

Project IMPACT is a fetal and infant mortality review (FIMR) project for Baker, Clay, Duval, Nassau and St. Johns Counties. Its goal is to reduce infant mortality by gathering and reviewing detailed information to gain a better understanding of fetal and infant deaths in Northeast Florida. The project examines cases with the worst outcomes to identify gaps in maternal and infant services and to promote future improvements.

Project IMPACT, which started in 1995, is carried out by the Northeast Florida Healthy Start Coalition with funding from the Florida Department of Health.

Each month, fetal/infant death cases are selected for the project based on specific criteria. Between 2005-2009, more than 100 cases were reviewed through this process. Utilizing an approach developed by the American College of Obstetrics and Gynecology (ACOG), information is abstracted from birth, death, medical, hospital and autopsy records. Efforts are also made to interview the family. No information which identifies the family or medical providers is included on the abstraction form. Case summaries are developed and presented bimonthly to the Case Review Team (CRT).

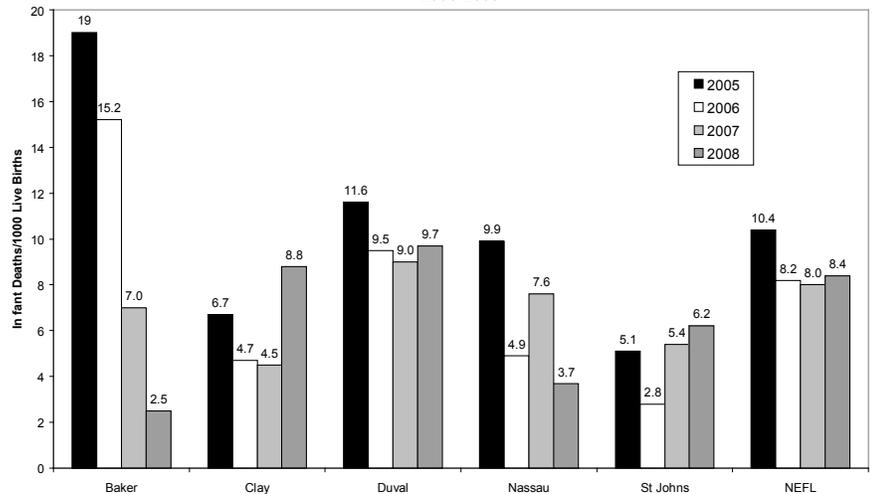
The CRT, a multidisciplinary group of community medical and social service professionals, examines each case to determine medical, social, financial and other issues that may have impacted the poor birth outcome.



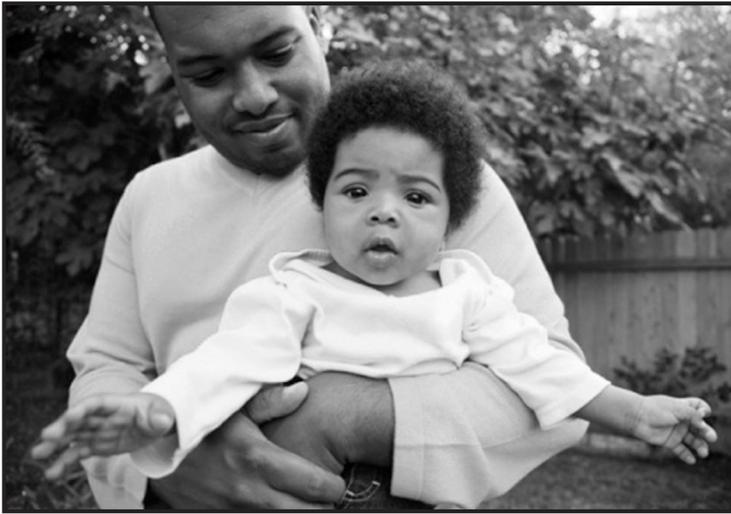
Clay County Sees Largest Increase Infant Death Rates Rise Slightly in Region in 2008

The infant mortality rate in Northeast Florida rose slightly in 2008, with Clay County posting the largest increase. The area's infant death rate was 8.4 deaths per 1,000 live births in 2008 compared to 8.0 deaths per 1,000 in 2007. Rates remained well below the 2005 level of 10.4 deaths per 1,000. The number of infant deaths in Clay County increased from 11 in 2007 to 20 in 2008; infant mortality rates increased for all races in the county. Most of these deaths occurred in infants less than 28 days old. Northeast Florida continues to exceed the statewide infant mortality rate of 7.2 deaths per 1,000 live births. No significant changes occurred in the region in either the neonatal and postneonatal periods. Infant mortality rates ranged from 9.7 deaths per 1,000 in Duval County to 2.5 deaths per 1,000 in Baker County.

