



Children First
Oklahoma's Nurse-Family Partnership

Annual Report
State Fiscal Year 2006

Foreword

Dear Reader:

Most of Oklahoma's children are born healthy. However, some infants are born too small, too early, and too many die before their first birthday. These infants often require extended hospital stays, have chronic medical problems, and have a higher risk of dying. The public health system in Oklahoma is dedicated to increasing the number of babies that are born healthy.

Also, most of Oklahoma's children grow up in positive family environments. Sadly, some children experience emotional, physical and perhaps sexual mistreatment at the hands of a parent or other adult caregiver. While traditionally thought of as a legal issue, child maltreatment is also very much a public health issue. The personal and societal consequences of child maltreatment are severe. Child victims often experience adverse health effects and behaviors as adults, including smoking, drug abuse, depression and certain diseases. The public health system in Oklahoma is dedicated to preventing abuse from ever occurring.

Promoting healthy births, healthy lifestyles and positive parenting is an extremely important priority of the Oklahoma State Department of Health and of the Children First program. I am proud of the daily efforts of Children First nurses as they assist parents in becoming nurturing and competent caregivers.

During the Oklahoma State Fiscal Year 2006, the Children First program enrolled 2,564 first-time mothers and served over 5,000 families. The typical Children First client was a pregnant teen or young adult whose pregnancy was not planned. She was single with an annual household income of less than \$15,000. She had a high school education or less but was no longer enrolled in school.

Despite the risks faced by these young first-time mothers, they show positive outcomes. A significant number of Children First mothers decreased smoking during pregnancy, had fewer very low birthweight babies, initiated breastfeeding their new baby, and had children who were up-to-date on immunizations.

We appreciate your support for the Children First Program and the families it serves. Together we can enhance the lives of Oklahoma's smallest citizens.

Sincerely,

James M Crutcher, MD, MPH
Commissioner of Health and
State Health Officer

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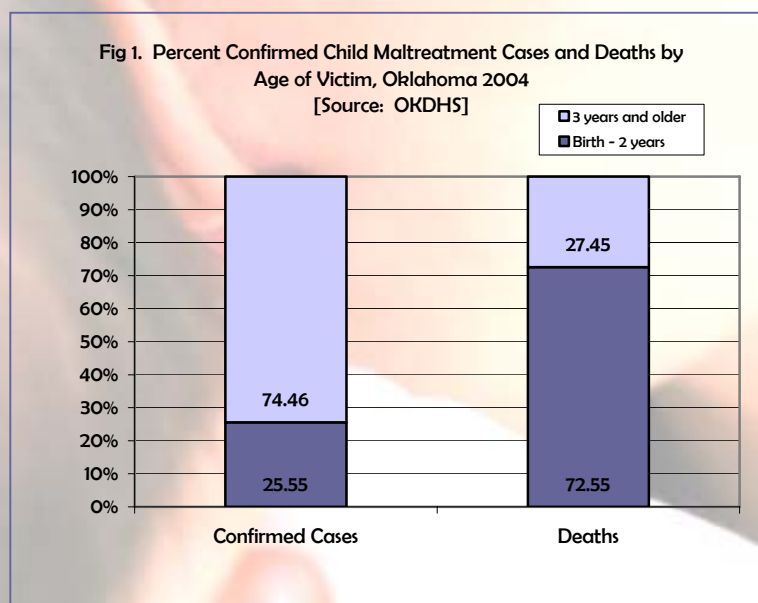
In Oklahoma, most children are born healthy and have parents or guardians who properly care for them. However, too many infants are born too early or too small, and too many children are victims of abuse or neglect. Prevention is the most effective way to save individuals, families and society from experiencing these events and their costly consequences.

Rates of babies born too early (preterm) and too small (low birthweight) in Oklahoma are approximately the same as the national rates (Table 1). However, the infant mortality rate in Oklahoma is higher than the national average in 2002 (8.2 compared to 7.0 deaths per 1,000 live births). In addition, there is a long way to go before Oklahoma reaches the Healthy People 2010 goals.

	U.S.	Oklahoma	HP2010 Goal
Percent infants born preterm (< 37 weeks gestation), 2003	12.3%	12.7%	7.6%
Percent infants born low birthweight (< than 5 lbs, 8 oz), 2003	7.9%	7.8%	5.0%
Infant mortality rate (deaths per 1,000 live births), 2002	7.0	8.2	4.5

Child maltreatment is defined as “an act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse or exploitation OR an act or failure to act which presents an imminent risk of harm” (Child Abuse Prevention and Treatment Act of 1988). According to the Centers for Disease Control and Prevention (CDC), over 900,000 children are maltreated every year, and 1,500 children die as a result of maltreatment.¹ Neglect accounts for 60% of maltreatment cases and contributes to or causes approximately 65% of maltreatment deaths.²

During SFY05 in Oklahoma, there were 13,328 children who were confirmed to have been maltreated.³ Neglect accounted for 82% of the confirmed cases, most often at the hands of a biological parent.³ Sadly, the victims of child maltreatment-related death are often children younger than 3 years old (Figure 1).



The Cost of Low Birthweight, Prematurity & Child Maltreatment

Babies born preterm or with low birthweight:

- Have a higher risk of infant death ⁴
- Can require an extended hospital stay
- Can have chronic medical problems ⁵
- Can take an emotional and economic toll on families
- Account for up to half of all hospital charges for infants (\$18 billion in 2003) ⁶

Child Maltreatment:

- Takes a physical and emotional toll during childhood
- Can have effects lasting into adulthood
- Increases risk for adverse health outcomes as adults, including drug abuse and depression ⁷
- Can cause improper brain development ⁸
- Costs society up to \$100 billion annually ⁹

The Solution

The Oklahoma public health system is dedicated to preventing poor birth outcomes and the occurrence of child maltreatment by implementing evidence-based program models. One such model is the Nurse-Family Partnership (NFP) program model. This model has been diligently researched for over 25 years by Dr. David Olds and colleagues, and has been shown to have multiple benefits for the families, including: ¹⁰

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

In addition, the NFP model has been praised as a promising strategy for preventing child maltreatment. ^{9,11,12} It has also been recognized as a cost-effective prevention program, saving an approximate \$3 for every \$1 invested. ¹² There is at least one NFP site in 20 states. In Oklahoma, the NFP program is called Children First. Children First began serving clients in the spring of 1997 and Oklahoma was the first state to implement the NFP model statewide. Today, Children First employs approximately 160 nurses who are available to serve clients in all 77 counties in Oklahoma.



