Profile

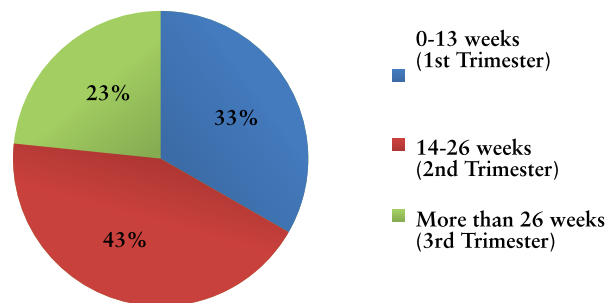
Almost all of the mothers (92%) in MOMS Orange County qualify for some form of publically-funded health care, either CalOptima or pregnancy-only Medi-Cal⁸. Pregnancy-only Medi-Cal covers a mother for pregnancy-related care only during pregnancy and for six weeks post partum. After that, these mothers have no health care coverage.

Insurance Coverage	Total	N
CalOptima	48.1%	1314
Medi-Cal	42.4%	1157
Private Insurance	6.0%	163
Medi-Cal Pending	1.8%	49
Unknown	1.1%	31
AIM	0.4%	12
Cash	0.1%	3
None at this time	0.1%	2
Grand Total	100.0%	2730

When Do Mothers Enroll With MOMS Orange County?

The Home Visitation program reaches out to mothers through its health education classes, outreach efforts to medical providers and community organizations, and partnerships with CalOptima and the County of Orange Health Care Agency. MOMS Orange County strives to enroll mothers as early in the first trimester as possible. By receiving support from the start of the pregnancy, mothers have the greatest chance for a successful birth and the continued good health and development of the baby. On average, mothers enrolled with MOMS Orange County when they were in the middle of their second trimester, at 19 weeks of pregnancy. Some mothers enrolled with MOMS Orange County as early as 3 weeks.

Gestational Age at Enrollment



⁸In California Medicaid is also called Medi-Cal.

MOMS Orange County Outcomes



Home visitation services⁹ are provided in the family's home during monthly visits throughout pregnancy and the baby's first year of life. Home visits are conducted by highly-trained¹⁰ Maternal Child Health Coordinators (home visitors), who are led and supported by a team of Registered Nurse Case Managers¹¹. MOMS Orange County matches each mother with a Maternal Child Health Coordinator who speaks the same language (i.e., English, Spanish, or Vietnamese) and who often shares the same culture; this matching has enabled the Coordinators to earn the trust and confidence of the mothers because personalized relationships develop over time. The Coordinators are able to observe a mother and her baby in their home on multiple occasions - allowing for unique opportunities to observe for potential health risks that can be averted with education and intervention.

Major goals of the home visitation program include:

- I. Healthy Pregnancy
- II. Healthy Birth
- III. Healthy Growth and Development

What follows is an explanation of the goals themselves, measurable indicators of these goals, and the outcomes MOMS Orange County was able to achieve in the 2009-2010 program years.

⁹These are also known as Maternal Child Health Coordination services.

¹⁰In addition to the initial 3-month orientation and ongoing training and supervision provided to the Maternal Child Health Coordinators, almost all of them (90%) have a Bachelors Degree in a health-related field.

¹¹ The Nurse Case Managers have a combined 93 years of experience with clinical and or acute care.