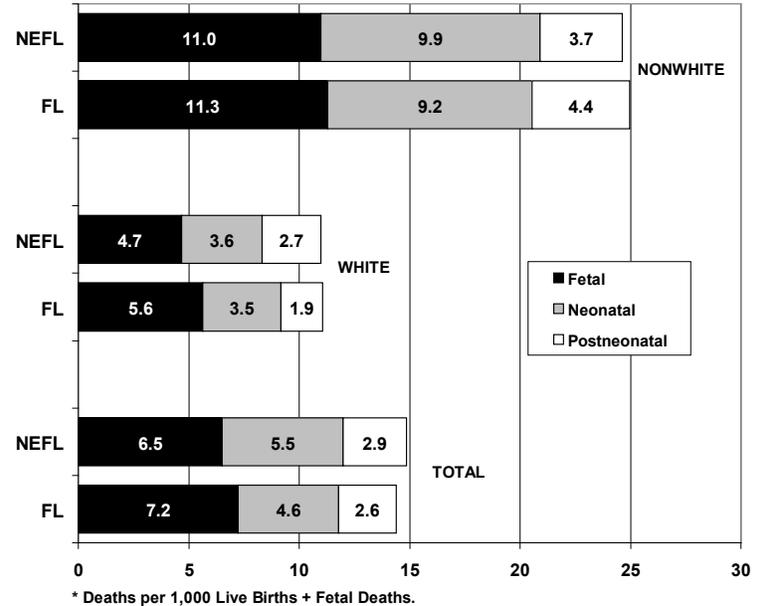
Infant Mortality By County
Northeast Florida
2005-2008



Source: Florida Department of Health, Office of Vital Statistics, 2005-08.



2008 Fetal-Infant Death Rate
Northeast Florida & Florida*



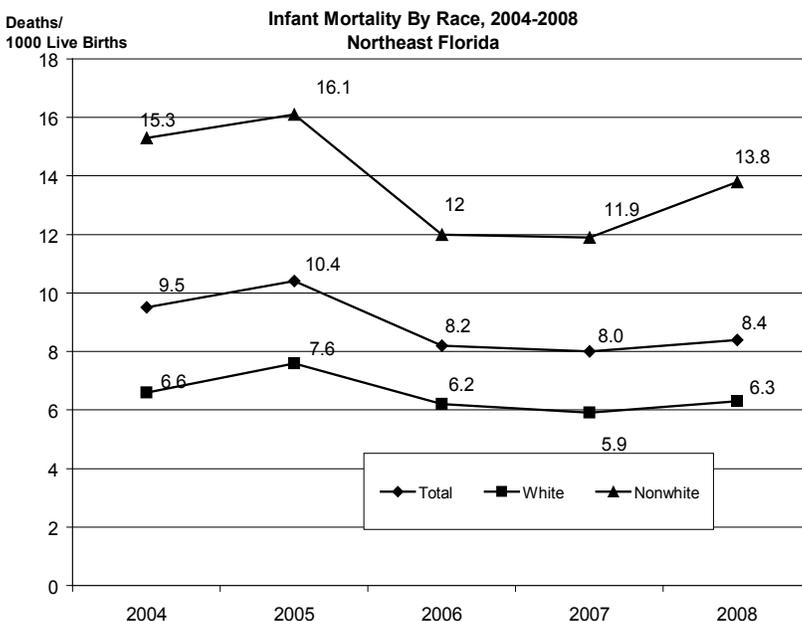
INFANT LOSSES

In 2008, there was a total of 295 infant losses in Northeast Florida. This includes 129 fetal deaths or stillbirths (44%) and 166 infant deaths (56%).

The five-county area had a fetal-infant mortality rate of 14.9 deaths per 1,000 live births and fetal deaths in 2008, comparable to the state rate of 14.4 deaths per 1,000. Fetal-infant mortality rates for both whites and nonwhites were comparable to state rates in 2008.

