

Maternal, Infant and Child Health

Maternal, Infant and Child Health: The National Challenge*

The health of mothers, infants, and children is of critical importance. It reflects both the current health status of a large segment of the U.S. population and it is a predictor of the health of the next generation. Infant mortality is an important measure of a nation's health. It is used as a worldwide indicator of health status and social well-being. As of 1995, the U.S. infant mortality rates ranked 25th among industrialized nations. In the past decade, critical measures of increased risk of infant death, such as new cases of low birth weight (LBW) and very low birth weight (VLBW), have continued to increase in the United States.

Infant Health: In 1997, 28,045 infants

died before their first birthday, for an overall rate of 7.2 deaths per 1,000 live births. This rate has declined steadily over the past 20 years; in 1975, the infant mortality rate was over 15 per 1,000 live births. However, the U.S. rank in the world has steadily declined. There are twice as many countries with lower infant mortality than there were 30 years ago.

Four causes account for more than half of all infant deaths: birth defects, disorders relating to short gestation and unspecified LBW, sudden infant death syndrome (SIDS), and respiratory distress syndrome. The leading causes of neonatal death in 1997 were birth defects, disorders related to short gestation and LBW, respiratory distress syndrome, and maternal complications of pregnancy. After the first month of life, SIDS is the leading cause of infant death, accounting for about one-third of all deaths during this period.

The use of alcohol, tobacco, and illegal substances during pregnancy is a major risk factor for LBW and other poor infant outcomes. Alcohol use is linked to fetal death, LBW, growth abnormalities, mental retardation, and fetal alcohol syndrome (FAS). Overall rates of alcohol use during pregnancy have increased during the 1990s. The proportion of pregnant women using alcohol at higher and more hazardous levels has increased substantially. Smoking during pregnancy is also linked to LBW, pre-term delivery, SIDS, and respiratory problems in newborns. Finally,

(continued on pg. 4)

Disparities In Maternal, Infant and Child Health: The Local Challenge

Death and the risk factors for death disproportionately affect certain racial, ethnic, economic and geographically isolated groups. (See back cover) The disparities between white and nonwhite groups in infant death, LBW and teen births are wide and, in many cases, are growing. Specifically:

- In Duval County, the 2001 infant mortality rate among African American infants was 2.2 times that of white infants 17.5, 7.8 respectively (See Graph 1 on pg.4). Graph 1 also illustrates that there have been no significant changes for either race from year to year. However, when testing for trends African Americans have shown an increase while whites have not in the past ten years.

- Rates of LBW for white women have risen from 6.0% of births in 1992 to 7.7% in 1999. Among African Americans, the LBW rate has remained relatively constant in the 1990s but remains significantly higher than that of whites—12.7% in 1999. African Americans also are more likely to have other risk factors, such as young maternal age and inadequate prenatal care.

- In 1999 the teen birth rate for white women aged 15-17 was 24.4 a decrease from 1992's rate of 32.7 per 1,000 females aged 15-17. For the same years African Americans also saw a dramatic decrease in rates from 92.1 to 58.8 per 1,000 females aged 15-17 (See Graph 2 on pg.5).

Opportunities: Death and risk factors can be prevented with good preconception and prenatal care. First, preconception screening and counseling offer an opportunity to

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*From Healthy People 2010, U.S. Department of Health and Human Services.

