

shaping the future

*Children First, Oklahoma's Nurse-Family Partnership
Annual Report, SFY 2010*





“When we cast our bread upon the waters, we can presume that someone downstream whose face we will never know will benefit from our action.”

- Maya Angelou

Dear Reader,

Training sessions for all new Children First nurses begin with this quote by Maya Angelou. It is used to cause a shift in thinking for our nurses. In usual nursing cases, a client presents with a problem. A plan of care is developed and if the plan is followed, the problem is resolved. In this model of home visitation, often the result is not immediate or noticeable in the short-term. We know from the research by Dr. David Olds, that it is usually later or after the intervention has ended when the full benefit of the work is realized.

It is with this frame of reference that I present the 2010 Children First Annual Report. The report highlights our activities and accomplishments for the last year. It shows short-term outcomes attained during the average length of the intervention and highlights successes that are shaping our clients' futures. We know that the home visits and services we provide today will make a difference in the health and well-being of our clients and their families for generations to come.

Thanks to all our nurses and supporters who help shape the futures for our families.

Mildred O. Ramsey, R.N., M.P.H.
Director

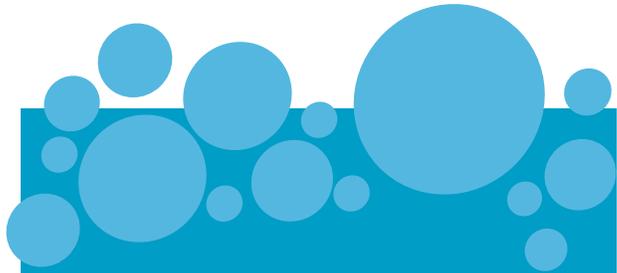


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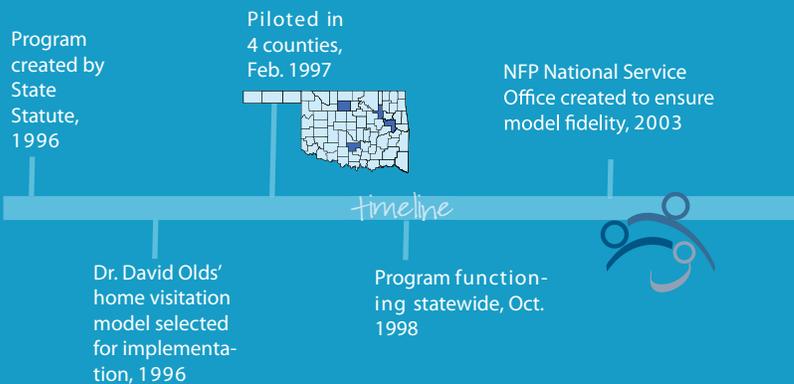
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children first BACKGROUND



The mission of Children First is to empower first-time eligible families to care for themselves and their babies by providing information and education, assessing health, safety and development and providing linkages to community resources, thereby promoting the well being of families through public health nurse home visitation, ultimately benefiting multiple generations.



Program Goals:

Achieve positive pregnancy outcomes
Achieve positive child health and development
Improve families economic self-sufficiency

Program Objectives:

Increase mother's self-sufficiency
Improve parenting skills
Improve pregnancy outcomes
Strengthen the parent-child bond
Improve parents' problem solving abilities
Improve mother's access to community resources
Improve child health and development
Help clients achieve personal goals
Reduce risk factors associated with child abuse and neglect



PROGRAM DESCRIPTION

History

Children First was created in 1996 as a means of improving the health and well-being of children and addressing child maltreatment in Oklahoma. Originally piloted in four counties,¹ the Children First program is now delivered through the statewide county health department system.

The program utilizes the evidence-based Nurse-Family Partnership (NFP) model of home visitation to address and minimize the risk factors known to contribute to child maltreatment. Based on more than three decades of research by David Olds, Ph.D., the model has been found to reduce the cost of long-term social services and benefit multiple generations by striving to:

- Improve pregnancy outcomes by helping women alter their health-related behaviors, including reducing use of cigarettes, alcohol and illegal drugs;
- Improve child health and development by helping parents provide more responsible and competent care for their children; and
- Improve families' economic self-sufficiency by helping parents develop a vision for their own future, plan future pregnancies, continue their education and find work.²

Services

The Children First program employs registered nurses who make regular home visits to low-income women expecting their first child during pregnancy and continuing through the child's second birthday. During these visits, nurses:

- Assess clients' health status and socio-economic needs;
- Assess child health and development;
- Educate and inform mothers about what to expect in the months ahead;

¹ Garfield, Garvin, Muskogee and Tulsa Counties

² Oklahoma Children First Program Evaluation Report 7. Nurse-Family Partnership, September 24, 2010.

children first SUCCESS



Lindsey McCaslin is a Children First client who knows the challenges of being a teen parent. She's been holding down one or more jobs, finishing the Dental Assistant's program at Meridian Tech, and will soon begin an internship, all while raising her daughter Kaitlyn. Lindsey admits it's been tough juggling those responsibilities, and says "you have to have it set in your mind or you won't succeed."

A strong support system, including her church and C1 nurse Pam Junkersfeld, has been key in Lindsey's success. When she enrolled in Children First, Lindsey was scared. "I didn't know what to do, and Pam helped me so much. She's the one who got me through everything."

Now Lindsey is providing a network of support to others in her community by creating a Teen Moms Support Group, which allows her to offer encouragement to other young mothers in situations similar to hers. "They were going through stuff like me, but every story was different."

The group's motto is "We're Strong Together," and Lindsey says the conversation is one of the most important parts of the group. "It's just girls getting out their emotions ... it's a big stress relief." Lindsey continues, "We're definitely not telling girls to go out and get pregnant. We're saying that if you are pregnant, we're here for you. You're not alone."

Lindsey's goal is to attend a dental hygienist program. Lindsey and Kaitlyn will graduate from Children First in April 2011.



Lindsey & Kaitlyn, Logan County

- Support and encourage clients to reach personal goals; and
- Connect clients with any community resource they may need to achieve their goals.

Nurses encourage the inclusion of family and loved ones during visits, as well as work collaboratively with providers. While nurses perform regular assessments and screenings, program services are not intended to replace the care of a physician/obstetrician.

Enrollment Criteria

Women participating in the Children First program must:

- Be expecting their first child;
- Have a household income at or below 185% of the Federal Poverty Level; and
- Be less than 29 weeks pregnant at the time of enrollment.

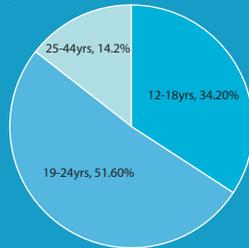
Program participation is voluntary. Clients are not obligated to participate for any finite length of time, however mothers benefit from longer involvement in the intervention.

children first DEMOGRAPHICS

Age:

- 34% of newly enrolled mothers were under age 19.
- 86% of newly enrolled mothers were under the age of 25.

Age of C1 Enrollees, SFY 2010



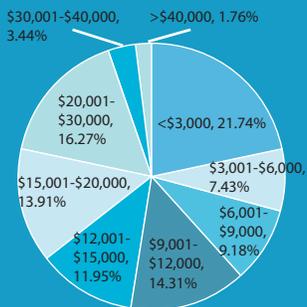
Marital Status:

- 30% of mothers were married at program intake.
- 70% of mothers were married by the time their child was 2 years of age.

Education:

- 76% of mothers 18 or older at enrollment attained a high school diploma or GED.
- 13% of mothers who entered the program without a high school diploma or GED were still working on completing their education at the time of program graduation.

Annual Household Income, SFY 2010



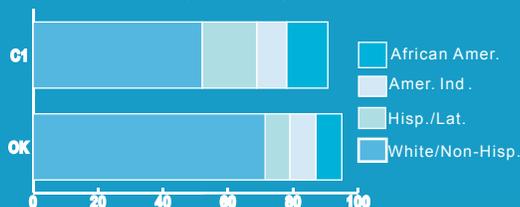
Income:

- 65% of newly enrolled families reported an annual household income less than \$15,000.

