Healthy Start CORPS

Impact Report for Four Year Project Period February 1, 2002 – January 31, 2006

TABLE OF CONTENTS

I. Overview of Racial And Ethnic Disparity Focused On By Project

Targeted Population: Demographic Profile

Demographic Statistics

Robeson County is a large, rural county located in the Coastal Plains of North Carolina State. Its population is very diverse: Lumbee Indian, Black, White and Hispanic. According to the 2000 U.S. Census, North Carolina has the largest American Indian population east of Mississippi River, and more than 50% of them live in Robeson County. Robeson County also has a large African American proportion (25.1%), compared to 21.6% for North Carolina and 12.3% for United States, and a rapidly growing Hispanic population, increased from 704 in 1990 to 5,994 in 2000 (850% increase).

Total Population:	123,339		
African Americans:	30,973 (25.1%, 21.6% for NC, 12.3% for US)		
American Indians:	46,896 (38.0%, 1.2% for NC, 0.9% for US)		
White:	40,460 (32.8%)	Non-White:	82,879 (67.2%)
Other Races:	5,010 (4.1%)	Hispanics:	5,994 (4.9%)

According to the 2000 US Census, the number of women of reproductive age (15-44) residing in Robeson County was 27,551 (White: 8164, Black: 7156, Native Americans & Alaska Natives: 11204, Asians and Pacific Islanders: 125) *(2000 U.S. Census)*. In 2000, the North Carolina Center for Health Information and Statistics reported that White females between the ages of 15 and 44 made up 6.6% of the total population of the County, and Non-White females between the ages of 15 and 44 made up 15.7% of the total population.

Nationwide, African Americans have infant mortality and low birth weight rates doubled that for White, and suffer from nearly all major causes because they often receive less and poorer quality in health care. Black women have a substantially higher risk of maternal death, with a rate of 24.9 deaths per 100,000 live births in 2003, 4.2 times the rate for white women (6.0). In Robeson County, their 2000-2002 average percentage of late (2^{nd} or 3^{rd} trimester or late) or no prenatal care was 35.9% (24.1% for Black in NC, 24.0% for Black in US), significantly higher than the percentage 25.7% for Whites (12.1% for NC Whites, 14.3% for US Whites).

Likewise, national American Indians are more likely to have inadequate health care with the trimester entry rate 69.8% (White: 85.4%; Black: 75.2%) in 2002, poor nutrition, high infant and adult mortality rates, high adolescent pregnancy rates, and high incidences of living in sub-standard housing. In Robeson County, American Indian women have by far the highest percentage (27.5%) (25.3% for NC, 19.7% for US) of smoking during pregnancy (16.5% for White) (15.2% for White in NC, 12.3% for White and 8.7% for Black in US), and their percentage of late (3^{rd} trimester or late) or no prenatal care) (6.5%) (6.0% for NC, 8.0% for US) was more than twice that for white women (3.0%) (3.2% for White in NC, 3.1% for White and 6.2% for Black in US).

The Hispanic population is rapidly growing in Robeson County, as indicated at the beginning. Hispanic population is generally in poorer health, though some of their health

indicators are "better than expected" (known as Epidemiological Paradox or Hispanic Paradox) and comparable to that of Non-Hispanic White (e.g., infant mortality and low birth weight). Hispanic women have been found to initiate childbearing earlier, are likely to give birth to four or more children, continue to have children later in life than other women, and have inadequate health care (76.7% first trimester entry). In Robeson County, their percentage with late or no prenatal care (6.0%) (5.4% for NC, 5.5% for US) was twice that for white women (3.0%) (3.2% for NC, 3.1% for US). They face several significant health care barriers, including a scarcity of linguistically appropriate services, inability to afford medical care, and a lack of knowledge about available services. In response, the HSC planed and implemented multifaceted efforts focusing on the fast growing Latino community in the project area.

Poverty

Robeson County is a very depressed county by its low capita income and various social-economic problems. According to the 2000 U.S. Census, its per capita income was $13,224, 65.1% of the state average of $20,307, and 61.3% of the national average of $21,587. In 2000, the mean household income for the county was $36,579, significantly lower than the state average $51,225. The median yearly earnings for women full-time was $20,599 in 2000. 37% of Robeson County households in 2000 had incomes below $20,000 a year, and over half (52%) earned incomes below $30,000. In 2000, Robeson County was ranked 67.04 relative to a national average of 100 on a wealth index that measured relative total person income per capita weighted by source of income. (*North Carolina's Southeast Regional Data Book*.)

Particularly, 22.8% of the population of Robeson County live below the poverty level, which is considerably higher than the state average (12.3%) and national average (12.4%). The 2000 Census data also indicates that 10,714 children under 18 years live in poverty in the county, which represents 30.4% (White: 19.2%, Black: 45.1%, American Indian: 26.0%, Hispanic: 28.7%) of the total of 35,708 children under 18 years living in poverty. The comparable percents for the North Carolina State and the United States are 16.1% and 16.6%. (U.S. Census Bureau, *State and County Quick Facts (2000)*.)

Educational Level

In 2000, 64.9% of adults 25 years of age or older in Robeson County had high school or higher (65.2% of mothers who gave births in 2000 completed high school diplomas), which was considerably lower than the 78.1% statewide and 80.4% nationwide; The 2000 high school drop out rate (the number of drop outs divided by the adjusted average daily membership) was 7.3 (5.4 2004), higher than the state rate of 5.7 (4.9 in 2004). The comparable figure for the nation was 10.9% in 2000. Community college enrollment per 1,000 adults was significantly higher than the state rate of 59.9 in Robeson County.

<u>Community Assessment:</u> Perinatal Health Status

Robeson County is particularly characterized by its high rates of infant mortality, neonatal mortality, postneonatal mortality, low birthweight, prematurity, teen births, and low rates of adequate care (prenatal, postnatal, postpartum/interconceptional), and breastfeeding.

Non-White groups have larger (2000-2002) three-year averages for live births than White in Robeson County. Of the average total of 2,098 live births per year, 698 were to White, 508 to

Black, 884 to Native American, 2 to Asian, 7 to Hawaiian and 228 to Hispanics. For 1999-2001, the total was 2,126 (White: 668, Non-White: 1,457). Statewide, there was a moderate increase in live births to White and Native Americans from 1990 to 2000, a moderate decline in the number of live births to Black, and sharp increases in the number of live births to Hispanics and Asians. (*Racial and Ethnic Differences in Health in North Carolina*)

Infant Mortality

Non-White groups had larger three-year averages (2000-2002) for infant deaths (under 1 year) than White in Robeson County, averaging 25.33 infant deaths a year (White: 6.0, Non-White: 19.33) with infant mortality rate 12.1 (per 1,000 live births). Significant racial disparities exist (rates): White: 8.7, Black: 17.7, American Indian: 11.9, Asian: 0.0, Hawaiian: 0.0, Minority Total: 13.9, Hispanic: 6.7. For 1999-2001, the average total rate was 12.7 (White: 7.0, Non-White: 15.3). One of the objectives of the Healthy Carolinians project is to reduce infant mortality rate to 7.4.

North Carolina had the third highest infant death rate in the nation in 1999 (9.1), and 8th in 2001 (8.5) and 11th in 2002 (8.2). Statewide, the 2000-2002 average infant mortality rate was 8.4 (White: 6.1, Black: 15.6, Native Americans: 11.8, Others: 6.6, Hispanics: 5.9). Infant mortality rates have decreased only slightly for Native Americans since 1990. While state rates are higher than the national average for all racial and ethnic groups, they are substantially higher than the national average for Black and Native Americans. *(North Carolina Vital Statistics, Howard W. Odum Institute for Research in Social Science at UNC Chapel Hill.)*

Neonatal and Postneonatal Mortality

Non-White groups had larger (2000-2002) averages for neonatal deaths (< 28 days) than White in Robeson County (14 vs. 3 deaths) with an average rate 8.3 (White: 4.7, Non-White: 10.1) compared to statewide average rate 5.9 (White: 4.2, Non-White: 10.5). For 1999-2001, the average neonatal rate was 9.0 (White: 4.0, Non-White: 11.2). Nationwide, short gestation and low birth weight are among the leading causes of neonatal deaths. Another objective of the Healthy Carolinians project is to reduce neonatal rate to 5.9. However, Non-White groups had close postneonatal rate (28 to 364 days) to White in 2000-2002 for the county (6 vs. 3 deaths) with a rate 3.83 (White: 3.93, Non-White: 3.87), compared to the statewide average postneonatal rate 2.5 (White: 2.4, Non-White: 4.0). For 1999-2001, the average postneonatal rate was 3.8 (White: 3.0, Non-White: 4.11).

Perinatal Mortality

Non-White groups had larger (2000-2002) averages for perinatal deaths (neonatal plus fetal) than White in Robeson(28 vs. 7). The three-year average perinatal deaths was 34.7 (White: 6.7, Non-White: 28.0), with rate 16.4 (White: 9.4, Non-White: 19.7), compared to the statewide rate 13.2 (White: 9.7, Non-White: 22.1). For 1999-2001, the average perinatal rate was 18.0 (White: 7.4, Non-White: 22.8).

Low, Moderate Low and Very Low Birth Weight Births

For the most part, the incidence of low birth weight (LBW) births is significantly higher for Non-White (particularly for Black and Native Americans) than for White nationwide. Birth weight is a most important predictor of an infant's survival chances and accounts for two-thirds

of all infant deaths, and for those survived their first year, LBW may cause long-term disabilities, such as cerebral palsy, autism, mental retardation, vision and hearing impairments, and other developmental disabilities. In North Carolina, the (2000-2002) average LBW rate was 8.9% (White: 7.2%, Non-White: 13.2%), increased to 9.0% (White: 7.4%, Non-White: 13.4%) in 2003. The Healthy Carolinians project aims to reduce the LBW rate to 7.0%.

The (2000-2002) average LBW rate was 11.3% for Robeson County, compared to 8.9% (White: 7.2%, Non-White: 13.2%) statewide and 7.7% (White: 6.7%, Non-White: 11.4%) nationwide. In the county, there were 708 LBW births between 2000 and 2002, 183 to White (rate: 8.7%), 240 to Black (rate: 15.9%), 279 to Native Americans (rate: 10.6%), 3 to Others, and 48 to Hispanics (rate: 6.8%). White accounted for 25.8% of LBW births, Black for 33.9%, Native Americans for 49.4%, and Hispanics for 6.8%. In Robeson County, Black and Native American older mothers (35 or older) and teenager mothers had the highest percentages of LBW births: 12.8% for teen mothers, 10.4% for women ages 20-34, and 13.2% for 35 and older women (2000-2002 averages). For 1999-2001, the average LBW rate was 10.9% (White: 8.1%, Non-White: 12.2%).

The 2000-2002 average MLBW and VLBW rates for the county were 8.94% (White: 7.42%, Non-White: 9.71%) and 2.32% (White: 1.31%, Non-White: 2.82%), compared to the statewide 7.01% (White: 5.91, Non-White: 9.86) and 1.91% (White: 1.36%, Non-White: 3.32%). In 1999-2001, the countywide MLBW and VLBW rates were 8.3% (White: 6.6%, Non-White: 9.1) and 2.6% (White: 1.5%, Non-White: 3.1%).

Preterm Births

In Robeson County, there were 1,008 preterm babies between 2000 and 2002 with a rate 16.1%, 285 to White (rate: 13.6%), 327 to Black (rate: 21.5%), 393 to Native Americans (rate: 14.9%), 3 to Others, and 90 to Hispanics (rate: 13.2%). White accounted for 28.3% of preterm births, Black for 32.9%, Native Americans for 39.0%, and Hispanics for 8.9%, compared to 13.5% (White: 11.8%, Black: 18.6%, American Indian: 14.7%, Hispanic: 11.8%) statewide and 11.9% nationwide. For 1999-2001, the average rate was 15.8% (White: 14.2%, Non-White: 16.5%) for Robeson County.

Births to Teens

High teen birth rate has long been a problem in Robeson County (19 years and under). The (2000-2002) average teen births was 443 (120 to White, 125 to Black, 198 to Native, 0 to Other races, and 44 to Hispanics), accounted for 21.1% of total births, 17.1% for White, 23.1% for non-White, 24.6% for Black, 22.4% for Native, and 19.1% for Hispanics. The statewide percentage of teen births was 12.5%, and nationwide, 11.3%. For 1999-2001, the average teen birth percentage was 21.3% (White: 16.8%, Non-White: 23.4%) in Robeson County.

The percentage of live births to teens 15-17 was distributed in a similar pattern. The (2000-2002) average teen births was 168, 42 to White, 56 to Black, 70 to Native, and 15 to Hispanic. The teen births from this youngest age group account for 8.0% of total births, 6.0% for White, 23.1% for Non-White, 11.1% for Black, 7.9% for Native, and 6.7% for Hispanics.

The (2000-2002) average teen birth rate 94.3 (live births per 1000 females 15-19) was also higher in Robeson County, comparable to the statewide average 56.4. In North Carolina, teen birth rate was reduced from 70.0 in 1991 to 56.4 in 2001 (52.2 in 2002, 36.9 for White, 68.1 for Black, 78.3 for Native, 30.7 for Asian/Pacific Islands, and 164.3 for Hispanic), and nationwide, from 61.8 in 1991 to 45.9 in 2001 (43.0 in 2002, 28.5 for White, 68.3 for Black, 53.8 for Native, 18.3 for Asian/Pacific Islands, and 83.4 for Hispanic). The 2002 teen pregnancy rate for Robeson County was 102.7, 103.7 for White and 101.8 for Non-White. For North Carolina, these figures were 64.1 for Total, 53.6 for White and 87.3 for Non-White.

Prenatal Care

In Robeson County, the (2000-2002) average first trimester entry rate was 71.8% (1505/2098), with White: 74.3% (518/698), Black: 64.1% (326/508), Native: 74.2 (656/884), and Hispanic: 61.7% (141/228). Though White had higher first trimester rate than that of non-White (70.4%), the difference was primarily between White/Native and Black/Hispanic, and total rate was significantly lower than North Carolina (2000-2002) average rate 83.9% (White: 86.9%, Minority: 76.0%) and national 2002 rate 83.7% (White: 85.4%, Minority: 77.3%). In 1999-2001, the average first trimester rate was 69.0% (White: 71.9%, Non-White: 67.7%).

In Robeson County, there were a total of 6,295 live births from 2000 to 2002. Of these mothers, 4,515 received prenatal care in the first trimester with 977 to Black and 1,967 Native American. The first trimester entry rate for Black (64.1%) was lower than countywide rate (71.8%), but the comparable rate for Native American (74.2%) was slightly higher than the countywide rate. The percentage of first trimester care for each racial group in Robeson County was consistently below the statewide 76.0% of non-White women receiving such care.

In 2002, 83.7% percent of women in North Carolina received prenatal care beginning in the first trimester (White: 86.8%, non-White: 76.0%). Nationwide, these percentages in 2002 were 83.7%, 85.4% and 77.3. In Robeson County in 2002, the figures were much lower, 75.5%, 80.5% and 71.8%. In 2003, the statewide first trimester entry rates were 84.0% (Total), 75.4% (Black) and 77.3% (American Indian), compared to that for Robeson County, 71.7% (Total), 64.9% (Black) and 73.4% (American Indian). An objective of the Healthy Carolinians project is to increase the first trimester entry rate to 90%.

Non-White women were more likely than White women to receive no prenatal care during pregnancy in Robeson County. The percentages of both White and non-White women who received no prenatal care were higher than statewide averages. In the County, the (2000-2002) average number of women receiving no prenatal care was 42 (2.0%), 11 (1.6%) for White, 17 (3.3%) for Black, 14 (1.6%) for Native, considerably higher than the statewide percentage of all women who received no prenatal care (0.96%), 0.65% for White and 1.80% for Non-White.

Postpartum Depression

Postpartum depression significantly affects women's health in Robeson County, as studied in one of our recent papers, *Prevalence of Postpartum Depression in a Native American Population, Maternal and Child Health Journal, Vol. 9, No. 1, 2005. P21-25.* In the Local Evaluation Section of this report, a full study of postpartum depression using a sample of 645 women will be presented. Here are some highlights from the study: This research studied

racial/ethnic disparities, differences originated from other demographic characteristics, and risk factors of postpartum depression for a tri-racial population. The sample consisted of 645 women administered the Beck and Gable Postpartum Depression Screening Scale (PDSS) screenings between 2002 September and 2006 January: American Indian (52.4%), Black (24.3%), White (8.5%), Hispanic (13.5%) and Other (1.2%).

The incidence of major and minor postpartum depression was 24.8% (estimated national rate, 12.9%). The racial and ethnic prevalence of major and minor depression was American Indian (18.3%, 10.1%), White (18.2%, 20.0%), Black (13.4%, 10.2%) and Hispanic (2.0%, 1.1%). From Tables 2 to 11, the sample confirmed strong (significant) associations between depressive symptoms and depressive history, treatment history and age (marital status, gravida, number of biological children, and feeding method). The major risk factors were (in the order of significance): mental confusion, suicidal thoughts, trouble sleeping/imaginary feeling, guilty/shame, loss of self, emotional lability and eating disturbance.

Postnatal and Interconceptional Care

These are weakest service areas in Robeson County, and in fact even there is no standard data collected and published by the county and state except for some survey results. The project started these services since 2003 for the clients of Robeson Healthcare Corporation, which cares approximately one-sixth of the county's perinatal women and infants. Within RHCC, postnatal care rate was 47.5% (275 of 578 prenatal clients), and the interconceptional care rate was even lower at 30.7% (94 of 306 deliveries) in 2004. For the interconceptional care, the project developed protocols including assessment, care planning, family planning, intervention & evaluation, Referral and follow-up, and infant care. RHCC clients are primarily American Indians or African Americans (over 86%) with a small percentage of Hispanics, and generally at health risks in terms of prenatal, postnatal, and interconceptional cares. Based on the above stated data for RHCC clients and the North Carolina PRAMS BRFSS surveys (2002-2003), we have estimated the rates for the entire Robeson County as 55.0% and 35.0%, respectively.

Breastfeeding

This health component was added near the end of the third year of the project. The U.S. Department of Health and Human Services (HHS) Blueprint for Action on Breastfeeding (2000) recommends the Healthy People 2010 goals for breastfeeding include 75% of women breastfeeding their infants during the early postpartum period (up to 2 months) and 50% of women breastfeeding through 6 months. In 2003, breastfeeding rates at 6 weeks and 6 months for Robeson County were: 27% (NC average 40%) and 18% (US average 30.7%), but within RHCC, the 6 week (exclusive) breastfeeding rate was only 9.5% (6.5%). The North Carolina Pregnancy Risk Assessment Monitoring System (PRAMS) surveys (since 2000) gives an estimated rate 47.1% for Robeson County (all duration levels) and more detailed results (lower bound of 95% CI) as follows:

Breastfeeding Initiation: White-67.6%, Black-35.7%, Native-43.0%, Hispanic-73.0%;
Breastfeeding at 4 Weeks: White-52.5%, Black-24.2%, Native-38.6%, Hispanic-64.3%;
Breastfeeding at 8 Weeks: White-42.0%, Black-17.0%, Native-31.4%, Hispanic-52.7;

By Race: Highest for White, Lowest for Black, and Amer. Indian in middle,
Age: Highest for age group 25-34, High for age group 35 and over,
Lowest for age group Less than 20, and low for age group 20-24),
Education level: Positively proportional to educational years,

Marital status:	***High for married women, and low for others,***
Income:	***Positively proportional to income,***
WIC:	***High for non-participants, and low for participants,***
Medicaid:	***High for non-medicaid women, and low for Medicaid women,***
Infant birth weight:	***Highest for normal weight babies, lowest for moderate weight babies, and very low birth weight babies in middle.***

Community Assessment: Current Trends in Infant Morbidity

In 2002, primary causes that each resulted more than 10% of infant deaths in North Carolina includes *(ICD 10th Revision)* (1) Congenital Malformations, deformations and chromosomal abnormalities (188, 18.7%), (2) Prematurity and Low Birth Weight (197, 19.6%), (3) Other conditions originating in the perinatal period (223, 22.2%), (4) Sudden Infant Death Syndrome (102, 10.1%), and (5) Respiratory Distress and other Respiratory conditions (99, 9.9%). These causes together accounted for 80.5% of all 1,005 infant deaths.

Birth Defects

A birth defect is an abnormality of structure, function or body metabolism (inborn error of body chemistry) present at birth that results in physical or mental disability, or is fatal. Birth Defects were either the second or third leading cause of infant deaths in North Carolina between 1999 and 2003. The table below summarizes break-down rates by race for both North Carolina and Robeson County: American Indian and Black infants are more likely to have birth defects.

Table 1: Major Birth Defects

			Total	White	Black	Amer. Indian Alaska Native	Hispanic Origin
Major Birth Defects Rate for Per 100,000 1997-2001 Average	*Robeson County*	No.	118	36	31	61	10
		Rate	557.2	543.5	597.7	663.5	547.4
	North Carolina	No.	5173	3590	1400	92	391
		Rate	464.3	452.9	498.1	552.9	456.2

Between 1999 and 2003, congenital malformations, deformities and chromosomal abnormalities accounted for an average of 18.3% of North Carolina's five-year infant deaths (4,993), 23.2% of 2,629 for White and 12.9% of 2,664 for Non-White. The 1999-2003 average death rate resulted from birth defects alone was 155.9 (per 100,000 live births), 144.1 for White and 186.4 for Non-White. Non-White infants have higher death rate caused by birth defects.

Sudden Infant Deaths

Sudden Infant Death Syndrome accounted for 102 or 10.1% of infant deaths in North Carolina in 2001 (81 or 8.5% in 2002, 100 or 10.4% in 2003). In Robeson County, SIDS resulted in 16 infant deaths between 1999 and 2003. The rate per 1,000 live births was 1.5 in Robeson County, compared to 0.8 for North Carolina.

Table 2: Sudden Infant Deaths

	Area		Total	White	Non-White
Sudden Infant Deaths Rate for Per 1,000 1999-2003 Average	*Robeson County*	No.	3.2	0.8	2.4
		Rate	1.5	1.2	1.7
	North Carolina	No.	95.2	53.8	41.4
		Rate	0.8	0.6	1.3

Child Abuse and Neglect

In North Carolina, the number of substantiated victims of child abuse and neglect decreased from 37,326 in 1998-1999 to 20,114 in 1999-2000 for a decrease of 46.1%. However, it went up in 2000-2001 to 31,331. According to the North Carolina Department of Social Services, in fiscal year 2001-2002, 107,218 children were assessed for child abuse and neglect, an increase of 5,060 children from 2000-2001. Of those cases, 32,883 children were found to be abused or neglected. The average number of confirmed child deaths due to abuse was 25 in between 1999 and 2002. In Robeson County, the number of substantiated reports of child abuse and neglect was 90.4 per 1,000 children in 1999-2000, compared to the statewide rate 51.0.

HIV/AIDS

During 2000-2003, more than half of new HIV/AIDS diagnoses were among blacks nationwide. In 2003, black men had the highest rate of HIV/AIDS diagnoses, seven times the rate among white men and twice the rate among black women. Black women are also severely impacted by HIV. During 2000-2003, approximately 69% of women HIV/AIDS diagnoses were black. In 2003, women constituted 28% of HIV/AIDS cases in the United States and the rate of HIV/AIDS was 18 times greater for black women than for non-Hispanic white women.

In North Carolina, Black women make up a growing proportion of newly reported HIV infections and, in 2003, the HIV-infection rate for black women was 14 times higher than that for white women. In 1998, North Carolina ranked 24th in the nation in the AIDS rate (10.4 vs. 17.2). In 2003, there were 1,083 (Male 798, Female: 294) reported new AIDS cases in North Carolina with an increased rate to 12.9 (44963 in U.S., Male: 33320, Female: 11643, Rate: 15.2). As of 2003, the cumulative number of AIDS cases was 13,456 (White: 4020, Black: 8915, Native: 111, Asian/Pacific Islands: 32, Unknown: 19, Hispanic: 359), compared to the nationwide cumulative number 902,223. The cumulative deaths from AIDS or due to HIV reported through 2003 in North Carolina were 7,104 and 486 (512,758 and 14, 095 in U.S.).

The AIDS case rate in Robeson County was above the statewide rate at 12.0 in 1998 and 14.8 in 2003. The following table shows the five-year average number of AIDS and HIV cases and rates, for Robeson County and North Carolina from 1999 to 2003. The rates in Robeson County and North Carolina were substantially higher for Black and Native than for White.

Table 3: AIDS New Cases

			Total	White	Black	Amer. Indian Alaska Native	Hispanic Origin
AIDS New Cases Rate for Per 100,000 1999-2003 Average	*Robeson County*	No.	19	2	14	3	1
		Rate	14.8	3.9	45.6	6.0	6.6
	North Carolina	No.	467	96	366	4	10
		Rate	5.7	1.5	21.4	4	4.4
HIV New Cases Rate for Per 100,000 1999-2003 Average	*Robeson County*	No.	64	5	47	9	2
		Rate	49.4	13.0	152.3	20.0	22.0
	North Carolina	No.	1559	364	1106	14	34
		Rate	19.4	6.5	64.2	14.5	14.7

Statewide, the number of newly reported cases for ages 0-19 increased by 37.5% from 1994 to 1999. There were nearly three new HIV/AIDS cases in 1999-2002 for every AIDS death. Of 1,738 deaths due to AIDS in 1996-1998, 1,282 were non-White and 456 were White. The AIDS mortality rate for Black was 10 times the rate for White, the rate for Hispanics was more than 3 times the rate for White, and the rate for Native Americans was 1.6 times the rate for White. In 2000, the mortality rates for AIDS for minority males and minority females were 31.4 and 11.4, compared to rates 3.1 and 0.7 for White males and White females.

Other Communicable Diseases

In North Carolina, in 1999, the communicable disease rates (number of cases per 10, 000) were as follows: syphilis, 3.2; gonorrhea, 26.3; chlamydia, 24.8; and tuberculosis, 0.7. The rates for all these diseases were higher than the statewide rates in Robeson county: the number of cases per 10, 000 population for syphilis (7.8) was substantially higher than the statewide rate. This was also true for gonorrhea (43.9), for chalmydia (36.4), and for tuberculosis (1.0).

In 2001, Robeson County ranked 17th among all counties nationwide in the primary and secondary syphilis cases reported (*U.S. Centers for Disease Control*). Of the 22 counties that account for over 50% of the syphilis cases in the nation, Robeson County ranks first in the rate of syphilis cases, a rate of 50.2 primary and secondary syphilis cases. The next highest county is Marion County, Indiana with a rate of 37.7 cases. The Table below shows a comparison of sexually transmitted diseases between Robeson County and North Carolina for 1998 to 2002.

Table 4: Sexually Transmitted Diseases

			Total	White	Black	Amer. Indian Alaska Native	Hispanic Origin
Sexually Transmitted Diseases Rate for Per 100,000 1998-2002 Average	*Robeson County*	No.	1526	119	935	468	49
		Rate	884.3	295.3	3019.0	996.9	820.6
	North Carolina	No.	41454	9982	30551	578	1811
		Rate	515.0	172.0	1758.3	580.6	477.9

Statewide, newly reported cases of syphilis and tuberculosis for ages 0-19 declined between 1994 and 2000. The percentage decreases were 63.2 for syphilis and 26.5 for tuberculosis. Between 1994 and 2000, the cases of mumps and pertussis showed a marked decline (95.7% for mumps and 45.5% for pertussis). However, the incidence of communicable diseases in children in state remains disappointingly high. In 2000, respiratory distress and other respiratory conditions were the fifth leading cause of infant death in North Carolina, accounting for 8.9% of all infant deaths. Infections and parasitic diseases were the fourth lowest cause, accounting for 5.5% of all infant deaths.