Infant mortality includes deaths of live born babies during their first year of life. In 2008, the five-county area had an infant mortality rate of 8.4 deaths per 1,000 live births. The infant mortality rate for nonwhites (13.8 deaths per 1,000) remained twice as high as the rate for whites (6.3 deaths per 1,000).

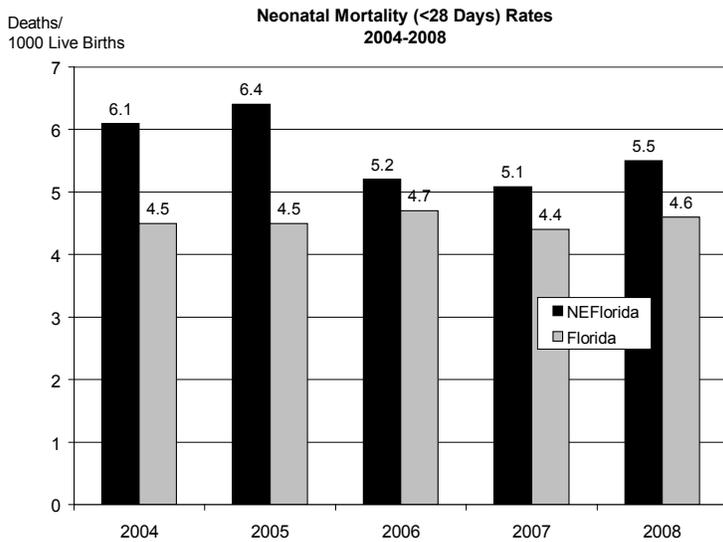
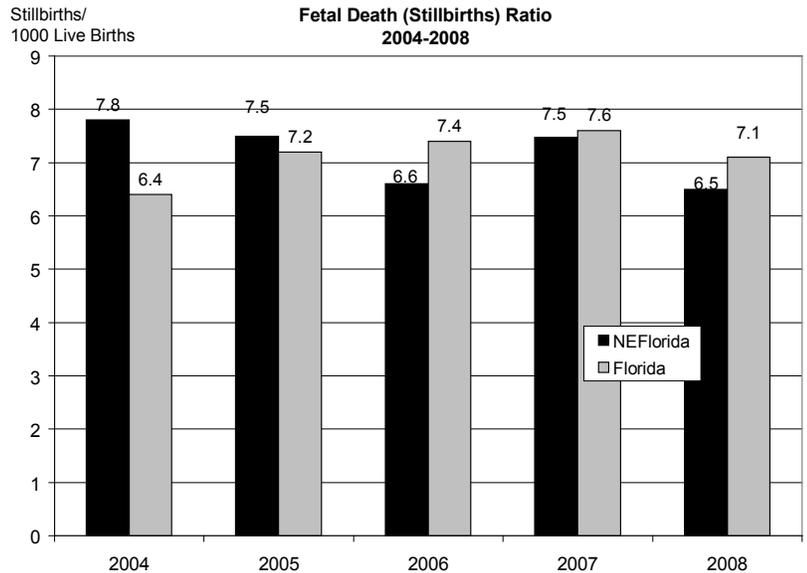
Northeast Florida continues to exceed the overall state infant mortality rate, as well as race-specific rates. Florida's infant mortality rate was 7.2 deaths per 1,000 live births in 2008. Statewide, the infant mortality rate for whites was 5.5 deaths per 1,000 live births; for nonwhites it was 11.8 deaths per 1,000 live births. Infant mortality includes two components: neonatal mortality (deaths to infants less than 28 days old) and postneonatal mortality (deaths to infants between 28 and 364 days old).



FETAL MORTALITY

Fetal mortality or stillbirths includes deaths which occur before birth following at least 20 weeks gestation. In 2008, the five-county area had a ratio of 6.5 fetal deaths for every 1,000 live births, below the state rate (7.1 deaths per 1,000 live births).

The fetal mortality ratio for whites in the region was 4.7 deaths per 1,000 live births compared to 5.4 deaths per 1,000 statewide. For nonwhites it was 11.1 deaths per 1,000, compared to 11.3 deaths per 1,000 statewide.