Healthy Pregnancy



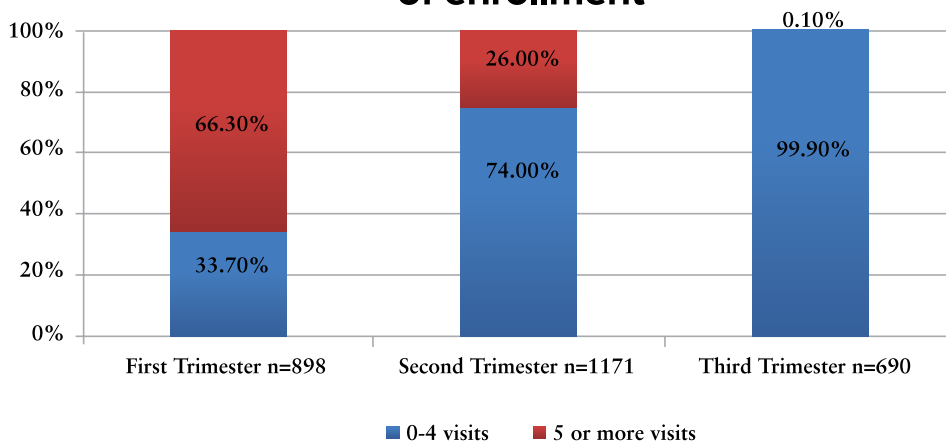
Prenatal Obstetrician Visits

From 2002 to 2006, Orange County exceeded the Healthy People goal of 90% of mothers receiving early prenatal care, but for 2007 and 2008, it dropped to 88%.¹² According to the Centers for Disease Control and Prevention, nearly one-third of the approximately 4 million women who give birth each year will have some kind of pregnancy-related complication.

Women who do not get adequate prenatal care run the risk that a complication could become a serious issue in their pregnancy. Prenatal visits allow a doctor to monitor the mother and baby's health, and give the mother the opportunity to ask questions about her pregnancy. Not surprisingly, mothers who enrolled with MOMS Orange County earlier in their pregnancy received more prenatal doctor visits than those who started later.

- Two-thirds of mothers (66%) who enrolled in their first trimester had five or more prenatal visits with their obstetrician.
- One-quarter of mothers (26%) who enrolled in their second trimester had five or more prenatal visits.

Prenatal OB visits for mothers, by trimester of enrollment



¹²Report on the Conditions of Children in Orange County 2010.

Healthy Pregnancy

Gestational Diabetes Risk Screening

“Gestational diabetes brings a variety of serious risk factors to any infant whose mother suffers its effects. Most problems caused to the growing fetus are a result of high blood sugar levels, which makes controlling blood glucose levels so important.” Dr. Andrew Bricknell, AAP 2008

MOMS Orange County screens mothers for their risk of developing gestational diabetes (GDM), which can lead to complications for both the mother and the baby. Mothers with GDM have an increased risk of high blood pressure and a larger than normal baby, which may make delivery more difficult or lead to a cesarean section. The larger babies may have shoulder damage from the delivery and are at higher risk for breathing problems.¹³ Mothers with either pre-existing or gestational diabetes are significantly more likely to experience depression during pregnancy or in the postpartum period.¹⁴

About two-fifths of the mothers served by MOMS Orange County (43%) either already had diabetes or were at risk of developing GDM. Vietnamese mothers who already had diabetes enrolled in a disproportionately large percentage – 5.8% compared to Latina mothers at 3.0%.

“I believe this information is relevant and useful to everyone. If I had known then all that I know now, I could probably have prevented my diabetes from occurring so early on. I want to share my experiences with others so they can understand and learn because if it worked for me and if I can do it, anyone can do it.”

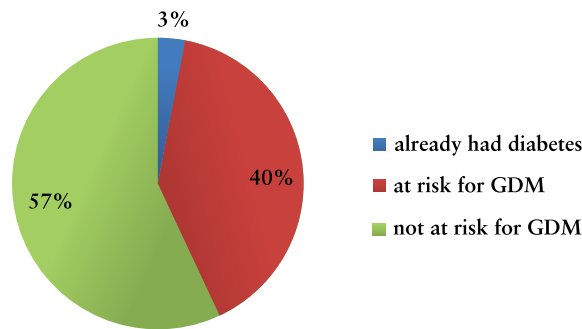
– Leonor, MOMS Orange County Client

¹³American Diabetes Association: <http://www.diabetes.org/diabetes-basics/gestational/what-is-gestational-diabetes.html>

¹⁴Association between diabetes and peri-natal depression among low-income women, *Journal of the American Medical Association*, <http://jama.ama-assn.org/content/301/8/842.abstract>