Jacksonville Maternal, Infant and Child Health Report Card

Obj. #	Objective	U.S. (1998)*	FL (2000)*	Duval (2000)*	2010 Target
16-1	Reduction in Fetal and Infant Deaths. - Per 1,000 Live Births				
16-1a	Fetal deaths at 20 or more weeks of gestation	6.8 (1997)	8.2 ¹	6.6 ¹	4.1
16-1c	All infant deaths (within 1 year)	7.2	7.0 ¹	9.7 ¹	4.5
16-1h	Reduce deaths from sudden infant death syndrome (SIDS).	0.72	.50	1.15 ³	0.25
16-2	Reduction in Deaths of Children. - Rate per 100,000				
16-2a	Children aged 1 to 4 years	34.6	42.8 (1999)	55.0 (1999)	18.6
16-2b	Children aged 5 to 9 years	17.7	17.8 ³ (1999)	24.9 ³ (1999)	12.3
16-3	Reduction in Deaths of Adolescents and Young Adults. – Rate per 100,000				
16-3a	Adolescents aged 10 to 14 years	22.1	20.6 ³ (1999)	26.5 ³ (1999)	16.8
16-3b	Adolescents aged 15 to 19 years	70.6	68.7 ³ (1999)	59.9 ³ (1999)	39.8
16-6	Increase in Maternal Prenatal Care. – Percent of Live Births				
16-6a	Care beginning in first trimester of pregnancy	83	83.7 ²	84.9 ²	90
16-6b	Early and adequate prenatal care	74	68.2 ⁴	70.8 ⁴	90
16-9	Reduction in Cesarean Births Among Low-Risk Women. – Percent of Live Births				
16-9a	Women giving birth for the first time	18	25.7 ⁴	24.0 ⁴	15
16-9b	Prior cesarean birth	72	84.6 ⁴	80.6 ⁴	63

Data Report Card Overview

The availability of data related to maternal, infant and child health for the U.S., Florida and Duval County is widely accessible through the internet and many government agencies. For this report, the majority of data was provided from the Florida Department of Health's Office of Vital Statistics. Other sources include the Annie E. Casey Foundation, Child Trends Data Bank and the Northeast Florida Breastfeeding Coalition.

When comparing the national baseline data with Duval County, the nation for the most part had better outcomes than Duval County. For objective 16-1c (infant deaths) the U.S. had a rate of 7.2 per 1,000 live births while Duval County

had a rate of 9.7 per 1,000 live births. Duval County has 2.5 more infant deaths per 1,000 live births than the nation. Another objective, 16-10 (low birth weight), the U.S. had 7.6 percent of live births with LBW while Duval County had 9.7 percent with LBW. Duval County was more than two percentage points higher than the nation.

Although Duval County lags behind the nation for many indicators of health for infants, children and mothers, some efforts are paying off. For example, objective 16-6a (early prenatal care), in 2000 Duval County has 84.9 percent of their live births receiving early prenatal care, while the nation has 83 percent of their

live births receiving early prenatal care. In this instance, Duval County has a better percentage than the nation but is still short of the Healthy People 2010 target.

Duval County still has a long way to go to reach all the Healthy People 2010 objectives related to Maternal, Infant and Child Health especially related to infant and child deaths, low birth weight and adolescent births. These objectives will be addressed by state and local agencies including the Duval County Health Department and its partners and collaborators.

Jacksonville's Maternal, Infant and Child Health Report Card (cont.)

Obj. #	OBJECTIVE	U.S. (1998)*	FL (2000)*	Duval (2000)*	2010 Target
16-10a	Low birth weight (LBW)	7.6	8.0 ²	9.4 ²	5.0
16-10b	Very low birth weight (VLBW)	1.4	1.5 ²	2.0 ²	0.9
16-11	Reduction in pre-term births. – Percent of Live Births				
16-11a	Total pre-term births	11.6	12.06 ⁴	13.95 ⁴	7.6
16-17	Increase in report abstinence from alcohol, cigarettes, and illicit drugs among pregnant women. – Percent of pregnant women				
16-17a	Alcohol	86% (1996-97)	99% ⁴	99% ⁴	94%
16-17c	Cigarette smoking	87% (1998)	90% ⁴	89% ⁴	99%
16-19	Increase the proportion of mothers who breastfeed their babies.				
16-19a	In early postpartum period	64%	Not Avail.	61% ⁵ (1999)	75%
9-1	Increase the proportion of pregnancies that are intended. Among females aged 15-44	51% (1995)	Not Avail.	Not Avail.	70%
9-7**	Reduce births among adolescent females. – Rate per 1,000 females aged 15-17	27.4 ⁶	29.7 ⁶	34.7 ⁴	9.8 ^{6***}
9-7b****	Reduce teen births to women who were already mothers. – Percent of females under the age of 20	21.2 ⁷ (1999)	21.9 ⁷ (1999)	23.2 ⁷ (1999)	11.7 ^{7****} (1999)