The Nurse-Family Partnership has been recognized as a cost-effective prevention program, saving an approximate \$3 for every \$1 invested. ¹²

Children First provides nurse home visiting services following the NFP model for first-time parents who meet the eligibility requirements. A woman is considered eligible to participate in Children First if she is fewer than 29 weeks pregnant, a first-time mother and at or below 185% of the federal poverty level.

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.

Children First's **vision** is to promote a continuum of healthy pregnancies, healthy babies, healthy families and healthy communities.

The objectives of the Children First program include:

- Increase clients' self-sufficiency and ability to problem solve
- Improve clients' parenting skills
- Improve access to community resources for clients
- Improve pregnancy outcomes
- Improve child health and development
- Strengthen bond between parent and child
- Help clients achieve personal goals

Children First enrolls a woman early in her first pregnancy, which provides an opportunity to have a positive impact on the birth. A woman's first child provides a unique teachable time frame during which healthy behaviors can be developed that will last through that child's life and through future pregnancies. Children First continues services for the child's first two years of life.

All Children First nurses have been professionally trained on pertinent topics such as prenatal health and positive parenting. Nurses visit their clients approximately twice a month. During home visits, nurses provide targeted case management services, focusing on making and following up on appropriate referrals. Home visitors also provide education in critical areas such as parenting and safety and regularly check to see if the child is healthy, safe and growing properly.

Children First also continues to participate in research activities of national significance with Dr. David Olds. Select sites throughout Oklahoma are implementing alternative home visit strategies with the goal of identifying how to reduce the number of clients who quit the program and increase the length of time they participate. Oklahoma is participating in this study at no additional cost to the state.

Program Evaluation

The purpose of program evaluation is to monitor the program's progress in meeting its objectives and to identify areas for programmatic improvement. Upon enrolling in the Children First program, clients provide consent for being included in program evaluation. During home visits, nurses collect health-related data on the client and the child, including health history and mental and physical health status.

The data collected during home visits are entered into the Public Health Oklahoma Client Information System (PHOCIS) and stored in a secure database at the Oklahoma State Department of Health.

These data are used to prepare evaluation reports and have been used for evaluation purposes by the University of Oklahoma, the national Nurse-Family Partnership office and the National Center for Children, Families and Communities at the University of Colorado-Denver Health Science Center.

Children First clients appear to gain significant benefits from participating in the program.

Evaluation of the Children First program has shown:

- A significant reduction in smoking among clients during pregnancy
- Lower rates of very preterm and very low birthweight babies compared with a retrospective comparison group¹³
- Reduced infant mortality^{13,14}
- A high percentage of clients initiate breastfeeding their baby
- High rates of immunization among participating children

Data note

Unless otherwise indicated: the data utilized in preparation of this report were collected by the Children First program at the Oklahoma State Department of Health between July 1, 2005 and June 30, 2006 (the Oklahoma State Fiscal Year); the data presented are for those clients who enrolled during this time period; and the percent of missing responses for any reported measure is less than 5%.



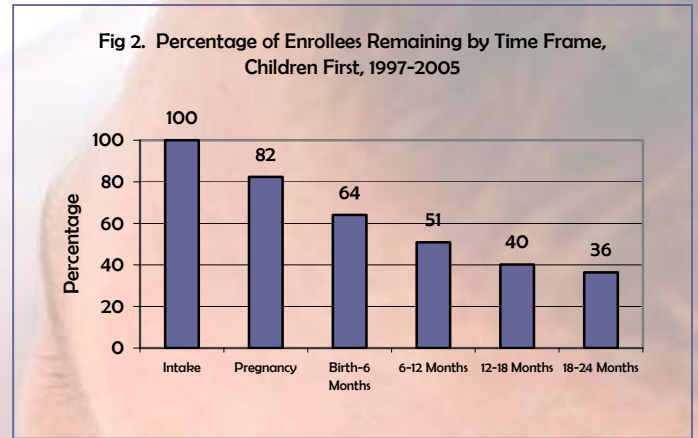
A woman's first child provides a unique teachable time frame during which healthy behaviors can be developed that will last through that child's life and future pregnancies.

Number of Families Accepted Into the Program, by Location and Average Length of Time Enrolled

- 2,564 women were enrolled into the Children First program during SFY06
- See Figure 2 for data on the average length of time clients are enrolled in the program

Referrals Made on Behalf of Families Not Accepted Into the Program

- During SFY06, nurses referred women who did not enroll in Children First to various other services, most frequently the Office of Child Abuse Prevention services (OCAP) and Oklahoma Parents as Teachers.



Age and Marital Status of Parents

- Among women who enrolled in Children First during SFY06:
 - 71.3% were single, never married
 - 50.2% were teenagers (19 and younger)
 - 90.5% were under 26 years old
- Children First fathers were, on average, 3.1 years older than Children First clients

Household Composition of Families Served

- Among women who enrolled in Children First during SFY06:
 - 52.7% lived with their husband/boyfriend
 - 32.3% lived with their husband/boyfriend and nobody else
 - 30.5% lived with their mother
 - 15.0% lived with other people (grandmother, aunt, etc.)
 - 7.1% lived alone

Average Actual Expenditures Per Family Served

- An average of \$2,492.10 was spent per family served in SFY06.