Age-Appropriate Immunization

In North Carolina, 84% of children received the full schedule of age-appropriate immunizations through age 2 between 2000 and 2002, an increase of 29.4% over 1991. For Robeson County, the percentage 81.7% was significantly lower than the statewide percentage, with 80.3% for non-White children and 86.0% for White children having received age-appropriate immunizations through age 2, and in 1999-2001, the rate was 80.7% (White: 85.3, Non-White: 79.0%). The national (2000-2002) average rate was 82.0%.

Community Assessment: Unique Risk Factors

Smoking

Tobacco use contributes to low birth weight births and spontaneous abortion. In 2000-2002, 14.3% (White: 15.6%, Non-White: 10.9%) of all women in North Carolina smoked during pregnancy. For the years 1998-2002, 14.0% of women in North Carolina smoked during pregnancy (24.6% before and 20.3% after). The racial/ethnic breakdown percentages were White (15.2%), Black (11.0), Native (25.3%), Asian/Pacific Islands (2.6%), and Hispanic (1.6%). The Healthy Carolinians projects aims to reduce the incidence of smoking among pregnant women to 7%.

In Robeson County, the percentage was as high as 22.4%. The rate (21.1%) for women 15-19 in Robeson County was also higher than the statewide total percentage 14.3%. In Robeson County, Native American women had a particularly high rate 27.5% of smoking during pregnancy (25.3% for NC, 19.7% for U.S.), while Black, Asians, and Hispanics had rates close to the statewide averages (11.2%, 3.4%, and 2.1%). The percentage of White women who smoked during pregnancy was slightly higher than the statewide rate at 16.5% (15.2% for White in NC, 12.3% for White and 8.7% for Black in U.S.).

Substance Abuse

Spontaneous abortion, low birth weight births, and pre-term delivery have been associated with prenatal use of alcohol, cocaine, marijuana, and other illicit drugs. Children born to substance-abusing mothers can be impaired by birth defects and growth deficiencies and can experience developmental problems. Substance use and abuse among pregnant women is a growing problem in North Carolina. Mothers, too, are reluctant to obtain substance abuse treatment, fearing the loss of children, not wishing to leave children behind when entering residential treatment services, and encountering difficulty in accessing childcare while receiving treatment. Pregnant substance-abusing women and their children are often victims of drug-related violence. Resources in the public sector are not adequate to meet the increased incidence of substance abuse by the poor. In 2004, of the five infant deaths occurring in the Robeson Healthcare Corporation, three were substance-abusing mothers.

In 2000-2002, 37% of women in North Carolina consumed alcohol 3 months before they were pregnant, and 3.6% consumed alcohol during pregnancy. Especially apparent among Native American births during recent years have been the long-range effects of Fetal Alcohol Syndrome, FAS: attempts to study the impact of FAS in Robeson County within the last ten years have proven unsuccessful, the result, researchers have surmised, of inadequate tracking systems, as well as of embarrassment within the racial group involved. An objective of the Healthy Carolinians project is to reduce alcohol use among women prior to becoming pregnant. Its target is reduce alcohol consumption to 19% of women consuming alcohol 3 months prior to pregnancy and 0.6% of women consuming alcohol during pregnancy.

One of the interventions to be used in the project is health education and training. It includes instructional activities and other strategies to increase knowledge/awareness of an individual/group/community and to change individual behavior. Two forms of health education programs will be used to reduce smoking, substance abuse, the incidence of STDs and HIV

among the women: (1) targeted health education, consisting of informal sessions and one-on-one in home visits (counseling and support); and (2) community-wide health education, consisting of media campaigns, health fairs, public events, brochures, flyers, newsletters, church bulletins, and posters. The project proposes to educate and train at least 4,000 participants from 2006 to 2009.

Cultural Sensitivity: Cultural and Linguistic Needs

African Americans, American Indians, Hispanics and some immigrants are traditionally underserved populations. Lack of awareness about cultural differences can make it difficult for both providers and patients to achieve the best, most appropriate care, for fundamental differences among people arise from race, ethnicity, and culture, family background and individual experiences. Immigrants from other countries also face language difficulty and privacy concerns as they communicate with health professionals. These differences affect health beliefs, practices, and behaviors on the part of both patient and provider, and also influence the expectations that patient and provider have of each other. In order to serve culturally and linguistically diverse groups effectively, our project has developed protocols for the access and communication to diverse communities, cultural and linguistic competence training for stuff, outreach strategies/approaches and other interventions, with attentions on cultural awareness, languages, materials in easy-to-read formats, beliefs, values, knowledge and skills, promotion for cultural and linguistic competence, congruent behaviors, attitudes, barriers, legally binding documents, and policies that come together in a system, agency, or among professionals that enables work in cross-cultural situations.

Current Perinatal Health Care Delivery System

Hospitals, Physicians, Nurse Practitioners, and Nurse Midwives

Robeson County has one hospital, the Southeastern Regional Medical Center, with 314 beds (including acute care, psychiatric, substance abuse and long term care beds), which serves the county and the southeastern North Carolina. It has 115 medical staff. In 2003, numbers of annual admissions, emergency department visits, home health visits, and births were 14,417, 61,376, 15,325, and 1,407, respectively. In 1999, there were 18,420 general hospital discharges (20,447 in 2002). The hospital use rate (number of people per 1,000 population) was 154. This was significantly higher than the state rate of 111.

In 2003, Robeson County had 135 non-federal physicians (not employed by the U.S. Public Health Service, Indian Health Service, or Department of Veteran Affairs). There were 75 primary care physicians, 25 of whom were family practice physicians, 9 obstetricians and/or gynecologists, and 13 pediatricians. The County had 729 registered nurses (23 of whom were nurse practitioners and 3 certified nurse midwives), and 249 licensed practical nurses.

In 2003, there were 1,644 persons per primary care physician, a ratio considerably higher than the statewide ratio of 1,107. The number of physicians per 10,000 population was 10.5, a ratio significantly lower than the statewide ratio of 20.1. The ratio of people to primary care physician, nurse practitioner, and physician assistant was 1,594, also considerably higher than the statewide ratio of 1,198.

Health Department and Case Management

The Robeson County Health Department (RCHD) provides Care Coordinators who work with the Health Department and other health care providers to provide health care to at-risk pregnant and parenting women and their infants. Care Coordinators are the first point-of-contact and are responsible for counseling and enrolling clients into clinical services. In consultation with the client, Care Coordinators develop a care plan based on a needs assessment. To implement the plan, the Care Coordinator refers the client to the Maternal Outreach Worker (MOW). The MOW maintains an active caseload of 30 to 40 clients for whom he/she provides the necessary range of services to ensure that the client remains in prenatal care. The Care Coordination model is standard throughout the project area.

The Robeson County Health Department's Regular Maternity Clinic provides prenatal care in keeping with the mission and goals of the North Carolina Division of Maternal and Child Health. It has four board-certified obstetricians and three certified nurse midwives in attendance on a rotating basis. Staffing also includes a clinical social worker, a registered dietician, and a nurse who meets the training and experience requirements of the Maternal Health Program. RCHD is the primary Medicaid provider of prenatal care, but patients are admitted to the Regular Maternity Clinic regardless of their ability to pay. Follow-up is done by clinic nurses, nutritionists, the clinical social worker, and the Maternal Outreach Worker.

In Robeson County, Maternity Care Coordinators provide counseling, support, and case management to the Regular Maternity Clinic Patients. Clients receive home visits from their Maternity Care Coordinator at least twice during pregnancy. The Maternal Outreach Worker monitors pregnant women and/or their babies upon receipt of referrals from the Maternity Care Coordinator, Child Service Coordinator, and/or the nurses. The MOW usually follows the mother and baby for up to one year postpartum. Each patient is also encouraged to participate in ongoing education opportunities such as prenatal nutrition, smoking cessation, STD's, healthy lifestyles, obesity, infant physical and social development, substance abuse, and family planning.

In addition, referrals are made to the Department's Maternity Care Coordination at the time of a positive pregnancy test. Referrals are received from Medicaid eligibility staff, private community providers, and the Robeson Healthcare Corporation. Maternity Care Coordination sees first-time, at-risk women from prenatal (14-28 weeks) to infant age of two. It has a caseload of 20 to 25 clients. Clients are seen for two months postpartum, with the Maternity Care Coordinator providing case management, transportation, housing, referral for counseling, brokering, and substance abuse.

Clinics

The Robeson Healthcare Corporation (RHCC) maintains five strategically located facilities within four towns of Robeson County (one in Lumberton, two in Pembroke, one in Maxton, and one in Fairmont). RHCC is a private, not-for-profit healthcare provider whose clients are primarily low-income and high health risk individuals. The center in Lumberton and one center in Pembroke specialize in substance abuse treatment for pregnant and parenting women and their children and the other three centers specialize in perinatal care and family medicine. In this model, a Perinatal Program Coordinator (PPC) assists clients in accessing health and social service systems and supervises the Maternity Care Coordinators and the

Maternal Outreach Worker. The Maternity Care Coordinator (MCC) assists the nursing staff and medical providers in identifying needs and opportunities for patient education and/or social service referrals. The MCC schedules perinatal, postpartum, and healthy baby appointments; documents case management activities; explains benefits of care coordination to clients; develops a care plan; and ensures clients receiving a postpartum exam. The Maternal Outreach Worker (MOW) assists at-risk pregnant and parenting women with the non-medical dimensions of pregnancy and infant care. The MOW also recruits women for available health care programs and activities, acts as their advocate, and assists in supporting the development of their problem solving skills.

Although the Care Coordination model used in the Robeson Health Department and the clinics has produced some positive results, two critical, interlocking gaps exist in the current level of service delivery in the areas of continuity of care and follow-up services. Systemic obstacles, such as too many clients and insufficient staff, preclude close, personal professional-client interaction. There is also a need to revamp postpartum follow-up services in order to magnify the project's impact and long-term effectiveness. For these reasons, the project proposes to expand the level of staffing to complement the current care delivery model and to extend the postpartum follow-up period from the current maximum of 12 months to 24 months.

Outreach Programs

Since 1998, Healthy Start has conducted client recruitment with a proactive outreach strategy. In 2000-2001, the Children of the Village program operated a system of outreach workers called Lay Health Educators (LHE). Lay Health Educators are strategically placed in the three project counties. During 1999-2001, LHE were recruited from among community members and trained to deliver one-hour training sessions to local community members on teen pregnancy, male/female responsibility, Baby-Think-It-Over, nutrition, and drug use. In the Healthy Start Corps project, from 2002 to 2005, the role of LHE will expand to include not only identifying new clients but also notifying appropriate health department staff of those clients. LHE will remain members of the outreach team and work in concert with the Health Department Maternal Outreach Coordinator (MOW) and the Health Department Community Health Assistant (CHA). Cross training of LHE will enable them to conduct intervention sessions and to recruit more clients earlier in their pregnancies.

Mortality/Morbidity Reviews, Hotline Management, Referral Systems, and Joint In-Service Training

Robeson Health Department has Fetal Infant Mortality Review (FIMR) or other infant mortality/morbidity reviews which take place according to various schedules. None of the Health Departments have hotline management capability. As described in the section above on case management, Robeson Health Department has mechanisms for client referral. All take part in various types of joint in-service training programs.

Transportation, Childcare, and Translation Services

In the project area, transportation is provided for Medicaid patients, but the system is highly inconvenient for the clients. Robeson County does not contain mass transit. It is not unusual for a one-hour appointment to consume a client's entire day. Teen mothers lacking transport are of particular concern. Teens encounter great difficulty keeping prenatal appointments because of fears

about confidentiality and therefore often enter prenatal care after the first trimester of pregnancy. Teens also find it difficult to keep up with the necessary immunizations for their babies because of a lack of transportation. The Healthy Start Corps project proposes to address this problem by providing Robeson Health Department with a modest budget for hiring people at the rate of $8 per hour to transport clients to the Department.

Robeson County is characterized by a lack of available childcare, invariably scarce, inconvenient, and expensive for low-income individuals. It has no translation services for clients. However, the staff of the Robeson County Health Department includes two full-time translators for Hispanic Americans. In review of the current health care delivery system, along with the Healthy Start Initiative system, each complements, without duplicating, the other as a feature of the project designed to take advantage of synergistic principles maximize the impact of the delivery service system.

Conclusion

The health of African American, American Indian, Hispanic and immigrant women may begin to deteriorate in early adulthood as a physical consequence of cumulative social-economic and/or cultural and linguistic disadvantages since their childhood. As a result, the racial/ethnic disparities are larger at older maternal ages than at younger ages (referred as weathering hypothesis). A conclusion from this is that improvements in their health should begin from the childhood and continue to adulthood.

II. Project Implementation

Using as a framework the five Healthy Start Core Services (Outreach and Client Recruitment; Case Management; Health Education and Training; Interconceptional Care; and Depression Screening and Referral) and the four Core Systems-building Efforts (Local Health System Action Plan; Consortium; Collaboration and Coordination with State Title V and Other Agencies; and Sustainability) identify how your Healthy Start Project implemented each service and system intervention. For each one, answer sequentially the following:

A. Describe how you decided on your approach to each service, and each Core Systems-building efforts and the rationale for your particular approach based upon your particular community's needs, service system and its challenges and assets. For example, you might acknowledge that in your area, improving the quality of available services was more crucial than increasing their number, and so you focused on quality improvement in your Local Health System Action Plan.

The following approaches are for each core service and the rationale based upon community needs, service system and its challenges, barriers and assets including lessons learned. The time frame for this report is February 1, 2002 through January 31, 2006.

Rationale and Approach

Initially, the original Healthy Start CORPS (HSC) grant application focused upon three geographic areas: Richmond, Robeson and Scotland counties. However, due to decreased funds available to develop Healthy Start CORPS during the next phase, in consultation with the previous project officer, Gail Davis and other key HRSA staff, it was determined that we would focus upon one county and one health organization to initiate outreach, client recruitment and case management. Based upon review of North Carolina vital statistics by Guo Wei, Ph.D. project evaluator, due to the size and composition of the client population and area of highest

need Robeson County was determined as the host county for this project. Robeson Health Care Corporation (RHCC) and Robeson County Health Department (RCHD) were the two primary locations where Native American and African American prenatal underserved clients were encountered.

Based upon our assessment of the two locations in Robeson County**,** the RCHD appeared to have a stronger network for providing services to clients as they demonstrated a well-organized system for referrals for in-house nutrition services, medical referrals, and breastfeeding interventions. The RHCC, however, did not have a well-organized system for providing multiple services other than primary care. Neither provider had a defined home-based plan for care of the client after the final postnatal visit at six to eight weeks postpartum. The project director and key consultants including the evaluator, case management and health education consultants conducted both one-on-one and group interviews with the executive directors and other key personnel of both major health organizations The project evaluator conducted extensive analysis of the targeted area reviewing vital records on low-medium and high birth weight and infant deaths along with a host of social risk factors such as income, education, marital status, etc. Based upon the assessment, it was determined that the focus of the project would be to work to improve the overall quality of services provided by the Robeson Health Care Corporation (RHCC) while working to develop a plan to reach a targeted number of program participants. The project determined the best approach was to focus upon an unmet need, providing interconceptional home-based case management, that was provided by a full time team hired by RHCC via contract between RHCC and UNC Pembroke, the grantee.

Outreach and Client Recruitment

The main function of the RHCC contracted team was outreach and home-based visitation to provide interconceptional care to high-risk clients, primarily Native American and African American. The team focused on providing quality services rather than quantity for up to twenty-four months postpartum. Ensuring the cultural competency of the staff providing the services was part of the quality of service delivery challenge.

Two intervention components were assisting enrollment into prenatal care and/or enrollment into interconceptional care: both distinct but seamless functions, as outlined below:

1.) Community Awareness Aids in Outreach for New (PP) Recruitment - to attract new (PP), a host of opportunities to outreach included frequently attending community activities to promote HSC; new (PP) were often recruited by any one of the HSC team members. Interactions with individuals who may know of perspective (PP) occurred during a health fair, housing authority community events or health department sponsored events. Other community organizations also partnered to assist in the new recruitment of (PP). This assistance was an in-kind contribution by a host of community agencies that collaborated with HSC through various community consortia activities. The Outreach Worker (OW) developed numerous linkages with community agencies. For example, the Lumbee Regional Development Association (LRDA) operated several housing authority complexes. Referrals came directly from women living within these complexes who were told about the services sometimes while paying monthly rental to LRDA or from women who had been (PP) telling their friends, neighbors and relatives. As a community partner, LRDA

referred women to the (OW). An additional referral source was the Southeastern Family Violence Center. Here extremely high-risk women sought help for abusive situations; a key target issue for HSC services.

2.) Community Education Aids in New (PP) Recruitment - the (OW) organized monthly educational classes for (PP) and (CP). These educational opportunities focused on risk factor awareness; classes were held in community locations to attract new (PP). For example, a monthly class was held at LRDA. This location was in-kind to HSC. New (PP) referrals evolved from (CP) and others who attended Health Education classes and often knew of other (CP) who may need the services of HSC. A procedure was developed utilizing a referral form developed by Dr. Guo Wei, project evaluator. This form when completed and signed by a potentially new (PP) identified during a Health Education class within the community signified agreement that the (OW) may re-contact her. The (OW) then contacted the woman and determined the need of appointments and often accompanied her to the medical appointment. Direct services were also initiated through the efforts of the (OW).

3.) Direct Services Assist in New (PP) Recruitment - HSC Case Managers conducted (PP) home visits where assessments, education, risk factor counseling and dissemination of information and referrals occurred. Case Mangers often heard about a newly pregnant woman in the community who was not enrolled in prenatal care. The Case Manager then attempted to contact her to assist in securing an appointment for prenatal care. When requested the (OW) accompanied the woman to the visit, and might also provide support for a healthy delivery and to eliminate disparities. The above activities worked very well and will continue during the next project period.

A Major Lesson Learned: Initially the project tried to recruit an RN and Dietician however as both positions are in high demand in Robeson county; the RN position was filled twice and each time the individual left for higher salary elsewhere. The dietician position was never filled due to the inability to hire an individual to work in the rural area. The Southeastern Regional Medical Center in Lumberton had a large dietary department and a diabetes outreach program. HSC attempted to link with the hospital to share or partially support a dietician. However, the diabetes program received a large grant to support a cancer initiative and supported the dietician with those funds and chose not to partner with HSC. The addition of both positions would have allowed HSC to provide a more multifaceted approach to home-based care management. Initially, the two social workers were to have provided basic nutrition information to the clients, however, the information was in the form of pamphlets only.

Also, the (OW) was responsible for new client recruitment. However, very few new clients were actually recruited by the (OW). The majority of new client referrals came from the Lay Health Advisors. The (OW) organized a monthly program for clients and accompanied the (SW) on home visits and was not very effective at increasing new client enrollment. Outreach activities were developed with current clients that were very successful like, “Healthy Start Spa” and “Weigh to Go”. New client recruitment came primarily from the RHCC prenatal staff that provided information to the prenatal clients about HSC. Ms Vasquez, RHCC Director of Perinatal Services oversaw both prenatal and HSC teams and it was assumed that this would assure a smooth transition of clients from prenatal services to HSC home-based interconceptional services. However, new client recruitment into interconceptional care remained very low

throughout the project period. Within the new grant cycle, a stronger emphasis will be placed upon the use of an RN within the prenatal clinics to transition clients into interconceptional care. HSC will also link with the UNC Pembroke Nursing Department to provide extra manpower through the use of licensed RN's working toward their BSN. They will work on risk factor education during prenatal clinical times and provide visibility and information on Healthy Start CORPS to prenatal clients. The process will become operational within the new grant cycle.

Case Management

Prenatal Case Management was provided in-kind to Healthy Start CORPS (HSC) by Robeson Health Care Corporation (RHCC) and no Healthy Start funds were allocated to this service. To avoid duplication of services, prenatal clients were transitioned after delivery into the Healthy Start CORPS interconceptional home-based care where routine home visitation and telephone contacts were conducted based upon a level system of high-medium-low risk clients as determined by Dolores Vasquez, BSW, Director of Perinatal Services and the HSC team. The approach provided weekly and monthly home-based visitation and frequent telephone contact to clients who agreed to become program participants (PP) for up to twenty-four months (24) postpartum. The plan remained intact for the duration of the grant period.
Full details in section B.

Perinatal clients and their infants by year:

	2002	2003	2004	2005	Total
Perinatal Clients*	686	705	691	709	2791
Infant Clients*	345	395	435	430	1558

* including interconceptional clients and their infants.

Interconceptional Care:

Total interconceptional clients: 161 Total infants of interconceptional women: 148

Year	No.	Age	No.	Marital Status	No.	Education Level	No.	Race	No.	*Ethnicity*	No.
2002	19	15-17	14	Single	130	Less than High school	75	White	15	Hispanic	9
2003	59	18-19	33	Married	23	High school	69	Black	50	Non-Hispanic	145
2004	30	20-24	74	Separated	2	More	9	Native	86		
2005	49	25-29	24	Divorced	4			Other	8	Spanish	8
2006Jan.	3	30-34	12								
		35+	2								

Missing age, race etc not included.

Infants of Interconceptional Women:

White: 2 Black: 46 Native: 85 Other: 10 Missing Race: 5

Depression screenings by year:

	2002	2003	2004	2005	Total
Full Screenings	103	226	171	145	645

Breastfeeding Participants by year:

	2002	2003	2004	2005	Total
Breastfeeding Clients	Not Applicable	Not Applicable	Not Applicable	488	488

A Major Lesson Learned: initiate early and frequent interaction between prenatal client, her male partner and the HSC team to develop a trusting relationship between all parties thus enhancing enrollment and retention into interconceptional care. Enrollment into home-based interconceptional care was low throughout the project period; project staff cited that concern over intrusion into the home; especially from the father of the baby, who then applied pressure to the client not to allow anyone into the home. This was a barrier to service delivery partially because some families are reluctant to have people come into their homes which will continue to be addressed through establishing relationships with the prenatal client and her mate in the next project period.

Health Education and Training

Health Education for Program Participants (PP)

Supervision of health education for RHCC prenatal staff and HSC interconceptional care staff was provided by the RHCC director of perinatal services. A variety of teaching strategies were used that assured a comprehensive, coordinated approach to achieve grant health education objectives.

The strategies and methods for health education included: group instruction, one-on-one intense instruction, written materials and/or referrals to other providers. The health education sessions were provided in a variety of locations in the county including (PP) home and during transport to and from appointments. These strategies encompassed right and left brain learning with the goal to help (PP) learn goal setting, adopt new behaviors, do creative thinking, acquire new skills, practice reflection, and have fun as they go through the early process of motherhood! Using a multifaceted approach, the outcomes were designed to change (PP) behavior, support improved decision making that will lead ultimately to improved health outcomes, enhanced self-esteem, better parenting skills, and expanded job opportunities. A new emphasis was designed to encourage mothers to breast feed, avoid smoking, and, referral for symptoms of early depression. Three new modules were piloted near the end of the project period in RHCC clinical sites on these topics. A social work masters level student initiated the pilot test by proving risk factor education and breastfeeding awareness and training for (PP) during clinical visits. A location was designated by RHCC within each clinic for one-on-one (PP) education. Also, local experts were contracted and provided educational programs as an in-kind contribution. For example, a nutritionist from RCHD bi-annually presented a workshop for (PP) organized by the (OW) on how to use herbs instead of salt in food preparation; that was further reinforced by HSC during home visits. HSC team members were trained and prepared to carry out health education activity as part of their role, and provided (PP) with educational materials with discussion during client transport.

Health Education for Community Participants (CP)

The Public Health Education Specialist (PHES) (100% FTE) coordinated community participant (CP) based health education activities, locations, and presentations. A standardized curriculum was developed by Sandra Cross Ed.D., associate professor, Health and Physical Education, and Cynthia Herndon, RN/MS, assistant professor of Nursing. Lay Health Advisors (LHA) received twenty-four hours of training and copies of the manual were previously provided to HRSA. Services were marketed by the LHA who contacted local community groups, schools, housing authorities, and social services departments regarding hosting a location for workshops. The (PHES) met with local organizations to identify new locations for classes within the targeted population and coordinated the Healthy Start Lay Health Advisor network. (LHA) were contracted and trained each year by HSC to provide community based education services to (CP) and (PP). Often (CP) were residents of the public housing communities or students within middle or high schools. The benefit of contracting with the LHA was their familiarity with the community neighborhoods, knowledge of local culture and language. LHA worked in paired teams; one person instructed and the other person served as an observer and recorder. They collaborated on all activities to ensure the goals of the educational program were met and documented. The community-based programs were offered in various county community locations such as housing authorities, churches and other community agencies. UNCP nursing and community health education faculty designed and field-tested materials. The applications programmer I (100%FTE) and project evaluator (contracted) jointly oversaw the evaluation plan and provided statistical analysis of community based health education activities. Class participants were (CP) on many levels: consumers, consortium members and health care providers. The project goal remained consistent with the number of LHA activities the grant offered; this educational approach was perceived as a strategy for grant sustainability. The table below shows the education topics offered to consumers and providers. The presentation methods were small group discussions held in community locations. Once a year a large conference was held at UNCP for providers; the conference annually attracted approximately one hundred (100) providers. This conference was held in theater style presentation to accommodate a larger audience. This approach remained consistent throughout the four-year-project cycle and report is located in the evaluation section of this report.

Table 5: Actual Number of Participants by Topic. (2002-2006)

Education Activities/ Topics	**#Consumers**	**#Providers**	**Strategy**	**Total**
Smoking/Drugs /Alcohol Substance Abuse	2259	0	Workshop face to face	2259
Preterm Labor & Birthweight	624	0	same	624
Breast Feeding/Birth Control	447	0	same	447
Depression	862	0	same	862
Safe Sleep SIDS/Back to Sleep	1124	0	same	1124
STD/HIV/AIDS/Syphilis	1694	0	same	1694
Nutrition	1813	0	same	1813

Self Esteem	2741	0	same	2741
Annual PE Conference	0	600	Seminar	600
Grand Total (2002-2006)	**11564**	**600**		**12164**

Lesson Learned: developing and monitoring ongoing goals with both clients and lay health advisors will enhance the project as the program moves forward. Within the new grant cycle, a workshop on goal attainment scaling for providers in setting goals with clients will be implemented and use of this technique with the case management HSC field staff. The monitoring of this process will be the responsibility of the Director of Perinatal Services with monthly reports provided to the HSC project director who will organize the training of staff and develop a monthly report system. Also, the review of GIS mapping and project achievements will be provided for LHA by the Applications Programmer to determine where trainings should be conducted for maximum impact in high risk communities.

Interconceptional Care

Healthy Start CORPS (HSC) implemented Interconceptional Care via contract with RHCC in collaboration and partnership. RHCC staff and HSC team were responsible for routinely encountering prenatal clients during the third trimester or postnatal period to initiate signing of a contractual agreement and subsequent enrollment into HSC interconceptional care where home-based health care was monitored using an eleven point health assessment, depression screening was provided, and, referral as needed to RHCC for health care or outside referral for services not directly provided by RHCC such as mental health visits; tracking of outside referrals became standard to determine completion of referrals and access to community intervention activities to promote continued improvement in client health and well being for twenty-four months postpartum. Funds were provided to RHCC to develop a four member team called Healthy Start CORPS (HSC): one (1) FTE Outreach Worker, one (1) FTE Social Worker II, one (1) Registered Nurse Case Manager and one (1) Dietician; a team of four (4) to provide services and complement the existing in-kind prenatal services provided by Baby Love and RHCC. The HSC team developed a schedule to assure at least quarterly home visits to each (PP) with intermittent telephone follow-up. Quarterly reports were provided to the project evaluator, Guo Wei, Ph.D. and summaries were developed and provided to RHCC who in turn presented this information at RHCC board meetings to keep them informed.