Healthy Pregnancy

Mothers screened for risk of gestational diabetes



Of the mothers who did not already have diabetes, a small number of them (5.2 %) developed it during their pregnancy. Mothers who were at-risk for developing GDM were more than twice as likely (8.0%) to develop GDM than the mothers who were not at risk (3.2%). The rate of GDM occurrence is thought to be 2% to 10% of all pregnancies,¹⁵ and is more common among Latinas.¹⁶

“The last few months have really changed my life. I thought it would be utterly impossible to make the changes. I had never had anyone sit down with me to listen and talk about why and how I could control and manage my diabetes. I’ve even been able to incorporate what I’ve learned into my family’s habits.”

– Leonor, MOMS Orange County Client

Depression Screening

Depression can lead to preeclampsia, pre-term delivery and low birth weight. It also can affect an infant’s cognitive, neurologic and motor skill development and the mental health and behavior of older children.¹⁷

Mothers are screened for depression at every encounter with MOMS Orange County. About one-tenth (11.1%) were referred for further assessment and treatment of depression. Despite their higher rate of diabetes, and the greater risk of diabetic mothers to have depression, Vietnamese mothers were much less likely to be referred for depression (1%) than Latina mothers (12.5%). This may be because Vietnamese mothers were much less likely to recognize and acknowledge symptoms of depression.

¹⁵National Diabetes Information Clearinghouse / National Institutes of Health: <http://diabetes.niddk.nih.gov/DM/PUBS/statistics/#Gestational>

¹⁶Centers for Disease Control and Prevention: <http://www.cdc.gov/chronicdisease/resources/publications/AAG/ddt.htm>

¹⁷Journal of Obstetrics & Gynecology, February 2011.

Healthy Birth



Babies Are More Likely to be Born Full-Term

Babies who are born very pre-term are at a very high risk for brain problems, breathing problems, digestive problems, and death in the first few days of life. Unfortunately, they also are at risk for problems later in life in the form of delayed development and learning problems in school. The earlier in pregnancy a baby is born, the more health problems it is likely to have.¹⁸

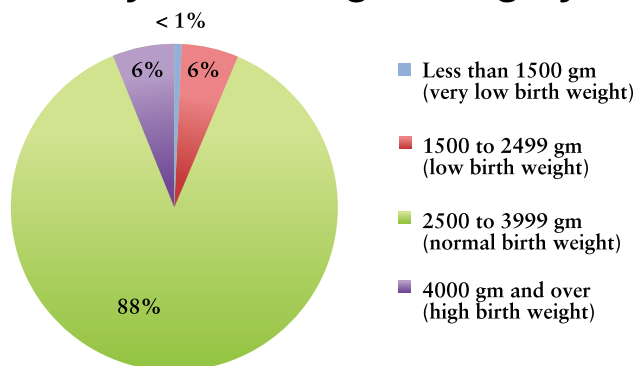
Mothers participating in MOMS Orange County were less likely to have a baby born prematurely¹⁹ (7%) than other women in Orange County²⁰ (9.4%). Both MOMS Orange County and the county have premature birth rates below the Healthy People 2020 objective of 11.4%. Overall, the number of MOMS Orange County prenatal home visits had a positive impact²¹ on whether the babies were born full-term.

Babies Are Normal Birth Weight

Babies born weighing between 5 pounds, 8 ounces (2,500 grams) and 8 pounds, 13 ounces (4000 grams) are considered normal birth weight. Low-birth weight babies are at increased risk for serious health problems as newborns, lasting disabilities and even death. A small percentage of survivors develop mental retardation, learning problems, cerebral palsy and vision and hearing loss.²²

The percent of MOMS Orange County mothers whose babies are born with low or very low birth weight (6.3%) is almost identical to the countywide average of 6.4%. Only 0.7% of MOMS Orange County mothers had a very low birth weight baby, which is lower than the county average of 1.0%. Overall, the number of MOMS Orange County prenatal home visits had a positive impact on the birth weight of the babies.

Baby's birth weight category



¹⁸March of Dimes: www.marchofdimes.com

¹⁹Births that occurred before 38 weeks were considered premature.