During SFY06, Children First received 6,437 referrals, 2,560 (39.8%) of whom enrolled in the program. The majority of referrals came from OSDH Family Planning clinics or WIC (Supplemental Nutrition Program for Women, Infants and Children) (Table 2). Among women who did not enroll, the most prevalent reason was that they did not return phone calls or keep their intake appointment (Figure 3). *Note: Enrollment is defined as having consented to receive services and completed the Demographics Intake form.*

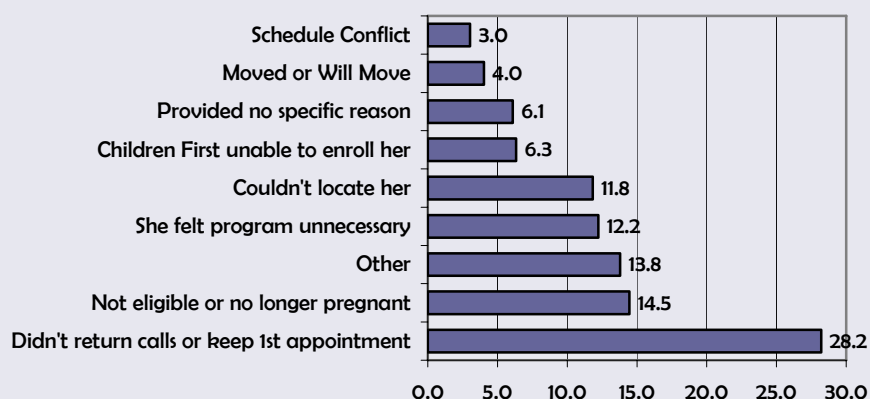
Source	Percent
OSDH Family Planning Clinic	40.8%
WIC	25.4%
Baby Line, Tulsa	11.0%
Self	2.4%
Indian Health Service	2.3%
Less than 2% each: OSDH Maternity Clinic, School, Private Physician, Faith-based Organization, DHS, HMO or Health Care Plan, and other sources	

Visit Status	Count
Completed	45,893
Attempted	6,312
Completed Supervisory	139
Attempted Supervisory	59
Cancelled by Client	4,671
Cancelled by Nurse	2,215

On average, clients were 17.5 weeks pregnant at enrollment. Over 95% were less than 29 weeks pregnant when they began the program.

Children First employs approximately 160 public health nurses, 29 of whom are lead or managing nurses with supervisory responsibilities. During SFY06, nurse home visitors served 5,008 families and completed 45,893 home visits (Table 3). For every 7 completed home visits, there was one attempted home visit. Nurses had to cancel an average of one visit per month. Each nurse served approximately 30 families during the year.

Fig 3. Reasons for Not Enrolling in Children First, Percent of Non-Enrollees SFY06



The typical Children First client is a pregnant teen or young adult who had not planned on getting pregnant for at least 2 more years. She is unmarried and has a household income of less than \$15,000 a year. She has a high school education or less but is no longer enrolled in school. She is in regular contact with the baby's father.

Client Age: (Figure 4)

Over half of Children First clients are teenagers. Among new Children First clients in SFY06, their age ranges were as follows:

- 2.3% less than 15
- 47.8% between 15-19
- 40.3% 20-25
- 6.2% 26-30
- 3.4% older than 30

Marital Status: (Figure 7)

Among new Children First clients in SFY06, their marital status was:

- 24.9% married
- 71.3% single, never married
- 2.9% divorced
- 0.9% separated

Age of the Baby's Father: (Figure 4)

On average, fathers of Children First babies were 3 years older than Children First clients.

- 0.4% less than 15
- 22.3% 15-19
- 48.4% 20-25
- 14.1% 26-30
- 9.3% over 30
- 5.7% missing

Frequency of Client Contact with the Baby's Father: (Figure 8)

Among new Children First clients in SFY06, they reported having contact with the baby's father:

- 9.1% never
- 5.4% less than once a week
- 8.9% at least once a week
- 76.6% daily

Education: (Figures 5,6)

Only 1 out of 4 Children First clients has completed some education beyond high school. Among new Children First clients in SFY06:

- 42.3% had less than HS
- 32.4% had completed HS or GED
- 24.1% had completed education beyond HS

Income: (Figure 9)

Among new Children First clients in SFY06, their annual household incomes were:

- 58.5% less than \$15,000
- 22.8% between \$15,001-\$30,000
- 4.7% over \$30,000
- 13.9% don't know (mostly teens)

Race/Ethnicity: See Table 4 for the distribution of clients' self-reported race/ethnicity in SFY06 compared to the population of Oklahoma women of childbearing age.

Table 4. Race/Ethnicity of Enrolled Clients, SFY06 vs. Oklahoma			
Self-Reported Race/Ethnicity	N	%	OK population, 2004 (15-44)
White	1443	58.8	77.2
Black/African American	340	13.9	8.6
Multiracial	240	9.8	3.9
Native American	217	8.8	8.5
Other	174	7.1	2.4
Asian	23	0.9	1.8
Hawaiian or Pacific Islander	15	0.6	.04
Hispanic/Latina	471	18.4	7.4

Fig 4. Ages of Children First Enrollees and Fathers, SFY 06

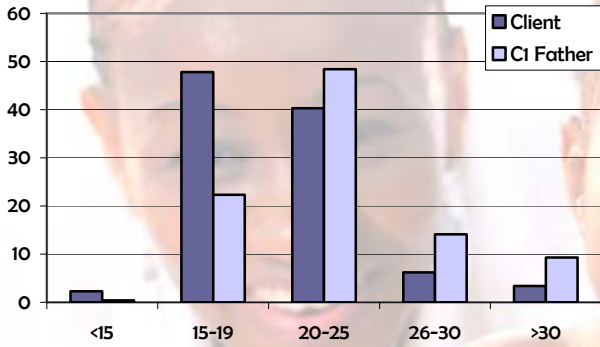


Fig 7. Marital Status of Children First Enrollees, SFY 06

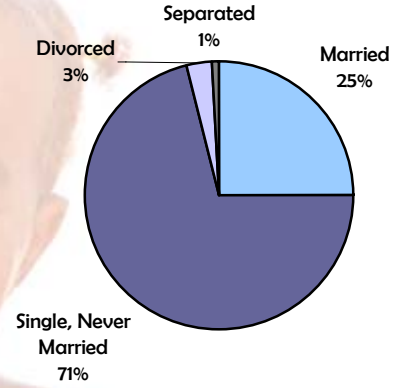


Fig 5. Highest Level of Education Completed by Children First Enrollees, SFY 06

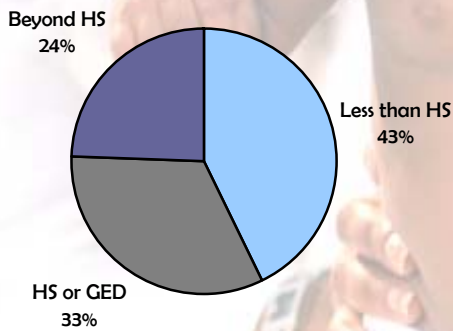


Fig 8. Enrollees' Frequency of Contact with Baby's Father at Enrollment, SFY 06

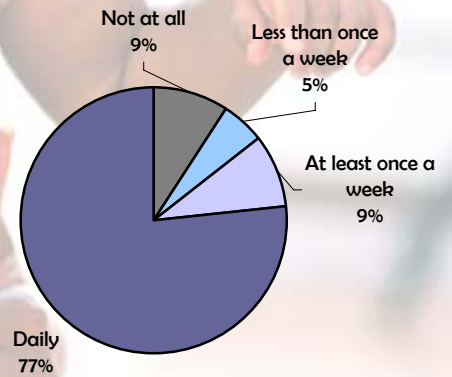


Fig 6. Current School Enrollment by Highest Level of Education Completed, Children First Enrollees, SFY06