A Major Lesson Learned: in a rural area such as Pembroke, North Carolina the ability to contract with a provider such as RHCC was simple. Despite the ease in contracting, the provider, RHCC was responsible for hiring, training and retaining staff and administering consistent supervision of field staff to assure attainment of goals. However, despite the on-going coaching and monitoring from the project director, many of the objectives were not achieved. The provider was unable to hire and retain a registered nurse and hire a dietician. Therefore, the staff configuration included two FTE Social Workers and one FTE outreach worker. The staff were full time employees and RHCC provided supervision and monitoring of employee scheduling and achievements. The HSC project director received quarterly reports from RHCC but had no direct supervisory responsibility of the RHCC staff. This supervision stipulation was a requirement of UNC Pembroke as it is not a medical facility. After numerous conversations between the contractor and project director, it was clear that the contractor was not providing the level of supervision to assure contracted deliverables. Throughout the project period, goals and

objectives were consistently not reached. After numerous meetings with the contractor to determine why goals were not being met, they reviewed expectations and clarified understanding of the goals and objectives**,** additional training of staff to assure competencies**,** abilities and understanding of expectations was provided; and, subsequent monthly meetings to review and assure understanding of program expectations were held. The contractor consistently agreed to work to modify the work approach to achieve the goals and objectives, however, many of the goals were still not achieved. Within the new grant cycle **a** field implementation monitoring system that will track productivity and accomplishments of the field staff will be implemented. The project director will meet continuously with the contractor to provide feedback and monitoring to ensure that the project is on track to achieve the goals and objectives. The project will also consider providing technical assistance to the contractor to ensure that the staffing, protocols, and expectations are realistic to meet the needs of the clients served.

Depression Screening and Referral

The depression-screening tool selected was the Beck postpartum screening instrument. Dr. Lisa Baker, Assistant Professor of Social Work at UNC Pembroke, Dr. Guo Wei, Associate Professor of Math and Computer Sciences, who also served as the project evaluator and Linda Greaver, Project Director, agreed upon this tool as the best assessment for postpartum depression based upon ease of use for the client and simplicity in scoring by the clinician. Dr. Cheryl Beck provided a one-day in-service in August 2003 for the RHCC BabyLove team, HSC interconceptional team as well as other clinicians within Robeson county including the Robeson County Health Department. The Beck tool was implemented with RHCC clients at six-eight weeks postpartum as in-kind by the RHCC prenatal team. Subsequent screening as warranted was conducted by the HSC team. For clients needing counseling and/or medical intervention, funds were allocated within the HSC budget to provide contracting with a behavioral health group. For clients not entering HSC, referral of highly scored clients into care was the responsibility of RHCC. All clients administered the Beck depression-screening tool were entered into the HSC data base. A subset of those followed by HSC team received routine screening until scores were normal or until twenty-four months postpartum when HSC services concluded. A full report of those screened is contained within the evaluation report.

Local System Action Plan

The local system action plan addressed four primary concerns for quality improvement of the program:
1. Identification of women who delayed prenatal care until the second or third trimester;
2. Lay Health Advisor (LHA) filling a critical need in identifying community participant (CP) for entry into prenatal care;
3. Expand postpartum services for women who currently receive only two months of care; and
4. Expand transportation of (PP) to medical appointments.

The approach for implementing a service and system intervention for RHCC included:
1. HSC implemented community health education by designing and implementing a lay health advisor network (LHA) to provide community education to targeted communities where high-risk clients resided based upon GIS mapping. LHA were recruited and trained by

HSC to identify housing authority locations to conduct one-hour educational seminars for high-risk clients on the importance of early and continuous prenatal care.
2. (LHA) were also trained to identify (CP) who may be pregnant, counsel and refer them into the perinatal system of care. Each of the community partner medical facilities agreed to use a community referral form to accept new clients and provide initial pregnancy testing within forty-eight hours of referral. The referral was then followed by the HSC to assure (CP) entered prenatal care for the pregnancy.
3. HSC contracted with RHCC to provide up to twenty-four months of interconceptional care for (PP) who were routinely discharged eight-weeks postpartum.
4. HSC provided under contract with RHCC the use of a van for the core team to transport (PP) to medical appointments when other forms of transportation were not available. For those enrolled in HSC, transportation was routinely provided and documented in the evaluation section of this report.

Upon implementing the above quality improvement issues we began to address the development of a revised FIMR for Robeson County Health Department; this plan was outlined in the 2006-2010 grant proposal and will be implemented in the next grant cycle.

Consortium

HSC consortium was initially part of the Community Health Alliance of Southeastern North Carolina. The consortium under the UNC Pembroke Regional Center for Community and Economic Development was subsequently disbanded in 2005 as the funding stream for Alliance activities ended; HSC then realigned its consortium membership as part of the Robeson County Partnership for Health under the Healthy Carolinians of North Carolina. This realignment provided continuity between HSC and other organizations in Robeson County that addressed infant mortality and the elimination of perinatal disparities. Both (CP and PP) attendance was encouraged and meetings were well attended. HSC sponsored a luncheon for one (1) meeting each year. Each month**,** meeting reminders were sent to members by Mary Black, Director of the Diabetes program at Southeastern Eastern Regional Medical Center in Lumberton. Meeting locations were rotated between the hospital and community agencies. One meeting each year was held at the UNC Pembroke Regional Center where HSC is based. After the meetings, minutes were circulated to all participants by Ms. Black through email or regular mail. HSC maintained a file of those minutes. LHA consumers regularly attended the meetings: Ms. Emma Burns LHA served as a permanent consumer representative on the consortium. Quarterly, Linda Greaver, project Director presented a Healthy Start report of implementation and update of program activities. The numerous roles of consumers within the consortium are listed on the table below:

Table 6: Consumers on the consortium serve in several capacities.

1. Project planning - Consumers assisted in planning for project implementation. They worked together to review demographic data on each community and determine approaches to reach high-risk families in targeted areas.	**2. Coordination of training efforts** - Consumers worked with the project evaluator to select geographic areas to host focus groups to test materials. They recruited collaborative partners to assist with program planning and implementation efforts.	**3. Budget/finance** - LHA were empowered to budget for their respective classes and given parameters for their program expenses and mileage reimbursement limits; a lead LHA met monthly with them to monitor expenses prior to submission to the project director.
4. Personnel recruiting/hiring - LHA consumers continue to recruit new LHA	**5. Input into developing the scope of services Healthy Start offers** - Shirlyn	**6. Communication/media efforts** – Emma Burns (CP), Kimberly Brown

to participate in the activities of the network. Two LHA were then subsequently hired to work full-time.	Smith, LHA, serves on the advisory committee helping to shape new program activity. Emma Burns, LHA represented the project on Robeson County Partnership consortium shaping needs assessments and scope of the activities on consumer education.	(CP), Shirlyn Smith (CP) and Jonavice Lee (PP) attended the Healthy Start Community education meetings in DC. during the four year period. Each developed the media packets for legislative offices of: Senators Dole and Burr, and Congressman McIntyre and participated in the meetings.

Area Health Education Center (AHEC)

HSC collaborated with the Area Health Education Center (AHEC) in Fayetteville, North Carolina. AHEC provided services of students who were social Work and Health Careers majors within the UNC system; HSC provided stipends for minority students in need of assistance who completed internships with HSC. One such student was Kimberly Brown, a MSW candidate, who developed clinical educational materials for RHCC. The medical aspect of the design of the materials was provided by UNC Pembroke Nursing Assistant Professor, Cynthia Herndon, RN MS, Ms. Brown then implemented health education sessions on breastfeeding, depression and premature birth administered in the clinical waiting room for RHCC clients; this clinical service was provided in-kind to RHCC as HSC provided stipends to both Ms. Brown and Professor Herndon for their services. Please note that Ms. Brown was both a client and consumer within Healthy Start. Although she was a student at UNC Chapel Hill, Ms Brown was considered a consumer who had a low-birth weight infant, 2 /1/2 lbs baby girl Eliza. Although not a resident of the project area, she worked tirelessly to develop materials to help other high-risk mothers. Ms. Brown who has recently graduated with a Master in Social Work degree is in the process of relocating to Raleigh, North Carolina and plans to volunteer with the Healthy Start project in that area.

Collaboration and Coordination with State Title V and Other Agencies

Linkage with State and local Title V MCH block grant agencies initiated with the North Carolina state five-year needs assessment. The coordination included:

Five year needs assessment

a. HSC worked with Title V in Raleigh to develop a joint conference yearly for all Health Department Baby Love and Healthy Beginnings staff. The conference planning committee included Healthy Start CORPS, Healthy Beginnings, and North Carolina State Maternal and Child Health staff. Each year of the project a joint conference was held. HSC also worked with Title V in Raleigh as part of the Women in Smoking. The collaborative also supported a North Carolina Regional Conference each year.

b. HSC worked with RCHD and Title V to develop subsequent North Carolina state infant mortality grant proposals. HSC worked with the RCHD to design and evaluate Healthy Carolinian community assessment survey questions and

implementation of the survey to community participants.

c. HSC participated in designing new joint programs with Title V on the local level in collaboration with the Healthy Carolinians collaborative under the Robeson County Partnership for Health to promote long-term healthier lifestyles. Two conferences were held in 2003 and 2004. Healthy Start participated in the formation of those conferences and provided transportation for Healthy Start clients to attend both programs. The programs were held jointly with the Robeson County Health Department and Lumbee Regional Development Association program for Women of Color.

d. HSC worked with the Title XXI Early Head Start located in Pembroke at the Lumbee Regional Development Association. Amanda Blue, Early Head Start services manager, met routinely with the HSC case management team to provide HSC program information to Early Head Start clients.

e. HSC routinely transported (PP) to the RCHD and Social Services Department for Title V and Title X appointments for services such as food stamps, WIC, TANF, Medicaid recertification appointments and voucher pick-up. Initial enrollment coordinated through the RHCC Baby Love program with collocation of enrollment at RHCC clinical sites and transferred to HSC interconceptional care for continued follow-up after postnatal services were concluded.

HSC collaborated with Title V in Robeson County to design and implement new joint program activities that promoted both federal and state perinatal initiatives under the RCHD Folic Acid and Breastfeeding Task Forces that reported to the Robeson County Partnership for Health Consortium. HSC collaborated with RCHD Title V and Title X to plan and implement pertinent federal and state funded perinatal initiatives for teen abstinence. It was through this collaborative that a Breastfeeding Task Force under the Robeson County Health Department task force chair Monica McVicker, Title X WIC director and Jennifer Clark, Title V director of social work co-chair, jointly planned with HSC, Southeastern Regional Medical Center, Lumbee Regional Development Association (LRDA) and a host of other community agencies. A billboard was placed in Robeson County in February 2005 for a six-month period. This was a major accomplishment that combined the manpower resources of numerous agencies. Financial support for the cost of the billboard was jointly provided by HSC and LRDA Title V Healthy Beginnings program funds. The advertising agency gave HSC two locations for the price of one. Billboard copy can be found in the Appendix. In fact, as of this report date, the billboard in the Pembroke area remains intact and has become an in-kind contribution of the Advertising Agency involved in the project. Also, two additional billboards have been developed on breastfeeding and placed in Robeson County through funds available through North Carolina Partnership for Children Smart Start program. HSC was proud to have initiated this effort to raise awareness of perinatal issues.

Another joint project was the continued implementation of breastfeeding reminder cards placed in the Southeastern Regional Medical Center hospital nursery. The cards indicated, “Do Not Bottle Feed” as reminders to nursery and NICU staff not to give infants bottled milk; the cards

were introduced to the prenatal mother during breastfeeding training coordinated by WIC. The hospital nursery staff was involved in the design and implementation of the reminder cards.

HSC worked with the hospital to encourage and support the March of Dimes "Back to Sleep" campaign. HSC collaborated with Title V: Jennifer Clark, RCHD director of social work and Monica McVicker WIC director to provide RHCC with updated Breastfeeding training. Breastfeeding pumps were purchased with HSC funds in 2004 with adequate supply provided to both RHCC and RCHD Title X through Monica McVicker, WIC Director. The HSC implemented a breastfeeding module in April 2005 that included March of Dimes information on the "Back to Sleep" campaign. This project was necessary as RHCC client attendance at health department breastfeeding classes was very low or not at all. The breastfeeding rate in RHCC clients was less than 10%; therefore, an increased emphasis on early awareness, training and information on breastfeeding at both clinical and community settings by Healthy Start CORPS was provided in a collaborative approach at RHCC clinical locations and through breastfeeding awareness and education within the community.

HSC met on a monthly basis with Maternity Care Coordinators, Mothers Advocates and the Baby-Love program staff at RHCC to provide a seamless system for (PP) from the onset of pregnancy and transition into HSC interconceptional care. HSC and RHCC Baby Love MCC coordinated (PP) enrollment into Medicaid at the RCHD by providing an eligibility worker at each RHCC clinical location to facilitate enrollment. All Title V and Title X linkages to address waivers, family planning, food stamps and simplified eligibility applications were provided through co-location of services and eligibility enrollment at all RHCC clinical sites. HSC transported (PP) to the RCHD for enrollment into services such as WIC provided at the RCHD.

Planned collaboration and services coordination with other entities included: UNC Pembroke Nursing Department who initiated breastfeeding training for RHCC staff on the importance of providing clients with information during clinical appointments; UNC Pembroke Social Work Department in implementing the interconceptional care aspect of HSC; UNCP Community Health Department in implementing the Lay Health Advisor network; UNCP Career Services Center in providing in-kind job-skills training during the Healthy Start Spa project; Clothing and Such retail store in providing in-kind clothing to (PP) while implementing the Healthy Start Spa; Lumbee Regional Development Association in providing transportation for (PP) and hosting monthly training classes.

Community health educational sessions were presented in collaboration with numerous community agencies as outlined in the evaluation section of this report.

Sustainability

HSC worked with state and local government funding agencies to provide the best possible integrated care for (PP) including establishing and strengthening linkages to enhance the quality and access to available services. HSC linked with Title V MCH to provide initial postpartum clinical visits to new breastfeeding mothers and abstinence programs for teens. A Breastfeeding Task Force under Title X Family Planning was developed by the RCHD; HSC served as a member of this task force. To provide visibility, a community awareness billboard was developed and designed by a

RCHD task force and implemented in two locations, Lumberton and Pembroke. HSC met quarterly with a WATCH committee in Chapel Hill, North Carolina. This is a NC state committee that coordinates Title V MCH activities in North Carolina. HSC worked with local Department of Social Services for TANF assistance for clients; Social Security Administration where (PP) apply for SSI; housing authorities in Pembroke, Lumberton and Fairmont; WIA & DSS for food stamps, child support and Medicaid; WIC for child immunizations; Title III with the National Interfaith Committee for Workers Justice; HIV early intervention program, and SCHIP. A member of the HSC team, Danielle Locklear, BSW served as president of a local Title XXI Early Head Start program. HSC linked with an Early Head Start program based at LRDA to provide transportation for (PP). Three of the LRDA staff attended LHA training on preterm delivery, postpartum depression and breastfeeding on April 9, 2005. Workshops for (PP) were offered on a monthly basis. This is a very short list of the types of linkages with State and local government funding agencies that existed over the past four years.

The entire prenatal operation was supported through RHCC funding streams. HSC will continue in the next grant cycle to work with both RCHD and RHCC to seek additional outside funding for maternal and child health programs. In 2005, HSC assisted as part of the Infant Mortality Task Force collaborative to develop a proposal for a new North Carolina Title V Infant Mortality program. A $10,000 planning grant was secured by RCHD and a full grant proposal was developed with the input of partnering agencies RHCC, HSC, LRDA and SE Regional Hospital. The proposal was submitted by the RCHD to the NC State Health Department. However this grant was not funded and illustrated the seriousness of the situation in Robeson County if HSC had not been funded. HSC supported grant proposals submitted by RHCC. A previously submitted and funded proposal resulted in the purchase of two vehicles to transport RHCC clients to clinical appointments. Thus, HSC supported RHCC in becoming a sustainable prenatal and postpartum care facility in Robeson County. HSC supported the breastfeeding initiative with RHCC that encouraged newly pregnant women to breastfeed. RHCC prenatal staff provided in-kind breastfeeding counseling during prenatal visits in an organized manner developed by HSC. Counseling is now a sustainable feature of RHCC clinical activities and is routinely tracked by the HSC data analyst.

Vested major responsibility for assuring sustainability will be the interagency collaboration that will be the hallmark of the next grant cycle (2006-2010), where collective leadership with other organizations and consumers will work toward a common sustainable future promoting the development of projects linking community partners and consumers who will work with RHCC to secure new funding streams to support the clinical operations. By improving the overall level of maternal and child health services (both prenatal and postpartum), RHCC will work to become a valuable link for other health care providers who seek partnership with the rural health care network to elevate the level of service provided to (PP) thus attracting new (PP) who seek the best care available within the community. By the end of the next grant cycle (2006-2010), RHCC will become a sustainable operation providing quality prenatal and postpartum care. It is not the intent of HSC to be a stand alone entity but to provide the necessary manpower, oversight and resources over a period of time until the level of service has improved and becomes the premiere service in the community, ultimately resulting in less infant mortality and decreased rates of low and high birth weight infants and other perinatal disparities. By encouraging capacity building, the impact in Robeson County reflects a holistic change that is integrated into a variety of services focused on eliminating racial and ethnic disparities in health care and improving health care for all its citizens.

B. Identify the components of your intervention and the resources (including personnel) needed to implement the intervention. Note any changes over the project period and the rationale for the changes. For example, you might have decided that using indigenous community workers for outreach required a great deal of support and training, and therefore you gradually changed to an intervention where the outreach workers and case managers had more frequent contact.

Outreach and Client Recruitment

RHCC through HSC contract, of $156,083 per year, provided a team of three FTE: two case managers who were licensed social workers and one community health assistant and a fourth partial support for the RHCC Director of Perinatal Services who provided supervision and training. HSC conducted outreach and client recruitment for new client identification and recruitment while transitioning current prenatal clients after delivery, and, aided in retention for two levels of participants. Program participants (PP) were interconceptional women who received ongoing systematic case management, health education, and depression screening for up to twenty-four (24) months after delivery. In Robeson County, prenatal (PP) were provided services through RHCC Baby Love project. During the prenatal period, (PP) were introduced to the HSC project by RHCC prenatal staff after the six-week postpartum visit and transitioned into HSC. Additionally, community participants (CP) were those who attended HSC events, programs, training, or consortium activities to gain knowledge and assisted in identifying pregnant (CP) currently not enrolled in care; those who had high risk behaviors that could lead to poor pregnancy outcomes in the future, teens (to prevent unwanted pregnancies), and community residents who influenced others to get adequate care, decrease risky behaviors and seek assistance during prenatal and interconceptional periods. Two intervention components were assisting enrollment into prenatal care and/or enrollment into interconceptional care: distinct but seamless functions as outlined below:

1.) Community Awareness Aids in Outreach for New (PP) Recruitment - to attract new (PP), a host of opportunities to outreach included frequently attending community activities to promote HSC; new (PP) were often recruited by any one of the HSC team members. Interactions with individuals who may know of perspective (PP) occurred during a health fair, housing authority community events or health department sponsored events. Other community organizations also partnered to assist in the new recruitment of (PP). This assistance was an in-kind contribution by a host of community agencies that collaborated with HSC through various community consortia activities. The Outreach Worker (OW) developed numerous linkages with community agencies. For example, the Lumbee Regional Development Association (LRDA) operated several housing authority complexes. Referrals came directly from women living within these complexes who were told about the services sometimes while paying monthly rental to LRDA or from women who had been (PP) telling their friends, neighbors and relatives. As a community partner, LRDA referred women to the (OW). An additional referral source was the Southeastern Family Violence Center. Here extremely high-risk women sought help for abusive situations; a key target issue for HSC services.

2.) Community Education Aids in New (PP) Recruitment - the (OW) organized monthly educational classes for (PP) and (CP). These educational opportunities focused on risk factor awareness; classes were held in community locations to attract new (PP). For example, a

monthly class was held at LRDA. This location was in-kind to HSC. New (PP) referrals evolved from (CP) and others who attended Health Education classes and often knew of other (CP) who may need the services of HSC. A procedure was developed utilizing a referral form developed by Dr. Guo Wei, project evaluator. This form when completed and signed by a potentially new (PP) identified during a Health Education class within the community signified agreement that the (OW) may re-contact her. The (OW) then contacted the woman and determined the need of appointments and often accompanied her to the medical appointment. Direct services were also initiated through the efforts of the (OW).

3.) Direct Services Assist in New (PP) Recruitment - HSC Case Managers conducted (PP) home visits where assessments, education, risk factor counseling and dissemination of information and referrals occurred. Case Mangers often heard about a newly pregnant woman in the community who was not enrolled in prenatal care. The Case Manager then attempted to contact her to assist in securing an appointment for prenatal care. When requested, the (OW) accompanied the client to the visit and might also have provided support for a healthy delivery to eliminate disparities. The above activities worked very well and will continue during the next project period.

Initially the project tried to recruit an RN and Dietician, however, as both positions are in high demand in Robeson County; the RN position was filled twice and each time the individual left for higher salary elsewhere. The dietician position was never filled. Therefore hiring of highly qualified staff remained a challenge for the project.

In-kind prenatal services throughout the grant cycle were provided by RHCC as follows:

Case Management

4.) Intake Assessment and Enrollment Process - At the time of intake a prenatal (PP) assessment was conducted to identify strengths, extent of gaps and needed services. Assessment included consideration of psychosocial, health, and educational needs. All prenatal services were provided by the RHCC MCC Baby Love staff as in-kind support to HSC. Ongoing intake and case management began at any one of three RHCC prenatal clinics 1) Maxton, 2) Fairmont, or 3) Julian T. Pierce in Pembroke as follows:

A. Prenatal Care In-kind support provided by RHCC Baby Love - no HSC dollars

1. Enrollment into prenatal care
2. Assessment and development of a service plan. Risk factor education and counseling on the following: STD/HIV/AIDS, Nutrition, Smoking, Exercise, drugs and alcohol, pre-term delivery; Breastfeeding
3. Implementation of the service plan through direct assistance and advocacy
4. Making and tracking referrals
5. Home visits at least once each trimester

Prenatal (PP) were encountered at RHCC clinical sites and received home visits quarterly by

RHCC MCC (in-kind to HSC). The RHCC MCC home visits focused on developing a support system at the community level for the prenatal (PP) through community intervention activities.

In the third trimester, Mrs. Vasquez, the RHCC Director of Perinatal Services, routinely met with prenatal (PP) and initiated conversation about HSC. Completed HSC Referral Forms were then forwarded to HSC for intake into HSC for interconceptional care.

B. Postnatal Care In-kind support provided by RHCC Baby Love - no HSC dollars
1. Home visit within 48 hours after birth for breastfeeding mothers
2. Home visits within two (2) weeks of birth for non breastfeeding mothers; attended with HSC staff.

Interconceptional Care (ICC)

Interconceptional Care/Postpartum Women: (The investment of Healthy Start dollars begins at this point in the continuum of care.) During the initial interconceptional home visit, the HSC home case management team manager received previous assessment screens and developed a comprehensive service plan with (PP), which often involved reassessment including risk assessment, overview of needs and resources, linkages with other community agencies, assignment of a primary case manager, and medical and psychosocial evaluation. A health promotion plan was developed on continued breastfeeding, nutrition, smoking cessation, exercise, stress-reduction, and family planning. A second postpartum depression screen was administered. The HSC then initiated service linkage and monitored care for the next twenty-four (24) months.

Clients were transitioned at six (6) weeks postpartum by RHCC to HSC
1. Home visit at eight (8) weeks (HSC); reassessment and update of service plan
2. Biweekly home visits (HSC) for three (3) months
3. Once (1) a month home visit – 4th month and beyond; weekly telephone contact until (24) months postpartum by HSC.

Depression Screening

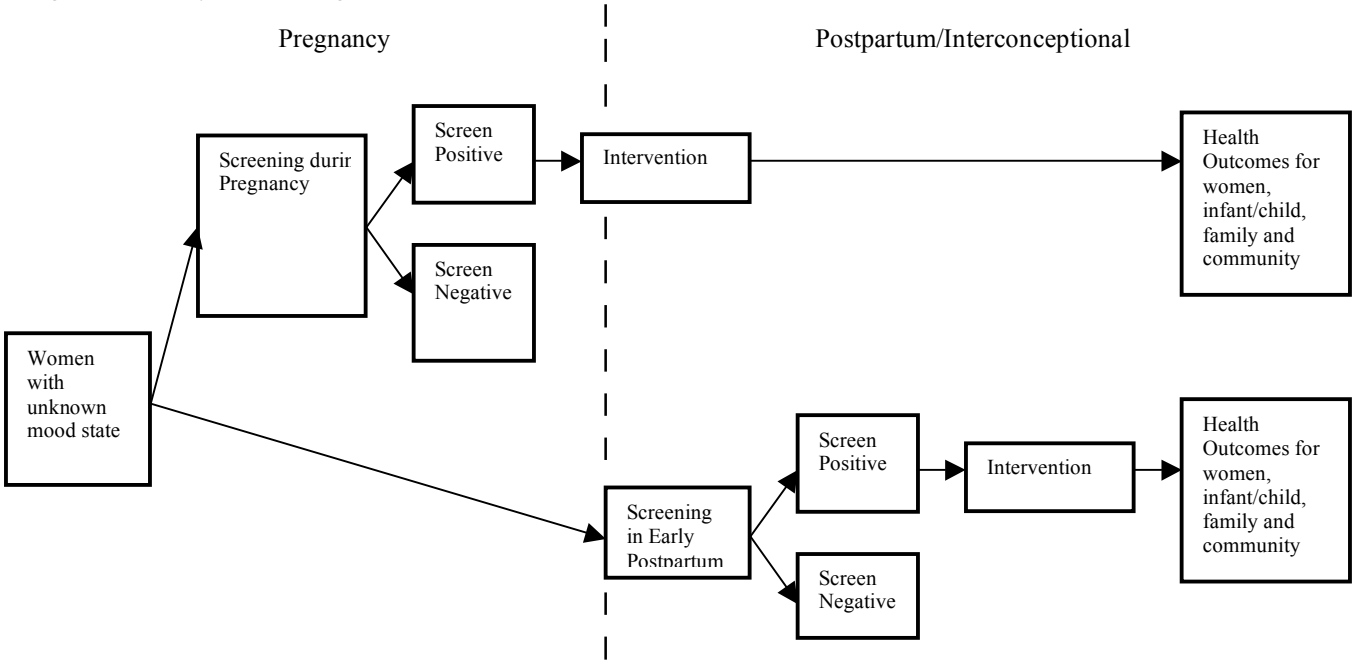
The RHCC Baby Love Maternity Care Coordinator (in-kind) administered postnatal depression screening using the Beck PDSS. Depression screens consisted of thirty-five (35) questions that asked the (PP) to rate the severity of: anxiety, appetite loss, sleeplessness, isolation, crying, etc. Postpartum follow-up screens were conducted in the homes by the HSC Social Worker, 100% FTE; with the cost of the screening forms supported by HSC. The Baby Love MCC worked to link (PP) to HSC services during the last trimester of prenatal care providing screening for all women at the six-week postpartum scheduled check-up. Subsequent depression screens for (PP) entering the HSC interconceptional care were conducted by the HSC case managers (100%FTE), as indicated by the case management design. The prevalence assessment check-up for depression occurred with admission into interconceptional care and again as needed during the (24) month period. The literature noted that most screening should be conducted in the first three (3) months of interconceptional care. Nonetheless, researchers recommended that screening be conducted in

the first three (3) month, at (6) six weeks, and again at (12) months postpartum. However, HSC screened at six (6) weeks, then every three (3) months until screens were negative or twelve months.