²⁰2008, March of Dimes, Peristats: <http://www.marchofdimes.com/peristats/level1.aspx>

²¹ $p < .05$

²²March of Dimes: http://www.marchofdimes.com/medicalresources_lowbirthweight.html

²³ $p < .05$

Healthy Birth

Reduced Need to Use Neonatal Intensive Care Unit (NICU)

On average, 10%-15% of all newborn babies are admitted to the NICU.²⁴ Babies are most often admitted to the NICU because they were born prematurely, have a low birth weight, or have a medical condition that requires more intensive care.

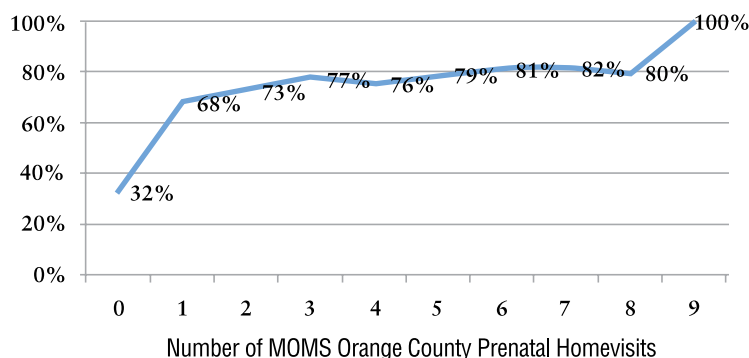
Very few mothers in MOMS Orange County (6%) had their babies admitted into a NICU at birth. Overall, the number of MOMS Orange County prenatal home visits had a positive impact²⁵ on whether a baby was admitted to the NICU.

Postpartum Care Visit On Time

Physician organizations²⁶ recommend that mothers have a postpartum care visit 4-6 weeks after delivery. These checkups are an opportunity to assess the physical and psychosocial well-being of the mother, counsel her on infant care and family planning, and detect and give appropriate referrals for preexisting or developing chronic conditions, such as diabetes, hypertension, or obesity. A review of 2004 data from eleven states and one city (not including California) found that women with less than eight years of education and Hispanic women were less likely to have had their postpartum checkup within six months of giving birth (71.2% and 80.5% respectively, compared to an overall rate of 89%).²⁷

Over 75% of mothers served by MOMS Orange County had their Postpartum Care Visit on time (within 4-6 weeks of delivery).²⁸ Overall, the more MOMS Orange County prenatal home visits the mothers received, the more likely they were to meet with their OBGYN by the sixth week after their baby's birth. The number of MOMS Orange County prenatal home visits showed a positive impact²⁹ on the likelihood of mothers meeting with their OBGYN on time.

OBGYN checkup on time



²⁴ http://www.marchofdimes.com/prematurity/21292_29510.asp. The March of Dimes uses a more conservative definition of a NICU than does MOMS Orange County. If both organizations used the same definition, the difference between the two would be even greater.

²⁵ $p < .05$

²⁶ see link for ACOG/HEDIS prenatal and postpartum care guidelines chart – top of page 2 http://chp.dhs.lacounty.gov/pdf/ProviderBulletins/PB_10_22.pdf

²⁷ Centers for Disease Control and Prevention, MMWR Weekly: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5650a2.htm>

²⁸ The MOMS rate should not be compared to the rate in the 2004 study because MOMS measured whether the visit took place within six weeks of delivery and the 2004 study considered visits that took place during the first six months.

²⁹ $p < .05$

Healthy Growth and Development



Number of MOMS Orange County Mother/Baby Home Visits


Every month throughout the first year of life, MOMS Orange County's specially trained home visitors screen babies for normal growth and development. Parents learn what to expect in their baby's health and development over the next month while activities to enhance early brain development are demonstrated. Early screenings lead to early interventions and give babies the best opportunity to grow up happy, healthy and ready to learn. Babies who are at risk for a potential delay are immediately referred to their medical home for a comprehensive medical and development assessment.