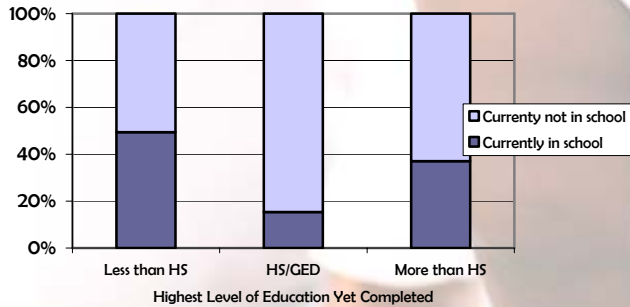
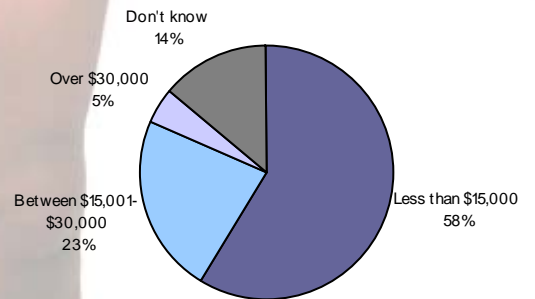
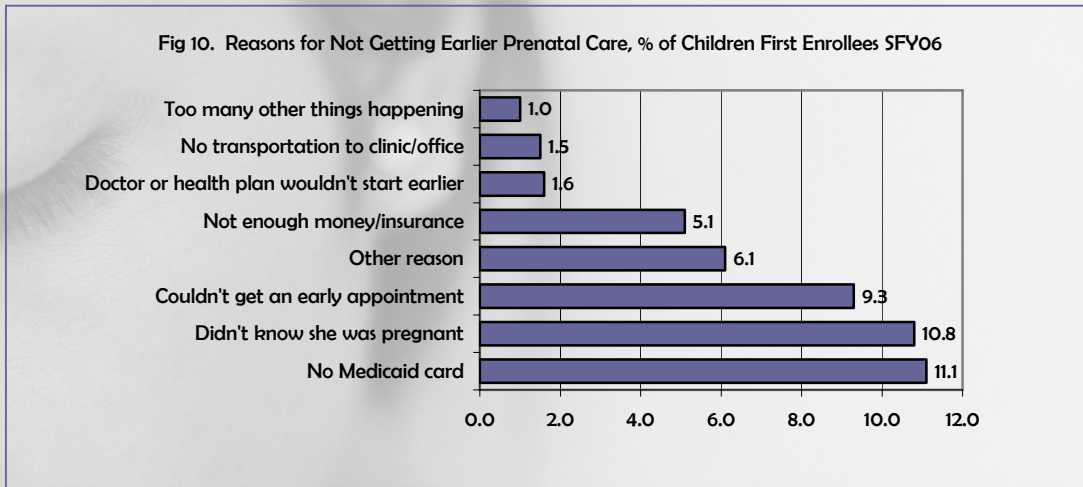


Fig 9. Annual Household Income of Children First Enrollees, SFY 06



Inadequate Prenatal Care

The purposes of prenatal care include monitoring the pregnancy and identifying possible problems before they become serious. Among enrollees who began Children First in their 2nd or 3rd trimester, 78.5% reported beginning prenatal care in their 1st trimester. Nearly 40% of enrollees reported that they did not get prenatal care as early as they would have liked (See Figure 10 for reasons).



Unintended Pregnancy

Unintended pregnancy is a risk factor for many adverse outcomes, including exposing the fetus to harmful substances and low birthweight. In SFY06, 65.3% of new clients reported that their pregnancy had been unintended, meaning mistimed or unwanted (Figure 11). Nearly 79% of those reporting mistimed pregnancies said their pregnancy was mistimed by at least two years (Figure 12).

Fig 11. Pregnancy Intentions of Children First Enrollees, SFY06

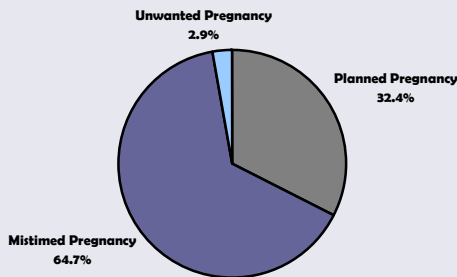
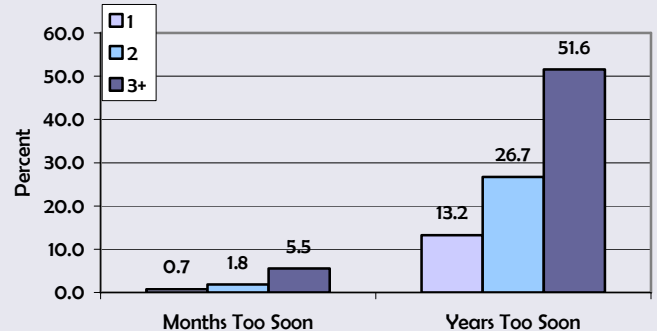


Fig 12. Percent of Children First Enrollees Reporting Mistimed Pregnancies (64.7%, N=1,438) By Weeks or Months Too Soon



Substance Abuse and Mental Illness

Among newly enrolled Children First clients in SFY06: 41.0% said they had smoked since they had been pregnant and 19.2% said they had smoked during the past 48 hours.

Fewer than 2% reported having used alcohol or other drugs during the past 14 days and 5.4% reported a history of mental illness.