If the screening was positive during the prenatal period or within the first six (6) weeks postpartum, the obstetric and/or mental health clinics were the prime agencies for target referrals. If, however, the screening was positive after this time, HSC referred (PP) and (CP) alike for depression follow-up care back to the primary care agency at RHCC and/or to a mental health provider depending upon severity. This was arranged through the RHCC primary care provider. If the interconceptional (PP) agreed to counseling and, often agreement was difficult due to the high-risk nature of (PP), sessions were arranged by the HSC (SW) with a local provider, Family Alternatives, for up to four (4) visits. The cost of the visits provided under contract with RHCC. Follow-up verification of kept appointments was conducted by the (OW) with telephone follow-up to the provider office; subsequent counseling was provided by the HSC (SW) within the home.

HSC operated on the principle that prenatal counseling or early postnatal screening for depressive symptoms with subsequent intervention when needed will lead to improved health outcomes for the mother, her infant/toddler, family and, ultimately, the community-at-large. This is represented in the following Figure 1, on the left side by identifying the women with unknown mood state, continuing through implementation of a formal screening assessment during pregnancy and into the postpartum period and right side ends with intervention to foster health outcomes. If (PP) depressive and psychiatric symptoms were first encountered by the Maternal and Child Care staff then a same day referral to a physician within RHCC occurred; further referral as appropriate with an outside provider for additional follow-up care.

Figure 1 : Pathway for Screening and Treatment Outcomes



The collaborative model of initial screening by Baby Love prenatal staff, subsequent screening by HSC, along with

referral and follow-up services by HSC staff was a successful approach and became a "gold standard" of care for depression where partnerships with the community agencies provided women with psychotherapeutic and pharmacological treatment. The total number screened for perinatal depression was 645. The number referred for follow-up services was 162 (of which, 96 major depression and 64 minor depression plus two additional referrals). This represented a 25.1% referral rate. Places referred for treatment included:

Table 7: Referrals arranged by HSC between 2002-2004

Agency:	Number referrals	Number Kept
South Robeson Medical Center	10	2
Associate Behavioral Health Services**	22	4
Robeson County Mental Health**	21	2
AHEC- Janice Leonard*	6	6
Maxton Medical Center	1	1
Robeson Family Counseling**	7	5
The Counseling Center (Family Alternatives)**	5	1
Julian T. Pierce Health Center	5	5
TOTAL	162	26

Services donated to HSC where other services are contracted by HSC; Robeson Health Care Corporation Medical sites: South Robeson Medical Center, Julian Pierce Health Center, Maxton Medical Center, Lumberton Health Center, Associate Behavioral Health Services**, Robeson County Mental Health, Robeson Family Counseling**, The Counseling Center (Family Alternatives)and Area Health Education Center**.

Health Education

See Roman Numeral II Project Implementation under Health Education and Training plus Table 5.

C. Identify any resources or events (your State experienced a budget shortfall) that either facilitated or detracted from successful initiation and implementation of each intervention.

In North Carolina, the MCC services are Medicaid reimbursable. (RHCC bills Medicaid and therefore these services were in-kind to HSC). Based upon the current participants served 75% of (PP) received Medicaid. All the HSC (PP) received Medicaid while pregnant and Medicaid for the infant remained for one year.

D. For consortium, please address the following additional elements:

1) Highlight how the Consortium was established and identify any barriers that emerged in its establishment and how they were addressed.

HSC realigned its consortium membership in 2005 and became part of the Robeson County Partnership for Health under the Healthy Carolinians of North Carolina. This realignment was necessary to provide continuity between HSC and the other organizations in Robeson County that addressed infant mortality and the elimination of perinatal disparities. Initially, HSC was part of the Community Health Alliance of Southeastern North Carolina, however, this group disbanded. The Robeson county Partnership for Health maintained a monthly meeting; most of the community agencies in Robeson county regularly attended. The Partnership for Health applied for state funds under the North Carolina Healthy Carolinians to support a part-time coordinator to serve as resource person for the consortium; funds were secured by the Southeastern Regional Medical Center where the meetings were held monthly; Lekisha

Hammonds served in the capacity of part-time coordinator. The Hospital was the primary host of the meetings assisted by the RCHD. HSC sponsored the luncheon for one (1) meeting each year; the consortium met for ten months and did not meet during the summer. Meeting reminders were monthly sent to members by email provided by the part-time coordinator. Meeting locations were rotated between the hospital and community agencies. Member organizations were requested to host at least one meeting each year; and, HSC supported at least one luncheon annually. After the meetings, minutes were circulated to all participants by Ms. Hammonds through email or regular mail. HSC maintained a file of those minutes. LHA were encouraged to participate as consumer representatives of Healthy Start. Ms. Emma Burns, a consumer, and LHA member regularly attended meetings along with Linda Greaver, project director.

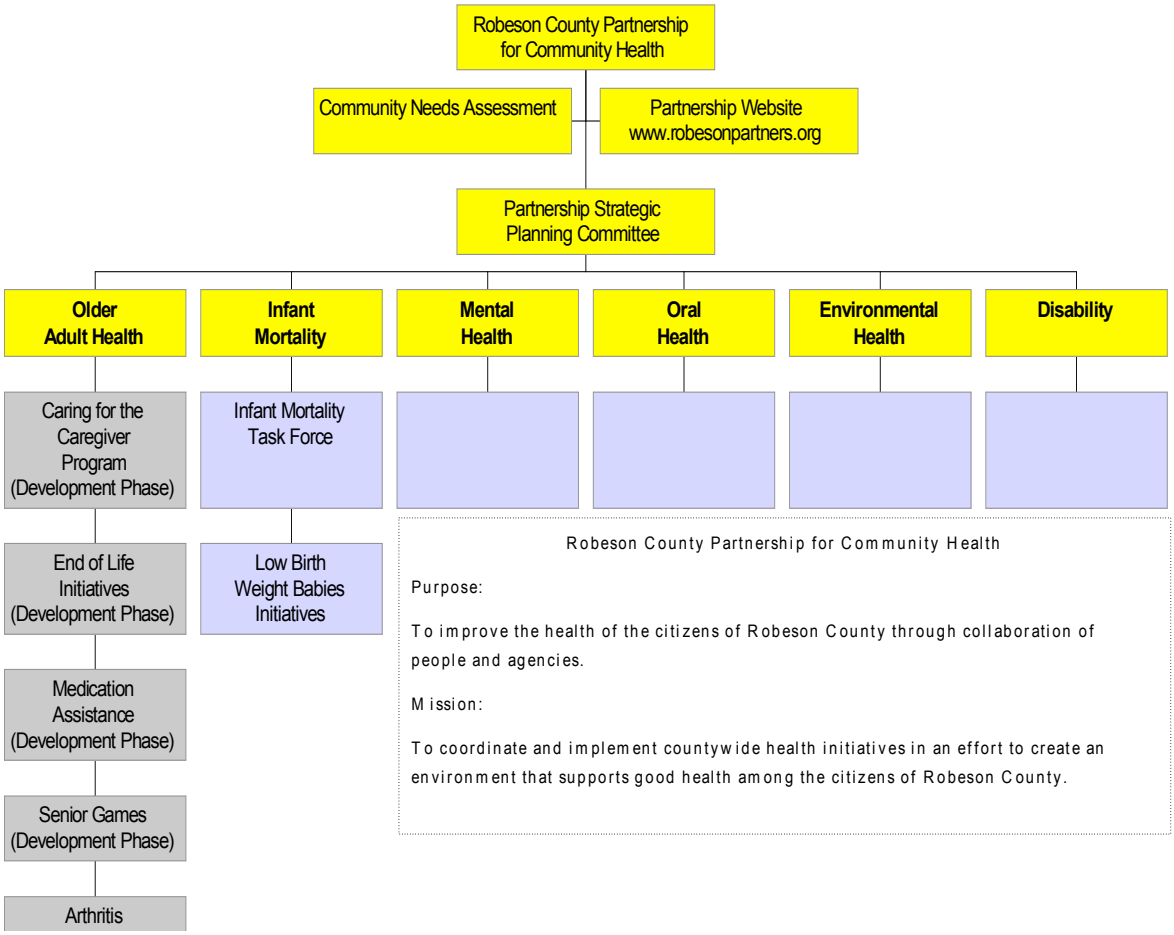
Lesson Learned: A major barrier in operating the consortium remained that most of the community agencies felt the hospital and health department were the dominate organizations and that often the meetings served to promote their programs and initiatives while the other organizations had minimal visibility. To address these concerns, the members of the consortium organized and have agreed to restructure the committee beginning in Fall of 2006. Infant Mortality remains a major initiative of the consortium and Linda Greaver, project director, will serve on a key subcommittee to plan monthly business meetings, and, provide more focused agendas on program reporting and planning. A major effort as the consortium moves forward will be to promote greater integrated planning between organizations and become more proactive in program implementation and evaluation. Ms Greaver has served as a member since 2000 and will serve in the future on an ad hoc planning committee forming routine business meetings: additionally, she will serve on the committee to prepare the community needs assessment slated for 2006. She will present an update on the progress of Healthy Start CORPS at the fall 2006 meeting which will serve as the kick-off for the new planning process.

2) Briefly describe the working structure of the Consortium that was in place for the majority of the implementation, its composition by race, gender and types of representation (consumer, provider, government, or other). Also, please describe the size of the consortium, listing the percent of active participants.

Figure 2: Consortium Chart of Organization

Robeson County Partnership for Community Health

Strategic Plan



The racial and ethnic breakdown of the consortium is currently the following: White-41/92=45%;
African American-22/92=24%; American Indian-28/92=30%; Asian American-1/92=1%: Gender: 85% female; 15% male. Consumer=3 of 92=3%; Provider=6/92=6.5%; Government=18/92; Other=None.

3) Describe the activities this collaborative has utilized to assess ongoing needs; identify resources; establish priorities for allocation of resources; and monitor implementation. Describe your relationship with other consortia/collaborative serving the same population.

The collaborative assessed community needs every other year by developing the needs assessment questions; all agencies had an opportunity to participate in the design of the questions and administer the questionnaire to their consumer base; Healthy Start participated by providing the assessment throughout Robeson county in housing authorities in conjunction with LHA sessions. The priorities of the consortium were determined based upon the results of the assessment. Resources were shared by partnering agencies that supported aspects of identified

projects. One example of identified resources was working collaboratively on a grant to obtain money to support a part-time coordinator for the consortium from a North Carolina state grant-funded initiative through the North Carolina Healthy Carolinians. Once secured, the consortium determined which agency would serve as host and house the part time coordinator; this was done by vote of the membership during a monthly meeting. Lekisha Hammonds, was employed by the hospital however the part-time position for Healthy Carolinians provided one-half salary support to organize the monthly meetings, prepare agendas, recruit speakers, etc. Monitoring of program implementation and recruitment of partnering agencies was routinely provided as each agency delivered updates on individual programs and progress evaluation. For example, a community day or other local event may be planned by one organization while partnering organizations could organize through the consortium meetings to plan the event. Bi-weekly meetings were routinely conducted by the perinatal coordinator to assess and monitor the clinical operation where client care plans were designed with the (PP) to assure home based care was following a systematic approach with (PP). To monitor implementation, HSC contracted with Dr. Steve Marson, Professor in Social Work who reviewed project data with the core team and initiated goal attainment scaling to provide (PP) and staff with a tool to facilitate a direct approach to home-based case management visits. This method was piloted in the fall of 2005 and will be fully implemented within the next grant cycle. Additionally, an advisory team comprised of the project director, project evaluator, selected consultants and key lay health advisors met quarterly to review program implementation reviewing data base reports prepared by the data analyst. LHA recruitment, media/communications efforts, and sustainability were topics. Review of minutes from consortium meetings minutes were also reviewed. Minutes were kept on file within the HSC offices. To facilitate more (PP) participation in consortium meetings, HSC encouraged LHA consumers to become members thus encouraging the input of people living within the communities served. Women of childbearing age who were receiving the project services were ideal and (PP) will continue to be strongly encouraged to participate in the future. HSC provided transportation and childcare reimbursement to encourage participation. Currently, members of the clergy and residents of Enterprise Communities/Empowerment Zones are encouraged and serve on the consortium. Thomas Southerland, a hospital clergyman attended the meetings. Also, HSC held numerous LHA classes through church-based activity as reported in the evaluation. LHA participated in evaluating each session by conducting pre and posttests with (CP). A full report provided in the evaluation section.

4) Describe the community's major strengths that have enhanced consortium development.

Table 9: Community Strengths

1. Project planning - Consumers who were LHA assisted in planning for project implementation. They worked together to review demographic data on each community and determined approaches to reach high-risk families in targeted areas.	**2. Coordination of training efforts** - Consumers worked with the project evaluator to select geographic areas to host focus groups to test materials. They recruited collaborative partners to assist with program planning and implementation efforts.	**3. Budget/finance** - LHA were empowered to budget for their respective classes and were given parameters for their program expenses and mileage reimbursement limits; a lead LHA met monthly with them to monitor expenses prior to submission to the project director.

4. Personnel recruiting/hiring - LHA consumers continued to recruit new LHA to participate in the activities of the network.	**5. Input into developing the scope of services Healthy Start offers** – Emma Burns, LHA, served on the advisory committee helping to shape new program activity.	**6. Communication/media efforts** – Emma Burns (PP) attended the Healthy Start Community meeting in DC. She provided media packets to legislative offices of: Senators Dole and Burr, and Congressman McIntyre.

5) Describe any weaknesses and/or barriers that had to be addressed in order for the consortium to be moved forward.

Table 10: Consortium Weaknesses and Barriers

1. Insufficient staff time. The consortium did not have staff for logistical support for meeting planning, minutes, etc. The consortium submitted a proposal and received funds from the North Carolina Healthy Carolinians. The position was placed within the Southeastern Regional Medical Center and has greatly improved the ability to communicate with consortium members.	**2. Lack of Healthy Start resources.** HSC did not have the expertise or funds to implement a breastfeeding initiative thus linked with the Robeson County Health Department who provided training and technical support.	**3. Consortium Membership lacks critical stakeholders.** The consortium did not have consumer representation. HSC provided lay health advisors who served as consumer representatives.
4. Attendance by key members was irregular. HSC worked to include key members on planning committees and encouraged them to provide significant roles and challenges to best utilize skills and expertise and provided opportunities for them to participate.	**5. Political environment.** – HSC conducted routine meetings with congressmen and senators to apprise them of the work of HSC and gain support for funding.	**6 Resources in the state or community are insufficient to support the goals of the consortium.** - HSC partnered with outside groups to implement programs in a cost effective manner through shared resources; staff time, meeting expenses, etc.

6.) Discuss what activities/strategies were employed to increase resident and consumer participation. How did these change over time?

The strategy used to increase resident and consumer participation focused on the design and implementation of risk factor educational sessions that were developed to provide brief one-hour presentations to residents/consumers at the community site rather than requiring the consumer to travel to a central location. The topics based on the identified risks of: poor nutrition, use of drugs and alcohol, STD/HIV/AIDS, self-esteem, preterm labor, perinatal depressions and breastfeeding were designed and developed into one-hour educational sessions for the community. HSC recruited, contracted and trained consumers from a variety of venues to present these topics in community locations. Over 4,000 consumers received educational messages provided by Lay Health Advisors who were trained by Dr. Sandra Cross, Associate Professor of Community Health at UNC Pembroke. The LHA were members of the community who were easily accepted in all three counties of the initial project: Richmond, Robeson and Scotland counties. Thus, this strategy quickly became a hallmark of the project period. Sessions were curtailed during the end of the project period due to financial constraints; a more aggressive implementation targeted Robeson County only. Otherwise, the project could have easily

provided this information to a larger audience over a larger area.

Lesson Learned: In the future, the project will curtail the number of LHA recruited to work on the project as the cost to train and implement is expensive. The project will use GIS mapping to determine high-risk communities and target interventions to locations within the highest risk communities rather than random sessions. A more targeted approach in a cost-effective manner will focus on Robeson County.

7.) How did you obtain consumer input in the decision-making process?

Consumer input was obtained by utilizing the lay health advisors in the decision making process. Ms Emma Burns, LHA, participated on the Robeson county consortium where the needs assessment was developed then distributed by LHA to consumer groups where LHA sessions were presented. LHA worked on local implementation with organizations such as Healthy Carolinians and the Robeson County Department of Social Services; locations and times for training sessions were determined in high-risk communities. LHA administered pre and post-tests on all sessions and scored the results. They recommended changes in class materials to enhance greater communication with (CP) who attended the sessions and networked with other LHA to assure consistency in implementation. They administered a small budgeted amount for educational sessions to provide refreshments for classes that were paid by UNC Pembroke invoice based upon completion of class rosters by consumer participants and review by the project director.

Program participants (PP) were invited to focus groups where they discussed their respective intervention activities and made suggestions for changes and improvements. The results evolved into two very successful projects: Weigh to Go incorporated exercise, meal planning and reading of food labels to identify foods high in salt and fat. This project was further enhanced to include hands-on food preparation and taste-testing. The Healthy Start SPA was also developed with consumer input; this program provided self-esteem skill building for clients and job interview techniques.

Lesson Learned: Although (PP) have an understanding of their likes and dislikes in regard to program planning, they often do not have the technical expertise to implement the sessions. Therefore, careful consideration should be given to the support and guidance to consumer groups as projects are implemented.

8) How did you utilize the suggestions made by the consumers?

LHA consumers were very helpful in structuring three new health education modules; breastfeeding; preterm labor and postpartum depression. These modules were developed and then field-tested by a Social Work graduate student with Healthy Start. She met one-on-one with both (CP and PP) to obtain important feedback on the clarity and effectiveness of the modules in providing men and women with information on the importance of these topics to assure a successful birth outcome. The result was the development of flip charts to be utilized during presentations with both (PP and CP). The audio-visual materials will now be implemented within consumer groups to promote community awareness of these issues. Additionally, all LHA community sessions included pre and post-tests and evaluation referenced in the evaluation

section of this report. Refinements to the LHA classes were largely based upon consumer input obtained from the evaluations.

E. For sustainability, please address the following <u>additional</u> elements:

1) Describe your efforts with managed care organizations and third party billing.

In North Carolina, the Maternal Child Care (MCC) services are Medicaid reimbursable. (RHCC bills Medicaid and therefore these services are in-kind to HSC). Based upon the participants served, 75% (PP) received Medicaid. All the HSC (PP) received Medicaid while pregnant but Medicaid for the infant remains only for one year.

2) Describe major factors associated with the identification and development of resources to continue key components of your interventions without HS funding.

A major factor associated with the identification and development of resources to continue key components of project interventions has been the interagency collaboration provided through Healthy Carolinians where a focus upon collective leadership between organizations along with consumer supported work tasks towards a common sustainable future. HSC worked to include legislative partnership on the Robeson County Partnership for Health. HSC promoted the development of projects linking community partners and consumers while working with RHCC to secure new funding streams to support the clinical operations. RHCC received funds for the purchase of vehicles to transport clients and began a fully funded HIV program. By improving the overall level of maternal and child health services (both prenatal and postpartum), RHCC will continue to link with other health care providers who seek to partner through the rural health care network to elevate the level of service provided to current (PP) thus attracting new (PP) who seek the best care available within the community. RHCC worked to become a sustainable operation providing quality prenatal and postpartum care. It was never the intent of HSC to be a stand alone entity but to provide the necessary manpower, oversight and resources over a period of time until the level of service improved and ultimately resulted in less infant mortality and decreased rates of low and high birth weight infants and other perinatal disparities. By encouraging capacity building, RHCC conducted capacity building summits during the past year to work towards a holistic change integrated into a variety of services eliminating racial and ethnic disparities in health care and improving health care for all its citizens.

3.) Describe whether or not you were able to overcome any barriers or to decrease their negative impact.

A major barrier is often encountered when one organization receives funds but does not work to support initiatives or partnerships which may be helpful to other organizations. The need to continue to work with agencies and provide partnership support so that each agency provides the best it has to offer is greatly needed in Robeson County. Often when an organization is funded there is little effort in reaching out to others in partnership and collaboration. By restructuring the consortium meetings, partnerships may be greatly enhanced in the future as we build trust and capacity for true collaboration.

III. Project Management and Governance

A. Briefly describe the structure of the project management that was in place for the majority of the project's

implementation.

The history of management and oversight involving previously received HRSA funds has been commendable over the past six (6) years. HSC has established policies, procedures and an infrastructure to manage federal**,** state, local and foundation grants. There were no deficiencies cited in the most recent internal/external audit, review, or reports on the applicant organization's financial management system and management capacity or its implementation of these systems, policies, and procedures. The only corrective action was a change moving payment to the HSC evaluator from staff to contractual. HSC previously submitted copies of its annual audits with each application for continued funding. HSC has a system in place to monitor all expenses.

The project director is responsible for oversight of the project and monitors and tracks progress of the contractors and other staff on an on-going basis. Each month a report was provided by RHCC to the project director prior to submission to the UNC Pembroke finance office for payment. This report was reviewed in detail with telephone conference calls placed to the RHCC financial officer for clarification as needed prior to submission for payment.

B. Describe any resources available to the project that proved to be essential for fiscal and program management.

The project and university have systems to ensure the proper use of funds, the proper disbursement and accurate accounting of funds received and safeguarding of assets. These processes and systems were routinely monitored to ensure that practices reflect procedures. Ongoing staff training was provided to ensure policies and procedures were carried out to maintain quality and integrity in all grants management operations. It is very difficult to quantify the enormous amount of in-kind services provided by UNC Pembroke for the Healthy Start program over the past four years. Essential to the operation was the support provided by information technology, finance in working with the project to provide UNC Pembroke staff to meet with project staff to assure quality assurance in financial transactions and monthly audits to allow the program to remain on track. The time invested far outweighed any monetary amount the university received. In addition, there was program support provided by faculty to aid in the development of quality community programs, some were paid modest stipends to work with program staff for initiatives like development of the Lay Health Advisor model, evaluation protocols, and refinement of case management protocols and procedures and implementation of depression screening.

C. What changes in management and governance occurred over time and what prompted these changes?

The roles and responsibilities of the project office and direct service staff did change. The Regional Center of Economic, Community and Professional Development moved in September 2004 to COMtech; a University location five miles from the center of Pembroke in Robeson county. HSC is a project of the Regional Center and the new location provided greater proximity to Lumberton where a number of (PP) reside. The core team was originally housed in a facility in Lumberton but later moved to a UNC Pembroke campus location and then incorporated in the new Regional Center building at Comtech.

Lesson Learned: to not dislocate the staff from the supervisor. Since the project director was

housed in the Regional Center; roles became difficult regarding the supervision of the core team who reported directly to RHCC perinatal site coordinator who was based in another RHCC facility and rotated between three field offices on a daily basis. Closer proximity allowed the project director to better understand the difficulty the core team experienced in establishing a daily routine when the supervisor was physically in another location. The team often spent extensive periods of time in attempting to reach and schedule appointments with clients and often traveled together to provide home visits when the visits were in high-risk areas and individually when the visits did not require team members to travel together. Although this was good for the project director to be able to monitor, it was very difficult for the perinatal site coordinator to maintain her supervisory presence. It was not possible for the project director to provide direction to the core team due to the contractual arrangement between the Healthy Start program and the RHCC contractor.

Lesson Learned: was to assure that the team had very close proximity to the perinatal site coordinator and that routinely the coordinator provide and monitor the daily workflow of the site team while in the field and provide scheduled updates to the project director to determine if modifications need to be made to the work approach or protocols**.** The project director should continue to meet with the perinatal site coordinator on a routine basis to keep the lines of communication open and to provide technical assistance to ensure contract obligations are achieved.

D. Describe what process had to be developed to assure the appropriate distribution of funds and what happened with the process over time.

A system was established where a monthly ledger was provided by the contractor to the project director who reviewed the expenses and authorized payment. The only problem was that the contractor's accounting system was always sixty days in the rear. This presented a problem in assuring timely payment to the contractor as bills were always sixty days delinquent. This also presented a problem at the end of the fiscal period as the university required the project to have a zero balance at the end of the project period. With the contractor bills routinely sixty days behind, unpaid bills from the previous year always remained. The university required the project to zero out and thus no funds were available 30-90 days after the end of a project period to rectify the monthly invoices. However, within the new grant in 2006-2010, an arrangement has been made with the university accounting department to allow the project to encumber funds to pay invoices incurred during the project period up to ninety days after the project period ends.

E. As the project moved forward with implementation, what additional (non-HS) resources obtained for quality assurance, program monitoring, service utilization, and technical assistance became important especially as contractors were funded or additional staff members were hired?

The entire prenatal operation was supported through RHCC funding streams. In 2005, HSC assisted as part of the Infant Mortality Task Force collaborative to develop a proposal for a new North Carolina Title V Infant Mortality program. A $10,000 planning grant was secured by RCHD and a full grant proposal was developed with the input of partnering agencies RHCC, HSC, LRDA and SE Regional Hospital. The proposal was submitted by the RCHD to the NC State Health Department. However this grant was not funded and illustrated the serious situation that could have resulted if the Healthy Start program was not funded. RHCC was funded for

purchase of two vehicles to transport RHCC clients to clinical appointments through a Duke Endowment; this was very helpful in providing much needed client transportation for the overall RHCC. They also received a grant to implement a comprehensive HIV/AIDS program. RHCC prenatal staff provided in-kind breastfeeding counseling during prenatal visits in an organized manner to encourage new mothers to breastfeed. The ability of the project evaluator to obtain timely and accurate data from the RHCC was very difficult as all data was collected manually. The RHCC received a grant to develop an automated computer system to allow for better tracking of client records. However this system was not implemented during this project cycle and was only in the planning stages.

F. To what extent was cultural competency of contractors and of project staff an issue? If cultural competency was an issue, how was it addressed, and were any noticeable benefits realized?

Cultural competency and conflict resolution between contractors and project staff became an issue. At least two staff changes were due to poor performance and subsequent morale issues. Although sessions between project director, perinatal coordinator and staff were developed to provide clear understanding of goals and objectives, a deeper root of the problem was the need for greater understanding and consideration of different cultures and the course to be followed for any resulting conflict.

Lesson Learned: to immediately initiate conversation and a formal session on conflict resolution and cultural competency. The project will work with AHEC in Fayetteville, North Carolina to implement a formal presentation on cultural competency and process within the initial stages in the new grant cycle (2006-2010). Additionally, staff will attend a communication skills training session. The noticeable benefits will be greater understanding and appreciation of diverse cultures, advanced skills in conflict management and enhanced cultural competence and communication skills.

IV. Project Accomplishments

A. Describe each major strategy implemented, with its goals and objectives and accomplishments for this project period. Within the narrative describe in quantitative and qualitative terms the degree of success in achieving the goals and objectives. Describe any barriers that had to be dealt with during implementation and how they were addressed. Summarize all lessons learned. Strategies and goals and objectives that were commonly used across services can be cross-referenced. You may wish to use the Suggested Format, in Attachment A for this part of your report.

This section includes project's fourteen period objectives and the outcomes for each period objective. Each of the fourteen period objectives is linked to a (or more) National Healthy Start Program's Performance Measure(s), and also linked to a Healthy People 2010 objective

when applicable, indicated at the beginning of each period objective (also, see Figure 1.1). For each period objective, its indicators and baselines are also included.

These period objectives reflect the care and prevention balanced model approach that has

worked to reach in breadth and depth into population-diverse communities, with five core

services (Narrative section): Outreach/Clients Recruitment; Education and Training; Perinatal

Care (Prenatal, Postnatal, Interconceptional); Case Management; Risk Screening and Referral.

Data Sources and Baselines of Period Objectives

Period Objectives 1, 2, 5, 6, and 7 target the entire Robeson county, and data sources used to calculate baselines and determine goals and annual objectives are the Robeson countywide and North Carolina statewide statistics: North Carolina State Center for Health Statistics' publications (http://www.schs.state.nc.us/SCHS) including County-Level Data, Vital Statistics, Basic Automated Birth Yearbook, Mortality Statistics, Reported Pregnancies, Infant Mortality Statistics, and its publications. Robeson Healthcare Corporation (RHCC) data are to be used as references because we particularly need to analyze the progresses within RHCC clients.