Of the 81% of the mothers and babies who continued on in the MOMS Orange County Home Visitation program after birth, almost two-thirds (62%) had nine or more mother/baby home visits.

Babies Have Medical Homes

The American Academy of Pediatrics (AAP) believes that every child deserves a medical home, where care is accessible, continuous, comprehensive, patient- and family-centered, coordinated, compassionate, and culturally effective.³⁰ The consistency of care provided through a medical home should lead to prevention and earlier identification of problems.

Of the 2,222 babies who continued with MOMS Orange County after birth, almost all of the babies (99.0%) had a medical home. Although it is not an exact comparison, the 2007 California Health Interview Survey estimated that 3.6% of Orange County's children were uninsured.³¹



"I learned to do many exercises to motivate and encourage my baby for early development."

-Tania, MOMS Orange County Client

³⁰http://www.medicalhomeinfo.org/about/medical_home/

³¹15th Annual Report on the Conditions of Children in Orange County, page 38.

Healthy Growth and Development

Babies Have Developmental Screenings That Are Within Normal Limits

Screening tools such as the Ages and Stages Questionnaire (ASQ) provide an easy-to-implement, economical, quick, and understandable way to evaluate whether an infant or child is developing normally. With the ASQ, the home visitors are able to easily see what domains³² are challenging areas for the baby so they can make referrals that target the baby's needs. According to the ASQ-3³³ Users Guide, 12-16% of children will measure in the at-risk group in one area of development and 2-7% will measure in the at-risk group for two or more areas of development. Overall, most of the 1,081 babies born to mothers in MOMS Orange County (90.1%), who stayed with the program through their baby's first birthday, had Ages and Stages Questionnaire³⁴ scores within normal limits when the women completed the program.³⁵

“My home visitor helped me so much. She helped me to build my confidence in myself and I was able to talk with her about any questions or concerns I had about my pregnancy. She talked to me about my baby’s growth and how he was doing on a monthly basis.”

Ivonne, MOMS Orange County Client

³² The five domains of the ASQ used by MOMS Orange County in 2009 are: communication, gross motor, fine motor, problem solving, and personal-social.

³³ MOMS Orange County used the prior version of the ASQ, but we expect the percentages of children to be at risk are stable across versions.

³⁴ The Ages and Stages Questionnaire is a reliable tool for screening infants and young children for developmental delays during the first 5 years of life.

³⁵ This represents babies' final ASQ results at 12 months old when they completed the program. 1802 babies received at least 1 ASQ screening, while those babies who stayed with the program through their first birthday received ASQ screenings at 4, 8, and 12 months.

Healthy Growth and Development

Mothers Learn About the Benefits of Breastfeeding and Breastfeed Their Babies

“Breastfeeding decreases the incidence and/or severity of allergic diseases, childhood asthma, diarrhea, respiratory infection, ear infection, and urinary tract infection. Evidence also demonstrates that breastfeeding reduces the risk for cardiovascular disease and diabetes later in life and that exclusive breastfeeding can reduce the risk of childhood obesity.”³⁶

Babies who are fed formula and stop breastfeeding early have higher risks of obesity, diabetes, respiratory and ear infections, and sudden infant death syndrome (SIDS), and tend to require more doctor visits, hospitalizations, and prescriptions.³⁷ Infants who are not breastfed are more likely to develop ear infections and nonspecific gastroenteritis. Among mothers, not breastfeeding is associated with an increased risk of type 2 diabetes mellitus, and breast and ovarian cancer.

“Being a first time mother, I wanted to learn about everything that happens during pregnancy. WOW! There were a lot of things I didn’t know! I learned so much, from childbirth to breastfeeding to infant nutrition. I haven’t forgotten what I learned and I highly recommend MOMS Orange County’s programs.”

-Guadalupe, MOMS Orange County Client

The percent of mothers in MOMS Orange County who planned to exclusively breastfeed their babies increased from 62.1% at their first prenatal home visit to 72.4% at their last prenatal home visit. Unfortunately, while 93% of babies received breast milk in the hospital, the percent of mothers who exclusively breastfed once their baby was born was only 28.3%, while the percent who fed both breast milk and formula was 64.6%. Overall, the number of MOMS Orange County prenatal home visits had a positive impact³⁸ on the mothers’ plan to breastfeed their babies.