Race/Ethnicity:

- Children First serves higher rates of ethnic/minority groups than represented in the general Oklahoma population.

Race/Ethnicity served by C1, SFY 2010



Household Composition:

- 47% of C1 mothers live with their husband or partner
- 33% of C1 mothers live with their mother
- 5% of C1 mothers live alone



CLIENT DEMOGRAPHICS

Factors related to instances of child maltreatment and poor birth outcomes have been well documented over the past few decades. These factors include low economic status, young parental age, single parenthood and lack of social support.³ The Children First (C1) program aims to enroll clients who exhibit such characteristics in an effort to improve health and birth outcomes as well as to increase clients' protective factors and prevent the occurrence of abuse and neglect.

Age

In SFY 2010, clients ranged in age from 12-44 years of age. At intake 34% of clients were 18 years old or younger, 52% were between 19 and 24 years old and 14% were between the ages of 25-44. Clients enrolled in the Children First program are younger first-time mothers when compared to other first-time mothers in Oklahoma, in which less than 9% of all first births occur among women under 18.⁴

Education

Of the clients 18 or older at enrollment, more than three-fourths (76%) attained a high school diploma or GED. This rate is lower than the Oklahoma population of women 18 years or older with their first birth (86%).⁵

Income

Of those clients who reported their household income during SFY 2010, 65% of C1 mothers had an annual income less than \$15,000 at program intake.

3 A Coordinated Response to Child Abuse and Neglect: The Foundation for Practice. Office on Child Abuse and Neglect (HHS), Washington, DC. Goldman, J., Salus, M. K., Wolcott, D., Kennedy, K. Y. 2003. Accessed at <http://www.childwelfare.gov/pubs/usermanuals/foundation/foundation.cfm>.

4 OK2SHARE: <http://www.health.state.ok.us/ok2share/index2.html>. Oklahoma State Department of Health.

5 Program Evaluation from July 1, 2006 through June 30, 2010. Boeckman, L., Robledo, Candace. University of Oklahoma College of Public Health, Department of Biostatistics and Epidemiology. December 2010.

Marital Status

Marital status can be an indication of relationship and family stability, which can impact both the economic and emotional well-being of families. More than 70% of C1 clients were single at the time of enrollment. The percent of clients that were single significantly increased from 73% in SFY 07 to nearly 78% in SFY 09, while the percent married decreased from 23% to 19% during the same time period. This is a significant shift in the population being served. Of all first births in Oklahoma 2006-2008, 50% reported being unmarried.⁶

Race/Ethnicity

Health disparities are known to exist among racial/ethnic groups including higher rates of infant mortality, teen births, low birth weight births, lower high school graduation rates and insurance coverage.⁷ Although the overall majority of clients served are Non-Hispanic White, Children First has consistently served higher rates of minority/ethnic groups than represented in the general Oklahoma population. Over the past 5 years, the program's average client composition consisted of 52% Non-Hispanic White (71% of state population), 13% African Americans (8% of state population), 10% American Indians (8% of state population), and 17% Hispanics/Latinos (8% of state population).^{8,9}

Clients' County of Residence

More than half (53%) of the families served lived in rural areas outside of the Tulsa and Oklahoma City metropolitan areas. The rest of families served were equally distributed between the Tulsa metro (23%) and Oklahoma City metro (24%) areas (see Appendix I for a county level breakdown of services).

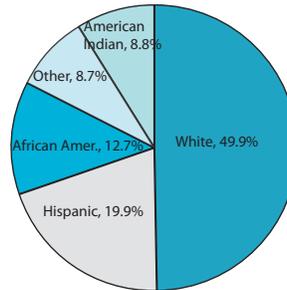
6 Ibid.
7 2009 Minority Health At A Glance (Oklahoma). Oklahoma State Department of Health, Office of Minority Health. May 2009.
8 Program Evaluation from July 1, 2006 through June 30, 2010. Boeckman, L., Robledo, Candace. University of Oklahoma College of Public Health, Department of Biostatistics and Epidemiology. December 2010.
9 U.S. Census Bureau, State and County QuickFacts. <http://quickfacts.census.gov/qfd/states/40000.html>. 2009.

Household Composition

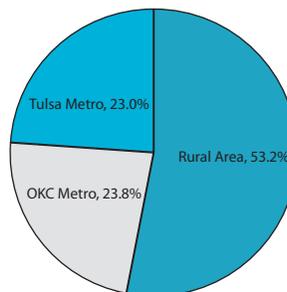
Research shows advantages to children living in safe, stable home environments. One factor of family stability is the composition of the household in which the child is currently living. Nearly half (47%) of Children First mothers live with their husband or partner, one-third (33%) live with their mother, and the rest of participants live alone (5%) or in some other type of living arrangement (15%).¹⁰

10 Oklahoma Children First Program Evaluation Report 7. Nurse-Family Partnership. September 24, 2010.

Race/Ethnicity of Newly Enrolled C1 Clients, SFY 2010



Clients' County of Residence, SFY 2010



Shelby & Madelyn, Oklahoma County



children first OUTCOMES

Maternal Health and Life Course Development:

- 84% of C1 mothers sought prenatal care during their first trimester.
- 12% of C1 mothers who smoked at program intake reported quitting during their pregnancy.
- 33% of C1 mothers who abused drugs at program intake reported quitting during their pregnancy.
- 89% of C1 mothers were not pregnant at 12 months postpartum.
- 54% of C1 mothers over age 18 were employed by 24 months postpartum.



Child Health:

- 89.5% of C1 babies were carried to term (more than 37 weeks gestation) compared to 90% of all first-time births in Oklahoma.
- 92.7% of C1 babies were born at normal birth weights (more than 5.5 lbs.) compared to 91% of all first-time births in Oklahoma.
- 85% of C1 babies were fully immunized at 24 months compared to the state average of 74%.
- 80% of C1 mothers initiated breastfeeding their baby compared to the state rate of 65%.
- 89% of C1 babies never spent time in the NICU compared to the national NFP average of 86%.



Family stability and safety:

- 96% of C1 mothers are married to or dating the father of their child.
- 39% of C1 mothers who reported intimate partner violence at program intake experienced no physical abuse during their pregnancy.
- C1 nurses made 496 referrals to mental health services for mothers participating in the program.
- While C1 babies are at higher risk for abuse and neglect, and are reported more often, fewer confirmations of maltreatment are found.
- If the general population of Oklahoma 0-2 year olds had the same confirmation rate as C1 participants, 914 fewer children would have been confirmed victims of maltreatment.



OUTCOMES

The Children First program benefits new mothers by imparting knowledge on topics such as maternal health and life course development, child health and development, and family stability and safety. Such information is known to have an impact on the health outcomes associated with healthy pregnancies and children. Additionally, by helping parents to create safe, nurturing environments, C1 works to prevent children from experiencing childhood traumas that may lead to the adoption of risky behaviors in adulthood.

Maternal Health

Infections: STD/UTI

Maternal infections during pregnancy can result in serious consequences including ectopic pregnancy, stillbirth, preterm delivery, birth defects, newborn illness and even death.¹¹ C1 nurses work to prevent such infections from occurring by educating clients about the risks, recognizing signs and symptoms, monitoring maternal health issues and making appropriate referrals.

Since 2006, 41% of C1 mothers had one or more urinary tract infections (UTI) during the course of their pregnancy (34% for national NFP) and 11% had one or more sexually transmitted infection (STI) (13% for national NFP).¹² In general, Oklahoma ranked among the top 20 in the nation for Chlamydia (17th) and Gonorrhea (14th) infection and 27th in the nation for Syphilis infections.¹³

Alcohol/Substance Abuse and Smoking Cessation

Poor habits during pregnancy, such as smoking, alcohol use and substance abuse, have far-reaching implications for the health of infants.