Period Objectives 3, 4, 12, 13, and 14 focus on perinatal care services for RHCC clients, and the data sources used to calculate baselines and determine goals and annual objectives are RHCC Health Pro Computer Systems and project's databases which include data of clients recruited by the project for RHCC from 2002 to 2004. Most recent available countywide and statewide statistics are to be used as references.

Period Objectives 8, 9, and 10 target the entire county (Health Education and Training, Outreach and Client Recruitment, and Consortium), and the data sources used to calculate baselines and determine goals and annual objectives are the project's databases which include achieved levels from 2002 to 2004.

Period Objective 11 (Breastfeeding) targets the entire county, and data sources used to calculate baselines and determine goal and annual objectives are 2000-2003 state's PRAMS BRFSS county and state survey results, published at http://www.schs.state.nc.us/SCHS. RHCC data are used as references.

Note: Period objectives added or adjusted after the project started may have baselines calculated from a year or years between 2002 and 2004.

Project Period Objective #1: (Healthy Start Performance Measures (Form 9 Codes) #52, #53, #54, #55, #14; Healthy People 2010 Objectives 16-1c, 16-1d, 16-1e, 16-1b) By January 31, 2006, decrease the infant mortality rate by at least 30.6 percent, from Robeson County's 2000-2002 average rate 12.1 infant deaths per 1,000 live births to North Carolina State's 2000-2002 average rate 8.4 or below (implying a combined reduction of 30.6 percent for neonatal and postneonatal rates), and decrease the perinatal mortality rate by at least 19.5%, from Robeson County's 16.4 to North Carolina's 13.2 or below (implying a reduction of at least 10% for fetal mortality assuming 30.6 percent reduction for neonatal mortality), for all infants of Robeson County (including Robeson Healthcare Corporation) in Southeastern North Carolina by further eliminating racial disparities between Minority and Whites. Conduct semi-annual mortality reviews, geocode locations of infant deaths with GIS, and identify patterns of mortality. **Baseline:** *Robeson County 2000-2002 averages*: 2098 live births, 26 infant deaths, 18 neonatal, 8 postneonal, 17 fetal, 35 perinatal. Infant mortality rate: 12.1 (White: 8.7, Black: 17.7, American Indian: 11.9, Minority: 13.9, Hispanic: 6.7); Neonatal mortality rate: 8.3 (White: 4.7, Minority: 10.1); Postneonatal mortality rate: 3.83 (White: 3.93, Minority: 3.87); Fetal mortality rate: 8.1 (White: 4.7, Minority: 12.0); Perinatal mortality rate: 16.4 (White: 9.4, Minority: 22.1).	**Accomplishments:** **Targeted population** Minority infant mortality rate dropped from 1999-2001 average 15.27 to 2000-2002's 13.86, then down to 2002-2004's 12.63. Reduction from 1999-2001 to 2002-2004 was 5.27 – 12.63 = 2.64 or 17.5%. **White Population** For Whites, increased from 1999-2001 average 6.99 to 2000-2002's 8.64 (project started in 2002), dropped to 2002-2004's 8.50. Increased from 1999-2001 to 2002-2004. *(National IMR nearly unchanged in the past three years – around 6.9)* **Performance Indicator:** Numerators (Numbers of infant, neonatal, postneonatal, fetal and perinatal deaths by total, by race and by ethnicity), Denominators (Numbers of live births by total, by race and by ethnicity), and Rates (1000 × Numerator/Denominator by total, by race and by ethnicity). **Data Source:** North Carolina Health/Vital Statistics.

Interventions	Strategies and Activities	**Accomplishments**	**Persons Involved**
Education and Training, Prevention, LBW and Premature Babies Care Plan, Mortality Review. *Mortalities are cumulative consequences of perinatal risks, inadequate care, LBW, prematurity, multiple births, birth*	1. Conduct countywide infant mortality awareness week. 2. Partner Robeson Infant Mortality Task Force, RHCC/Baby Love. 3. Promote access to prenatal/neonatal/postneonatal care and infant care. 4. Enroll clients in statewide perinatal insurance initiatives, SCHIP, WIC, TANF, Medicaid. 5. Prevent substance exposure for pregnant women. 6. Prevent lifestyle risks including	Completed Completed Completed Completed Completed Completed Completed Training Completed Completed Completed Completed Completed	director/evaluato outreach team team supervisor case managers social workers social workers consultant HE specialist outreach team HE specialist social workers outreach team outreach team

defects…	smoking during pregnancy. 7. Conduct Folic Acid campaign. 8. Reduce teen and older mother pregnancies by health education and training. 9. Maintain a constant/ongoing commitment to infants born at LBW or preterm. 10. Prevent fetal death and birth defects. 11. Prevent mother-to-child HIV/AIDS transmission. 12. Promote Back to Sleep campaign. 13. Promote breastfeeding. 14. Promote childhood immunization initiative. 15. Conduct newborn screening tests. 16. Improve the quality of medical care by assuring that proven and effective technologies are used and disseminated in RHCC. 17. Conduct infant mortality review and update GIS maps.	Completed Completed Completed Completed Completed	case managers case managers team supervisor evaluation team

Project Period Objective #2: (Healthy Start Performance Measures (Form 9 Codes) #50, #51; Healthy People 2010 Objectives 16-1b, 16-10b) By January 31, 2006, decrease the rate of low birth weight by at least 27.0 percent, from Robeson County's 2000-2002 average rate 11.3% to North Carolina State's 2000-2002 average rate 8.9% or below for all infants of Robeson County (including Robeson Healthcare Corporation) in Southeastern North Carolina by further eliminating racial disparities between African Americans/American Indians and Whites to improve perinatal outcomes. This implies a combined reduction of 27.0 percent for the moderate low birth weight and very low birth weight rates. Conduct semi-annual morbidity reviews, geocode the locations of low, moderate low, and very low birth weight infants with GIS, and identify the patterns of morbidity. **Baseline:** *Robeson County 2000-2002 averages*: 2098 live births, 236 low birth weight infants per year at rate 11.3% (Rate for White: 8.7%, Black: 15.9%, American Indian: 10.6%, Minority: 12.5%, Hispanic: 6.8). Moderate low birth weight infants and rate: 187 and 8.94% (White: 52 and 7.42%, Non-White: 135 and 9.71%). Very low birth weight infants and rate: 49 and 2.32% (White: 9 and 1.31%, Non-White: 40 and 2.82%).	**Accomplishments:** Targeted population Minority low birthweight increased from 1999 (12.85%) to 2002 (13.98%), sharply dropped in 2003(12.66%), then up slightly to 13.4% in 2004. Slightly increased rate from 1999 to 2004. White Population For Whites, increased from 1999 (8.0%) to 2002 (9.8%), dropped in 2003 (8.3%), then increased slightly to 8.4% in 2004. Slightly increased rate from 1999 to 2004. *(LBW rates continued to increase nationwide in the past three years)* **Performance Indicator:** Numerators (Numbers of low, moderator low and very low birth weight infants by total, by race and by ethnicity), Denominators (Numbers of live births by total, by race and by ethnicity), and Rates (100 × Numerator/Denominator by total, by race and by ethnicity). **Data Source:** North Carolina Health/Vital Statistics.

Interventions	Strategies and Activities	**Accomplishments**	**Persons Involved**
Prevention, Recruitment, Referral, Initial and on-going Assessment, Care Coordination, GIS Tracking. *More than two-thirds of all infant deaths occurred to the infants who were born at low birth weight, and more than half of all infant deaths occurred to the infants born at very low birth weight. For those LBW infants who could have survived, LBW may cause long-term disabilities.* *Prematurity (objective #7) and intrauterine growth retardation (complex and multiple, but center on the feotus, the placenta, the mother, and combinations of all three) are the two main causes of low birth weight in United States and other industrialized countries.*	1. Coordinate utilization of services using multi-disciplinary teams based on client needs. 2. Maintain common protocols across agencies. 3. Continue to monitor care plans and update accordingly. 4. Continue to work cooperatively with Title V and RHCC/Baby Love. 5. Continue to network with organizations to find transportation services for clients. 6. Enroll clients in statewide perinatal insurance initiatives, SCHIP, WIC, TANF, Medicaid. 7. Initiate additional sources of funding for sustainability of HSC project that encompasses local, state and private funding. 8. Continue to utilize LHA to identify new case findings, educate on causes of LBW and provide assistance in linking with available resources (HD's, RHCC, Baby Love). 9. Continue to use guidelines for development of culturally appropriate messages for targeted populations. 10. Develop nutrition programs ensuring adequate weight gain during pregnancy. 11. Deliver specialized prenatal care for teens, older, Black, Native and Hispanic women. 12. Continue to update (yearly) training modules on lifestyle risks, Smoking/Alcohol/Drug, HIV/AIDS/STD, Teen Pregnancy, Prematurity, SIDS, Self Esteem & Nutrition. 13. Reduce perinatal stress, sexually transmitted diseases. 14. Concentrate resources on improving the content and structure of prenatal/neonatal and obstetric care in RHCC. 15. Develop a concerted program of women's health that includes pre-pregnancy counseling. 16. Help RHCC to make wider and more frequent use of prenatal corticosteroid treatment. 17. Improve the quality of medical care by assuring that proven, effective technologies are used and disseminated in RHCC and Robeson county. 18. Design and administer case management satisfaction surveys. 19. Conduct at least 5 focus groups with health care professionals and consumers in order to get input on developing training materials from local perspective. 20. Continue to develop a Health Education Resource Center Area to centrally locate materials, etc., related to maternal and child health issues.	Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed	director director team supervisor outreach team outreach team case managers director HE specialist & LHAs social workers consultant RHCC team HE specialist social workers team supervisor HE specialist team supervisor team supervisor evaluation team outreach team HE specialist social workers outreach team outreach team outreach team

	21. Continue to attend multi-cultural events; such as, Pow-Wow's, festivals, Cinco de Mayo, etc., and create exhibits and disseminate educational and promotional materials. 22. Continue to design/distribute buttons and or bumper stickers with educational messages. 23. Continue to develop media messages/pretest messages in Robeson county. 24. Conduct at least 4 public policy forums within local councils and other community groups in Robeson county. 25. Conduct at least 4 town hall meeting in each county to address local concerns and issues surrounding infant mortality. 26. Continue to recruit and train at least 50 new LHA for Robeson county. 27. Develop non monetary incentives for LHA and HD staff to add new client recruitment. 28. Continue to recruit local community group members to serve as local council members in networking within community groups like housing authorities, schools and other local organizations. 29. Recruit speakers bureau by utilizing local expertise.		director HE specialist outreach team social workers director

Project Period Objective #3: (Healthy Start Performance Measure #36; Healthy People 2010 Objective 16-6a) By January 31, 2006, increase first trimester care rate by at least 12 percent, from Robeson Healthcare Corporation's 2004 rate 65.7% (380 of 578) to Robeson County's 2003 rate 77.5% (450 of projected 580 per year), for RHCC clients, by reducing the disparities among African American (2004 rate 60.8%), American Indian (71.6%), White (71.9%), & Hispanic (54.4%). **Baseline:** In Robeson County, the (2000-2002) average first trimester entry rate was 71.8% (1505/2098), with White: 74.3% (518/698), Black: 64.1% (326/508), Native:	**Accomplishments:** Targeted population Minority 1st trimester entry rate up from 1999's 63.8% to 2002' 72.1%, then up to 2003's 77.5%; in 2004, Minority 1st trimester rate was 76.4%, for the first time higher than that of White (76.0%). White Population For Whites, up from 1999's 71.2% to 2002's 78.1%, then down to 2003' 77.7%; in 2004, 76.0%. In 2004, within Robeson Healthcare Corporation, Prenatal clients: 578, First trimester entry: 380 (White: 33, Black: 81, American Indian: 191), First trimester care rate: 65.7%. In 2005, 600 clients, 65.2%.

74.2 (656/884), and Hispanic: 61.7% (141/228). Though White had higher first trimester rate than that of non-White (70.4%), the difference was primarily between White/Native and Black/Hispanic, and total rate was significantly lower than North Carolina (2000-2002) average rate 83.9% (White: 86.9%, Minority: 76.0%) and national 2002 rate 83.7% (White: 85.4%, Minority: 77.3%). In 1999-2001, the average first trimester rate was 69.0% (White: 71.9%, Non-White: 67.7%).	**Performance Indicator:** Numerators (Numbers of pregnant women recruited and receiving services during first trimester of pregnancy by total, by race and by ethnicity), Denominators (Numbers of pregnant women recruited and receiving services by total, by race and by ethnicity), and Rates (100 × Numerator/Denominator by total, by race and by ethnicity).
Data Source: North Carolina Health/Vital Statistics, RHCC Health Pro Computer Systems, Project Access Databases.	

Interventions	Strategies and Activities	**Accomplishments**	**Persons Involved**
Recruitment, Referral, Enabling, Follow-up, Education and Training. *Early prenatal care can prevent prenatal risks or discover and care risks timely when occurring.*	1. Facilitate and coordinate the utilization of available prenatal services. 2. Modify changes in care plans. 3. Continue to enroll clients in statewide perinatal insurance initiatives. 4. Continue to recruit new prenatal clients as early as within first trimester through home visits, transportation arrangements. 5. Continue media campaigns- PSA's. 6. Continue consumer/client educational sessions focusing on the harmful consequences of either not receiving/continuing perinatal care. 7. Develop educational programs for ongoing provider training; i.e., cultural competency, health communication skills, etc. 8. Continue to develop culturally and linguistically competent and easy to read educational programs or workshops for provider offices. 9. Concentrate resources on improving the content and structure of prenatal and obstetric care in RHCC and Robeson county. 10. Involve cultures and communities in developing prenatal care. 11. Continue follow-up activities: telephone calls, face-to-face visits, letters, etc. 12. Data entry of follow-up activity / update GIS maps. 13. Continue to recruit new prenatal clients	Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed	team supervisor case managers case managers outreach team & social works outreach team HE specialist HE specialist & social workers HE specialist & social workers team supervisor social workers case managers evaluation team LHAs

	from classes and refer to RHCC and other health providers including those listed in the Project Abstract.		

Project Period Objective #4: (Healthy Start Performance Measure #20; Healthy People 2010 Objectives 1-4, 16-6) By January 31, 2006, increase the rate of prenatal care (OB/GYN, all three trimesters) from RHCC's 2002 rate 97.5% (563 of 578) to at least 99.5% (577 of projected 580 per year) and increase the rate of postnatal care from RHCC's 2002 rate 47.5% (275 of 578) to at least 51.7% (300 of projected 580 per year) for Robeson Healthcare Corporation clients. **Baseline:** *Robeson Healthcare Corporation (2001)*, Prenatal care (first, second, third trimesters) = 693, Deliveries = 345 (349 babies), Abortion etc = 348 estimated, Postpartum care = 262 (75.9% of 345 deliveries), Newborn visits within 4 weeks of delivery = 272; *Robeson county (1999)* - # births is 2117; Prenatal Services = 63% (742 + 591 = 1333 within Robeson Healthcare Corporation and Health Department); Postpartum Follow-up Services = 33.7% (337 + 377 = 714 within Robeson Healthcare Corporation and Health Department). **Data Source:** North Carolina Health/Vital Statistics, RHCC Health Pro Computer Systems, Project Access Databases.	**Accomplishments:** Targeted population Robeson Healthcare Corporation (2004), Prenatal clients = 578, Prenatal care (all trimesters) = 563 (97.5%); 1st trimester = 380 (65.7%); 2nd trimester = 158 (27.3%); 3rd trimester = 40 (6.9%); No prenatal care rate = 2.5% (Black: 3.8%, American Indian: 2.3%). Postnatal care = 275 (47.5%). Deliveries at RHCC = 306. Postpartum/Interconceptional care = 94 (White: 6, Black: 30, American Indian: 54) with care rate = 30.7%. In 2005, the rate remained at the levels of 2004, 97.3%(total). White Population No data available for 2004 and 2005. **Performance Indicator:** Numerators (Numbers of prenatal and postnatal care clients, respectively, by total, by race and by ethnicity), Denominators (Number of all recruited prenatal and postnatal clients, respectively, by total, by race and by ethnicity), and Rates (100 × Numerator/Denominator by race and by ethnicity).

Interventions	Strategies and Activities	**Accomplishments**	**Persons Involved**
Recruitment, Referral, Enabling, Contract, Follow-up, Education and Training. *Pregnant women without prenatal care have substantial higher risks of poorer birth outcomes and poorer maternal health. Women without appropriate postnatal care after delivery have risks on their own health and their babies'.*	1. Continue to review and modify individual care plans as needed. 2. Continue to recruit new prenatal and postnatal clients from classes and refer to RHCC and other providers, particularly, teens, older, Black, Native and Hispanic women. 3. Continue to make contracts with prenatal clients for postnatal care. 4. Continue to refer prenatal and postnatal clients to Education and Training classes. 5. Help RHCC to make wider and more frequent use of prenatal corticosteroid treatment. 6. Continue to update as appropriate educational modules focusing on Smoking/Drug Alcohol, STD, Teen Pregnancy, LBW, Prematurity, SIDS, Self Esteem & Nutrition. 7. Continue to initiate additional sources of funding for sustainability of HSC project	Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed	case managers LHAs case managers case managers team supervisor HE specialist director HE specialist outreach team

	that encompasses local, state and private funding. 8. Continue to utilize LHA to identify new case findings and refer to HD's. 9. Continue to recruit and train at least 50 LHA per year for Robeson county. 10. Utilize LHA in assisting to provide assistance in linking with available services. 11. Continue to recruit local community groups members to serve as local council members in networking within local community groups like housing authorities, schools and other community groups. 12. Continue to coordinate transportation, appointment and other services to enable care. 13. Continue to administer participant satisfaction survey in regard to training classes.		LHAs social workers social workers evaluation team

Project Period Objective #5: (Healthy Start Performance Measure #07; Healthy People 2010 Objectives 16-23, 16-7) By January 31, 2006, decrease teen births by at least 20 percent, from Robeson County's 2000-2002 average 21.1% to 15.9% or below (from average 443 down to 313 per year) to preteen and adolescent women (14-19) for the entire Robeson County through family participation, project's Health Education Systems, Robeson County's youth programs, and project's efforts within the Robeson Healthcare Corporation, and by reducing teen birth percentages among racial/ethnic groups (Currently, White:17.2%, Black: 24.6%, American Indians: 22.4%, Hispanics: 19.1%, Non-Hispanic: 21.3%). **Baseline:** Robeson County 2000-2002 average teen births and percentage: 443 of total 2098 live births or 21.1% (White: 120 or 17.1%, Black: 125 or 24.6%, American Indian: 198 or 22.4%, Hispanic: 44 or 19.1%, Non-Hispanic: 399 or 21.3). Sharp drop in 2003 - total teen births 360 or 18.3% (White: 114 or 15.7%, Minority: 246 or 19.7%). **Data Source:** North Carolina Health/Vital Statistics.	**Accomplishments:** <u>Targeted population</u> Minority teen births down from 1999's 24.3% t 2002's 23.2%, down to 2002-2004 average 21.3%. <u>White Population</u> For Whites, up from 1999's 16.7% to 2002's 18.0%, down to 2002-2004 average 15.9%. **Performance Indicator:** Numerators (Numbers of teen births by total, by race and by ethnicity), Denominators (Numbers of live births by total, by race and by ethnicity), and Rates (100 × Numerator/Denominator by total, by race and by ethnicity).

Interventions	<u>Strategies and Activities</u>	**Accomplishments**	**Persons Involved**
Communication Activities, Educational Programs, Recruitment, Referral, GIS Tracking. *Both younger and*	1. Refer at risk adolescents to Health Education and Training interventions on Teen Pregnancy, Smoking, Drugs, Alcohol, Substance abuse, STD/HIV/AIDS, SIDS, Self-Esteem and Nutrition. 2. Continue to update and modify client	Completed Completed Completed Completed	case managers evaluation team outreach team LHAs

older mothers give poorest birth outcomes. Age group 25-29 has the best birth outcomes (by U.S. 1950-2002 birth and death data).	satisfaction surveys to be used at each education session. 3. Continue to conduct ongoing and public information and community education campaign using a variety of techniques. 4. Conduct educational sessions on identified topical issues for both males and at risk females in Robeson county. 5. Link clients with transportation and other community services. 6. Implement client satisfaction survey. 7. LHA will continue to deliver educational sessions on all relevant topical issues to at risk adolescents in the Robeson county. 8. Continue to partner with Robeson Youth Programs and RHCC/Baby Love. 10. Continue to educate the risks of teen and older mother pregnancies. 11. Continue to work together with family members to help teens.	Completed Completed Completed Completed Completed Completed	social workers evaluation team LHAs outreach/social case managers social workers

Project Period Objective #6: (Healthy Start Performance Measure #17; Under Healthy People 2010 Objective 14) By January 31, 2006, increase the percent of 0-2 years olds who receive the 6 types of standard immunizations against measles, mumps, rubella, polio, diphtheria, tetanus, pertussis, H-influenza, hepatitis-B from Robeson County' 2000-2002 average percentage 81.7% and 2003 percentage 83.0% (3324 out of 4005 0-2 years olds) to at least 85% (3404 of projected 4005 0-2 years olds per year including projected 592 for RHCC) for all infants of Robeson County (including Robeson Healthcare Corporation) in Southeastern North Carolina. This service will be also provided for Children with Special Health Care Needs (older than 2 years). **Baseline:** Robeson County 2000-2002 average immunization rate (0-2 years olds received the 6 types standard immunizations): 3428 of 4196 or 81.7% (White: 86%, Black: 73.7%, American Indian: 82.7%, Hispanic: 74.3%). **Data Source:** North Carolina Health/Vital Statistics.	**Accomplishments:** Targeted population Minority infants immunization rates (county estimations): 1999: 77% 2000: 80% 2001: 80% 2002: 81% 2003: 82% 2004: 83% 2005: 84% White Population White infants immunization rates (county estimations): 1999: 85% 2000: 85% 2001: 86% 2002: 87% 2003: 87% 2004: 88% 2005: 88% **Performance Indicator:** Numerators (Numbers of 0-2 years olds who received the indicated six types of standard immunizations by total, by race and by ethnicity), Denominators (Numbers of 0-2 years olds by total, by race and by ethnicity), and Rates (100 × Numerator/Denominator by total, by race and by ethnicity).

Interventions	Strategies and Activities	**Accomplisl**
Recruitment, Referral, Enabling, Immunization, Breastfeeding, Communication Activities. *Appropriate and complete immunization can prevent from, or reduce the chances of infections of many diseases.*	1. Remind clients with infants to keep immunization checks. 2. Help clients schedule immunization appointments. 3. Partner with Robeson Health Dept to provide free immunization shots. 4. Facilitate referral for immunizations. 5. Continue using mass media campaigns - PSA's, to focus on importance of immunizations. 6. Continue to publish periodic articles for local papers in the Robeson county. 7. Place reminders about immunizations in church bulletins. 8. Continue to develop culturally, linguistically, and literacy level appropriate brochures and flyers on immunizations. 9. Incorporate cultural and linguistic competence in allocation of resources. 10. Continue to help clients to reschedule missed immunization appointments. 11. Deliver communication materials to community locations such as housing authorities, grocery stores, convenient stores, beauty salons, etc.	Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed

Project Period Objective #7: (Related to Healthy Start Performance Measures #50, #51; Healthy People 2010 Objective 16-11) By January 31, 2006, decrease the rate of premature babies by at least 16.0 percent, from Robeson County's 2000-2002 average preterm births 336 and rate 16.1% to 283 preterm births or less per year and rate 13.5% (North Carolina State's 2000-2002 average rate), for all infants of Robeson County (including Robeson Healthcare Corporation) in Southeastern North Carolina, through project's Health Education Systems, Robeson County's youth programs, and project's efforts within RHCC. The project will get at least 80% of women identified to participate in antepartal care (between conception and onset of labor).

Baseline: *Robeson County (2000-2002 Averages)*: # Births = 2098, # Premature babies = 336, Rate of premature babies = 16.1% (White: 13.6%, Black: 21.5%, American Indian: 14.9%, Hispanic: 13.2%).

Data Source: North Carolina Health/Vital Statistics.

Accomplishments:

	White	Minori
1999	95	239
2000	85	245
2001	105	235
2002	96	243
2003	99	219
2004	104	199

2003 rate: 16.1% (White: 13.7 American Indian: 15.2%, Hisp 14.9% (White: 13.6%, Black: 14.6%, Hispanic: 13.6%).

Performance Indicator: Nur preterm births by total, by rac Denominators (Numbers of li and by ethnicity), and Rates (Numerator/Denominator by t ethnicity).

Interventions	Strategies and Activities	**Accom**
Prevention, Recruitment, Referral, Initial and on-going Assessment, Care Coordination, GIS Tracking. *Prematurity alone results two-thirds of LBW infants. The exact reason of prematurity is unknown - may be high maternal blood pressure, acute infections, hard physical*	1. Continue the utilization of services using multi-disciplinary teams based on the needs of the clients. 2. Continue to develop and implement common protocols across agencies. 3. Continue to provide education and training on prematurity - most significant cause of low birth weight, and in turn most significant cause of infant mortality. 4. Continue to educate on high maternal blood pressure, acute infections, hard physical work, multiple births, stress, anxiety, other psychological factors, maternal age, and behavior risk-factors. 5. Continue to educate on intrauterine growth retardation. 6. Continue consumer/client educational sessions on harmful consequences of at risk behaviors & unhealthy lifestyle choices that contribute to premature babies. 7. Continue development of culturally competent and easy to read educational	Complete Complete Complete Complete Complete Complete Complete

work, multiple births, stress, anxiety, other psychological factors, maternal age, and behavior risk-factors.	materials for participants. 8. Continue follow-up activities: telephone calls, face to face visits, letters, etc. 9. Continue media campaigns - PSA's. 10. Maintain a constant and ongoing commitment to infants born at preterm. 11. Develop a concerted program of women's health that includes pre-pregnancy counseling.	Complete Complete Complete Complete

Project Period Objective #8: (Health Education and Training - Healthy Start Performance Measure #10, Healthy People 2010 Objectives 23-11, 7-10, 7-11, 7-12) By January 31, 2006, plan and implement a total of at least 400 outreach health education & training sessions (Teen Pregnancy, Prematurity, Low birth weight, SIDS, Baby safe sleep, Perinatal depression, Smoking, Drugs/Alcohol, Substance abuse, STD/HIV/AIDS, Immunization, Folic Acid, Breastfeeding, Overweight/Obesity, Mentor, Nutrition, Self-Esteem) for preteen and adolescent and other high risk women within the Robeson County, reaching at least 4,000 unduplicated participants. Provide education and training to all new Lay Health Advisors and provide continuing and regular education and training to all experienced Lay Health Advisors with up to date health topics.

Baseline: From 2001 to 2003, the current Healthy Start Corps project had a total of 7015 program participants (average 2338 per year) during these three years in three project counties, of which 4756 are female. Total White (708), Black (4966), American Indian (1439), Hispanic (67). By Topic: Drugs/Alcohol (1664), Mentor (813), Nutrition (1321), Self-Esteem (2014), STD/HIV/AIDS (1320), Teen Pregnancy Prevention (732).

Data Source: Project Access Databases.

Accomplishments:

Education Activities/Topics

Smoking/Drugs/AlcoholSubstance Abuse
Preterm Labor &Birthweight
Breast Feeding/Birth Control
Depression
Safe SleepSIDS/Back to Sleep
STD/HIV/AIDS/Syphilis
Nutrition
Self Esteem
Total
Total sessions conducted

Performance Indicator: Number of sessions, t participants in all sessions by topic, by gender, ethnicity.