³⁶Conditions of Children in Orange County Report 2010.

³⁷CDC report: <http://www.cdc.gov/vitalsigns/Breastfeeding/index.html>

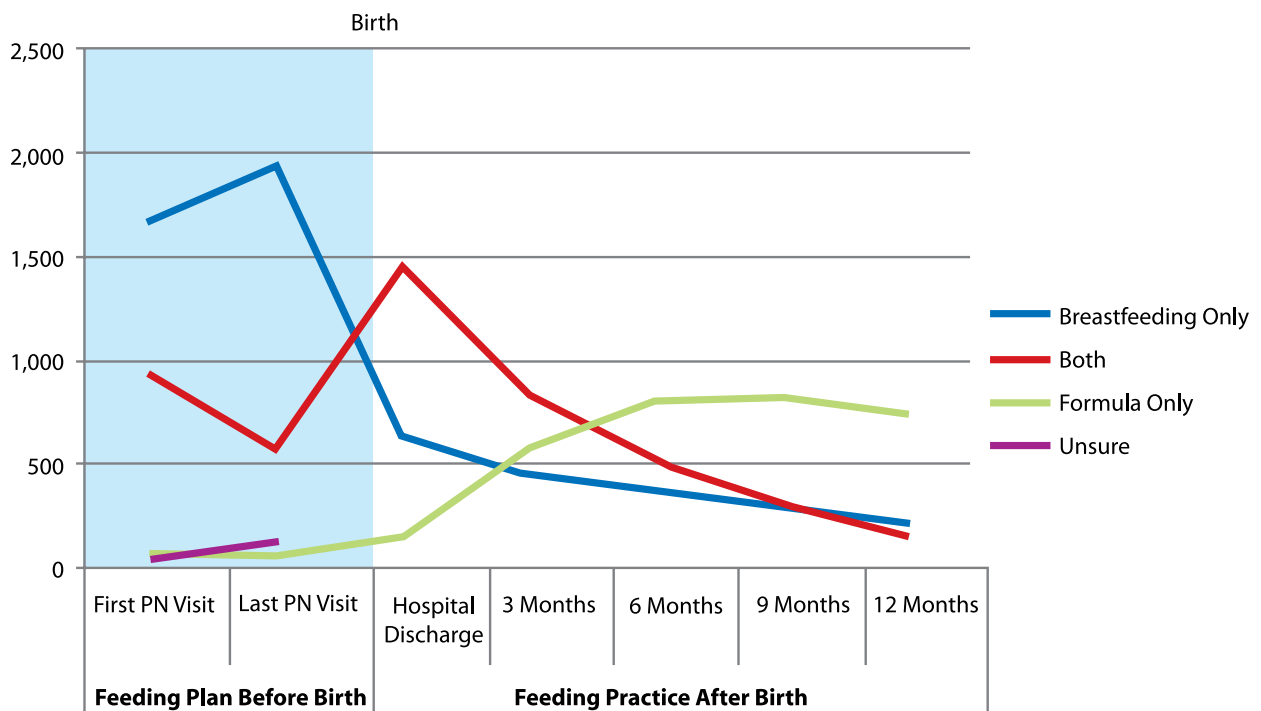
³⁸p<.05

Healthy Growth and Development

With MOMS Orange County, I was able to inform myself about my pregnancy, learned how to and was motivated to breastfeed my baby, and about good nutrition. I learned how to be a better mother and give my child a better life.”