¹¹ March of Dimes Peristats. <http://www.marchofdimes.com/peristats/landing.aspx?dv=lt®=40&top=10&lev=0&slev=4>.

¹² Oklahoma Children First Program Evaluation Report 7. Nurse-Family Partnership. September 24, 2010.

¹³ Oklahoma State Department of Health, HIV/STD Service. <http://www.ok.gov/health/documents/HIV-STD%202007%20County.pdf>.

Use of these substances has been linked to adverse birth outcomes including birth defects, developmental disabilities, preterm births, low birth weight and infant mortality.¹⁴

C1 collects data on clients' smoking habits at program intake and again at 36 weeks of pregnancy. Between SFY 2007-2010, C1 has seen a decline in the number of women who report smoking at program intake, as well as an increase in the number of women who reduce their smoking by 36 weeks gestation. During SFY 2010, C1 experienced a 34% reduction in the percentage of mothers who smoked from intake to 36 weeks (14% reduction in SFY 2007). Furthermore, mothers who continued smoking during this period decreased the amount smoked by 3.2 cigarettes per day at 36 weeks of pregnancy (NFP goal 3.5 cigarettes per day).¹⁵ For all first births in Oklahoma during 2006-2008, 13% reported using tobacco during their pregnancy.

Of those who disclosed alcohol and drug use at program intake, C1 mothers reduced alcohol consumption 29% during pregnancy. C1 mothers also reduced marijuana use (42%), cocaine use (50%) and other drug consumption (37%) during pregnancy.¹⁶

Prenatal Care

Early and regular prenatal care leads to healthier pregnancies and babies. Women are less likely to deliver prematurely and encounter serious health complications related to gestational diabetes and pregnancy induced hypertension.¹⁷ During the course of a 40-week

14 March of Dimes Peristats. <http://www.marchofdimes.com/peristats/tlanding.aspx?reg=40&top=9&lev=0&slev=4>.

15 Program Evaluation from July 1, 2006 through June 30, 2010. Boeckman, L., Robledo, Candace. University of Oklahoma College of Public Health, Department of Biostatistics and Epidemiology. December 2010.

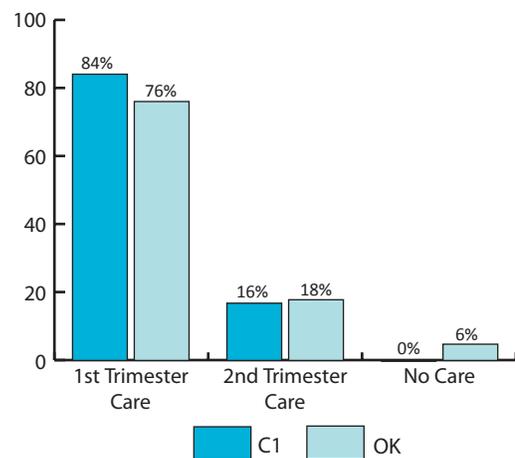
16 Oklahoma Children First Program Evaluation Report 7. Nurse-Family Partnership. September 24, 2010.

17 March of Dimes website: http://www.marchofdimes.com/pnhec/159_513.asp.

pregnancy, without additional risks or complications, the American College of Obstetrics and Gynecology recommends 14 prenatal visits.

Of the mothers participating in C1, 84% received prenatal care within the first trimester of pregnancy (76% state average) and the remaining women (16%) had visited their health care provider by the completion of their second trimester (18% state average).¹⁸ On average, C1 mothers received 12 prenatal visits during the course of their pregnancy.

Prenatal Care Received, SFY 2010



Infant and Toddler Health and Development

Infant Mortality

Infant mortality, defined as the death of a child less than one year old, is a common factor used to gage the overall health of a population. Currently, Oklahoma ranks 41 in the nation with an infant mortality rate of 8.0 per 1,000 live births.¹⁹ The Healthy People 2010 goal for infant mortality is 4.5 per 1,000 live births.

A recent study conducted by the University of Oklahoma, College of Public Health, showed the infant mortality rate among Children First babies between 2001 and 2004 was approximately half that of other Oklahoma first born chil-

18 Oklahoma Children First Program Evaluation Report 7. Nurse-Family Partnership. September 24, 2010.

19 Improving Infant Outcomes: Infant Mortality Data. Preparing for a Lifetime Fact Sheet. Oklahoma State Department of Health. June 2010.



Zaryiah, Oklahoma County

dren.²⁰ Moreover, C1 clients experienced an infant mortality rate of only 4.35 deaths per 1,000 live births, exceeding The Healthy People 2010 goal.

Breastfeeding

Babies who are breastfed have been shown to be healthier. They have better immune systems, fewer infections and are at lower risk for Sudden Infant Death Syndrome (SIDS).²¹ All C1 nurses are trained as breastfeeding educators and provide support to clients early in the postpartum period.

More than three-fourths (80%) of Children First mothers initiated breastfeeding compared to 65% of women in the general Oklahoma population. At 6 months, 22% of C1 mothers report still breastfeeding (27% for Oklahoma women) and 13% continued to breastfeed at 12 months (12% for Oklahoma women).^{22,23}

Gestational Age

Infants born prematurely (before 37 weeks gestation) or at low birth weights (less than 2,500 grams or 5.5 lbs.) are at greater risk for future health problems including chronic infections, anemia, jaundice, apnea and respiratory distress.²⁴ These conditions can be costly and recurring. Developmental delays are also common among this population, which is known to be a risk factor for child maltreatment.

The percentage of infants born preterm to C1 clients was approximately 8% in SFY 2007-2009. During SFY 2010, the percentage of preterm births increased sharply to 11%. This is similar for the state of Oklahoma, where approximately 10% of births among first-time mothers are preterm.²⁵

20 Carabin, H. et al. Does participation in a nurse visitation programme reduce the frequency of adverse perinatal outcomes in first-time mothers? *Pediatric and Perinatal Epidemiology*. 2005; 10: 194-205.

21 Oklahoma State Department of Health: http://www.ok.gov/health/Child_and_Family_Health/Breastfeeding_Information_and_Support/Why_Breastfeed/index.html

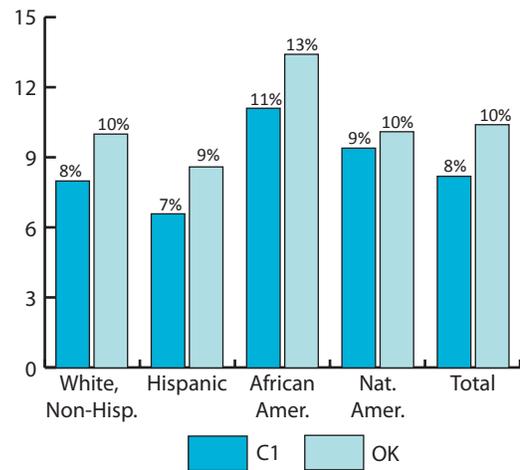
22 Oklahoma Children First Evaluation Report 7. Nurse-Family Partnership. September 24, 2010.

23 Breastfeeding Report Card – United States, 2010. Department of Health and Human Services, Centers for Disease Control and Prevention. August 2010.

24 March of Dimes website: http://www.marchofdimes.com/professionals/14332_1157.asp#head4.

25 Program Evaluation from July 1, 2006 through June 30, 2010. Boeckman, L., Robledo, Candace. University of Oklahoma College of Public Health, Department of Biostatistics and Epidemiology. December 2010.