Postpartum blues affects 50-80% of women and typically occurs within a month after childbirth.¹⁵ Postpartum depression affects 10-15% of women and can be diagnosed up to 1 year postpartum.¹⁵ Among Children First clients at 1 month postpartum in SFY06 (N=1,205): 13.8% reported experiencing Postpartum Blues; 4.9% reported experiencing Postpartum Depression (6% were missing responses).

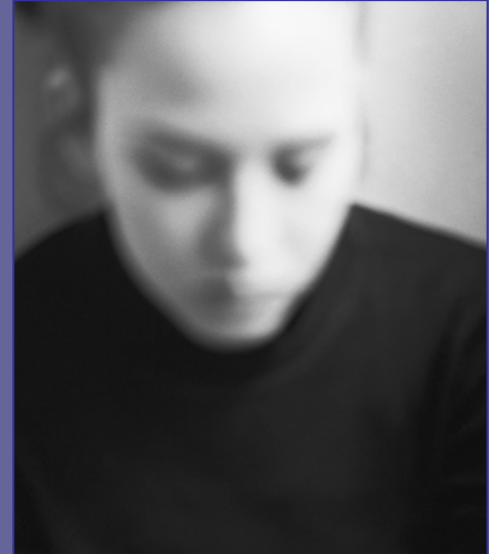
Risk Ratings

Most of the data collected about Children First clients is by self-report. Due to the sensitive nature of some of the topics, items that are self-reported are not always considered reliable. To get a different perspective, each nurse – at every visit – assesses each client’s risk for substance use and mental health issues. These risk ratings utilize the nurse’s professional knowledge and do not rely on client self-report.

During SFY06, among all 5,008 clients served, the proportion of clients ever assessed by the nurse as experiencing or at risk for these events are as follows:

- 31.4% at risk for or currently using cigarettes
- 24.2% at risk for or currently having mental health issues
- 11.8% at risk for or currently experiencing domestic violence
- 9.0% at risk for or currently using alcohol
- 6.7% at risk for or currently using illegal drugs

Families participating in Children First are also assessed for being at-risk for child abuse or neglect if the child has been born. Among the 2,994 families with children who were active in the Children First program during SFY06, 217 (7.2%) were assessed as having a child at-risk for abuse or neglect (42 families for child abuse, 84 families for child neglect, and 91 families for both abuse and neglect). **Note: Being “at-risk” for child abuse or neglect in the nurse assessment indicates that the child is either being abused or neglected or is at risk for being abused or neglected.*



During SFY06:

- 1 in 4 Children First clients had or were at risk for mental health issues
- 1 in 9 Children First clients experienced or were at risk for domestic violence

Reports to DHS/Child Welfare Service

Children First home visitors are mandatory reporters of suspected child maltreatment and have a greater opportunity to recognize potential maltreatment because of their presence in the home and knowledge of the family. During SFY06, Children First nurses made 264 reports to DHS for suspected child abuse or neglect: 166 for cases where the child was in the home (Table 5), 85 cases where the child had not yet been born, and 13 cases where the child's age was not given. In the cases where the child was not born yet, most reports were for neglect related to drug use or domestic violence, or where the minor client was the victim.

Table 5. Number of DHS Reports Made by Children First Nurses by Reason, SFY06

Reason	Number of Reports
Neglect	N= 58
Domestic Violence or Dispute	30
Physical Abuse	23
Multiple Issues	17
Emotional Abuse	14
Depression or Mental Illness	7
Potential for Abuse	7
Drug Use or Abuse	4
Sexual Abuse	3
Other	3
Total	166

Smoking During Pregnancy

Among women who reported recent smoking at intake (N=120) in SFY06, 60.8% had decreased or quit smoking by 36 weeks gestation, 10.8% had not changed their smoking behavior, and 27.5% had increased their smoking (as measured by the total number of cigarettes they reported smoking during the past 48 hours).

	Children First, SFY06	Oklahoma, 2004 (First-Time Births)
Percent VLBW(<1,500g)	1.2	1.5
Percent LBW (1,500-2,499g)	7.5	6.8
Percent Very Preterm (<32 weeks)	1.8	1.7
Percent Preterm (32-36 weeks)	9.1	8.4

Preterm and Low Birthweight Infants

In 2006, 1,478 infants were born into the Children First program. Of these infants, 7.5% were low birthweight (LBW), 1.2% were very low birthweight (VLBW); 9.1% were born preterm and 1.8% were very preterm. These rates are comparable to the most recent preterm and low birthweight rates among other first-time births in Oklahoma available from Oklahoma Health Care Information.

Infant Mortality

During 2006, a special study was conducted to examine deaths among children born to Children First clients between 1997-2004. The study showed that the Infant Mortality Rate (deaths per 1,000 live births) among Children First infants is approximately half of that for other first-time births in Oklahoma (4.5 vs. 8.1). For copies of this report, please contact the Children First office.

Breastfeeding

Among Children First clients who gave birth in SFY06 (N=1,205), 79.8% initiated breastfeeding. This is higher than the state rate of 69.8%.¹⁶ Among women who had initiated breastfeeding, 58.5% were still giving the infant breast milk through breastfeeding or pumping at one month postpartum.

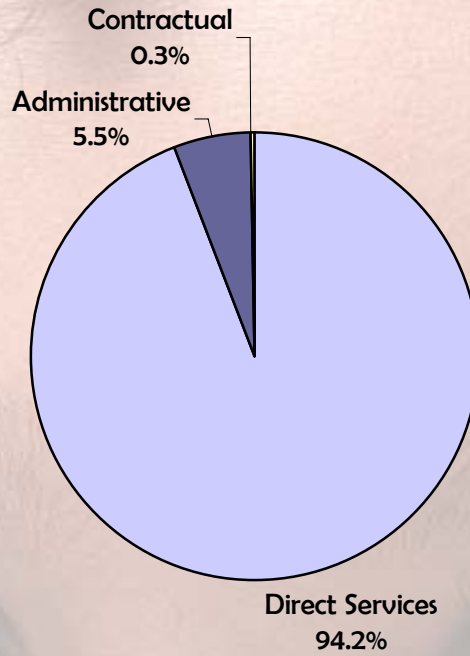
Childhood Immunizations

Nurse home visitors collect immunization data on the child on a regular basis following the well-child visit schedule. For the most recent visit during which this information was collected on each child in SFY06 (N=2,360), 89.2% children were up to date on their immunizations. According to immunization statistics, between 72-77% of two-year-olds in Oklahoma are up to date on their immunizations.