¹ Source: Florida Vital Statistics Annual Report 2000

² Source: Florida Department of Health – PHIDS (<http://hpeapps.doh.state.fl.us/phids/Phids1.asp>)

³ Source: Florida Department of Health – Office of Vital Statistics - Death Certificate System

⁴ Source: Florida Department of Health - Office of Vital Statistics – Birth Files

⁵ Source: Northeast Florida Breastfeeding Coalition

⁶ Source: National Vital Statistics Report Vol. 50 No. 5 Revised May 15, 2002

⁷Source: (<http://www.aecf.org/kidscount/rightstart2002/>)

*Unless Otherwise Noted

** Reformulated. Considers births instead of pregnancies.

*** Better than the best state rate (New Hampshire).

**** Not a HP 2010 Objective

Healthy Start Program

By Bonnie Pope, DCHD-MCH Division

Healthy Start Program: The Duval County Health Department Healthy Start program is part of a community effort to address Healthy People 2010 goals. These goals are related to poor birth outcomes and racial disparities. Duval County has seen an increase in infant mortality since 1997 and this rate exceeds the state norm. While Duval's white infant mortality rate was 7.8 in 2001, its black infant mortality rate was 17.5. The 2001 state norm for all races was 7.3. Duval County had a rate of 11.2.

Historical Perspective: In 1991 the state legislated community-based maternal and child health programs to be under the guidance of a regional coalition. The focus of the programs is the reduction of infant mortality, low birth weight and racial disparities in perinatal outcomes. The Duval County Health Department contracts with the Healthy Start Coalition to provide case management of pregnant clients and infants up to one year in age.

Working Aspects of the Program: The Healthy Start goal of improving pregnancy, health and developmental outcomes is facilitated through care coordination services. These services

provide the knowledge, encouragement, linkages, and support necessary to maximize families' health, well-being and self-sufficiency. The care coordinators are an interdisciplinary team of health educators, nurses, social workers, human service counselors and family support staff. Each discipline is integral to meeting the needs of the Healthy Start participants.

Program Challenges: Perhaps the greatest challenge facing providers of Healthy Start services is determining who can benefit most from the multitude of services offered. How best to reduce risks of communities and individuals is foremost as the program looks at interventions for target populations and population-based outcome objectives.

Maternal, Infant and Child Health: The National Challenge

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Disparities In Maternal, Infant and Child Health

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breastfeeding is an important contributor to overall infant health because human breast milk presents the most complete form of nutrition for infants.

Child Health: The leading causes of child (1-14 years) deaths are unintentional injuries (4,805) followed by malignant neoplasm (1,434) and intentional injuries (1,027). Also important to child health are the prevention and treatment of disabilities in children. Twelve percent of all children under age 18 have a disability (defined as a limitation in one or more functional areas). The burden of childhood disability is compounded because affected children live with their disabling conditions many more years than do persons acquiring disability later in life. In 1992, asthma and mental retardation were the most common disabling conditions, accounting for 40 percent of all activity limitations.

Maternal Health: In addition to infant deaths and health conditions, the effect of

pregnancy and childbirth on women is an important indicator of women's health. In 1997, a total of 327 maternal deaths were reported. While this number is small, maternal death remains important because a high proportion of these deaths are preventable and because of the impact of women's premature death on families.