*C1 Preterm Birth Rates, SFY 2007-2010 vs. Oklahoma Population**

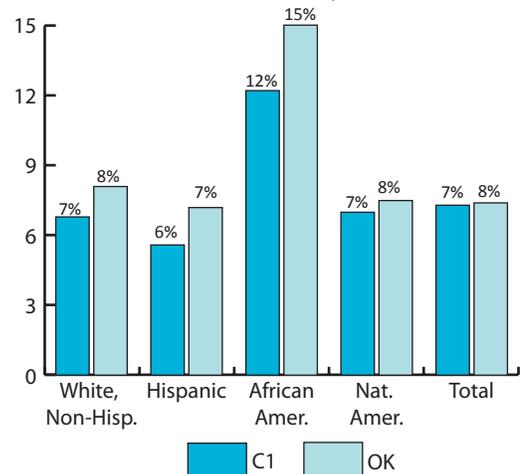


*Oklahoma averages are 2008 data (OK2Share: <http://www.health.state.ok.us/ok2share/index2.html>).

Birth weight

In the C1 population, the lowest percent of babies born with low birth weights occurred in SFY 2008 (7%), while the first half of SFY 2010 had the highest percent (8%). These results were slightly lower than the percent of births reported being low birth weight in the state. Overall, 7% of infants born to C1 clients had low birth weights compared to 9% among first births in Oklahoma. The Healthy People 2010 objective is to reduce this rate to 5%.²⁶

*C1 Low Birth Weight Rates, SFY 2007-2010 vs. Oklahoma Population**



*Oklahoma averages are 2008 data (OK2Share: <http://www.health.state.ok.us/ok2share/index2.html>).

26 Program Evaluation from July 1, 2006 through June 30, 2010. Boeckman, L., Robledo, Candace. University of Oklahoma College of Public Health, Department of Biostatistics and Epidemiology. December 2010.

Time Spent in the NICU

Infants born preterm or with low birth weights may experience health complications which make admittance to the Neonatal Intensive Care Unit (NICU) necessary. This hospital stay can be expensive and lengthy depending on the intensity of needed medical treatment.

Since SFY 2002, 11% of C1 babies were admitted to the NICU (14% for national NFP), spending an average of 5 days (6 days for national NFP).²⁷

Immunizations

As of 2008, Oklahoma ranked 39th in the nation for compliance with the Centers for Disease Control's recommended vaccination schedule for children under the age of 2 with 74% of children being fully immunized.²⁸

During SFY 2010, 82% of C1 infants were fully immunized at 12 months (85% for national NFP), and by 24 months, 85% had received all recommended immunizations (91% for national NFP).²⁹ These rates remain slightly higher than the Oklahoma state average of 74%.³⁰

Family Stability

One indicator of family stability is father involvement. Research shows children with involved fathers exhibit math and verbal skills, healthy self-esteem and do well in school.³¹ According to data collected between SFY 2006-2010, 96% of C1 mothers indicated they are either married to or dating the father of their child.³²

Maternal Life Course Development

Subsequent Pregnancy Spacing/Family Planning

Mothers who become pregnant quickly after giving birth have greater risks of complications during the subsequent pregnancy, including premature and underweight

27 Oklahoma Children First Program Evaluation Report 7. Nurse-Family Partnership. September 24, 2010.

28 Tulsa City-County Health Department, Tulsa Area Immunization Coalition website: <http://www.tulsaimmunize.org/>.

29 Oklahoma Children First Program Evaluation Report 7. Nurse-Family Partnership. September 24, 2010.

30 America's Health Rankings. <http://www.americashealthrankings.org/Measure/2010/OK/Immunization%20Coverage.aspx>.

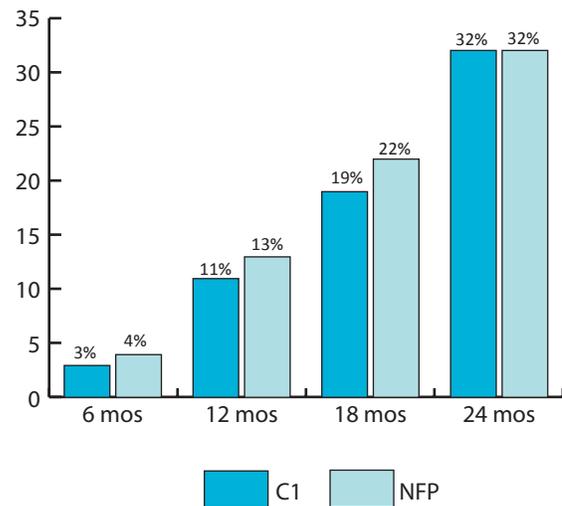
31 U.S. Department of Health and Human Services. <http://fatherhood.hhs.gov/>.

32 Program Evaluation from July 1, 2006 through June 30, 2010. Boeckman, L., Robledo, Candace. University of Oklahoma College of Public Health, Department of Biostatistics and Epidemiology. December 2010.

infants. Furthermore, pregnancy spacing has an important impact on the mother's ability to participate in the workforce, continue or further her education and find adequate child care.

At 6 months postpartum, 3% of C1 mothers were pregnant with a second child (4% for national NFP), 11% were pregnant at 12 months (13% for national NFP), 19% were pregnant at 18 months (22% for national NFP) and 32% were pregnant at 24 months (32% for national NFP).³³

Subsequent Pregnancy Spacing, SFY 2002-2010



Workforce Participation

More than half (52%) of mothers over age 18 were working at the time of program intake. This number is slightly higher than national NFP averages for the first 12 months (46% vs 44% at 6 months and 52% vs 50% at 12 months), and remains fairly consistent throughout the duration of the program (52% at 18 months and 54% at 24 months).³⁴

33 Oklahoma Children First Program Evaluation Report 7. Nurse-Family Partnership, September 24, 2010.

34 Ibid.



children first SUCCESS



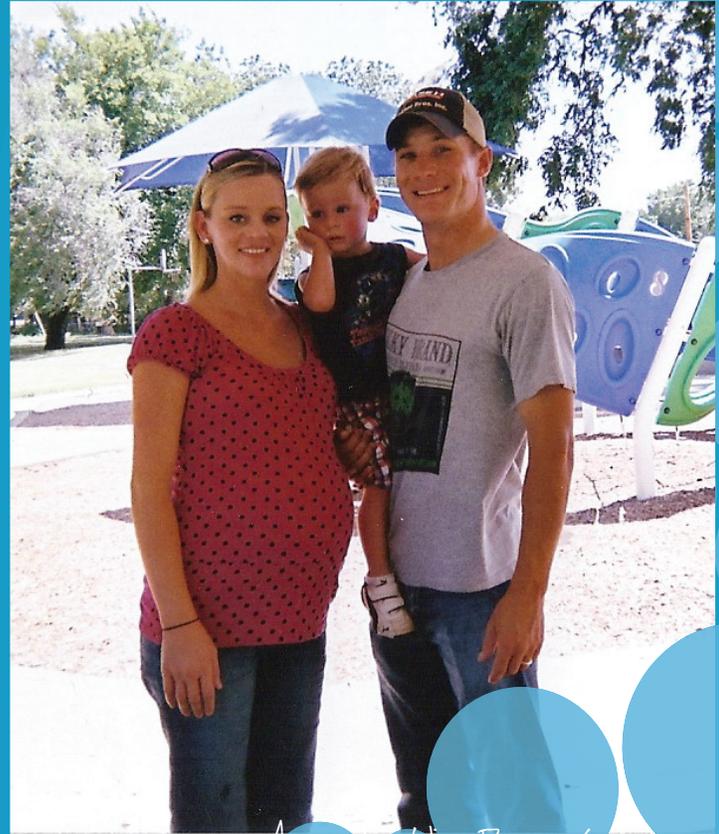
Like many women, Laryn Bierig was anxious about becoming a mother for the first time. "I was absolutely clueless on what to expect and how to go about raising a child," explains Laryn, "I had never even changed a diaper before!"

It was because of this apprehension that Laryn decided to enroll in the Children First program. "Finding out I was pregnant was probably the most anxiety-filled time of my life," says Laryn. Luckily her C1 nurse, Judy Catlett, was able to alleviate her worries by explaining what to expect in the coming months.

"She told me everything she could about pregnancy, what to expect at the hospital and answered all my many questions," says Laryn. "I always knew how much he should be eating, sleeping and what was age-appropriate for him."