-Teresa, MOMS Orange County Client

Mother’s Feeding Plan and Practice Before and After Birth



In August 2011, the Centers for Disease Control and Prevention reported that most US Hospitals do not fully support breastfeeding.³⁹ In Orange County, only two hospitals qualify as Baby Friendly, meaning they follow all Ten Steps to Successful Breastfeeding, as promulgated by the World Health Organization and UNICEF. These practices include helping mothers initiate breastfeeding within the first hour after birth and not giving the baby any food or drink except breast milk unless it is medically indicated. Although a direct connection cannot be made, it is interesting that mothers served by MOMS Orange County were more likely to exclusively breastfeed throughout the first year of their baby’s life if they lived in the city of Orange, home to one of the Baby Friendly Hospitals.

³⁹CDC report: <http://www.cdc.gov/vitalsigns/Breastfeeding/index.html>

Program Changes Since 2009

Enhancements to MOMS Orange County Pregnancy & Diabetes Program



During 2009, BMI (Body Mass Index) was the primary indicator used to screen mothers for their risk of diabetes. With the surging numbers of mothers at-risk for developing diabetes during their pregnancy and alarming data reflecting increased rates of maternal morbidity, MOMS Orange County recognized that it needed to improve its screening methods and diabetes prevention strategies. In early 2010, MOMS Orange County hired a Diabetes Coordinator who had worked with the Centers for Disease Control and Prevention in the National Diabetes Education Program to develop the training guide for “The Road to Health Toolkit” as well as the development of a Spanish-language diabetes prevention curriculum in Mexico and the US.

After a year of research, development, and piloting, MOMS Orange County introduced an enhanced Diabetes and Pregnancy program in January 2011. At the initial prenatal home visit, mothers are given a standardized diabetes risk assessment developed in accordance with National Diabetes Education Program diabetes risk standards. Utilizing an algorithm to determine need-based intervention and intensity, the tool assesses common risks including, but not limited to, ethnicity, history of depression (resulting in poor lifestyle decisions), history of diabetes, obesity, previous large for gestational age babies, maternal and paternal history of diabetes, GDM in previous pregnancies and age.⁴⁰ Mothers who already have diabetes are automatically enrolled into the specialized Pregnancy & Diabetes program. Mothers who are identified as having moderate or high risk of developing diabetes during their pregnancy are also enrolled at corresponding levels of intervention and care, which include:

- Monthly screenings
- Specialized in-home diabetes education and support
- Diabetes prevention classes
- Consultation with a Diabetes Coordinator
- Diabetes classes
- Diabetes support groups

Preliminary results show a reduction in the number of at-risk mothers who are developing diabetes during their pregnancy. MOMS Orange County intends to conduct a formal evaluation to assess the effectiveness of the new screening methods and prevention strategies.

³⁹Mothers who are ≤ 18 years or ≥ 30 years old are at greater risk at developing GDM).

Conclusions



Many of the mothers served by MOMS Orange County have two key risk factors that could impair the health and development of their baby: low income and at most a high school education. Many of the mothers also are navigating the health care system in a language other than English. The MOMS Orange County home visitation program helps overcome these risk factors by providing health screenings, education and support to help the mother maintain healthy practices and have a healthy baby. Given the risk factors of the participating mothers, it should be considered a success when MOMS Orange County matches county wide birth indicators for premature birth and low birth weight, among other measures. But for several measures, MOMS Orange County surpasses the average for the County. Mothers in the home visitation program are more likely to have a full-term baby and less likely to have a very low birth weight baby. Their babies are admitted to the NICU at a rate well below the national rate. Nearly all the babies in the home visitation program have a medical home. Although directly comparable data is not available, we can see that MOMS Orange County has a good rate of mothers who receive their postpartum checkup on time, even though mothers with less education and who are Latina are less likely to go for a postpartum care visit. The babies also have a relatively high rate of ASQ scores in the normal range.

There is room for improvement on several fronts. Particularly vexing is the low rate of exclusive breastfeeding, despite the mothers' intentions at their last prenatal MOMS visit. MOMS Orange County will need to continue partnering with hospitals to change practices that deter mothers from carrying out their plans to exclusively breastfeed their baby. Another finding that needs further investigation and action is the low rate of referral for depression for Vietnamese mothers. It is unlikely that prevalence rates are lower among these mothers, especially given the higher rate of diabetes.