Infants born to Children First clients have a lower risk of dying in the first year of life.

Total Expenditures by Type, Children First Program, SFY06



Salary and Fringe	\$446,028.36
Travel	\$17,882.18
Contractual	\$34,502.35
Supplies	\$6,193.51
Equipment	\$40,926.30
Other	\$29,305.11
Data Processing	\$15,171.83
Total Administrative Costs	\$590,009.64

Total Expenditures	\$ 12,480,426.38
Expenditures Per Family Served	\$ 2,492.10

*Bitter are the tears of a child: Sweeten them.
Deep are the thoughts of a child: Quiet them.
Sharp is the grief of a child: Take it from him.
Soft is the heart of a child: Do not harden it.*

-Pamela Glenconner



Appendix 1. County Table

This table depicts select statistics for State Fiscal Year 2006 for each county in Oklahoma.

County	Referrals	Enrollees	Percent Referrals Enrolled	Completed Visits	Families Served	C1 Live Births
Adair	46	13	28.3	462	37	12
Alfalfa	2	-	0.0	4	1	-
Atoka	54	17	31.5	212	22	7
Beaver	9	1	11.1	19	1	2
Beckham	63	25	39.7	486	52	15
Blaine	32	22	68.8	649	51	21
Bryan	165	89	53.9	1,024	128	25
Caddo	69	22	31.9	533	51	14
Canadian	94	37	39.4	665	80	19
Carter	93	48	51.6	597	69	21
Cherokee	60	37	61.7	732	87	27
Choctaw	72	35	48.6	302	46	13
Cimarron	-	-	N/A	-	-	-
Cleveland	270	91	33.7	2,407	238	86
Coal	25	5	20.0	60	8	3
Comanche	250	77	30.8	1,954	197	57
Cotton	19	8	42.1	174	16	5
Craig	18	14	77.8	387	43	14
Creek	73	2	2.7	69	28	4
Custer	74	25	33.8	329	39	13
Delaware	57	21	36.8	636	56	17
Dewey	-	-	N/A	-	-	-
Ellis	-	-	N/A	29	3	-
Garfield	294	65	22.1	1,218	156	46
Garvin	75	24	32.0	306	30	9
Grady	95	14	14.7	572	55	16
Grant	1	1	100.0	8	2	-
Greer	18	8	44.4	110	10	4
Harmon	13	5	38.5	55	7	2
Harper	12	7	58.3	118	15	7
Haskell	25	13	52.0	162	21	4
Hughes	43	17	39.5	121	23	2
Jackson	88	44	50.0	732	83	24
Jefferso	24	8	33.3	152	17	6
Johnston	29	19	65.5	178	28	9
Kay	107	35	32.7	731	75	16
Kingfisher	50	27	54.0	665	56	22
Kiowa	38	14	36.8	220	32	5
Latimer	46	13	28.3	151	15	8
LeFlore	145	45	31.0	1,073	84	36
Lincoln	69	29	42.0	671	63	24

County	Referrals	Enrollees	Percent Referrals Enrolled	Completed Visits	Families Served	C1 Live Births
Logan	164	63	38.4	955	105	29
Love	24	16	66.7	157	21	5
Major	19	6	31.6	155	17	3
Marshall	50	17	34.0	317	31	9
Mayes	53	26	49.1	453	56	13
McClain	26	11	42.3	104	14	7
McCurtain	124	50	40.3	372	56	9
McIntosh	57	19	33.3	293	46	8
Murray	42	13	31.0	369	34	8
Muskogee	70	55	78.6	976	114	32
Noble	8	2	25.0	68	6	1
Nowata	-	-	N/A	-	-	-
Okfuskee	33	8	24.2	118	12	3
Oklahoma	577	236	40.9	4,338	497	192
Okmulgee	98	30	30.6	539	47	17
Osage	-	-	N/A	-	-	-
Ottawa	87	33	37.9	946	91	33
Pawnee	23	9	39.1	31	9	-
Payne	121	54	44.6	1,472	126	49
Pittsburg	134	71	53.0	876	112	34
Pontotoc	106	41	38.7	858	80	27
Pottawatomie	212	45	21.2	479	81	14
Pushmataha	43	9	20.9	70	10	2
Roger Mills	5	2	40.0	33	3	-
Rogers	129	50	38.8	771	97	19
Seminole	100	39	39.0	369	50	9
Sequoyah	105	50	47.6	1,023	114	35
Stephens	96	8	8.3	290	32	12
Texas	66	29	43.9	384	55	6
Tillman	35	15	42.9	112	18	5
Tulsa	890	482	54.2	8,684	876	280
Wagoner	79	36	45.6	323	57	9
Washington	87	32	36.8	458	57	11
Washita	22	8	36.4	251	27	6
Woods	16	3	18.8	61	9	2
Woodward	16	15	93.8	153	21	9
Unknown						80
TOTAL	6,434	2,560	39.8	45,831	5,006	1,593

Appendix 2. Administrative Region Table

This table depicts select statistics for State Fiscal Year 2006 for each administrative region in Oklahoma.

Administrative Region	Referrals	Enrollees	Percent Referrals Enrolled	Completed Visits	Families Served
Adair, Cherokee, Mayes	159	76	47.8	1,647	180
Bryan, Choctaw, Marshall, McCurtain, Pushmataha	454	200	44.1	2,085	271
Atoka, Coal, Pittsburg, Pontotoc	319	134	42.0	2,006	222
Muskogee, Sequoyah	175	105	60.0	1,999	228
Hughes, Okfuskee, Pottawatomie, Seminole	388	109	28.1	1,087	166
Cleveland, McClain	296	102	34.5	2,511	252
Comanche, Cotton, Greer	287	93	32.4	2,238	223
Garvin, Grady, Murray, Stephens	308	59	19.2	1,537	151
Nowata, Osage, Rogers, Washington	216	82	38.0	1,229	154
Craig, Delaware, Ottawa	162	68	42.0	1,969	190
Kay, Noble, Payne	236	91	38.6	2,271	207
Haskell, Latimer, LeFlore, McIntosh, Okmulgee	371	120	32.3	2,218	213
Canadian, Custer	168	62	36.9	994	119
Alfalfa, Garfield, Grant, Major, Woods	332	75	22.6	1,446	185
Beaver, Cimarron, Ellis, Harper, Texas, Woodward	103	52	50.5	703	95
Blaine, Dewey, Kingfisher, Lincoln, Logan	315	141	44.8	2,940	275
Carter, Jefferson, Johnston, Love	170	91	53.5	1,084	135
Beckham, Harmon, Jackson, Roger Mills	169	76	45.0	1,306	145
Creek, Pawnee, Wagoner	175	47	26.9	423	94
Caddo, Kiowa, Tillman, Washita	164	59	36.0	1,116	128
Tulsa County	890	482	54.2	8,684	876
Oklahoma County	577	236	40.9	4,338	497
TOTAL	6,434	2,560	39.8	45,831	5,006