In addition to the health and developmental information she received from Judy, Laryn also was encouraged to continue her education. Laryn says she has been so inspired by the program that she decided to change her career path. "I am currently in nursing school with the hope that after graduating I can one day make an impact on someone's life as Judy has ours," states Laryn.

In part because of Children First, Laryn is now the proud mother of a very healthy and well-behaved two-year old. "When I get compliments on him, I know I cannot take all the credit," explains Laryn, "I would not have been able to do it without Judy." Laryn and her son Wylie graduated from Children First in August 2010.



Laryn, Aaron & Wylie, Payne County

Continuing Education

From July 1, 2001 through June 30, 2010, nearly half (44%) of those who entered the program without a high school diploma or GED completed their education by program completion (42% for national NFP) and 13% were continuing their education beyond high school (14% for national NFP); an additional 12% were still working toward their diploma/GED (20% for national NFP).³⁵

Family Safety

The Adverse Childhood Experience (ACE) Study

The ACE Study is a collaborative research project of the CDC and the Department of Preventative Medicine at Kaiser Permanente that has linked the incidence of various 'risky behaviors' (i.e. smoking, obesity, alcoholism, substance abuse, sexual promiscuity, etc.) to the occurrence of childhood traumas such as maltreatment, household substance abuse or mental illness, exposure

to domestic violence, incarcerated household member and parental separation or divorce. Results suggest, in some cases, adults may engage in risky behaviors, like smoking or overeating, as ways to cope with past traumatic childhood events. Furthermore, outcomes indicate a correlation between the number of traumas experienced by an individual and the likelihood of adopting risky behaviors later in life.³⁶ By preventing possible trauma from occurring, C1 hopes to break this cycle of unhealthy lifestyles for children born into the program.

Domestic Violence

The Oklahoma Coalition Against Domestic Violence and Sexual Assault reports as many as 10 million children live in homes where domestic violence occurs, and child abuse and neglect is 15 times more likely in these homes.³⁷ According to ACE study findings, 12.5% of

³⁶ OICA Issue Brief: Childhood Stress: A Ticking Time Bomb. Oklahoma KIDS COUNT Factbook, 2006-2007.

³⁷ Oklahoma Coalition Against Domestic Violence and Sexual Assault website: <http://www.ocadvsa.org/>.

³⁵ Ibid.

adults exhibiting risk behaviors had been exposed to the violent treatment of their mother/stepmother.³⁸

Of the C1 mothers who disclosed domestic violence at the time of program intake, 39% experienced a reduction in physical abuse between the time of program intake and 36 weeks of pregnancy. Likewise, C1 mothers reported a 58% reduction in fear of a partner or individual.³⁹

Substance Abuse

In 2003, as many as 1.5 million children under age 18 lived with at least one parent who had abused an illicit drug during the past year, 10% of which were children under 5 years.⁴⁰ Substance abuse issues accounted for nearly 16% of confirmed cases of child abuse and neglect in Oklahoma in SFY 2009.⁴¹ According to ACE study findings, 4.9% of adults exhibiting risk behaviors had been exposed to a household member using street drugs.⁴²

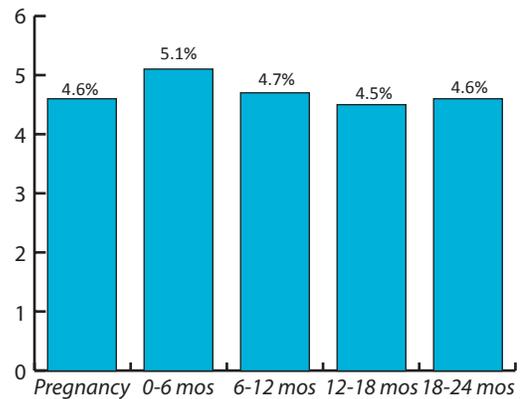
During the period from program intake to 36 weeks of pregnancy, C1 mothers experienced a 33% reduction in drug usage. At one year of infancy, C1 mothers used drugs 35% less than at program intake.⁴³

Mental Health

According to ACE study findings, 18.8% of adults exhibiting risk behaviors had a household member with mental illness, depression or had attempted suicide.

During SFY 2010, Children First nurses made 496 referrals⁴⁴ for mental health treatment or therapy to women throughout their participation in the program.

Mental Health Referrals Made by C1 Nurses, SFY 2010



Child Abuse and Neglect

According to ACE study findings, more than 11% of adults exhibiting risk behaviors had been abused or neglected as children.

During SFY 2010, Children First nurses made 98 reports of child maltreatment. The majority of these reports were related to neglect (67%), over half (58%) of which involved domestic violence or substance abuse issues. The mother and/or father of the child were named as the perpetrator most often (74%) on reports filed by C1 nurses.

A recent study matched OKDHS data to C1 data in order to determine whether or not child maltreatment was being prevented. Findings from 2002-2006, showed the same proportion of C1 and non-C1 children ages 0-2 years old were named as a potential victim on an Oklahoma Department of Human Services (OKDHS) report (11.8% vs. 11.9%), but more reports were made on C1 children than were made on the non-C1 population. This suggests that once C1 children were identified as being at risk for maltreatment, more people were making reports.⁴⁵

38 Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study. Felitti, V., et. al. American Journal of Medicine, 1998; 14(4).

39 Oklahoma Children First Program Evaluation Report 7. Nurse-Family Partnership. September 24, 2010.

40 National Household Survey on Drug Abuse. Office of Applied Studies, U.S. Substance Abuse and Mental Health Services Administration, June 2, 2003.

41 Child Abuse and Neglect Statistics, SFY 2009. Oklahoma Department of Human Services.

42 Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study. Felitti, V., et. al. American Journal of Medicine, 1998; 14(4).

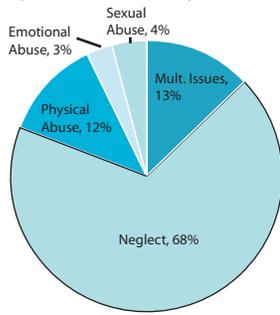
43 Oklahoma Children First Program Evaluation Report 7. Nurse-Family Partnership, September 24, 2010.

44 Some of these are multiple referrals for the same mother.

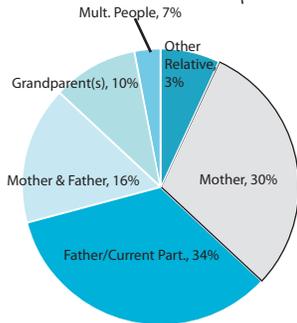
45 Cox, Mary E. An analysis of deaths among infants and children born into Oklahoma's Children First nurse home visitation program, 1997-2004. Oklahoma State Department of Health, January 2007.



Abuse by Type Reported by C1 Nurses, SFY 2010



Abuse by Perpetrator Reported by C1 Nurses, SFY 2010



The C1 confirmation rate was also the same as or slightly lower than the general population's rate. This can be interpreted as a positive outcome in that C1 keeps parents with the highest risk factors for abuse from having worse outcomes than the general population of families. If the general population of Oklahoma 0-2 year olds between 2002-2005 had the same confirmation rate as C1 families, 914 fewer Oklahoma children would have been confirmed maltreatment victims.⁴⁶

THE NURSE-FAMILY PARTNERSHIP MODEL

The foundation of the Nurse-Family Partnership (NFP) Model is rooted in the rigorous randomized controlled trials conducted by David Olds, Ph.D., in Elmira, New York, Memphis, Tennessee, and Denver, Colorado. Study outcomes indicate:

- Improved prenatal health;
- Fewer childhood injuries;
- Fewer subsequent pregnancies;
- Increased intervals between births;
- Increased maternal employment; and
- Improved school readiness.⁴⁷

In addition to improving such health factors, the NFP model shows significant cost savings for implementing states.

Lasting Benefits

Data from Dr. Olds' three research trials continue to show positive outcomes, including:

- A reduction in child abuse and neglect;
- A reduction in arrests among children;
- A fewer number of convictions of mothers;
- A reduction in ER visits for accidents and poisonings; and
- A reduction in behavioral and intellectual problems among children.