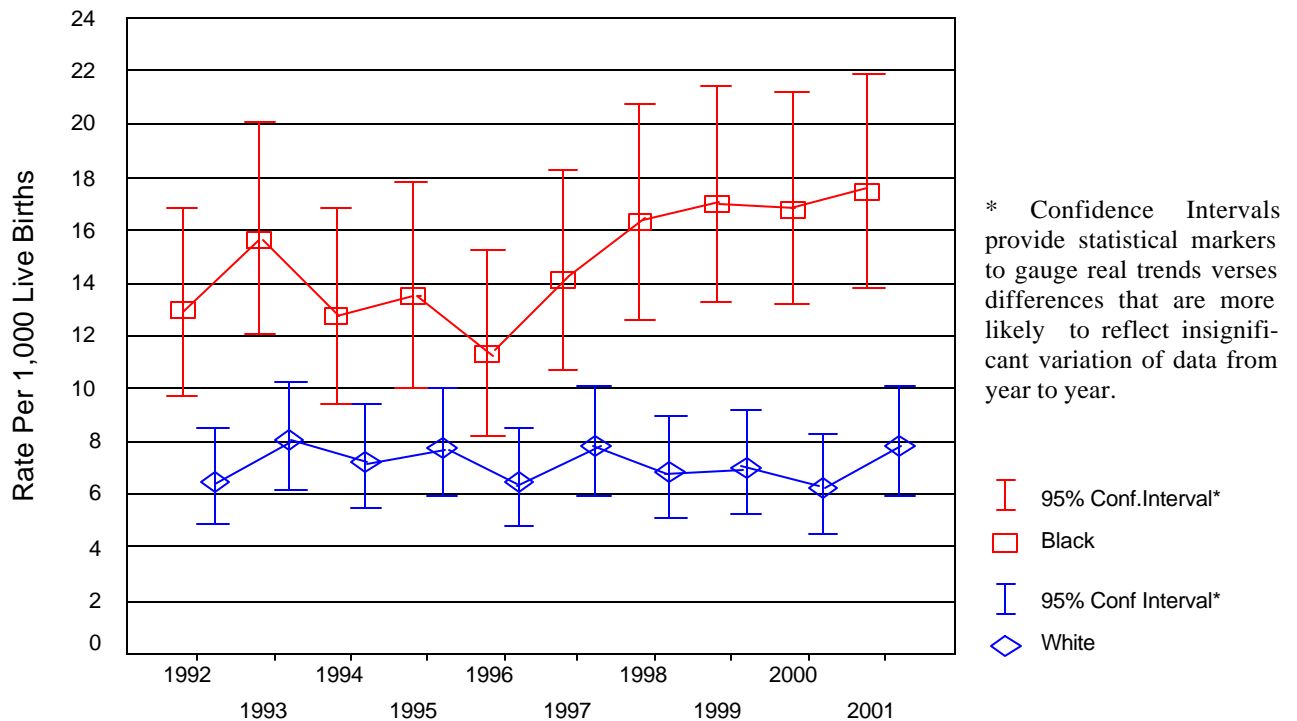
In addition to maternal death, intended pregnancy and birth spacing are major issues affecting women's health. According to Healthy People 2010, in the U.S. in 1995 only 51% of all pregnancies to females aged 15-44 were intended.

The rates of many of these indicators have shown improvement over the past decade. The rate of infant mortality declined more than 27 percent between 1987 and 1997. Other indicators show less progress. The LBW rate increased 10 percent between 1987 and 1998. The rate of FAS has risen steeply. In addition, the maternal mortality rate has not declined since 1982.

identify and lessen maternal risk factors before pregnancy begins. Prenatal visits offer an opportunity to provide information about the adverse effects of substance use, including alcohol and tobacco during pregnancy, and serve as a vehicle for referrals to treatment services. Interventions targeted at prevention and cessation of substance use during pregnancy may be helpful in further reducing the rate of preterm delivery and low birth weight. Further promotion of folic acid intake can help to reduce the rate of Neural Tube Defects.