NEONATAL MORTALITY

Neonatal mortality includes deaths occurring to infants before they are 28 days old. In 2008, the neonatal mortality rate in Northeast Florida was 5.5 deaths per 1,000 live births, a slight increase over 2007 rates. The neonatal mortality rate for whites was 3.6 deaths per 1,000; for nonwhites the rate was 10.0 per 1,000. Statewide, the neonatal mortality rate in 2008 was 4.6 deaths per 1,000 (3.5 deaths per 1,000 for whites and 7.4 deaths per 1,000 for nonwhites).

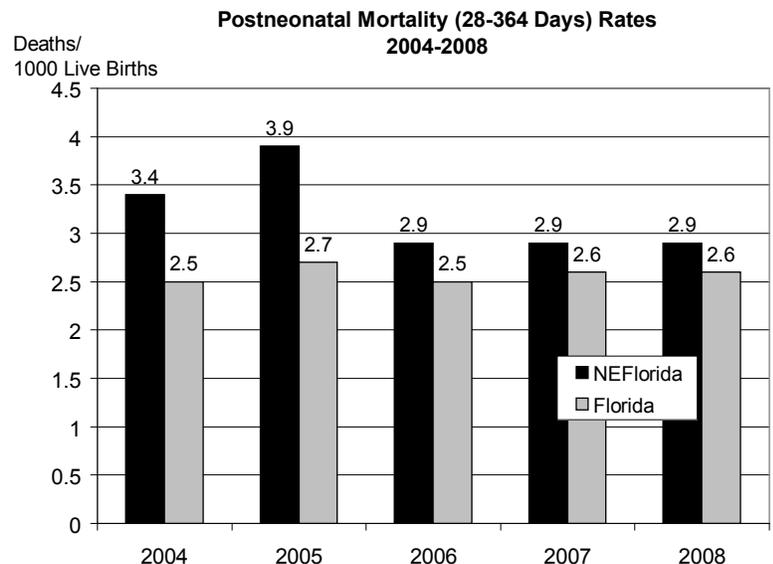
Most of the infants (60%+) who die in the neonatal period die within the first 24 hours of life. Prematurity or low birthweight is the primary cause of neonatal mortality.



POSTNEONATAL MORTALITY

Postneonatal mortality includes deaths of infants from 28 days to 364 days of age. In 2008, the five-county area had a postneonatal death rate of 2.9 per 1,000 live births (2.7 deaths per 1,000 white and 3.7 deaths per 1,000 nonwhite). The state postneonatal death rate in 2008 was 2.6 deaths per 1,000 live births (1.9 deaths per 1,000 white and 4.5 deaths per 1,000 nonwhite).

Leading causes of postneonatal death in the region are prematurity, congenital anomalies, and sleep-related deaths, including SIDS.



2009-2014 SERVICE DELIVERY PLAN ADDRESSES LIFE COURSE



The Coalition adopted its 2009-2014 Healthy Start Service Delivery Plan in April based on a life-course framework that moves before and beyond pregnancy. Developed by Dr. Michael Lu and others, the life-course approach suggests that a complex interplay of biological, behavioral, psychological and social protective and risk factors contributes to health outcomes across the span of a person's life. Rather than just focusing on risks, behaviors and services that impact a woman once she becomes pregnant, the life-course model examines the cumulative effect of health status and life events at different life stages.

Life-course factors have been evaluated as part of the FIMR case review process since 2005. Socioeconomic status, race and racism, health care access, stress, nutrition, birth weight and a range of life-long behaviors are key factors that affect the outcome of pregnancy. These factors impact racial and ethnic groups differently, and may explain disparities in birth outcomes even with equal access to care during pregnancy. Life course issues were cited as a contributing factor in 40 percent of fetal and infant death cases reviewed between 2005-2009.

The 2009-2014 Healthy Start Service Delivery Plan is posted on-line at www.nefhealthystart.org with a detailed data appendix.

CJ Foundation Provides Support

COALITION, PARTNERSHIP INCREASE SIDS EDUCATION, AWARENESS

Health care providers, child-serving agencies and community sites received education about risk factors and behaviors that raise a baby's risk of dying from Sudden and Unexplained Infant Deaths (SUIDs) during 2008-2009 as part of a comprehensive education and awareness campaign to promote safe sleep.