⁴⁷ Nurse-Family Partnership website: <http://www.nursefamilypartnership.org>.

⁴⁶ Ibid.



children first SUCCESS



When Erin went into early labor, she could not have imagined the many ways her Children First nurse, Lyndse Ashley, would help her family in the coming months.

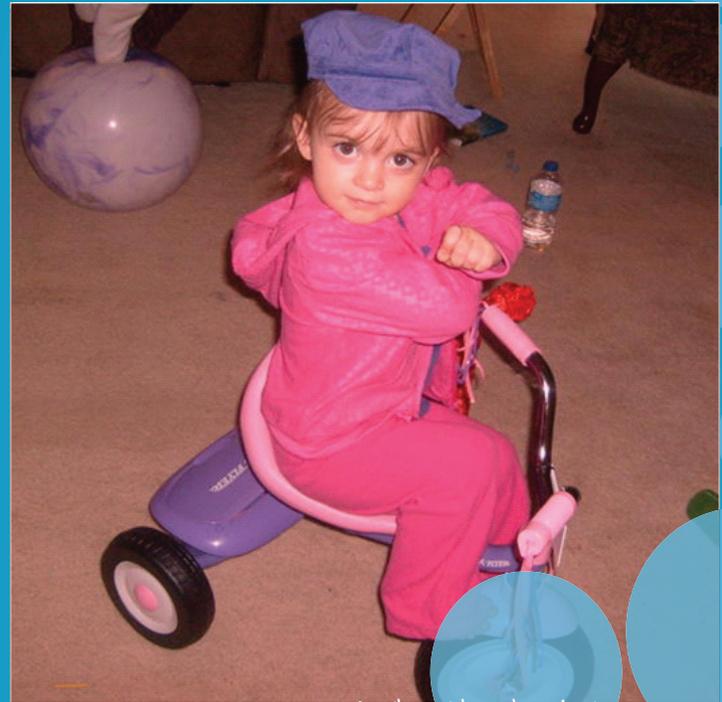
"Lyndse was very helpful with everything from questions we had to support we needed when our daughter, Emily, was born a month premature," says Erin.

After Emily's birth, Lyndse took the time to ensure the new parents were educated about the needs of a premature infant and how to properly care for their daughter. "She came a little after I was released from the hospital and had tons of booklets on how to care for a newborn premie," explains Erin.

As the months progressed, Lyndse continued to work with Erin and her husband to build their parenting skills and track Emily's growth and development. "She made sure Emily was hitting all her milestones, and gave us the skills to help my husband and I continue to be great parents as Emily gets older," says Erin. "She gave my husband and I the confidence to be great parents."

Today, Emily is a happy, healthy two year-old and Erin credits Lyndse for helping her get there. "We really owe part of that to Lyndse and this program," says Erin. "I never realized what a big part this program played in our lives until Emily graduated from it. We will miss Lyndse, but always know we have the tools and knowledge to continue on, even when we decide to expand our family."

Erin and Emily graduated from Children First in November 2010.



Emily, Cleveland County

Fidelity to the NFP Model

The Nurse-Family Partnership has drafted objectives to help implementing agencies track their fidelity to the model and monitor program outcomes related to common indicators of maternal, child and family functioning. The objectives have been drawn from the program's research trials, early dissemination experiences and current national health statistics (e.g., National Center for Health Statistics, Centers for Disease Control and Prevention; Healthy People 2010). The objectives are intended to provide guidance for quality improvement efforts and are long-term targets for implementing agencies to achieve over time.

Data analyzed by Nurse-Family Partnership for the time frame July 1, 2001 through June 30, 2010, shows that Children First performs well against the national averages (see Appendix III).

Quality Assurance and Improvement

Central office staff works with C1 teams to ensure fidelity to the NFP model and adherence to Agency standards. Implementing interventions with model fidelity has been shown to positively impact client and program outcomes.

During SFY 10, site visits were provided to administrative areas and contract sites. Results from site visits were utilized to develop specific training topics, develop additional record audit tools and provide technical assistance.

Through collaboration with NFP National Service Office (NSO) all nurses were trained in the use of motivational interviewing (MI) techniques. Activities to assist supervisors and nurses in perfecting MI skills will be carried out in SFY 2011. The NSO has agreed to provide additional education and training as needed to support this effort.

children first COST SAVINGS

Pacific Institute for Research and Evaluation (PIRE):

A 2009 analysis by PIRE found the government had a 54% return on investment for NFP programs that bill Medicaid for services. This is accomplished by families increasing their self sufficiency, gaining education and employment skills and returning or entering the workforce, which decreases client enrollment in social services, including food stamps and Medicaid.



Adverse Childhood Experiences (ACE) Study

In 2009, there were more than 27,970 cases of confirmed child abuse and neglect in Oklahoma. ACE Study findings indicate victims of child maltreatment are vulnerable to permanent brain changes and are at higher risk for illness. Researchers suggest children who adopt risky behaviors in adulthood as a means for coping with childhood trauma significantly increase the likelihood they will develop one or more of the leading causes of mortality in Oklahoma, including heart disease, cancer and diabetes. In 2005, Oklahoma ranked first in the nation for deaths due to heart disease. In hospitalizations alone, the high morbidity of cardiovascular disease cost residents more than \$2.5 billion annually. Prevention programs like Children First can impact this cost by stopping child maltreatment from occurring.



Being able to observe and assess parent-child interactions is critical in providing client-centered parenting education to minimize the risk of child neglect and abuse. To assist our nurses in acquiring these skills, the Nursing-Child Assessment Satellite Training (NCAST) was initiated. All C1 teams are scheduled to receive certification in NCAST Feeding and Teaching Scales by end of SFY 2011.

Record audits, covering topics such as appropriate nursing documentation and Postpartum Depression Screening, were completed by each Lead Nurse. Corrective action plans to address deficiencies were developed and submitted to the C1 central office.

During SFY 2010 new visit guidelines were distributed by the NSO to all implementing sites. Central office staff provided webinars and individual training to assist staff in integrating the new tools into their current practice.

Continued quality improvement efforts for SFY 2011 will focus on aligning current activities with goals and outcomes identified on the C1 Logic Model (see Appendix IV).

PROGRAM ACTIVITIES

The following is a description of Children First services provided during SFY 2010 (July 1, 2009-June 30, 2010). Oklahoma State Statute 63-1-110-1, which established the Children First Fund for the operation of the Children First program, requires the Oklahoma State Department of Health to annually report certain program and family characteristics. The following meet this reporting requirement.

Services Delivered

Nurses (number of non-supervisory, full-time/part-time nurse home visitors)	109
Eligible Referrals (number of women referred to program who met eligibility requirements)	3,566
New Enrollees (number of women who enrolled in the program during SFY 2010)	1,890
Current Participants (number of families that received at least one visit during the last year)	4,073
Completed Visits (number of completed home visits or supervisory visits)	39,464
Births (number of families with completed birth forms)	1,189
Families remaining in program until child's 2 nd birthday	749

Referrals given to ineligible families

No referrals were made	1,932	93.5%
Start Right Programs (OCAP)	59	2.9%
Oklahoma Parents as Teachers (OPAT)	26	1.3%
Other	22	1.1%
Other Health Department Services (family planning, SoonerStart, Child Guidance, general services)	12	0.6%
WIC	10	0.5%
Indian Health Services	2	0.1%
Total	2,067	100.0%

Referrals to Children First

Health Dept. Family Planning	2,540	50.2%
WIC	1,215	24.0%
Other	622	12.3%
Self-Referral	219	4.3%
Baby Line	151	3.0%
Indian Health Services	60	1.2%
Health Dept. Maternity Clinic	56	1.1%
Current/Past C1 Client	51	1.0%
Private Physician	36	0.7%
Faith-Based Organization	28	0.6%
Other Pregnancy Testing Clinic	28	0.6%
School	32	0.6%
Department of Human Services (DHS)	23	0.5%
HMO/Health Care Plan	2	0.0%
Total Statewide Referrals	5,063	100.0%

Activities At A Glance, SFY 2010

- 109 registered nurses made 39,464 home visits.
- 4,073 families received services from a C1 nurse home visitor.
- 3,566 pregnant women were referred and eligible to receive C1 services.
- 1,890 first-time mothers enrolled in Children First.
- 1,189 babies were born to C1 participants.
- 749 families stayed in C1 program until their child reached two years of age.
- 2,067 referrals were made to families by C1 nurses.
- 98 reports of suspected child maltreatment were made to DHS by C1 nurses.
- 66 counties had C1 services available to families.