Other actions taken after birth can significantly improve infants' health and chances of survival. Breastfeeding has been shown to reduce rates of infection in infants and to improve long-term maternal health. SIDS may be preventable as well; studies show that putting infants to sleep on their backs

Graph 1 Infant Mortality Rates, Duval County 1992-2001



Source: Florida Department of Health, Office of Vital Statistics
 Prepared by: Center for Health Statistics, Duval County Health Department, October 2002

Teen Pregnancy/Births in Duval County

By Jameela A. Afi-Leigh, DCHD-MCH Division

In Jacksonville, the percentage of births to teens has been declining. Between 1997 and 1999, the percentage of Jacksonville births that were to teens went down from 15 to 14 percent. Overall, Florida ranked 31st out of the 50 states, with Massachusetts having the best state rate of 6.9 percent, and the U. S. average being 12.3 percent.

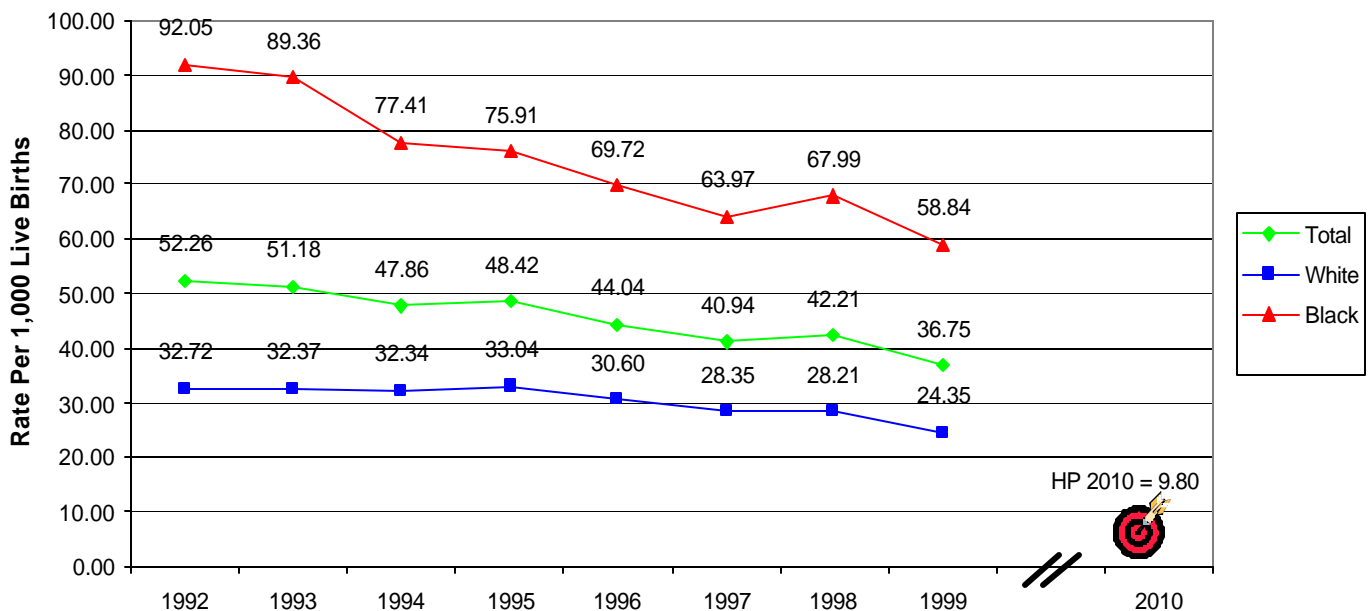
Despite recent encouraging trends in teen pregnancy, it is important to remember that each year a new set of teens arrives on the scene, meaning that efforts to prevent teen pregnancy must be constantly renewed. In addition, between 2000 and 2010, the population of teen girls aged 15-19 is expected to increase by nearly 10 percent, which means that even declining rates may not necessarily mean fewer numbers of teen pregnancies and births.