Funded by the CJ Foundation, the Northeast Florida Healthy Start Coalition and Safe Sleep Partnership provided information to agency staff and community representatives who come into contact with new families. Nursing students at the University of North Florida assisted in the education and outreach effort by making presentations to staff at local hospitals and physician offices. Awareness activities were particularly successful in impacting knowledge about SUIDs among participants trained at non-traditional venues, including churches, hair salons and parent groups. Project accomplishments include:

- ◊ A multi-media campaign, including bus ads and billboards, was implemented promoting the "ABCs of Safe Sleep." More than 14,000 safe sleep brochures were distributed through area providers and community groups. Obstetricians and local prenatal care clinics distributed more than 11,000 safe sleep magnets created for the campaign.
- ◊ Nearly 350 staff at 24 child-serving agencies received training on safe sleep. Additional training was provided to staff and residents at 10 housing complexes managed by WRH.
- ◊ UNF nursing students trained nearly 100 staff at two delivering hospitals and at the region's largest physician office network.
- ◊ Five local churches scheduled "Safe Sleep Sundays" to promote awareness among their congregants.

Sleep-related deaths account for 15 percent of all infant deaths and nearly 40 percent of deaths of infants between one month and one year of age in the region. Black infants were two times more likely to die than white babies from a sleep-related cause.

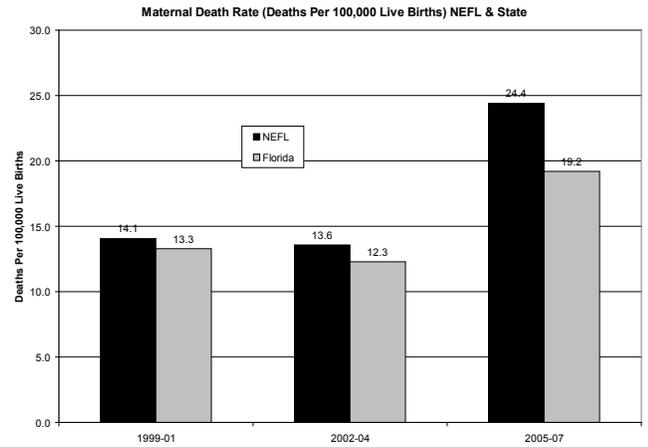
AREA ROTARY CLUBS IMPLEMENT PROJECT TO REDUCE SLEEP-RELATED DEATHS

The Rotary Club of San Marco joined with several other clubs to raise funds and distribute special "onesies" to new families delivering at Shands Jacksonville and Orange Park Medical Center during 2008-2009. A safe sleep reminder, "This Side Up," is featured on the front of the newborn outfit. Brochures and door-hangers outlining ways to reduce the dangers of sleep-related deaths are also provided to new parents. Local clubs adopted safe sleep awareness as a project to address the area's high infant mortality rates.

MATERNAL DEATHS INCREASE IN STATE, NORTHEAST FLORIDA

Maternal mortality increased in both the state and region during 2005-2007, falling far short of the Healthy People 2010 goal of 3.3 maternal deaths per 100,000 live births. The state Office of Vital Statistics defines maternal mortality as “the death of a woman while pregnant or within 42 days of termination of pregnancy from any cause related to or aggravated by pregnancy or its management but not from accidental or incidental causes.” Sixteen maternal deaths occurred during this period in the five county area - 14 in Duval and one each in Clay and St. Johns counties. The region accounted for 12 percent of all maternal deaths statewide compared to eight percent of all births.

According to the Florida Pregnancy-Associated Mortality Review Program (PAMR), the leading causes of maternal mortality in 1999-2005 were hypertension disorders, hemorrhage, thrombotic embolism and infection. Black women, women age 35 or older, women with less than a high school education, women who received no prenatal care and women who were overweight or obese are most at-risk for a pregnancy-related death. Copies of the state PAMR report and recommendations are on-line at www.doh.state.fl.us/family/mch/pamr/pamr_info.html.



INITIATIVES INCREASE AVAILABILITY OF HEALTHY FOODS

The launch of two new initiatives will expand the availability of healthy foods to pregnant women and their families in Northeast Florida. Second Harvest North Florida, a program of Lutheran Social Services, is partnering with Shands Jacksonville to provide nutritious foods, such as fruits and vegetables, to expectant mothers. And, vendors at the Beaver Street Farmer's Market will soon be equipped to accept Electronic Benefit Transfer (EBT) cards used by food stamp and WIC recipients thanks to a grant from the Chartrand Foundation.