Jennifer & Rayden, Muskogee County

Program Expenditures, SFY 2010

Administration – Central Office	
Salary and fringe	\$501,612.35
Travel	\$8,803.71
Contractual/Fees	\$63,838.50
Supplies/Equipment	\$596.97
Data (information technology)	\$21,663.57
Other (copiers, motorpool, phones, etc.)	\$15,845.51
Total Administrative Costs	\$612,360.61
Evaluation	
University of Oklahoma	\$5,000.00
Nurse-Family Partnership (TA, data)	\$13,262.00
Total Evaluation Costs	\$18,262.00
Professional Development	
Nurse-Family Partnership (training)	\$71,412.00
Other training	\$5,000.00
Total Professional Development Costs	\$76,412.00
Service Delivery	
Contracts:	
Tulsa-City County Health Department	\$1,804,414.00
Oklahoma City-County Health Department	\$1,360,181.00
Total Contractual Costs	\$3,164,595.00
Community Health Departments:	
Salary and fringe	\$6,428,728.60
Travel	\$453,412.48
Supplies/Equipment	\$5,564.52
Fees/Contractual	\$47,467.94
Total Community HD Costs	\$7,510,025.07
Total Actual Expenditures	\$11,381,654.68
Total Expenditure per family served	\$2,794.42

Appendix I: County Data Chart, SFY 2010

County	Completed Visits	Families Served	Eligible Referrals	Enroll-ees	Births	Grad-uates	Enroll-ment Rate
Adair	-	-	0	-	-	-	-
Alfalfa	7	1	1	0	-	-	0%
Atoka	159	16	25	5	1	2	20%
Beaver	2	2	3	0	-	1	0%
Beckham	200	31	42	14	5	6	33%
Blaine	308	29	31	11	6	6	35%
Bryan	985	133	181	85	30	13	47%
Caddo	291	42	35	19	7	6	54%
Canadian	839	74	80	29	25	6	36%
Carter	554	66	83	33	17	10	40%
Cherokee	758	74	41	34	17	9	83%
Choctaw	382	36	58	29	16	1	50%
Cimarron	-	-	-	-	-	-	-
Cleveland	2298	240	183	73	59	20	40%
Coal	296	22	21	7	8	3	33%
Comanche	492	64	28	14	18	11	50%
Cotton	47	8	4	2	1	3	50%
Craig	313	30	32	11	5	2	34%
Creek	424	49	33	24	15	3	73%
Custer	308	31	29	17	12	2	59%
Delaware	466	27	25	10	16		40%
Dewey	-	-	-	-	-	-	-
Ellis	0	1	1	0	-	-	0%
Garfield	798	121	139	52	33	14	37%
Garvin	269	42	46	21	7	6	46%
Grady	202	23	44	18	10	4	41%
Grant	15	2	2	0	-	-	0%
Greer	75	6	17	3	2	2	18%
Harmon	47	5	0	3	2	-	100%
Harper	36	4	4	2	-	-	50%
Haskell	71	7	15	2	2	3	13%
Hughes	64	14	14	4	1	1	29%
Jackson	553	65	112	34	23	5	31%
Jefferson	76	7	10	1	1	1	10%
Johnston	225	29	27	10	7	6	37%
Kay	288	33	68	20	11	3	29%
Kingfisher	704	63	34	25	22	6	74%
Kiowa	46	6	10	1	-	2	10%
Latimer	157	17	34	9	9	3	26%

County	Completed Visits	Families Served	Eligible Referrals	Enroll-ees	Births	Grad-uates	Enroll-ment Rate
Leflore	1281	108	105	34	32	21	32%
Lincoln	577	64	50	28	21	7	56%
Logan	864	118	165	63	30	15	38%
Love	51	13	12	5	1	-	42%
Major	89	12	15	3	2	4	20%
Marshall	306	33	28	13	9	2	46%
Mayes	-	-	3	-	-	-	0%
McClain	423	33	29	7	11	4	24%
McCurtain	431	47	23	32	5	-	100%
McIntosh	189	22	45	7	6	4	16%
Murray	248	25	24	11	8	5	46%
Muskogee	945	115	51	41	32	11	80%
Noble	193	18	14	3	3	1	21%
Nowata	-	-	-	-	-	-	-
Okfuskee	68	9	19	5	3	-	26%
Oklahoma	5202	604	427	267	152	78	63%
Okmulgee	281	34	70	10	5	5	14%
Osage	-	-	-	-	-	-	-
Ottawa	780	85	43	43	23	18	100%
Pawnee	1	1	-	-	-	-	-
Payne	933	109	130	33	32	11	25%
Pittsburg	762	96	58	34	24	15	59%
Pontotoc	27	5	29	6	-	-	21%
Pottawatomie	863	112	179	61	36	4	34%
Pushmataha	61	6	15	3	2	-	20%
Roger Mills	19	3	1	1	1	-	100%
Rogers	858	105	73	44	26	10	60%
Seminole	280	38	69	20	8	5	29%
Sequoyah	416	73	15	14	14	18	93%
Stephens	222	26	36	26	7	-	72%
Texas	326	36	48	25	19	2	52%
Tillman	57	13	10	3	1	-	30%
Tulsa	9176	833	144	377	249	119	100%
Wagoner	25	10	6	4	-	-	67%
Washington	422	57	86	25	16	4	29%
Washita	-	-	1	0	-	-	0%
Woods	52	11	5	9	1	1	100%
Woodward	268	27	26	10	12	2	38%



EXECUTIVE SUMMARY

This is the seventh Oklahoma Children First Program evaluation report for the Nurse-Family Partnership (NFP), based on the intervention model developed and tested by Dr. David Olds and colleagues (see Appendix A). The Oklahoma State Department of Health coordinates the implementation of this program in the State of Oklahoma. This report presents analysis of data available from July 1, 2001 through June 30, 2010, and covers the pregnancy, infancy, and toddler phases of the program.

Throughout the report, indicators of program implementation, maternal and child health and functioning for Oklahoma Children First Program clients are compared to the national sample of Nurse-Family Partnership clients.

OKLAHOMA CHILDREN FIRST PROGRAM PERFORMANCE AGAINST NFP NATIONAL AVERAGES

Oklahoma Children First Program performs well against the national averages in the following areas of program implementation and program outcomes, including:

- Clients entering the program by 16 weeks of pregnancy;
- Clients who initiate breastfeeding; and
- Lower number of subsequent pregnancies at 12 and 18 months postpartum.

Oklahoma Children First Program has achieved statistically significant reductions in:

- Smoking during pregnancy;
- Marijuana use during pregnancy;
- Alcohol use during pregnancy; and
- Experience of violence during pregnancy.

Oklahoma Children First Program is lower than the national NFP averages in the following areas:

- Clients receive fewer visits in each program phase; and
- Retention of clients during pregnancy and infancy program phases.

Details about each of these areas of performance can be found below, and in the body of this report.