By 1996, the overall teen pregnancy rate had fallen to its lowest level in two decades and teen birth and abortion rates also dropped. Yet, there are major discrepancies between the teen birth rates of minority and white teens. Birth rates for African American and Latina teens remain considerably higher than those for non-Hispanic whites, Asian/Pacific Islanders and Native Americans. For Duval County, the birth rates for females aged 15-17, between 1992 through 1999, has drop significantly from 52.3 to 36.8. (Graph 2) However, there is still a ways to go to reach the 2010 goal of 9.8.

In the Healthy People 2010 Objectives for Improving Health, the importance of family planning and the need for public education is emphasized, as well as the importance of abstinence education among the teen population. There is also evidence that programs that provide pregnant and parenting teens with prenatal care, parenting training and case management, reduce repeat teen pregnancies or promote a significant delay between second births.

In Jacksonville there is a community coalition, the Jacksonville Alliance for the Prevention of Adolescent Pregnancy (the Alliance), who works in partnership with Duval County Health Department's Adolescent Pregnancy Prevention Program (APPP) to address teen pregnancy prevention. This is done through community mobilization and by developing community interventions, activities and youth development programs. The APPP is able to bridge the clinical and social practices needed to identify and implement programs that work, from family planning and youth development perspectives by focusing on life skills development, adolescent health, parental education and social marketing. One of 13 national sites, initially funded through the Centers for Disease Control's Community Coalition Partnership Program for Teen Pregnancy Prevention, APP has access to information and resources to aid us in mobilizing the community around science-based, as well as community-based initiatives. For more information, call 630-3363.

Graph 2 Births Rates Females Aged 15-17, Duval County 1992-1999



Source: Florida Department of Health, Office of Vital Statistics
 Prepared by: Center for Health Statistics, Duval County Health Department, October 2002

School Nurses: A “Key” to Healthy Success

By Jo Ann Jarvis, DCHD-MCH Division

Today’s school students face tremendous challenges. Some of the most intimidating are related to health and safety, abuse and neglect, violence in the schools; teen pregnancy, asthma and diabetes.

A nationwide study conducted in 1995, indicated a high correlation between the number of students to school nurses and items like deaths to children ages 1-14, births to single teens, violent crime arrest for children ages 10-17, percent of students graduating high school on time, percent of individuals 15-19 not in school or in the labor force and violent deaths for individuals ages 15-19. The strong correlation between on-time graduation is particularly revealing in view of its known link to the health of the child. Students who miss 11% of school days in a 90-day semester often fail that grade. Students who are over age for grade are at greater risk for school drop out. Health problems are frequent antecedents of absenteeism and school failure.¹

Students who have health problems or health-risk behaviors have a higher potential of academic failure and/or school dropout. The national dropout rates average at 12% during high school.² According to Antonio Novella, a former Surgeon General of the United States, “We must remember that we cannot separate health from the ability to learn. The two must go together.”

With early identification, many potential health threats are preventable; some can be modified or controlled. According to Health People 2010, schools have more influence on the lives of young people than any other social institution except the family.³ Subsequently, school health services provided by school nurses in the basic school health program can prevent or alleviate many health disparities and

have a tremendous impact on the future of young people in Duval County.

The principle role of the school nurse is to identify students physical and emotional health problems, provide health assessment and counseling, provide follow-up to pregnant and parenting teens, contribute to the control of communicable disease, help recognize the cause of school under achievement and absenteeism, recommend appropriate agency referrals and manage these problems. The school nurse collaborates with parents, teachers and other agencies as a liaison to provide health services and follow-up.

The school nurse provides health screenings and health educational programs on various health topics to provide health awareness for students, teachers and parents. The desired outcome of the program is to provide experiences that will stimulate students to acquire knowledge, attitudes and behaviors that promote good health and foster wise decision making skills for solving personal and family health problems. For more information, call 388-7173.