Interventions	Strategies and Activities	**Accomplishments**	**Persons Involved**
Clients Educational Programs, LHA Training, Case Findings, Referral, Communication Activities, GIS Tracking. *Education and training is a powerful and cost-effective approach to empower the community's health and identify risk perinatal clients.*	1. Continue follow-up on referrals of new case findings. 2. Continue to refer clients to health education and training activities. 3. Continue to identify new case findings and refer to RHCC/Baby Love and other health providers for follow-up. 4. Continue working cooperatively with Title V and other organizations to provide education and training on the risk factors listed in the Objective. 5. Conduct special follow up training sessions for existing LHA. 6. Continue to add new training locations and track with GIS. 7. Continue data collection; i.e., participant data, service data, health education data, evaluation data, and demographic data. 8. Schedule of class sessions, time, materials, audiovisuals, etc.	Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed	case managers case managers outreach team director HE specialist evaluation team evaluation team HE specialist LHAs HE specialist evaluation team

	9. Conduct education and training sessions. 10. Continue to design promotional materials/messages for sessions. 11. Continue to modify evaluation form to be used at each class/training. 12. Continue to recruit and refer participants to appropriate Health Education and Training activities. 13. Organize Public Policy Forums.		outreach team & case managers director

Project Period Objective #9: (Outreach and Client Recruitment – Related to Healthy Start Performance Measure #21; Healthy People 2010 Objective 16-6) By January 31, 2006, achieve at least a total of 200 new case findings for prenatal care (by lay health advisors within the health education sessions), facilitate into RHCC systems, and provide health education and training to these women. The outreach for new case findings will also recruit clients from adjacent counties (including the project's previously targeted Richmond and Scotland counties) when clients from these counties continue to participate our education programs.

Baseline: *Robeson Healthcare Corporation (2002)*, Prenatal clients = 578, Prenatal care (all trimesters) = 563. No prenatal care rate = 2.5%. Postnatal clients: 108. Total 686. Number of new cases referred by lay health education advisors and facilitated into RHCC systems was 30 in 2002.
Data Source: Project Access Databases, RHCC Health Pro Computer Systems.

Accomplishments:
Perinatal clients and their infants by year:

	2002	2003	2004	2005
Perinatal Clients*	686	705	691	709
Infant Clients*	345	395	435	430

1558

* including interconceptional clients and their infants.

Of these women, 185 were referred by the project.

Performance Indicator: Number of new perinatal cases found through the lay health education sessions and facilitated into the RHCC system for services.

Interventions	Strategies and Activities	**Accomplishments**	**Persons Involved**
Outreach, Recruitment, Referral, Follow-up, Communication Activities, Educational Programs, GIS Tracking. *Outreach is a practical and feasible method to discover perinatal risk women for care*	1. Continue to manage and coordinate care for new cases within RHCC. 2. Continue to work cooperatively with Title V and other organizations. 3. Continue to recruit and screen potential LHA. 4. Continue special training for LHA with up to date health topics. 5. Continue to identify new locations for training and educational sessions. 6. Recruit new cases including teens, older, Black, Native & Hispanic women. 7. Continue to discover perinatal clients from sessions and enable into care.	Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed	case managers director outreach team HE specialist outreach team outreach team LHAs evaluation team evaluation team

	8. Continue to collect data from participants and follow-up with GIS. 9. Continue to evaluate education and training programs. 10. Involve cultures and communities in new case findings. 11. LHA will conduct routine visits to outreach locations, such as, housing authorities, etc., to identify new cases. 12. Refer new cases to RHCC or HD or other health facilities. 13. Update GIS maps of new cases and track these clients.		social workers LHAs case managers evaluation team

Project Period Objective #10: (Healthy Start Performance Measure #05; Healthy People 2010 Objective 23-12) By January 31, 2006, increase consortium targeted consumer representation within Robeson County from 30 in 2002 to at least 50 and provide organizational guidance and at least 12 training workshops identified by consortium members. **Baseline:** In 2002, there were 30 consumer representatives.	**Accomplishments:** A total of 15 training workshops or sessions were conduct during the 4 year Period, and consumer representation reached a level of average 50 a year. **Performance Indicator:** Number of consumer representatives. **Data Source:** Project Access Databases.

Interventions	Strategies and Activities	**Accomplishments**	**Persons Involved**
Consortium, Community Collaboration, Recruitment, Referral. *The people know their communities particularly perinatal clients near them better than we do, so we have them involved and we listen to them.*	1. Continue to refer interested consumer/clients to consortium membership. 2. Continue to refer interested consumer/clients to LHA Advisory network. 3. Feedback will be solicited from task force on project reports. 4. Input and feedback will be solicited from community organizations and task force members in preparation of educational materials. 5. Conduct annual summit conference. 6. A task force meeting held 3 times a year to facilitate sense of ownership. 7. Reports will be generated to share populations based data and information about project activities with taskforce and other community organizations. 8. Conduct training workshops. 9. Continue to network with communities	Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed	outreach team outreach team evaluation team HE specialist director director evaluation team LHAs outreach team outreach team outreach team social

	to promote consumer participation. 10. Refer interested consumer/providers to consortium membership. 11. Refer interested consumer/clients to LHA network. 12. Continue networking with clubs, organizations and community groups. 13. Recruit community members to serve on existing community task forces. 14. Recruit participants to attend training workshops. 15. Continue to network with community groups to recruit new consumer membership to strengthen consortium building. 16. Update GIS maps of consumer representatives.		workers outreach team outreach team outreach team & social workers evaluation team

Project Period Objective #11: (Healthy People 2010 Objective 16-19) By January 31, 2006, Breastfeeding awareness will be provided to at least 435 (75%) of RHCC's projected 580 prenatal clients, and to at least 750 (75%) of projected 1000 participants (per year average) who attend project's health education and training classes. At least 75% of women completing Breastfeeding Contracts will initiate breastfeeding at the time of delivery, and at least 50% of women completing contracts will continue to be breastfeeding at 6 months.	**Accomplishments:** Breastfeeding education and counseling was implemented by the Baby Love staff of RHCC in partnership with Healthy Start CORPS during all prenatal check-ups for the fifteen month period beginning January 7, 2005 and ending March 23, 2006. Four hundred - eighty eight (488) clients were counseled prenatally and fifty-four (54) breastfed resulting in an overall breastfeeding rate increase of 17% from 2003 (2003 RHCC rate - 9.5%; Breastfeeding rate of clientele receiving breastfeeding services between 1/7/05 and 3/23/06 - 11.1%).
Baseline: Within the RHCC clients, the 6 week (exclusive) breastfeeding rate is as low as 9.5% (6.5%) in 2004, or 29 (20) out of 306 infants. These women were recruited from Robeson County because of their high-risk factors. In 2003 (North Carolina PRAMS BRFSS surveys), the breastfeeding rate for Robeson County was 47.1% (all duration levels). Breastfeeding rates at 6 weeks and 6 months were: 27% (NC average 40%) and 18% (US average 30.7%), respectively.	**Data Source:** North Carolina PRAMS BRFSS surveys, Project Databases, RHCC Health Pro Computer Systems.

Performance Indicator: Numerators (Numbers of clients breastfeeding awareness reached within RHCC and health education classes, respectively; numbers of mothers who breastfeed their babies by durations of 4 weeks, 8 weeks, 6 months and longer), Denominators (Numbers of RHCC prenatal clients, health education class participants, women who complete Breastfeeding Contracts), and Rates (100 × Numerator/Denominator by total, by race and by ethnicity, and (if contracted) by duration of breastfeeding at 4 weeks, 8 weeks, 6 months and longer).	

Interventions	Strategies and Activities	Accomplishments	**Persons Involved**
Breastfeeding Awareness, Promotion, Education & Training, Contract. *We say Breastfed is Best Fed.* *Breastfeeding can prevent, reduce the chance, and fight many diseases when occurring (e.g., Asthma, Obesity) because breastmilk has immune system boosting ingredients including antibodies from the mother and is a clear fluid containing nutrients and active immunities.*	1. Conduct a breastfeeding awareness week. 2. Conduct educational sessions on benefits of breastfeeding. 3. Invite Guest speakers from the community on breastfeeding topics. 4. Sign breastfeeding contract indicating agreement for the Mother to be visited at the hospital at the time of delivery by a peer mentor, & follow-up. 5. Design of a radio and tv campaign with UNC Public television. 6. Partner with WIC program in local offices. 7. Design an informational letter to be disseminated to daycare providers. 8. Implement a crib care program for daycare centers and hospitals. 9. Provider education seminar and/or Mother's Day client conference Informational bag stuffers for grocery stores and pharmacies. 10. Disseminate information during ongoing events, activities such as health fairs, seminars, health related seminars. 11. Stress importance of limiting the number of night time feedings (lead to obesity). 12. Stimulate clients while in the hospital to be active participants in the breastfeeding program within forty-eight hours of delivery. 13. Use a peer mentor system to counsel the client providing encouragement and incentives to begin and continue to breastfeed for at least six months. 14. Provide home visits and phone contact. 15. Encourage local faith-based organizations to develop breastfeeding information in church bulletins and encouraging a location at the church.	Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed	director/HE specialist HE specialist guest speakers case managers outreach team social workers outreach team outreach team HE specialist HE specialist & LHAs LHAs outreach team case managers outreach team social workers outreach team LHAs Outreach team

	16. Work with hospital to aid breastfeeding by placing crib cards in nursery. 17. Implement peer-to-peer mentoring program to involve mentors before, during and after delivery to provide woman to woman support. 18. Develop non monetary incentives for LHA/HD to add client recruitment.		

Project Period Objective #12: (Case Management - Healthy Start Performance Measure #35; Healthy People 2010 Objectives 1-2 to 1-5, 16) By January 31, 2006, case management will ensure a rate of at least 99% complete services for RHCC clients recruited by RHCC and the project. Case management will discover clients and ensure that they receive appropriate services in a supportive, efficient, and cost-effective way, by four interventions: initial contact and outreach; intake; assessment, care planning, and referrals; and ongoing contact and tracking. The already implemented Geographic Information System will be used to follow-up all the cases for the required period of time. Projected caseload per year by case type for RHCC: Prenatal Clients: 580, Postnatal Clients: 300, Postpartum/Interconceptional Clients: 128, Deliveries at RHCC: 290 (including an estimated 3 sets of multiple births), Infants: 296. **Baseline:** *Robeson Healthcare Corporation (2002)*, Prenatal clients = 578, Prenatal care (all trimesters) = 563 or 97.5%, No prenatal care = 15 or 2.5% (Black: 3.8%, American Indian: 2.3%). Postnatal care = 275 (47.5%); Deliveries at RHCC = 306; Postpartum/Interconceptional care = 94 (White: 6, Black: 30, American Indian: 54) at rate 30.7%. **Data Source:** Project Databases, RHCC Health Pro Computer Systems.	**Accomplishments:** Perinatal clients and their infants by year: 2002 2003 2004 2005 Perinatal Clients* 686 705 691 709 Infant Clients* 345 395 435 430 1558 * including interconceptional clients and their infants. **Performance Indicator: Numerators (#s of clients received complete services by total by race and by ethnicity for each type), Denominators (#s of Prenatal Clients, Postnatal Clients, Postpartum/ Interconceptional Clients, Deliveries, Infants Clients), & Rates (100 × Numerator/Denominator by total, by race, by ethnicity for each type).**

Interventions	Strategies and Activities	**Accomplishments**	*Persons Involved*
Initial Contact and Outreach; Intake; Assessment, Care plan, and Referrals; Ongoing Contact and GIS Tracking. *Our perinatal clients expect our case managers just like doctors and they need well-made care plans and referrals telling them what they should, and what they should not do.*	1. Continue to review and modify individual care plans regularly and as needed. 2. Implement four interventions: initial contact and outreach; intake; assessment, care planning, and referrals; and ongoing contact and tracking. 3. Continue to conduct risk assessments and make referrals to RHCC & other providers. 4. Continue to strengthen Baby Love and breastfeeding programs. 5. Continue to administer postpartum/Interconceptional screening tool for depression. 6. Continue to administer individual prenatal and postnatal as well as infant care plans. 7. Make contracts for increasing postnatal and postpartum/interconceptional clients. 8. Continue to implement and provide culturally and linguistically competent services. 9. Continue to coordinate the utilization of services using multi-disciplinary teams based on the needs of the clients. 10. Identified preventable risks timely and provide effective interventions to care. 11. Maintain a constant and ongoing commitment to clients at health risks. 12. Continue to initiate additional sources of funding for sustainability of HSC project that encompasses local, state and private funding. 13. Continue to recommend clients for education and training programs on Smoking/Drug, Alcohol, HIV/AIDS/STD, Teen Pregnancy, Prematurity, SIDS,Self Esteem&Nutrition.	Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed	case managers team supervisor case managers RHCC team Depression Counselor case managers outreach team social workers team supervisor case managers case managers director LHAs

Project Period Objective #13: (Interconceptional Care - Healthy Start Performance Measure #21; Healthy People 2010 Objectives 1-4, 16-7) By January 31, 2006, for RHCC prenatal clients who deliver their babies, increase clients agreed to Postpartum/Interconceptional care from 94 or 30.7% in 2004 to 128 or 44.1% of projected 290 deliveries per year. Ensure clients are connected to requisite interconceptional health services, and increase clients' utilization of family planning and other interconceptional health services. At the same time, reduce the number of clients with repeat pregnancies within 24 months of giving birth. **Baseline:** *Robeson Healthcare Corporation (2004)*, Deliveries at RHCC = 306. Postpartum/Interconceptional care = 94 (White: 6, Black: 30, Amer. Indian: 54), or 30.7%. Postpartum/Interconceptional care rate = 28.6%. **Data Source:** Project Access Databases, RHCC Health Pro Computer Systems.	**Accomplishments:** Interconceptional Clients Characteristics and Rick Factors: First Trimester Entry – 128/161 (79.5%) C-Section – 41/161 (25.5%) Family Smoking – 82/161 (50.9%) High risk – 38/162 (23.6%) Substance use – 14/161 (8.7%, Alcohol, Marijuana, Cocaine) Non-Medicaid – 19 (plus 5 pending) Breastfeeding – 30/161 (18.6%) Poverty – 62/161 (38.5%) Inadequate Housing – 32/161 (19.9%) Lack of Family Support – 47/161 (29.2%) Domestic Violence – 7/171 (4.3%) Single: 130 Married: 23 Separated: 2 Divorced: 4 White: 15 Black: 50 Native: 86 Other: 8 Hispanic: 9 **Performance Indicator:** Numerators (Numbers of clients who received complete postpartum/Interconceptional services by total, by race and by ethnicity), Denominators (Numbers of deliveries by total, by race and by ethnicity), and Rates (100 × Numerator/Denominator by total, by race and by ethnicity).

Interventions	Strategies and Activities	**Accomplishments**	**Persons Involved**
Recruitment, Referral, Contract, Care Plan, Family Planning, Follow-up, GIS Tracking. *This is such an immediate need that the community has not been aware of - to promote longer interconceptional periods and prevent relapses of risk behaviors; women and infants are followed through the infant's 2nd year of life or until risk behaviors decreased or eliminated.*	1. Continue to review and modify individual care plans as needed. 2. Recruit clients particularly older, Black, Native and Hispanic women for RHCC. 3. Contract with clients after delivery for interconceptional care. 4. Promote longer interconceptional periods and prevent relapses of risk behaviors. 5. Help clients with family planning, family access to care and infant care. 6. Develop a concerted women health program including pre-pregnancy counseling. 7. Continue to refer clients to programs on Smoking, Alcohol, Drug, HIV/AIDS/STD, Teen Pregnancy, Prematurity, SIDS, Self Esteem & Nutrition. 8. Continue to follow-up interconceptional clients with wrap around services. 9. Identified preventable risks timely and provide effective interventions to care. 10. Maintain a constant and ongoing commitment to interconceptional clients with GIS. 11. Continue to coordinate the utilization of services using multi-disciplinary teams	Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed	case managers outreach team, LHAs outreach team RHCC team social workers consultant LHAs case managers case managers case mgrs/eval. team team supervisor director outreach team social workers

	based on the needs of the clients. 12. Modify common protocols across agencies. 13. Continue to initiate additional sources of funding for sustainability of HSC project that encompasses local, state and private funding. 14. Continue to implement and provide culturally and linguistically competent services.		

Project Period Objective #14: (Perinatal Risk Screening and Referral - Healthy Start Performance Measure #22) By January 31, 2006, all suspected perinatal risk women and infants enrolled in the project's partner Robeson Healthcare Corporation will receive comprehensive risk screenings to determine care plans and appropriate services, including Perinatal Screening, Postpartum Depression Screening, Interconceptional Screening, STD/HIV/AIDS Screening, Hypertension Screening, Mental Health Screening, Substance Abuse Screening, Domestic Violence Screening, and other risk-factors of maternal health. All infant participants will receive screenings on prenatal Drug/Alcohol Exposure, Family Violence/Intentional Injury, Growth, Developmental delays (particularly for infants born preterm, at low birth weight, from multiple births, or to mothers with health risks). Projected total screenings (unduplicated women) per year: 580+infants. All screenings will be conducted by following implemented Screening Protocols.

Baseline: *Robeson Healthcare Corporation (2004)*, total 586 perinatal screenings from 2002 to 2004 or average 195 per year, and a total of 162 follow-up at rate 27.6%.

Data Source: Project Databases, RHCC Health Pro Computer Systems.

Accomplishments:
645 women were administered the Postpartum Depression Screening S between 2002 September and 2006 (52.4%), Black (24.3%), White (8.: Other (1.2%). The racial and ethnic minor depression was American In White (18.2%, 20.0%), Black (13.4 (2.0%, 1.1%).

Depression screenings by year:

	2002	2003	2
Full Screenings	103	226	

Performance Indicator: Numerat screened for suspected risk-factor i race and by ethnicity for each of th Postpartum/Interconceptional, and (Numbers of clients by total, by rac of these types), and Rates (100 × N total, by race and by ethnicity for e

Interventions	Strategies and Activities	**Accompli**
Risk Screening, Assessment, Referral, Care Plan, Family Planning, Follow-up and GIS Tracking. *The earlier the discovery of a perinatal risk, the better the chance of having it timely and completely cared.*	1. Improve the quality of medical care by assuring that proven, effective screening tools/technologies are used and disseminated in RHCC/Baby Love. 2. Ensure all scheduled screenings conducted in an accurate and timely manner and appropriate care plan or effective preventive strategies provided to clients. 3. Continue to screen the indicated risks in the Objective for all perinatal women. 4. Continue to screen the indicated risk factors in the Objective for infants. 5. Continue to refer risk clients to case management. 6. Perform relevant data analysis to identify patterns of risk factors. 7. Continue to review and modify individual screening plan. 8. Maintain a constant and ongoing commitment to risk clients with GIS. 9. Develop and implement system for providing counseling services. 10. Continue to refer clients to education & training programs on Smoking/Drug/ Alcohol, HIV/STD,Teen Pregnancy,Prematurity, SIDS,Self Esteem&Nutrition. 11. Continue to coordinate the utilization of services using multi-disciplinary teams based on the needs of the risk clients.	Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed Completed

	12. Modify common protocols across agencies. 13. Continue to initiate additional sources of funding for sustainability of HSC project that encompasses local, state and private funding. 14. Deliver specialized services for teens, older, Black, Native, Hispanic women.	

B. For those projects that received mentoring or technical assistance from another site, please discuss any activities/lessons learned from those projects that you utilized in your project. If you provided technical assistance, describe your activities, feedback received on them, and any other lessons learned.

Not applicable.

V. Project Impact

Based on a review of all of your project=s HS grant submissions during the project period, and the services and strategies implemented, describe the impact of Healthy Start on your Project Area and community. Please organize your description using the outline below.

A. Systems of Care: Describe how the project has enhanced collaborative interaction among community organizations and services involved in promoting maternal and infant health and social support services.

1.) Describe the approaches utilized to enhance collaboration.

HSC worked with Title V in Raleigh to develop a joint conference yearly for all Health Department Baby Love and Healthy Beginnings staff. The conference planning committee worked together to provide yearly programs with both Baby Love staff, Healthy Beginnings, and North Carolina State Maternal and Child Health staff. Other joint conferences and key activities included:

a. Public Hearing for Southeastern Regional Medical Center/Duke University Open-Heart Surgery Center
June 19,2002

b. Children are the Seeds of Our Future I with MCH Title, RCHD , RHCC and LRDA
October 15, 2002
Pembroke , North Carolina

c. Dr. Cheryl Beck
Administering Postpartum Depression Scales: Teetering on the Edge
May 7, 2003
Pembroke, North Carolina

d. Children are the Seeds of Our Future with MCH Title, RCHD, RHCC and LRDA
October 14, 2003
Pembroke, North Carolina

e. Baby Love Plus Training Institute with MCH Title V
July 17-19, 2003
Raleigh, North Carolina

f. 15th Annual BabyLove Conference with MCH Title V
August 27-28, 2003
Raleigh, North Carolina

g. Dr. Ira Chasnoff
Perinatal Substance Abuse for providers throughout Robeson County
Dec 7&8, 2004
Pembroke, North Carolina

h. Healthy Start Staff Conference with MCH Title V
December 13, 2004
Raleigh, North Carolina.

i. Healthy Start Breastfeeding Billboard with MCH Title V and Healthy Beginnings
February-August, 2005
Pembroke and Lumberton, North Carolina

HSC worked with Title V in Raleigh as part of the Women in Smoking Collaborative.

HSC also worked with RCHD and Title V to develop subsequent North Carolina state infant mortality grant proposals. HSC worked with the RCHD to design and evaluate Healthy Carolinian community assessment survey questions.

HSC participated in designing new joint programs with Title V on the local level in collaboration with the Healthy Carolinians collaborative under the Robeson County Partnership for Health to promote long-term healthier lifestyles. These projects were in conjunction with the Robeson County Health Department School-based Clinic.

HSC worked with the Title XXI Early Head Start located in Pembroke at the Lumbee Regional Development Association. Amanda Blue, Early Head Start services manager, met routinely with the HSC case management team to provide HSC program information to Early Head Start clients.

HSC routinely transported (PP) to the RCHD and Social Services Department for Title V and Title X appointments for services such as food stamps, WIC, TANF, Medicaid recertification appointments and voucher pick-up. Initial enrollment coordinated through the RHCC Baby Love program with collocation of enrollment at RHCC clinical sites and transferred to HSC interconceptional care for continued follow-up when postnatal services concluded.

HSC collaborated with Title V in Robeson County to design and implement new joint program activities that promote both federal and state perinatal initiatives under the RCHD Folic Acid and Breastfeeding Task Forces which reported to the Robeson County Partnership for Health

Consortium, a key audience in a future initiative will continue to be teens and women of childbearing age. HSC collaborated with RCHD Title V and Title X to plan and implement pertinent federal and state funded perinatal initiatives for teen abstinence. It is through this collaborative that the Breastfeeding Task Force under chair Monica McVicker, Title X WIC director and Jennifer Clark, Title V director of social work co-chaired, jointly planned with HSC, Southeastern Regional Medical Center, LRDA and a host of other community agencies, a billboard that was placed in Robeson County in February 2005 for a six month period. This was a major accomplishment that combined the manpower resources of numerous agencies. Financial support for the cost of the billboard was jointly provided by HSC and LRDA Title V Healthy Beginnings program funds.

Another joint project was the continued implementation of breastfeeding reminder cards placed in the Southeastern Regional Medical Center hospital nursery. The cards indicate, "Do Not Bottle Feed" as reminders to nursery and NICU staff not to give infants bottled milk; the cards were introduced to the prenatal mother during breastfeeding training coordinated by WIC. The hospital nursery staff was involved in the design and implementation of the reminder cards.

HSC worked with the hospital to encourage and support the March of Dimes "Back to Sleep" campaign. HSC collaborated with Title V: Jennifer Clark, RCHD director of social work and Monica McVicker WIC director to provide RHCC with updated Breastfeeding training. Hand held beast pumps were purchased with HSC funds in 2004 with adequate supply provided to RCHD Title X through Monica McVicker, WIC Director to financially support RCHD program implementation. HSC enhanced breastfeeding awareness within the community through LHA workshops. The HSC breastfeeding module implemented in April 2005 included March of Dimes information on the "Back to Sleep" campaign. This project was necessary as RHCC client attendance at health department breastfeeding classes was very low or not at all. The breastfeeding rate in RHCC clients less than 10%; therefore, an increased emphasis on early awareness, training and information on breastfeeding at both clinical and community settings by Healthy Start CORPS provided a collaborative approach to breastfeeding awareness and education within the community.

HSC met on a monthly basis with Maternity Care Coordinators, Mothers Advocates and the Baby-Love program staff at RHC to provide a seamless system for (PP) from the onset of pregnancy and transition into HSC interconceptional care. HSC and RHCC Baby Love MCC coordinated (PP) enrollment into Medicaid at the RCHD by providing an eligibility worker at each RHCC clinical location to facilitate enrollment. All Title V and Title X linkages to address waivers, family planning, food stamps and simplified eligibility applications were provided through co-location of services and eligibility enrollment at all RHCC clinical sites. HSC transported (PP) to the RCHD for enrollment into services such as WIC provided at the RCHD. HSC developed Memorandums of Agreement with:

- Robeson Health Care Corporation (RHCC) for case management services
- UNCP Pembroke and LRDA for HERC and community collaborations

The planned collaboration and services coordination with other entities included: UNC Pembroke Nursing Department in initiating breastfeeding training for RHCC within the clinical setting; UNC Pembroke Social Work Department in implementing the interconceptional care

aspect of HSC; UNCP Community Health Department in implementing the Lay Health Advisor network; UNCP Career Services Center in providing in-kind job-skills training during the Healthy Start Spa project; Clothing and Such retail store in providing in-kind clothing to (PP) while implementing the Healthy Start Spa; Lumbee Regional Development Association in providing transportation for (PP) and hosting monthly training classes. Community health educational sessions were presented in collaboration with the following:

Service Providers and Schools in Robeson County:

Rowland Police Department, Southeastern Family Violence Center, Rowland Youth Opportunity Center, Red Springs Youth Opportunity Center, Robeson County Youth Opportunity Center, Maxton Youth Opportunity Center, all high schools in Robeson County and North Carolina Cooperative Extension Service where LHA workshops were held.

Robeson County Health Department

HSC linked RHCC with RCHD to provide breastfeeding training for staff and coordination of (PP) services with Title V and Title X. A breastfeeding initiative under Title X began in February 2005 for prenatal counseling of (PP) by RHCC prenatal staff on the importance of breastfeeding and the tracking of breastfeeding mother up to one-year or until breastfeeding ends. The breastfeeding tracking results are contained within the evaluation section.

UNCP Health Education Resource Center (HERC)

HERC was developed and located within LRDA. Space for the center provided in kind to HSC. Under the direction of Dr. Sandra Cross, UNC Pembroke associate professor in Health, Physical Education, and Recreation, the center provided in-kind to HSC. Dr. Cross provided student workers from the Health curriculum to serve as facilitators within the HERC and coordinated the updating of materials and activities within the center. Dr. Cross applied for grants to continue to support HERC activities. A $3,000 grant was secured from the March of Dimes to help support the purchase of pamphlets and brochures for the center. HSC provided stipends for UNCP student interns who worked with Dr. Sandra Cross to provide manpower for the center.

Robeson County Board of Education

HSC recruited school nurses to become part of the LHA network. A Social Worker at Lumberton Senior High School, Ellen Bullard was also a LHA continued through the entire project period to provide HSC with student referrals of young high school students who were pregnant and not under medical care.

UNC Pembroke

UNC Pembroke conducted audits of HSC practices regarding institutional research and planning as warranted. The Institutional Review Board sanctioned the efforts of HSC. Other departments

included: UNCP Career Planning and Placement Department**,** UNCP Mass Communications Department, Social Work, Math /Computer Sciences and Geography Departments.