CLIENT CHARACTERISTICS

- 23137 women ever enrolled between July 1, 2001 and June 30, 2010: median age 20; 58% completed high school/GED; median education 10 years for non-high school graduates; 75% unmarried; 59% unemployed; 62% Medicaid recipients
- Race/Ethnicity: 54% non-Hispanic White; 15% Hispanic; 13% African American/Black; 9% Native American; 7% multiracial/other; 1% Asian

PROGRAM IMPLEMENTATION

- For Oklahoma Children First Program, 46% of clients entered the program by 16 weeks of pregnancy, a rate higher than the national NFP average of 41%. A total of 92% of Oklahoma Children First Program clients were enrolled by 28 weeks gestation compared to 92% of NFP clients nationwide.
- Program guidelines prescribe a certain schedule of visits that a client should receive. Oklahoma Children First Program clients received a lower percentage of those visits as compared to national NFP clients. Percentages of expected visits completed:

- Pregnancy: 66% (73% national NFP)
- Infancy: 33% (39% national NFP)
- Toddlerhood: 19% (25% national NFP)
- Oklahoma Children First Program has closely matched the program guidelines for content of home visits.
- Only time spent on maternal role development during infancy (40% vs. 45-50%) and life-course development during Toddlerhood (14% vs. 18-20%) are below NFP program Objectives.
- Attrition rates:
 - Pregnancy: 20.5% (16.1% national NFP)
 - Infancy: 33.6% (31.8% national NFP)
 - Toddlerhood: 14.6% (15.2% national NFP)

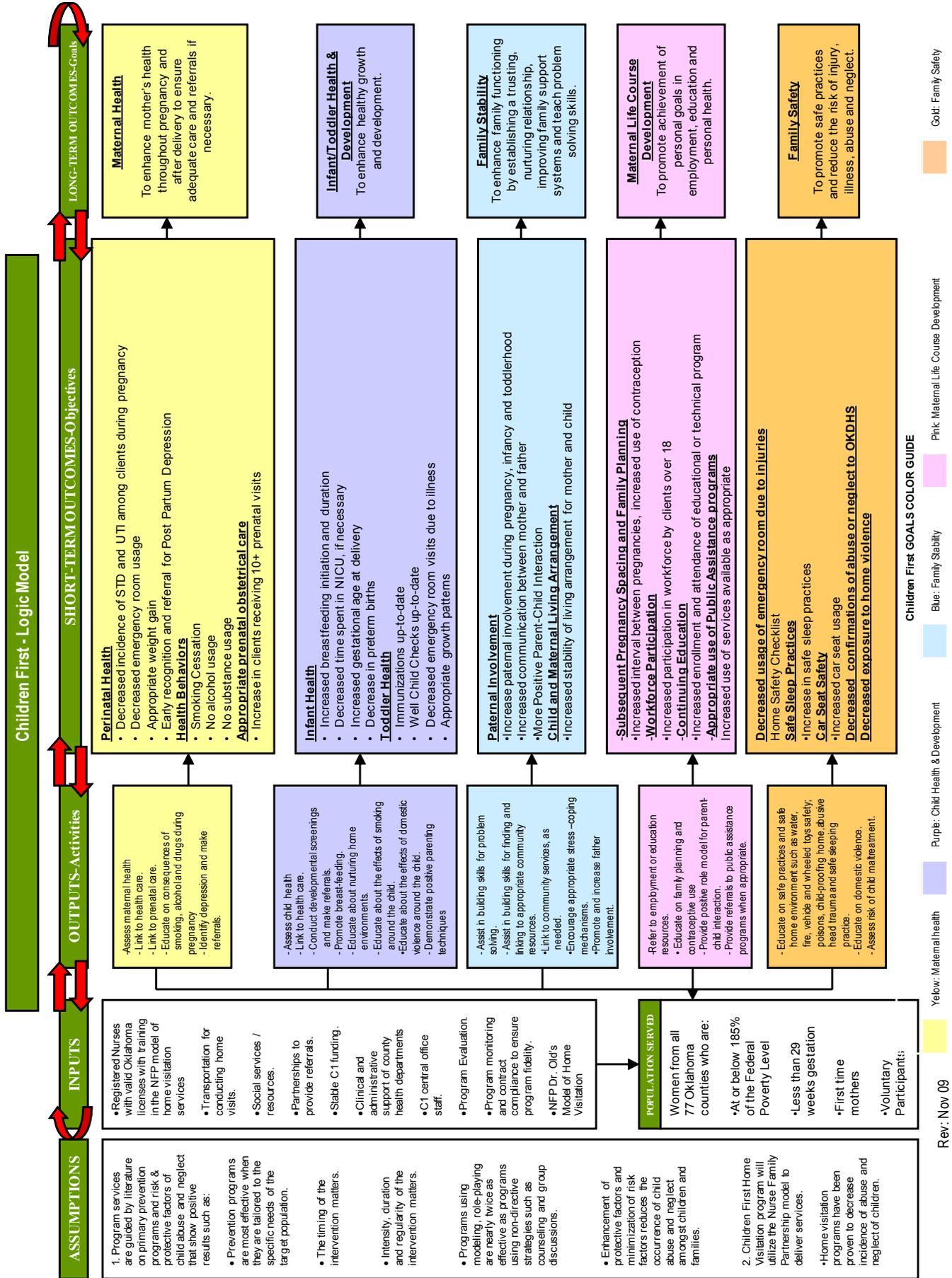
PROGRAM OUTCOMES

- A statistically significant reduction of 12% in smoking during pregnancy (16% national NFP average).
 - A statistically significant reduction of 1.3 cigarettes smoked per day for those who continued to smoke (1.7 national NFP average).
- A statistically significant reduction of 36% in marijuana use during pregnancy.
- A statistically significant reduction of 22% in alcohol use during pregnancy.
- A statistically significant reduction of 39% in experience of violence during pregnancy
- 9.5% preterm birth rate (9.7% national NFP average); rates for predominant ethnic groups were: 9.3% for Non-Hispanic Whites (9.3% for the national NFP); 8.5% for Hispanics (8.5% for the national NFP); 12.7% for African American/Blacks (11.8% for the national NFP); 9.7% for Native Americans (9.1% for the national NFP).
- 9.1% low birth weight rate (9.4% national NFP average); rates for predominant ethnic groups were: 8.3% for Non-Hispanic Whites (8.2% for the national NFP); 7.7% for Hispanic (8.1% for the national NFP); 14.4% for African American/Blacks (13.6% for the national NFP); 8.1% for Native Americans (7.7% for the nation NFP).
- The largest proportion of toddlers (28%) scored between the 26th and 50th percentiles for language development; 9% scored below the 10th percentile, compared to 10% of NFP toddlers nationwide. Scoring below the 10th percentile may indicate a delay in language skills. (Note: Prior to 10/1/2006, all toddlers were assessed with the English version of the Language Assessment Form).
- At 12 months of infant age, 82% of infants were fully immunized (85% for national NFP). By 24 months of child's age, 85% were fully immunized (91% for national NFP). Full immunization rates were tracked beginning October 1, 2006.
- 80% of clients initiated breastfeeding (national NFP average: 76%); 22% of clients were breastfeeding at 6 months (27% national NFP average); 13% of clients were breastfeeding at 12 months of infancy (16% national NFP average).
- At 12 months postpartum, 11% of clients reported a subsequent pregnancy (13% national NFP average). 32% of clients reported subsequent pregnancies within 24 months of the birth of their child (32% national NFP average).
- Of those who entered the program without a high school diploma or GED, 44% completed their diploma/GED by program completion (42% for national NFP) and 13% were continuing

their education beyond high school (14% for national NFP); an additional 12% were still working toward their diploma/GED (20% for national NFP).

- 54% of Oklahoma Children First Program clients 18 years or older at intake (vs. 56% for the national NFP sample) and 39% of those 17 years or younger (vs. 42% for the national NFP sample) were working at program completion.
- Clients were employed an average of 6.3 months during the first postpartum year (6.4 national NFP average), and 6.9 months during the second postpartum year (7.9 national NFP average).

Appendix IV: Children First Logic Model



This report is submitted in compliance with Oklahoma Statute 63-1-110.1 by:

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