¹ Fryer, G.E. and Igoe, J.B. (1995) A relationship between availability of school nurses and child well-being. *Journal of School Nursing* 1(3), 12-18

^{2,3} Healthy People 2010 1(07) Educational & Community-Based Programs, p3

Breastfeeding- A New Look ?

By Peggy Ford, DCHD-Community Nutrition Division

Breastfeeding is the most natural and best nourishment for the infant. It has stood the test of time. Human milk is for the human baby or species specific. The benefits of breastfeeding are numerous for the infant as well as the mother. Breastfeeding helps protect the infant from: colic, ear aches, allergies, constipation, diarrhea, tooth decay, colds, pneumonia, bronchitis, diabetes, SIDS (Sudden Infant Death), Hodgkin’s disease, Cohn’s disease, childhood cancers and these infants are less likely to grow into overweight children. Research has shown higher IQs in breastfed infants. The benefits to the mother include protection against breast and ovarian cancer, osteoporosis, decreased blood loss from the delivery and

early return of the menstrual cycle. The decision to breastfeed results in health benefits that will last a lifetime. The WIC breastfeeding rates in Duval County for the “Infant Ever Breastfed” continue to rise from 49.7 % in September 1999 to 54.8% in June 2002.

Although the initiation rates continue to climb, WIC efforts are directed toward increasing the duration of “exclusive breastfeeding”. Most studies have shown that breastfeeding exclusively for six months will provide the benefits mentioned above.

In an effort to promote and increase the awareness of breastfeeding the Duval County WIC Program has invested in a peer counselor program. Counselors are recruited from WIC mothers who were successful at breastfeeding. These moms go through a 20-hour training course. After graduation, they teach the infant-feeding classes. These classes advocate the benefits of exclusive breastfeeding, provide education on the art of breastfeeding in order to alleviate some of the barriers to breastfeeding, like: lack of confidence, embarrassment of breastfeeding in public, loss of freedom, dietary concerns, and influence of family and friends. These peer counselors allow the participants to contact them for more information and/or support in time/s of need. Additionally, the peer counselors contact the participants to build a rapport with the mothers and to answer questions, up to eight weeks after delivery or as long as necessary. This program has contributed favorably to increasing the breastfeeding initiation rates and hopefully, the duration rate as well.

The Northeast Florida Breastfeeding Coalition was formed in 2000. This Coalition is composed of nurses, dietitians, peer counselors, childbirth educators and others from area hospitals and agencies who are unshakable in their stand to promote and encourage women to breastfeed their babies. The coalition is intended to encourage and support breastfeeding through public and private sector collaboration. For more information, call 630-3260.

Childhood Lead Poisoning Prevention Program (CLPPP)

By Alma Amoran, DCHD-Environmental Health Division

Despite significant decline of lead levels over the past 20 years, lead poisoning continues to be an environmental health risk for young children under the age of six and pregnant women. The federal government banned the use of lead-based paint in 1978, and phased out most lead in gasoline in the 1980s. Yet children are still getting exposed to lead-based paint hazards. While lead-based paint was banned in 1978, three million tons of old lead paint was left in 57 million homes, in the United States. According to the 2000 U.S. Census, Duval County has an estimated 87,400 homes built before 1960. Lead-based paint is still in most of these older homes. Lead paint contributes to childhood lead poisoning in Duval County. It is the deterioration of lead-based paint, lead dust, and lead in soil that is the major cause of childhood lead poisoning.

Lead Poisoning affects every system in the body, especially the brain, kidneys and nervous system in children under the age of six. Even low levels can cause harm. Blood levels as low as 10ug/dl can cause problems with learning, attention, hearing, growth and behavior. There is no safe level of exposure for an infant or young child.

The effects of lead poisoning cannot be undone, early intervention and avoiding further exposure will prevent additional harm.