EXECUTIVE SUMMARY

This is the evaluation report for the Children First program in the state of Oklahoma, based on the Nurse-Family Partnership intervention model developed and tested by Dr. David Olds and colleagues. The Oklahoma State Department of Health coordinates the implementation of this program which serves all 77 counties of the State of Oklahoma. This report presents the analyses of data available from July 1, 2001 through June 30, 2006 (previous reports have presented analyses for participants enrolled prior to July 1, 2001 and are not repeated in this report). The analyses for this report were conducted by the National Center for Children, Families and Communities (NCCFC) at the University of Colorado at Denver and Health Sciences Center using data from the Public Health Oklahoma Clinical Information System (PHOCIS). The Children First program has been in operation since 1997. During the period covered in this report, 13,876 participants have enrolled in the program, and 7,794 participants have had the opportunity to complete the full program cycle from pregnancy through their child's second birthday. In Part I of this report, demographics and other descriptive statistics will be presented for the graduates (those who remained in the program until their child's second birthday) and non-completers (those who dropped from the program before their child's second birthday). Further consideration of program, maternal, and infant outcomes will be given to the 2,431 participants who actually completed the program. Also of interest is whether participant characteristics, program implementation, and participant outcomes changed over the past five years. Part II of this report compares those who entered the program between July 1, 2001 and June 30, 2003 (Cohort 1) with those who entered the program between July 1, 2003 and June 30, 2006 (Cohort 2).

PART I. GRADUATES OF THE CHILDREN FIRST PROGRAM

PARTICIPANT CHARACTERISTICS AT PROGRAM INTAKE

- Children First Graduates: median age 20; median education 12 years; 66% unmarried; 54% unemployed; 60% Medicaid recipients; 76% WIC recipients
- Race/Ethnicity: 61% non-Hispanic White; 15% Hispanic; 10% Native American; 9% African American/Black; 4% multiracial/other; 1% Asian
- There were several statistically significant socio-demographic differences between Children First graduates and non-completers at intake:
 - *Demographic Characteristics:* Compared with non-completers, graduates of the program were older (median age: 20 vs. 19), more likely had completed high school (64% vs. 55% of non-completers), and were more likely to be married (34% vs. 26% of non-completers).
 - *Race/Ethnicity:* Compared to non-completers, graduates included a smaller percentage of African American/Blacks (9% vs. 14% of non-completers) and larger percentages of non-Hispanic Whites (61% vs. 58% of non-completers) and Hispanics (15% vs. 13% of non-completers).
 - *Economic Factors:* Graduates were more likely to be employed (46% vs. 40% of non-completers) and had higher household incomes (median household income \$13,500 vs. \$10,500 for non-completers) than non-completers.
 - *Use of Government Assistance:* Graduates reported less use of Medicaid (60% vs. 64% of non-completers) and Food Stamps (15% vs. 17% of non-completers) than did non-completers.
 - *Household Size and Composition:* Graduates were more likely to be living with their husband/boyfriend (49% vs. 44% of non-completers), and reported having fewer

- people living in their household (median household size 2 vs. 3 for non-completers) than did non-completers.
- *Psychological Characteristics:* Graduates were more likely to have higher mental health scores than non-completers (scored greater than 3.0: 85% vs. 82% of non-completers); higher scores reflect fewer symptoms of depression and anxiety.
- *Contact with Biological Father:* Compared to non-completers, graduates were more likely to have contact with the biological father of their child on a daily basis (77% vs. 74% of non-completers).

PROGRAM IMPLEMENTATION

- Children First graduates received an average of 9.1 visits during the pregnancy phase, 16.4 visits during the infancy phase, and 10.4 visits during the toddler phase. National NFP averages for the numbers of visits per graduate were 9.5, 17.5, and 11.7, respectively.
- Visit lengths in each program phase averaged more than 66 minutes; the NFP objective is a minimum of 60 minutes.
- Children First has closely matched the program guidelines for home visits with the exception of maternal role development in infancy (38% vs. 38% national NFP vs. 45-50% NFP objective) and lifecourse development in toddlerhood (15% vs. 17% national NFP vs. 18-20% NFP objective).
- Forty-six percent (46%) of Children First graduates were enrolled by the 16th week of pregnancy, a rate higher than the national NFP average of 41%; 96% were enrolled by the 28th week of pregnancy (national NFP: 92%).
- For those who should have completed the program by June 30, 2006, the largest proportion (49%) of clients leaving the program early occurred during the infancy phase.

OUTCOMES FOR CHILDREN FIRST GRADUATES

- A statistically significant 20% reduction was found in the number of women smoking during pregnancy (16% for national NFP). Among those who reported smoking at least 5 cigarettes per day at intake and continued to smoke during pregnancy, there was a statistically significant reduction (2.4) in the number of cigarettes (national NFP: 2.6) smoked per day.
- A statistically significant 73% reduction was found in the number of women using alcohol during pregnancy.
- Approximately nine percent (9.1%) of Children First graduates' infants were premature (9.7% for national NFP graduates); premature birth rates for the predominant ethnic groups were: 8.8% for non-Hispanic Whites (9.4% for national NFP graduates), 8.8% for Hispanics (8.6% for national NFP graduates).
- The low birth weight rate for Children First graduates' infants was 7.6% compared to 8.5% of national NFP graduates; low birth weight rates for the predominant ethnic groups were: 7.0% for non-Hispanic Whites (7.9% for national NFP graduates), 7.9% for Hispanics (7.5% for national NFP graduates).
- Children First graduates' rates for completion of recommended infants' (age 12 months) immunizations were 86-87% with the exception of HIB (69%) and DTP/DTaP (77%). The immunization rates for toddlers, age 24 months, were 78-94% with the exception of the DTP/DTaP (24%). National NFP averages range from 84% to 97% by 12 months infant age and from 74% to 98% by 24 months child age. DTP/DTaP and HIB rates may be underreported because of different dosage patterns among pharmaceutical products.
- Seventy-three percent (73%) of Children First graduates initiated breastfeeding (69% for national NFP graduates); 28% continued to breastfeed at 6 months of infant age (29% national NFP graduates), and 13% were still breastfeeding at 12 months of infant age (16% of national NFP graduates).