Area Health Education Center (AHEC)

HSC collaborated with the Area Health Education Center (AHEC) in Fayetteville, North Carolina. AHEC provided (in-kind) services of students in 2004 who were Health Careers majors within the UNC system.

2. Identify the extent to which structured changes, such as procedures or policies, have been established for the purpose of system integration.

An important document that guided the implementation of case management was the development of a project policies and procedures manual. This document outlined the case management intake, assessment and follow-up procedures for all client encounters and linked the procedures to transition a program participant from prenatal to interconceptional care services. The one document contained all the forms to be used for home case management and provided an appendices on the Kessner Index, HHS poverty guidelines, birthweight conversion chart, and project job descriptions. It contained all the objectives of the program and was a very valuable tool and reference for project clinical staff for systems integration in transitioning (PP) throughout the entire perinatal process.

3. *Describe key relationships that have developed as a result of Healthy Start efforts covering areas the following:*

a. Relationships among health service agencies; between health and Social Service agencies; and with community based organizations:

<u>Health and Social Service Agencies:</u>

Robeson County Health Department

A key relationship developed as HSC linked RHCC with RCHD to provide breastfeeding training for staff and coordination of (PP) services with Title V and Title X. A breastfeeding initiative under Title X began in February 2005 for prenatal counseling of (PP) by RHCC prenatal staff on the importance of breastfeeding and tracking of breastfeeding mother up to one-year or until breastfeeding ends. Breastfeeding tracking was documented in the HSC data-base by the Applications Programmer I who weekly collected data from clients' files at the three RHCC sites where prenatal clients were encountered. The breastfeeding tracking evaluation developed by the Project Evaluator and Applications Programmer I is located in the evaluation section.

Robeson Health Care Corporation (RHCC)

This organization became the clinical arm of Healthy Start CORPS in 2002 and this relationship continued throughout the grant period.

Area Health Education Center (AHEC)

HSC collaborated with the Area Health Education Center (AHEC) in Fayetteville, North Carolina. AHEC provided (in-kind) services of students who were Health Careers majors within the UNC system. A second collaboration occurred in 2005-2006 as HSC was asked to sponsor a master's level social work student, a minority from the Fayetteville, North Carolina location. The masters level social work student was provided a stipend from HSC for her work with this project. She developed hands on presentations on Breastfeeding and presented this information to RHCC clients during clinical appointments. This was an important activity as the breastfeeding rate was below 10%. This individual became involved in the project as a result of her own infant was born at 2 lbs and surviving in a NICU for over two months. She accompanied the project to Washington DC and spoke to a Congressman on behalf of the Healthy Start project. As her plans included relocating to the Raleigh area, she plans to continue her efforts as a consumer advocate with Healthy Start in Raleigh, North Carolina.

Robeson County Health Department

HSC provided the conduit for the RHCC with RCHD to link and provide breastfeeding training for staff and coordination of (PP) services with Title V and Title X. A breastfeeding initiative under Title X began in February 2005 for prenatal counseling of (PP) by RHCC prenatal staff on the importance of breastfeeding and tracking of breastfeeding mothers up to one-year or until breastfeeding ends. The breastfeeding-tracking plan is contained within the evaluation section.

Robeson County Department of Social Services

LHA classes were conducted as part of the WorkFirst project on a continuous basis as attendees change every six weeks; participants attended sessions on all modules taught by Ms Emma Burns who has been a LHA with the project for four years.

<u>Community-Based Organizations:</u>

Service Providers and Schools in Robeson County

Rowland Police Department, Southeastern Family Violence Center, Rowland Youth Opportunity Center, Red Springs Youth Opportunity Center, Robeson County Youth Opportunity Center, Maxton Youth Opportunity Center, all high schools in Robeson County and North Carolina Cooperative Extension Service where LHA workshops were held.

UNCP Health Education Resource Center (HERC)

Located within LRDA. In-kind space for the center provided by LRDA. Under the direction of Dr. Sandra Cross, UNC Pembroke associate professor in Health, Physical Education, and Recreation student workers from the Health curriculum served as facilitators within the HERC and coordinated the updating of materials and activities within the center. Dr. Cross applied for grants to continue to support HERC activities once support from HSC ended. She obtained one grant from the March of Dimes.

Robeson County Board of Education

HSC recruited school nurses to become part of the LHA network. A Social Worker at Lumberton Senior High School, Ellen Bullard continued throughout the grant period. Ms. Bullard identified and referred high school students to HSC who were pregnant and not under medical care.

UNC Pembroke

UNC Pembroke conducted audits of HSC practices regarding institutional research and planning as warranted. The Institutional Review Board sanctioned the research conducted by HSC. Other departments include: UNCP Career Planning and Placement Department**,** UNCP Mass Communications Department, and UNCP Geography Department worked on aspects of HSC namely, Healthy Start Spa and GIS software for the mapping of client location and HSC training activity under the direction of the HSC Applications Programmer. Another major collaboration with UNC Pembroke was the development and training of RHCC staff in goal attainment scaling under the guidance of Steve Marson, Ph.D. Department of Social Work.

Area Health Education Center (AHEC)

HSC collaborated with the Area Health Education Center (AHEC) in Fayetteville, North Carolina where services of students were provided through Health Education, Social Work and Health Careers; HSC provided stipends for minority students in need of assistance who completed internships with HSC. One student was Kimberly Brown an MSW candidate who developed clinical education materials for RHCC. The medical expertise for the design of the materials was provided by UNC Pembroke Nursing Assistant Professor, Ms. Cynthia Herndon, Ms. Brown then implemented waiting room based health education on breastfeeding, depression and premature birth for RHCC clients; these clinical services were provided in-kind to RHCC as HSC provided stipends to both Ms. Brown and Professor Herndon for their services. Ms Brown also served as a peer mentor for high-risk clients meeting with them one-on-one; as she had a high risk pregnancy and subsequent successful delivery of an infant girl. HSC also provided an opportunity for Health Education students to work under the direction of Dr. Sandra Cross in 2004 to develop materials and staffing of the HERC Center based at LRDA. Dr. Cross received a stipend from AHEC for those services and HSC provided pamphlets, brochures and other audio-visual materials for the HERC center. The students also worked on ideas for a billboard for the social marketing campaign.

b. Relationships that focus on involvement of consumers and/or community leaders(who are not employed by a health or social service agency) with any of the agencies/organizations listed above or any additional agencies.

The HSC plan involved building relationships with consumers who attended twenty-four (24)

hours of training at UNC Pembroke conducted by the department of Health and Community Education who then became Lay Health Advisor (LHA); who in turn, provided wide scale distribution of community health education classes. The LHA were (CP) contracted to provide manpower and flexibility to health education and training services model in a cost effective manner. LHA were not full-time employees but were contracted and compensated based upon hours of service to the project. LHA provided one-hour educational sessions to community organizations and were paid $10/hr; they worked on their own schedule and outreached to high-risk women on topics such as breastfeeding, nutrition, smoking, preterm labor, back-to sleep campaign, premature birth, HIV/STD/AIDS, self-esteem and postpartum depression. This was a very successful model that reached approximately 3,000 people annually as documented in the evaluation section of this report.

4. Describe the impact that your HS project has had on the comprehensiveness of services particularly in the following areas:

a. Eligibility and/or intake requirements for health or social services;

The impact HSC had on the comprehensiveness of services provided by primarily Robeson Health Care Corporation has been to help this organization provide a coordinated system to intake clients into interconceptional care and to provide the tools to document and track the care provided to clients over a period beyond traditional clinical case management. Also, the project enhanced RHCC's ability to provide a comprehensive plan to track education and counseling conducted by clinical staff during clinical appointments.

b. Barriers to access and service utilization and community awareness of services;

The barriers to access and service utilization were limited primarily to the client's determination not to access care. One of the important findings of the project was that the client would choose not to participate even though every effort was made to provide access. Case mangers would offer to transport clients to clinical appointments or community intervention activities but the client would refuse. The root cause of that decline was very difficult to determine. Often the father of the infant would not permit the client to attend, indicating that the project was nonsense and/or too time consuming or intrusive. As much as the client wanted to attend, she could be persuaded or convinced into noncompliance. Another issue was the clients' decision not to attend a clinical appointment. The case manager would arrive at the home but the client would not answer the door or would have someone else provide information that the client was not at home.

c. Care coordination including descriptions of mechanisms implemented to assure continuity of care, quality improvement and follow up system(s) for client referrals;

To assure continuity of care, HSC utilized a referral form that included a signature line to allow the case manager to contact the provider to determine if a scheduled appoint had occurred. The case managers used a follow-up-system; a dated tickler system to track and monitor scheduled appointments. The case manager would contact the client to verify a kept appointment and would contact the provider directly by telephone if there was a concern as to the kept appointment. This was a very helpful system and worked well.

d. Efficiency of agency records systems and sharing of data across providers (within the confines of confidentiality rules) to reduce the need for repetition.

The efficiency of agency records system and sharing of data across providers to reduce the need for repetition remained a major barrier. The records system within Robeson Health Care Corporation was a manual system. The only automated aspect was the scheduling of an appointment. A record could be easily retrieved if the providers were in-house within RHCC. When the HSC project period ended, RHCC had written a grant and secured funds to develop an automated system. However, it was anticipated that the time to have the system operational would be one year.

5. Describe the impact on enhancing client participation in evaluation of service provision in the following areas:
a. Provider responsibility in maintaining client participation in the system and provider sensitivity to cultural, linguistic and gender (especially male) needs of the community;

The HSC retained clients by incorporating education and life-enrichment activities in a sensitive and culturally supportive manner. For example, the Healthy Start Spa project developed by HSC encouraged job training and interview skill building for clients enrolled in HSC for at least one year; HSC case management team worked to mentor clients and prepare them to enter or reenter the workforce; a three-day program incorporated job search training and job-interview etiquette; the latter provided in-kind by the cosmetology department of partner: Robeson Community College; clients clamored to attend as Healthy Start Spa was presented in a fun and relaxing atmosphere, thus, enhancing retention within HSC. The Weigh To Go project also developed by HSC, was a five-week educational cooking and exercise project offered to clients after six months in HSC. Clients were eager to attend this program; they particularly enjoyed the last session on cooking with herbs in place of salt and fat to curtail the use of saturated fats and excess salt in the diet. Incentives to increase and maintain enrollment included: low-fat cookbooks (nutrition), diaper bags containing smaller incentives provided during home visits throughout the service period to promote healthy behavior include outlet covers, bath thermometers (infant safety), calendars (to promote compliance) and sippy cups.

Client satisfaction surveys were conducted by telephone and indicated 96% of clients felt the services were useful; 100% surveyed stated that they would recommend the program to another postpartum woman. The surveys were conducted at twelve (12) months and upon completion of the project at (24) twenty-four months postpartum. The interpersonal relationships that the case managers and outreach worker were able to form with clients promoted good rapport, monthly home visits and frequent phone contacts, and, were the greatest contributors to client retention. The entire HSC team worked diligently to make sure that educational offerings and classes were fun; Clients often returned several times after attending one class. Relationship building is difficult to quantify, however insight to the strength and power of this relationship was evident in comments received through one-on-one telephone satisfaction surveys conducted independently by Cynthia Herndon, RN MS, Assistant Professor of Nursing at UNC Pembroke. One of the questions on the survey asks the clients, “Has participation in the Healthy Start Program made a difference in your life?” Clients responded*:

“It has changed my life; I enjoy being in the program.”

"It has made a lot of difference with the health of my child"

"It makes me feel better; someone to talk with about my problems."

"I like the participation because it gives you a lot of things to do".

"Whenever I have concerns they always help me out; they make sure everything is going great with me and my son; they help keep me in order as well."

Participants Satisfaction:
Strongly Agree = 61.11%, Agree = 35.78, Neutral = 2.02%,
Disagree = 0.35%, Strongly Disagree = 0.74%.

From Client Satisfaction Survey Results*

In summary, the project is a successful service and education-balanced model.

b. Consumer participation in developing assessment and intervention mechanisms and tools to serve perinatal women and/or infants, and the extent of implementation and utilization of these tools or mechanisms.

Table 11: Consumer Participation in Development and Implementation of Assessment and Intervention Tools

1. Project planning- Consumers assisted in planning for project implementation. They worked together to review demographic data on each county and determine approaches to reach high-risk families in targeted communities. 2. a Participation in grant application development and policy recommendations-consumers participated in grant development by aiding in identifying new and innovative projects. Example: LHA Shirlyn Smith helped shape, "Weigh To Go" project. 2.b Emma Smith was a very active participant in the Robeson county partnership.	3. Coordination of training efforts - Consumers worked with the project evaluator to identify locations for focus groups to conduct pilot tests of new materials. Consumers worked with the project evaluator to select geographic areas by identifying target locations such as housing authorities, community groups, and other sites; they recruited collaborative partners to assist with program planning and implementation efforts.	4. Budget/finance- Consumers participated in budget planning and preparation. In addition, LHA were empowered to budget for their respective classes and given parameters for their program expenses and mileage reimbursement limits; a lead LHA met monthly with them to monitor expenses prior to submission to the project director.
5. Personnel recruiting/hiring-LHA consumers continued to recruit new LHA to participate in the activities of the network. Two LHA were then subsequently hired to work full-time;	6. Input into developing the scope of services Healthy Start offers- LHA continued to serve on the advisory committee helping to shape new program activity and participated in the design and implementation of the conference with Dr. Ira Chasnoff on December 7 and 8, 2004.	7. Communication/media efforts- Each year at least one LHA attended the Healthy Start Community meeting in Washington, DC.

B. Impact to the Community: Describe the impact the project has had on developing and empowering the community, at a minimum in the following areas:

1. Residents= knowledge of resource/service availability, location and how to access these resources;

A major impact in developing and empowering the community evolved during the implementation of community awareness classes within local housing authorities. Robeson county has eleven (11) housing authorities. By implementing lay health community awareness workshops in local housing authorities, consumer awareness of the project and educational classes increased. LHA were able to expand their knowledge of the resources within the community through (CP) who knew their communities and were knowledgeable of the available resources. It was through this building of relationships between LHA and (CP) that rich conversations occurred, the residents would refer newly pregnant women to HSC. The LHA would then provide the link in the process and help the client to access available medical care. LHA would then contact the women and/or provider to assure the medical appointment occurred and the women entered a system of care.

2. Consumer participation in establishing or changing standards and/or policies of participating service providers and local governments, that affect the health or welfare of the community, and have an impact on infant mortality reduction;

One important activity occurred as HSC linked with the Robeson County Partnership for Health to obtain approval for the Southeastern Medical Center licensure to obtain a Heart Surgery Center. The HSC project director provided support testimony at local hearings in Lumberton. In 2005, the Center opened. HSC was proud to be part of the collaborative that made this possible. HSC also worked on non-smoking policies in the schools in Robeson County.

3. Community experience in working with divergent opinions, resolving conflicts, and team building activities;

HSC participated with RHCC in implementing a capacity building summit on March 8, 2005 as part of the Ryan White Care Act a minority AIDS initiative.

4. Creation of jobs within the community.

Healthy Start CORPS provided the community with part-time employment for community participants as lay health advisors.

HSC implemented the Lay Health Advisor (LHA) model to provide (CP) health education activities in the three counties served by the project. The LHA were members of the community who were contracted to provide manpower and flexibility to the health education and training service model in a cost effective manner. The LHA were not hired as full-time employees but compensated based upon hours of service to the project. The LHA also helped to outreach and identify high-risk girls and women for the health education classes and referred them to the outreach worker to provide referrals and follow up and community based educational sessions in various community locations.

C. Impact on the State: Over the past four years Healthy Start has supported activities to strengthen and develop relationships with the State Title V program. In some states where there was more than one HS project, the Division of Healthy Start and Perinatal Services (DHSPS) encouraged coordinated activities across these sites.

Describe the activities and impact that this approach has had on your relationship to the State Title V Agency, State Children with Special Health Care Needs Program(s), your state Medicaid and SCHIP programs, your State Early Intervention Program and other state programs. Highlight any benefits and lessons learned from these relationships.

The relationship between State Title V program and Healthy Start was exceptional. Joint meetings and conferences were held on a routine basis. The activities included:

1. Five year needs assessment

   a. HSC worked with Title V in Raleigh in developing a joint conference for all Health Department Baby Love and Healthy Beginnings staff; the conference planning committee includes Healthy Start CORPS, Healthy Beginnings and North Carolina State Maternal and Child Health staff. Conference entitled, "Building Bridges" on December 13, 2004 was held in Raleigh, North Carolina.

   b. HSC worked with RCHD and Title V on the development of a North Carolina state infant mortality grant submitted by the Robeson County Health Department who would serve as the lead agency for this proposal. HSC worked with the RCHD to design survey questions administered during October, 2004.

   c. HSC participated in a train the trainer pilot on September 21, 2004 for the Scotland County Health Department Title V exercise program under a subcommittee of the Healthy Carolinians entitled, "Scotland County Healthy Carolinians Weight Loss Support Program" developed in collaboration with the Healthy Carolinians collaborative in Scotland county and piloted with staff of the SCHD and Social Services Department; program was designed to motivate (CP) to reach weigh loss goals and gain long-term healthy lifestyles.

2. HSC collaborated with Title V in RCHD to form a Folic Acid task force; first meeting was held on September 30, 2004; a key target audience was teens. HSC worked in 2004 collaboratively with Jennifer Clark, RCHD Director of Social Work and Monica McVicker WIC Director to provide RHCC with Breastfeeding training.

HSC met monthly with the Maternity Care Coordinators, Mothers Advocates and the Baby-Love program staff at RHCC to provide a seamless system for Prenatal clients from the onset of pregnancy and transition into HSC postpartum and interconceptional care. HSC and RHCC Baby Love MCC implemented a breastfeeding initiative for (PP) linking with the Robeson County Health Department for breastfeeding training.

D. Local Government Role: Highlight activities/relationships at the state and local level that facilitated project development. Briefly describe barriers at the state and local level, and the lessons learned in dealing with these barriers.

HSC participated in quarterly WATCH meetings-Women and Tobacco Coalition for Health. This state level network of providers linked to facilitate project development in a statewide coordinated fashion. This is a NC state committee that coordinates Title V MCH activities in North Carolina. Sarah Verbiest of the March of Dimes is the Chair of the collaborative. Partnering agencies included Tobacco Prevention and Control, Prevention Rx for QUIT Now

NC, NC Department of Health Women Children Health Services, NC Healthy Start Foundation. An important role of this collaborative on a state level was to implement the 5 A's to Smoking Cessation. On July 1, 2005, all local health department maternity clinics were required to provide the 5A's counseling for women who smoke. This committee was also important in urging Governor Easley and the NC General Assembly to consider increasing the tax on tobacco products as NC has one of the lowest sales taxes on tobacco products. In 2002, the Women and Tobacco Coalition for Health joined forces with the American College of Obstetrics and Gynecology (ACOG), North Carolina Division of Public Health, Women's Health Branch, and the Center for Women's Health Research at the University of North Carolina, Chapel Hill designed and conducted a survey of prenatal care providers across the state. The group's work has been endorsed and supported by the North Carolina Obstetrical and Gynecological Society and the North Carolina Section of ACOG. HSC was proud to have been part of this collaborative to facilitate project development.

HSC also participated in the NC DHHS Secretary and Commission of Indian Affairs Joint Task Force on Indian Health. The committee chaired by Secretary Carmen Hooker Odom met routinely in 2005 to discuss Indian Health issues for North Carolina. HSC was proud to have worked with this important Joint Task Force. Four important recommendations resulted:

1. Plan to develop a coordinated effort to obtain data on Native peoples;
2. Discussion on sovereignty, government and systems that focused on health programs and services to tribes and issues of self-determination;
3. Access and prevention and Care Services which recommended to expand the number of school nurses in Native American schools and expand home and community care;
4. Creation of a research task force on Indian Health to be chaired by Dr. Ronny Bell at Wake Forest University and Dr. Cherry Beasley at UNC Pembroke;

HSC worked with state and local government funding agencies to provide the best possible integrated care for (PP). HSC linked with Title V MCH providing initial postpartum clinical visits to new breastfeeding mothers and abstinence programs for teens. A breastfeeding task force under Title X Family Planning was formed by the RCHD; HSC served as a member of this task force. To provide visibility, a community awareness billboard was developed and designed by a RCHD task force and implemented in two locations, Lumberton and Pembroke. HSC worked with local Department of Social Services for TANF assistance for clients; Social Security Administration where (PP) applied for SSI; housing authorities in Pembroke, Lumberton and Fairmont; WIA & DSS for food stamps, child support and Medicaid; WIC for child immunizations; Title III with the National Interfaith Committee for Workers Justice; HIV early intervention program, and SCHIP. A member of the HSC team, Danielle Locklear, BSW served as president of a local Title XXI Early Head Start program. HSC linked with an Early Head Start program based at LRDA to provide transportation for (PP). Three of the LRDA staff attended LHA training on preterm delivery, postpartum depression and breastfeeding on April 9, 2005. Workshops for (PP) were planned on a monthly basis.

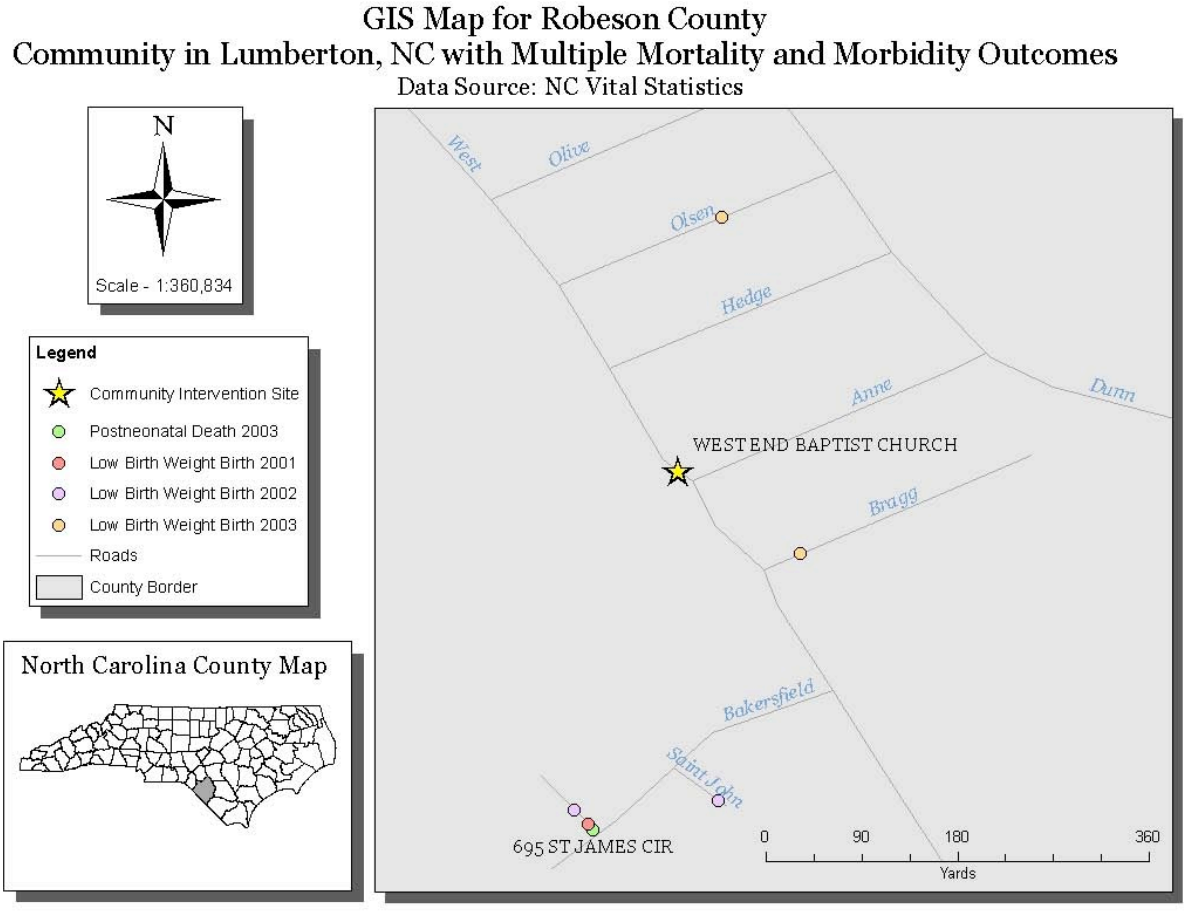
Barriers at the state level were few for HSC had a very good relationship with the state MCH offices that evolved over the project period. The only problematic barrier was the ability to attend meetings due to other commitments on the local level as travel requirements often

involved meetings in Raleigh or other areas at least two hours from Pembroke. None were local meetings.

E. What additional non Healthy Start resources obtained for quality assurance, program monitoring, service utilization, and technical assistance became important especially as contractors were funded or additional staff members were hired?

The process of implementing a **G**eographic **I**nformation **S**ystem (GIS) in the spring of 2004 compelled Healthy Start CORPS to link with two agencies: ESRI, Inc. and North Carolina Vital Statistics. ESRI, Inc. is the leading GIS software innovator and vendor in the United States. HSC purchased Arcview 8.0 software with the spatial analyst extension as well as Introduction to GIS I and II training classes, were also developed and implemented by ESRI. The week-long courses were attended by the evaluator and data manager in January, 2004. The classes taught a key technique of HSC map production, *geocoding*, which enabled HSC to correlate on a digital road map of Robeson County low birth weight births and infant mortality cases with the home addresses of the infants. (See GIS Map below.) The address data was obtained from North Carolina Vital Statistics in Raleigh, NC and included twenty additional data fields associated with the addresses such as the race and ethnicity of the infant.

Figure 3. GIS Map of Target Community with Intervention Site Found Using GIS



Healthy Start CORPS implemented GIS in order to:

1. Assist in the identification of communities producing poor birth outcomes.

2. Identify community intervention sites such as churches. (See GIS Map above)
3. Visualize trends in infant mortality and morbidity over the five year period 2000-2004.
4. Communicate project area mortality and morbidity conditions as well as HSC GIS capabilities to partner organizations, health care providers, and HRSA and other grantor agencies.

Lessons Learned: If not discussed in any sections above, please describe other lesson learned that you feel would be helpful to others.

Lesson Learned: An enormous amount of support and guidance was necessary to assist a community provider like Robeson Health Care Corporation to successfully implement the Healthy Start program. Health Care providers who willingly accept a contract may become discouraged and disinterested over a period of time in working towards an improved system of care as it is a very long process to modify client behaviors both health and socially. It also requires a change in mid set of the staff from working with clients who visit the health department for routine health care vs. providing intensive home-based case management to high-risk clients with multiple problems both medical and social. The latter required in-depth counseling held in the home at the convenience of the client rather than the provider. It will be extremely important to assure in the job descriptions of the staff the need for flexible hours. A field tracking system will be implemented to provide a clearer picture of the work of the staff while in the field and routine feedback to the contractor will be provided on the reports of the tracking system. Expectations were understood during the grant period by the contractor but high-risk clients present many challenges and to keep staff on track, the project director will take a greater role in communicating progress on deliverables and holding contractors accountable by problem solving solutions with them. A first start was that the contractor participated in and reviewed each section of the recently approved grant application (2006-2010) prior to submission.

Lesson Learned: the importance of frequently visiting cultural sensitivity and conflict management training and utilization of the knowledge and skills gained. In Robeson County, the target area of the project, a tri-racial community presented many challenges. If one racial group dominated a committee structure, then, the other groups felt alienated and avoided participation. The project experienced several staff turnovers during the project period. It was important the project maintained a culturally diverse workforce, however, if the Public Health Education Specialist hired to implement lay health community training was one race then the majority of LHA recruited or organizations targeted were of the same race and/or vise versa. Since the project had only one position of Public Health Education Specialist this happened quite frequently. Therefore as the project ended, two hourly LHA assisted in recruitment and identification of new sites for community education classes reaching the greatest number of individuals across racial and ethnic groups. The LHA recruited reflected the two dominate racial groups: one Native American; one African American.