The Duval County Health Department (DCHD) CLPPP, DCHD Clinics, Shands Providers and Private Care Providers play a vital role in lead testing, and managing lead poisoned children. Since the program was established in 1992 an estimated, 30,100 children have reported tested and 1,942 have been reported with elevated lead levels over 9ug/dl. Children should be tested at their yearly medical examination at age 12 months and 24 months if they live within the target zip code areas. Children in this age group have a lot of hand to mouth movement; they are more likely to get lead poisoning than an older child. Older children living in these areas who are not screened by age 2 should also be screened. Children living outside the high-risk zip code areas should be assessed with the Lead Poisoning Risk Assessment questionnaire.

The State of Florida and CDC has recommended that target areas for lead poisoning are identified as zip codes containing census block with $\geq 27\%$ pre-1950 hous-

ing or $\geq 74\%$ pre-1970 housing. In Duval County, there are 25 zip codes in this designated target group. The highest zip code areas where children are found with EBLLS are 32204, 32205, 32206, 32207, 32208, 32209, 32210 and 32254. (Graph 3)

The neighborhoods that are of greater concern are Springfield and Riverside due to the pre-1950 homes, ongoing renovations and remodeling creating lead hazards harmful to children and pregnant women. It is important for children who live or spend time in pre-1978 homes to get tested. For more information, call 381-6040.

Healthy Start Program

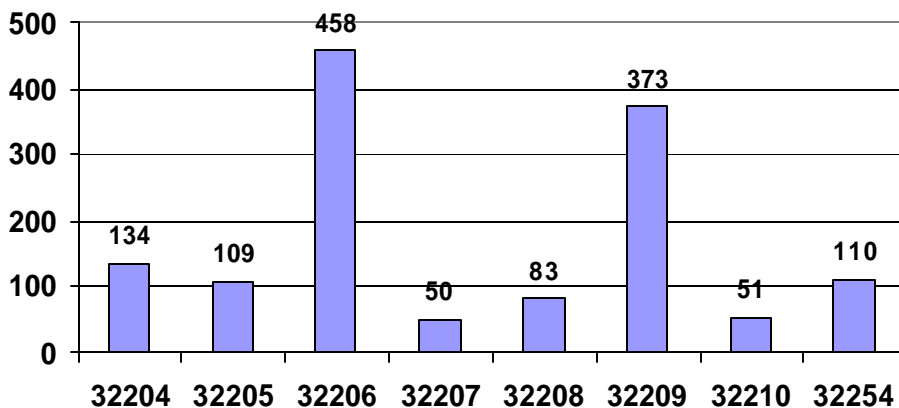
(continued from page 3)

New Healthy Start Participation: Historically program services included case management and enhanced services (parenting, smoking cessation, childbirth education, and psychosocial counseling). Healthy Start is working directly with other community agencies to impact the areas of prenatal substance abuse. The program is expanding into Shands Hospital, River Region, Gateway Community Services, and developing a team to interface with the judicial system. Other areas of creative outreach will include working with the DCHD Clinics on birth spacing, teen pregnancy issues, and depression. Donna Buchanan, LCSW, is expanding the psychosocial component of the program to provide more comprehensive counseling services to women within the DCHD Clinical system. Healthy Start and the Bridge are collaborating on ways to engage the teen population in pregnancy prevention. Woodland Acres and The Magnolia Project are developing a family planning protocol with a team of Healthy Start Nurses.

Clearly Duval County has many challenges related to infant, mothers and children's health. It is the goal of the Healthy Start Program to mobilize community effort to address poor health outcomes for infants, mothers and children. For more information, call 924-1740.

Graph 3

Number of Children with Elevated Lead Levels by Zip Code, 1992-2002



Source: CLPPP
Prepared by: CLPPP, Duval County Health Department, September 2002

Duval County Health Department
Health, Policy & Evaluation Research Division
900 University Blvd. North, Suite 604 (MC-99)
Jacksonville, Florida 32211

Phone: 904-630-3255
Fax: 904-665-3111



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Infant Mortality Rates by Zip Code, Duval 1999-2001