- The largest percentage of toddlers (26%) scored between the 26th and 50th percentile on language production, 24% scored above the 75th percentile. Nine percent (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.
- Eleven percent (11%) of Children First graduates had a subsequent pregnancy by 12 months after the birth of their first child (12% for national NFP graduates), while 32% experienced subsequent pregnancies by 24 months postpartum (31% for national NFP participants).
- By program completion, 13% of Children First graduates who entered the program without a high school diploma/GED remained enrolled in school, 45% had completed their diploma or GED, and 13% were pursuing education beyond high school.
- Among graduates who had completed high school at intake, the percentage of women pursuing additional education remained fairly consistent from intake to program completion (22–24%).
- Among graduates who were 18 years or older at intake, workforce participation remained consistent (56%) from intake to program completion. For those 17 years or younger at intake, workforce participation increased from 19% at intake to 41% at program completion.
- Children First graduates worked an average of 7 months in their first year postpartum and 9 months during the second year postpartum. National NFP averages are 7 months for the first year and 8 months for the second year.
- The percentage of Children First graduates who were married increased from 38% at intake to 56% at program completion.

PART II. COMPARISON OF CHILDREN FIRST COHORT 1 AND COHORT 2

PARTICIPANT CHARACTERISTICS

- There were several statistically significant socio-demographic differences between the two cohorts at intake:
 - *Demographic Characteristics:* Compared with participants enrolled between July 1, 2001 and June 30, 2003 (Cohort 1), participants enrolled later (Cohort 2) were less likely to be high school graduates (56% vs. 59% of Cohort 1), more likely to be unmarried (71% of Cohort 1, 75% of Cohort 2) and first-time mothers (96% of Cohort 1, 98% Cohort 2).
 - *Race/Ethnicity:* Compared to Cohort 1, Cohort 2 had slightly larger percentages of Hispanics (16% vs. 14% of Cohort 1) and multiracial/other (10% vs. 4% of Cohort 1), and a smaller percentage of non-Hispanic Whites (53% vs. 60% of Cohort 1).
 - *Economic Factors:* Cohort 2 participants had lower household incomes (median household income: \$10,500 vs. \$13,500 of Cohort 1), and were more likely to be unemployed (60% vs. 57% of Cohort 1) than Cohort 1 participants.
 - *Use of Government Assistance:* Cohort 2 participants reported more use of Medicaid (69% vs. 61% of Cohort 1) and Food Stamps (21% vs. 16% of Cohort 1) than did Cohort 1 participants.
 - *Psychological Characteristics:* Cohort 2 participants were more likely to score lower on the Sense of Mastery Scale (score greater than 3.0: 50% vs. 53% of Cohort 1) than Cohort 1 participants; lower scores indicate a lower sense of mastery over life challenges.

PROGRAM IMPLEMENTATION

- The rate of enrollment by 16 weeks of pregnancy was 48% for Cohort 1 and 46% for Cohort 2; both were higher than the national NFP average of 42%. The total rate of enrollment by gestational week 28 was 96% for Cohort 1 and 94% for Cohort 2.
- Attrition increased slightly over time in all three phases. Attrition rates were:
 - Pregnancy: 16.3% of Cohort 1, 19.2% of Cohort 2
 - Infancy: 28.0% of Cohort 1, 32.6% of Cohort 2

- Toddlerhood: 13.4% of Cohort 1, 15.0% of Cohort 2
- The lengths and average numbers of completed visits were similar for the cohorts during pregnancy and toddlerhood with a slight decrease over time in the number of visits during infancy (9.6 visits Cohort 1, 8.4 visits Cohort 2).
- Guidelines for home visit content were closely met by the two cohorts with the exception of maternal role in infancy and life-course development in toddlerhood for both cohorts. There was a slight increase with Cohort 2 in the percentage of time devoted to maternal role during infancy (37% Cohort 1 vs. 39% Cohort 2 vs. 45-50% objective).
- While many NFP sites struggle to reach the guideline for percent of time spent on maternal role development during infancy and toddlerhood, it is a noted strength that the percent of time Children First devoted to this domain during toddlerhood falls within the NFP guideline.

PARTICIPANT OUTCOMES

- Both cohorts showed statistically significant reductions in the number of women smoking during pregnancy (14% for Cohort 1; 13% for Cohort 2). Both cohorts also had significant reductions in the numbers of cigarettes smoked by those who continued to smoke during pregnancy (2.2 for Cohort 1; 1.5 for Cohort 2).
- There were no statistically significant differences in premature and low birth weight (LBW) births between the cohorts (premature birth: 9.7% of Cohort 1, 10.4% of Cohort 2; LBW: 8.2% of Cohort 1, 8.1% of Cohort 2).
- Immunization rates by 12 months of infant age ranged from 72% to 90% for Cohort 1 and from 41% to 65% for Cohort 2.
- Subsequent pregnancy rates decreased slightly over time. Rates by 12 months postpartum were 12% for Cohort 1 and 11% for Cohort 2; rates by 24 months postpartum were 32% for Cohort 1 and 31% for Cohort 2.
- Workforce participation remained consistent from intake to program completion in both cohorts for participants who were 18 years or older at intake; both cohorts also showed significant increases in workforce participation, from 19-20% at intake to 41% at program completion, among those who were 17 years or younger at intake.
- Participants in both cohorts worked an average of 7 months in their first postpartum year; during their second postpartum year, Cohort 1 participants worked an average of 9 months while Cohort 2 participants worked an average of 8 months. NFP objectives are 5 months for the first year and 8 months for the second year.

Copies of the full Nurse-Family Partnership Management Report to Oklahoma for 2006 are available by contacting the Children First office at (405) 271-7611.

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