Lesson Learned: The project involved four racial groups in Robeson county: Native American, Hispanic, African American and Caucasian; From the project's experience implementing the lay health community education component, the PHES unintentionally biased program activity and lay health advisor recruitment towards his or her race. This was problematic in a county with

equal proportions of African American and Native American consumers. The neutrality in the Director not being African American, Native American, or Hispanic actually prevented the perception of favoritism being shown to one racial/ethnic group. It is important to note that tension between African American and Native American populations in Robeson County is strong and can be illustrated by the physical violence between groups of African and Native American high school students in Purnell Swett High School in Pembroke. Upon review of the program evaluations completed by both (CP and PP) both Native American and African American groups participated almost equally in project activities. A lesser number of Hispanics participated.

Lesson Learned: to implement the telephone follow-up surveys at more frequent intervals. In the new grant cycle, telephone follow-up surveys will be implemented at the conclusion of each quarter of the project. The surveys will be conducted by an impartial professional contracted for hours of service. Assistant Professor Herndon has indicated interest in continuing in this capacity.

Robeson Health Care Corporation (RHCC) recently declined to continue case management services based upon their own in-house financial decision on April 30, 2006. The new contractor will become Robeson County Health Department on June 1, 2006. A copy of the signed contract is attached.

VI. Local Evaluation

(See next Page)

Postpartum Depression: Results from Services

This research studied racial/ethnic disparities, differences originated from other demographic characteristics, and risk factors of postpartum depression for a tri-racial population. The sample consisted of 586 women administered the Beck and Gable Postpartum Depression Screening Scale (PDSS) screenings between 2002 September and 2005 December: American Indian (52.4%), Black (24.3%), White (8.5%), Hispanic (13.5%) and Other (1.2%).

From Table 1 below, the incidence of major and minor postpartum depression was 24.8% (estimated national rate, 12.9%). The racial and ethnic prevalence of major and minor depression was American Indian (18.3%, 10.1%), White (18.2%, 20.0%), Black (13.4%, 10.2%) and Hispanic (2.0%, 1.1%). From Tables 2 to 11, the sample confirmed strong (significant) associations between depressive symptoms and depressive history, treatment history and age (marital status, gravida, number of biological children, and feeding method). The major risk factors were (in the order of significance): mental confusion, suicidal thoughts, trouble sleeping/imaginary feeling, guilty/shame, loss of self, emotional lability and eating disturbance.

Table 1 summarizes the racial and ethnic disparities based on the PDSS Short Scale for the 645 women and the PDSS Full Scale for the selected 225 women, respectively. The full scale screening determined 96 had major postpartum depression and 64 significant symptoms of (minor) postpartum depression. *Note the percentages in all the tables of this paper are calculated on the basis of the original sample (645 postpartum women). The first column from left under PDSS Full Scale indicates the numbers of women who completed the full scale screening in relevant categories, respectively.*

With simple calculations from Table 1, the incidence of major and minor postpartum depression in the original sample of 645 women was (96+64)/645 = 24.8%, compared to the estimated national rate 12.9% and the 95% confidence interval (12.3%, 13.4%). American Indian women had the highest incidence of major postpartum

depression (18.3%), White women (18.2%), Black women (13.4%) and Hispanic women least with (2.0%). White women were most likely to have minor postpartum depression (20.0%), Black women (10.2%), American Indian women (10.1) and Hispanic women the least (1.1%).

Table 1: Racial and Ethnic Disparities

	PDSS Short Scale Significant Symptoms			PDSS Fu Scale				
					Major Depression (% in all 645 women)		Minor Depression (% in all 645 women)	
Race	No.	≥ 14	%	No.	≥ 80	%	60-79	%
White	55	25	45.5	26	10	18.2	11	20
Black	157	49	31.2	50	21	13.4	16	10.2
Amer. Indian	338	138	40.8	139	62	18.3	34	10.1
Hispanic	87	6	6.9	5	2	2.3	1	1.1
Other	8	3	37.5	5	1	12.5	2	25
Total	645	221	34.3	225	96	14.9	64	9.9

In addition to racial disparities, differences on other relevant demographic characteristics including maternal age, education level, marital status, history of depression, history of treatment, gravida (number of times of pregnancy), number of biological children, and delivery and feeding methods (for most recent birth), were analyzed using this sample of 645 women, too. The corresponding results (Tables 2 to 10) confirmed strong associations between symptoms of postpartum depression and history of depression, history of treatment and maternal age; and significant associations between symptoms of postpartum depression and the remaining demographic characteristics except education level and delivery method.

Younger mothers were more likely to have major and minor postpartum depression (Table 2). For mothers aged 40-44, their sample size was too small to carry out a meaningful interpretation.

There was no significant difference for the postpartum depression rates in terms of maternal education levels (Table 3). However, the sample size was insufficient to give an explanation for mothers with college and higher degrees.

Single mothers were more likely to have major and minor postpartum depression than married mothers. With insufficient sample sizes, no statistical conclusion can be reached for other groups (Table 4).

Mothers with a history of postpartum depression were 3.7 (1.5%) times the chance of major (minor) depression of those without a history (Table 5).

Table 6 shows some unfortunate results from the current sample. Women with previous treatment were still more likely to have postpartum depression. This may suggest that depression is a persistent aliment (once it occurred for a women, it is likely to occur after the next delivery) and a result of accumulation. Postpartum mood changes can range from transient "blues" immediately following childbirth to an episode of major depression to severe, incapacitating, psychotic depression. Studies suggest that women who experience major depression after childbirth very often have had prior depressive episodes even though they may not have been diagnosed and treated.

Mothers were more likely to have depression during their first pregnancies, but the differences are not significant. See Table 7.

Table 8 shows a similar result for the number of children, as for the number of pregnancies.

There was no significant difference between two delivery methods, as both vaginal and cesarean yielded similar major and minor depression rates. See Table 9.

Mothers who bottle-fed their infants had significantly higher incidences of major and minor depression (26.6%) than mothers who breastfed their infants (18.4%), and the latter had slightly higher chances of depression than mothers who fed with combination (15.0%). See Table 10.

Risk Factors

With three exceptional risk factors (Roller Emotion, Not Love Baby, and Felt Baby Better Without Me), the PDSS Full Scale Score for women with major postpartum depression had significantly higher correlations (0.32 or higher, most around 0.50) with the remaining thirty-two risk factors than for women without postpartum depression (Table 11, under columns ≥ 80 and < 60); and for women with minor postpartum depression, the PDSS Full Scale Score was only correlated with some of these thirty-five risk factors (Table 11, under column 60-79). For additional methods to interpret these correlation coefficients.

The rotation method Promax was applied for the data obtained from the 96 women of major postpartum depression (run by SAS), and this oblique rotation method uncovered seven major risk factors using the Henry Kaiser's Eigenvalue-Based Rule (Rule of Thumb): The number of factors is chosen as the number of eigenvalues of the correlation matrix that are larger than 1. These major factors and their components (original 35 factors with loadings between 0.70 and 0.95; factor loadings less than 0.40 dropped; standard regression coefficients used) are (in the order of significance; italic (component) factors had average ratings of "agree" or "strongly agree" from all the 96 women): 1) Mental Confusion (moving or pacing, *anxiety*, difficulty focusing on task, hard to make decision, *anger*, *crazy*, *irritable*), 2) Suicidal Thoughts (better off dead, seemed death, want to hurt self, want to leave the world, not normal), 3) Trouble Sleeping and Imaginary Feeling (feeling not real, trouble sleeping, stranger to self, *hard back sleep*, *tossed and turned to sleep*, jump out of skin, *feel alone*), 4) Guilty or Shame (not loving baby, felt baby better without me, felt failure as mother, hide thinking and feeling, not mother wanted to be, felt others better), 5) Loss of Self (felt never be normal, *lost mind*, never happy), 6) Emotional Lability (*overwhelmed*, *roller emotion*) and 7) Eating Disturbance (should but not eat, lost appetite). It should be indicated that these seven uncovered major risk factors are generally consistent with the seven additional sub-score systems in the original PDSS form and thus the sample provided evidence for the reliability of the PDSS when used in a predominately American Indian population.

Table 2: Postpartum Depression by Age

	PDSS Short Scale Significant Symptoms			**PDSS Fu Scale**				
					Major Depression (% in all 645 women)		**Minor Depression (% in all 645 women)**	
Age	No.	≥ 14	%	No.	≥ 80	%	60-79	%
15-19	128	48	37.5	51	18	14.1	17	13.3
20-24	303	111	36.6	112	51	16.8	27	8.9
25-29	120	39	32.5	36	18	15	13	10.8
30-34	63	15	23.8	19	7	11.1	6	9.5
35-39	20	6	30	6	2	10	1	5
40-44	7	1	14.3	0	0	0	0	0
Total	641	220	34.3	224	96	15	64	10

Missing age = 4.

Table 3: Postpartum Depression by Education Level

	PDSS Short Scale	**PDSS Fu Scale**

	Significant Symptoms				Major Depression (% in all 645 women)		Minor Depression (% in all 645 women)	
Level	No.	≥ 14	%	No.	≥ 80	%	60-79	%
Less Than High School	283	90	31.8	96	41	14.5	25	8.8
High School	235	89	37.9	86	36	15.3	23	9.8
Some Coll.	107	36	33.6	38	14	13.1	16	15
College+	11	3	27.3	3	3	27.3	0	0
Total	636	218	34.3	223	94	14.8	64	10.1

Missing Education Level = 9.

Table 4: Postpartum Depression by Marital Status

	PDSS Short Scale Significant Symptoms			PDSS Fu Scale				
					Major Depression (% in all 645 women)		Minor Depression (% in all 645 women)	
Status	No.	≥ 14	%	No.	≥ 80	%	60-79	%
Single	427	149	34.9	149	70	16.4	39	9.1
Married	141	47	33.3	47	21	14.9	11	7.8
Partnered	46	15	32.6	16	0	0	11	23.9
Divorced	12	3	25	4	3	25	0	0
Separated	17	5	29.4	7	2	11.8	1	5.9
Widow	2	2	100	2	0	0	2	100
Total	645	221	34.3	225	96	14.9	64	9.9

Table 5: Postpartum Depression by Depression History

	PDSS Short Scale Significant Symptoms			PDSS Fu Scale				
					Major Depression (% in all 645 women)		Minor Depression (% in all 645 women)	
History	No.	≥ 14	%	No.	≥ 80	%	60-79	%
Yes	92	54	58.7	55	36	39.1	13	14.1
No	547	163	29.8	168	58	10.6	51	9.3
Total	639	217	34	223	94	14.7	64	10

Missing History = 6.

Table 6: Postpartum Depression by Depression Treatment History

	PDSS Short Scale Significant Symptoms			PDSS Fu Scale				
					Major Depression (% in all 645 women)		Minor Depression (% in all 645 women)	
History	No.	≥ 14	%	No.	≥ 80	%	60-79	%
Yes	74	46	62.2	49	32	43.2	8	10.8
No	567	172	30.3	174	63	11.1	55	9.7
Total	641	218	34	223	95	14.8	63	9.8

Missing Treatment History = 4.

Table 7: Postpartum Depression by Gravida

	PDSS Short Scale Significant Symptoms			PDSS Fu Scale				
					Major Depression (% in all 645 women)		Minor Depression (% in all 645 women)	
Gravida	No.	≥ 14	%	No.	≥ 80	%	60-79	%
1	219	80	36.5	82	37	16.9	23	10.5
2	215	72	33.5	75	32	14.9	21	9.8
3	131	39	29.8	40	18	13.7	11	8.4
4	47	19	40.4	17	5	10.6	6	12.8
5	13	4	30.8	3	0	0	0	0
6	4	1	25	1	1	25	0	0
7	7	3	42.9	3	1	14.3	2	28.6
8	2	1	50	1	0	0	1	50
Total	638	219	34.3	222	94	14.7	64	10

Missing Gravida = 7.

Table 8: Postpartum Depression by Number of Children

	PDSS Short Scale Significant Symptoms			PDSS Fu Scale				
					Major Depression (% in all 645 women)		Minor Depression (% in all 645 women)	
Children	No.	≥ 14	%	No.	≥ 80	%	60-79	%
1	253	94	37.2	99	41	16.2	30	11.9
2	231	76	32.9	74	35	15.2	18	7.8
3	111	31	27.9	33	12	10.8	10	9
4	25	12	48	10	3	12	3	12
5	8	2	25	2	0	0	2	25
Total	628	215	34.2	218	91	14.5	63	10

Missing Number of Children = 17.

Table 9: Postpartum Depression by Delivery Method

	PDSS Short Scale Significant Symptoms			PDSS Fu Scale				
					Major Depression (% in all 645 women)		Minor Depression (% in all 645 women)	
Method	No.	≥ 14	%	No.	≥ 80	%	60-79	%
Vaginal	417	147	35.3	145	63	15.1	38	9.1
Cesarean	217	70	32.3	75	31	14.3	25	11.5
Total	634	217	34.2	220	94	14.8	63	9.9

Missing Delivery Method = 11.

Table 10: Postpartum Depression by Feeding Method

	PDSS Short Scale	PDSS Fu Scale

	Significant Symptoms				Major Depression (% in all 645 women)		Minor Depression (% in all 645 women)	
Method	No.	≥ 14	%	No.	≥ 80	%	60-79	%
Bottle	499	185	37.1	188	76	15.2	57	11.4
Breast	38	9	23.7	10	4	10.5	3	7.9
Combination	93	19	20.4	19	11	11.8	3	3.2
Total	630	213	33.8	217	91	14.4	63	10

Missing Feeding Method = 15.

Table 11: Correlation Coefficients Between PDSS Full Score and Risk Factors

Risk Factor	PDSS Full Scale Score				**Note**
	ALL (225)	<60 (65)	60-79 (64)	≥ 80 (96)	
Trouble Sleep	0.41	0.21	0.16	0.46	
Anxiety	0.37	0.28	0.04	0.36	
Roller Emotion	0.47	0.40	-0.20	0.26	Exception
Lost Mind	0.67	0.31	-0.02	0.55	
Felt Never Normal	0.61	0.26	0.04	0.47	
Not The Mother Wanted to Be	0.57	0.29	-0.03	0.39	
Death Seemed to Be Only Way	0.58	0.10	0.03	0.54	
Lost Appetite	0.55	0.33	-0.08	0.48	
Overwhelmed	0.55	0.31	0.04	0.32	
Never Happy	0.71	0.37	0.21	0.57	
Not Concentrated	0.74	0.47	0.36	0.55	
Stranger to Self	0.71	0.30	0.27	0.51	
Felt Others Better	0.69	0.35	-0.22	0.44	
Better Off Dead	0.56	0.19	-0.05	0.47	
Hard Back Sleep	0.59	0.24	0.28	0.42	
Jump Out of Skin	0.69	0.06	0.18	0.53	
Cried a Lot	0.60	0.32	0.17	0.46	
Crazy	0.77	0.05	0.26	0.65	
Does Not Know Self	0.74	0.29	-0.08	0.67	
Not Love Baby	0.50	0.40	-0.29	0.29	Exception
Want To Hurt Self	0.53	0.28	-0.13	0.40	
Tossed to Fall Asleep	0.67	0.39	0.24	0.51	
Feel Alone	0.70	0.43	-0.18	0.53	
Very Irritable	0.69	0.35	0.14	0.53	

Hard to Make Decision	0.76	0.21	0.27	0.61	
Felt Not Normal	0.79	0.40	0.29	0.58	
Hide Feeling	0.68	0.22	-0.44	0.46	
Felt Baby Better Without Me	0.45	0.24	-0.14	0.23	Exception
Should But Not Eat	0.57	0.21	-0.14	0.34	
Had To Moving or Pacing	0.68	0.23	0.15	0.47	
Felt Anger	0.77	0.27	0.13	0.58	
Difficulty Focusing on Task	0.77	0.27	0.05	0.58	
Not Feel Real	0.68	0.19	-0.04	0.49	
Felt Failure as Mother	0.67	0.31	0.01	0.56	
Wanted To Leave World	0.68	0.24	0.07	0.53	

HEALTHY START LOCAL EVALUATION REPORT
(Please submit a separate report for each local evaluation conducted.)

PROJECT NAME: Healthy Start Corps (HSC)

TITLE OF REPORT: Summary of 2004 Local Evaluation

AUTHORS: Guo Wei, James Rogers

II. Section I: Introduction

Local Evaluation Component:

To dynamically track and evaluate the progress of the implemented programs and give timely feedback to the project, the evaluator (Guo Wei, Ph.D), data analyst (James Rogers, BS) and project staff continued to work as a team for this third year evaluation.

In 2004, all core services were selected for evaluation. These included Outreach & Clients

Recruitment; Education & Training; Perinatal Care (Prenatal, Postnatal, Interconceptional);

Case Management; Risk Screening and Referral.

Outcome evaluation was used for evaluating each core service delivery.

Key Questions/Hypotheses:

Robeson is a large, rural, and social-economic troubled county with 25.1% African and 38.0% Native Americans, suffering high rates of infant mortality, low birthweight, and teen births, and high rates of inadequate prenatal, postnatal and interconceptional care. The project refined its services into five core services, coordinated care within Robeson HealthCare Corporation (RHCC), recruited clients and provided preventive education-training countywide. Racial, ethnic and geographical disparities continued to be widespread problems. A main assumption was to significantly improve the health of American Indian, African American and Hispanic American women in Robeson county. The key question was whether or not the service delivery was timely and efficient.

Section II: Process

Describe methodology, data sources, and instruments used:

The local evaluation was further improved from that used in the previous two years. Major change was the fully use of outcome measures to determine the progress of the project.

Data sources were the same as the previous two years, including RHCC's four networked Health Pro Computer systems and HSC service and health education databases maintained in project's offices at the University of North Carolina at Pembroke. Data sources for Robeson countywide demographic statistics included North Carolina State Health Statistics and U.S. Department of Health & Human Services (MCHB, HRSA, NCHS, and CDC) publications.

Data collection process was strictly based on carefully designed protocols and well-created standard forms, as used previously in the second year by well-trained program staff, reflecting the project's objectives and performance measures, and consistent with the MCHB/HRSA's standard forms and other requirements. This will not be further detailed here.

The outcome analysis for each goal or a type of service was conducted separately, based strictly on comparisons against its baselines, the previous two-year data.

In addition to the comparison method, GIS technology and risk factor analysis were fully employed with this third year evaluation. In 2004, the project had fully implemented the Geographic Information System (GIS) to facilitate the mapping of the precise home addresses (or locations) of infant deaths, maternal deaths, low birthweight babies, premature babies, teen births, prenatal and postnatal clients, postpartum/Interconceptional clients, breastfeeding clients, high-risk perinatal and infants clients, outreach activities, new referrals and new case findings, and monitor health education and training sessions and enrollment, and track other program events. The purpose of using GIS includes: the discovery of significant health patterns and risk factors in individual communities, the provision of feedback to help case managers and other personnel deliver timely services to clients, and the tracking of program activities and progress toward its goals. With the GIS system, outcome and performance measures and service activities can be tracked at four different levels defined by the MCHB/HRSA's pyramid. More than any other function of the software, geocoding produces the majority of useful information, and greatly enhances the project's ability to provide new case identification and subsequent delivery of community health training to high risk areas, especially when the relevant communities vary in size so that no standardized radius
of penetration can be established.

Primary software tools used included those used in the previous year (ACCESS, EXCEL, SAS, SPSS) and GIS.

Section III: Findings/Discussion

Results: Pregnant women without prenatal care have substantial higher risks of poorer birth outcomes and poorer maternal health. Women without appropriate postnatal care after delivery have risks on their own health and their babies'. Early prenatal care can prevent prenatal risks or discover and care risk women timely when occurring. Breastfeeding can prevent, reduce the chance, and fight many diseases when occurring (e.g., Asthma, Obesity) because breastmilk has immune system boosting ingredients including antibodies from the mother and is a clear fluid containing nutrients and active immunities. Interconceptional care is such an immediate need that the community has not been aware of - to promote longer interconceptional periods and prevent relapses of risk behaviors; women and infants are followed through the infant's 2nd year of life or until risk behaviors decreased or eliminated.

Discussion: Education and training is a powerful and cost-effective approach to empower the community's health and identify risk perinatal clients. Outreach is a practical and feasible method to discover perinatal risk women for care. Four steps to help high-risk women: Initial Contact and Outreach; Intake; Assessment, Care plan, and Referrals; Ongoing Contact and GIS Tracking.

Limitations of findings: Lack of information about some diagnosed major and minor postpartum depression (thus a comparison between the PDSS screening results and actual depression can not be accurately compared), 2) Incomplete information about a second screening for some the

participants prior to leaving the program using the same screening tool (thus the effectiveness of treatment and interventions can not be completely determined), and 3) Lack of some participants' additional health risk information such as prenatal health and substance use.

Section IV: Recommendation

Policy, program, practice and other recommendations:

Strengthen outreach and client recruitment.

The importance of detecting and treating perinatal depression has only recently been recognized. Perinatal depression encompasses major and minor depressive episodes that occur either during pregnancy or within the first twelve months following delivery. The project should continue to update (1) interventions used for normal postpartum participants (PDSS Short Score ≤ 13 or Full Score ≤ 59); (2) methods of treatment used for participants with significant symptoms of (Minor) postpartum depression (PDSS Full Score 60-79); (3) methods of treatment used for participants with major postpartum depression (PDSS Full Score ≥ 80). Moreover, strengthens its interconceptional care system as this is the weakest service area in Robeson County, and in fact even there is no standard data collected and published by the county and state except for some survey results.

For the interconceptional care, the project should develop complete protocols including assessment, care planning, family planning, intervention & evaluation, Referral and follow-up, and infant care.

Section V: Impact

Changes in perinatal system, community, etc:

A cultural and linguistic competent outreach team worked efficiently for clients recruitment and service delivery. The project continued to optimize its programs and expand its services to clients countywide. The following are some achievements.

Perinatal Health Education: 408 (community-based) + 298 (school-based) = 706 participants
Interconceptional Care: 30 women and their infants
Breastfeeding: 0 participants (The breastfeeding project was not implemented until Jan. 2005)
Perinatal Services: 691 women and 435 infants
Depression Screenings: 171 women

Further strengthened linkages with Indian/Tribal Health Services, Medicaid, SCHIP, Title X, Early Head Start, WIC, TANF, Robeson County Infant Mortality Task Force, Robeson County Council of Hope, regional Healthy Carolinians organizations. Moreover, the project linked health services to economic development, community coalitions, commissions and task forces; and coordinate financial resources and community services.

For more detailed changes, refer to Section 0. Summary (beginning of local evaluation) and Forms 5, 9, A, B and C (attached).

Participants Satisfaction:
Strongly Agree = 61.11%, Agree = 35.78, Neutral = 2.02%,
Disagree = 0.35%, Strongly Disagree = 0.74%.

In summary, the project is a successful service and education balanced model.

Section VI: Publications

Publications from local evaluations (place in appendices): No journal publication this year. However, there were some conference presentations.

VII. Fetal and Infant Mortality Review (FIMR)

For those programs that developed or participated in a FIMR, please identify the length of time you have had a FIMR process; whether it includes an emphasis on maternal and child mortality as well; the components of the process (including whether it has a home visitation component) and funding sources. Indicate whether you use a two-tiered approach [e.g., Community Review Team (CRT) and Community Action Team (CAT)] and what challenges and changes have occurred over time. Describe major accomplishments on implementing recommendations arising from the FIMR process and any other lessons learned.

The Healthy Start CORPS project participated in a FIMR conducted by the Robeson County Health Department for only a short period of time. Routine FIMR meetings were discontinued as a joint collaborative activity. Within the new Healthy Start grant, FIMR will be revisited with plan to implement a revived FIMR within the 2006-2010 grant period.

VIII. Products

A copy of any materials that were produced under the Healthy Start grant funding must accompany this report. Examples of products include but are not limited to the following: brochures, booklets, posters, videotapes, audiotapes, diskettes, and CDs. A photograph of large items such as bags, shirts, bottles, bibs is all that will be needed. These items will go to the Maternal and Child Health Library, Resource and Reference Collection that is housed at Georgetown University.

All products developed during 2000-2006 were previously provided to the library at the conclusion of each project year. As of the report date, the project does not have extra copies to send to the library however every effort will be made to identify extra items that remain and provide copies under separate cover. Client incentives included the Healthy Start logo became the property of Robeson Health Care Corporation to provide to clients during case management services. When the contract with RHCC ended, there were few remaining incentives returned to HSC. The following are pictures of some incentives.

Image 1. Healthy Start Towel and Keys

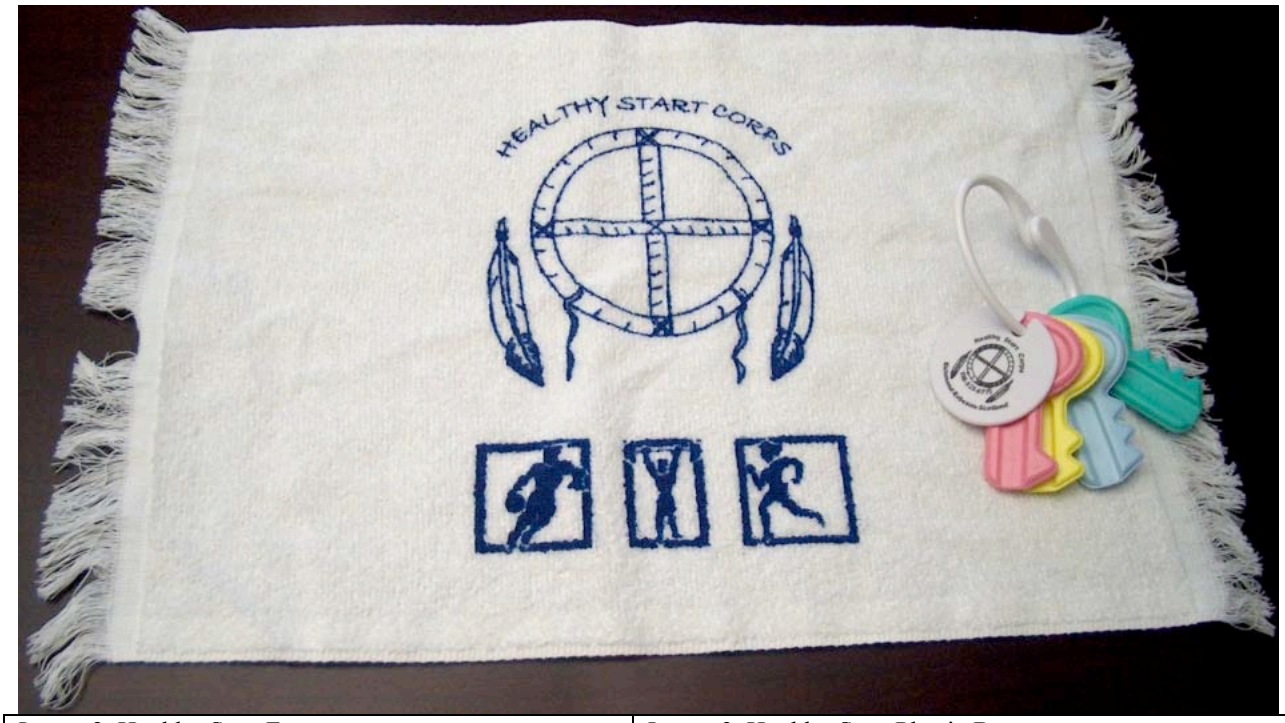


Image 2. Healthy Start Fan

Image 3. Healthy Start Plastic Bag

Image 4. Healthy Start Baby Clothes

Image 5. Healthy Start Juice Holders and Cups

Image 6. Healthy Start Tote Bag

Image 7. Healthy Start T-shirt