New patients will be given a 10-pound bag of nutritious food following their first obstetrics appointment at the Shands Jacksonville OB clinic courtesy of Second Harvest North Florida. A number of local grocers donate fresh food to Second Harvest North Florida, including Winn-Dixie, Target, Food Lion, Sam's Wholesale, Whole Foods and BJ's. Winn-Dixie donated a year's worth of plastic bags for this initiative.

Lutheran Social Services also received funding from a new Chartrand Foundation program targeting pregnant women and children up to age one. The grant will provide EBT card swipes to an initial set of vendors at the Beaver Street Farmer's Market beginning in November 2009.

Poor nutrition and obesity are among the most frequent contributing factors to poor birth outcomes identified in FIMR case reviews. The need to expand access to fresh fruits and vegetables was a key recommendation in the 2007-08 study of infant mortality conducted by the Jacksonville Community Council, Inc.

NATIONAL INFANT MORTALITY AWARENESS MONTH



Make a Noise - Make a Difference is what the Jacksonville community did to raise awareness about the number of babies who die before their first birthday during September's National Infant Mortality Awareness Month. With \$70,000 in funding from the Jacksonville Community Foundation to launch a grassroots social marketing campaign, the Healthy Start Coalition successfully reached nearly 1,000 people during numerous campaign events hosted to educate and empower the community to make a noise, make a difference and prevent infant mortality!



Men took a stand against infant mortality at a Barbers for Babies event hosted at a local barber shop and the community housing projects hosted two Chat & Chew's to stimulate conversation among its residents. A Color Our World Reception was hosted at Wolfson Children's Hospital for community leaders, which was followed by a Family Reunion for Our Future health fair. Both events were attended by the National Office of Minority Health and their a "Healthy Baby Begins with You" campaign spokesperson, Tonya Lewis Lee. A Cycle for Life & Walk for Awareness followed by a community health fair ended our month's activities.

FIMR REVIEWS HIGHLIGHT IMPACT OF MATERNAL HEALTH ON OUTCOMES

The mother's health prior to and during pregnancy remains the most frequent contributing factors identified in fetal and infant deaths reviewed using the FIMR process in 2005-2009.

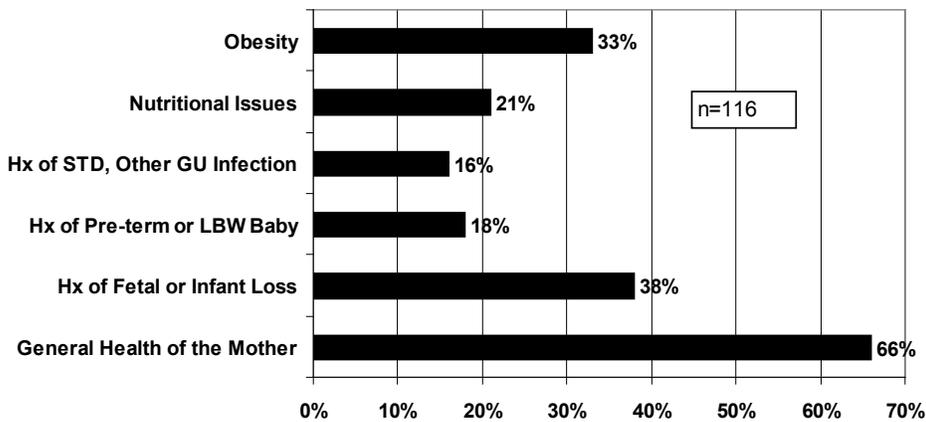
Cases were selected for review during this period based on specific criteria including, type of death (fetal vs. infant), residence (target area vs. other areas) and race (black vs. others). The selection process reflected concern with the disparity in infant health and its contribution to overall fetal and infant mortality in the region.

MATERNAL MEDICAL HISTORY

Maternal medical history was identified as a contributing factor in more than 90 percent of the 116 cases reviewed in 2005-2009. Included in this category are pre-pregnancy conditions such as diabetes, hypertension, poor nutrition, obesity and related conditions. This risk was identified in two-thirds (66%) of the cases reviewed. Obesity was identified as a contributing factor in 33 percent of the cases reviewed; inadequate nutrition, including first trimester anemia, was cited in more than one-fifth of the fetal and infant death cases examined.



**Contributing Death Factors
Maternal Medical/OB History**



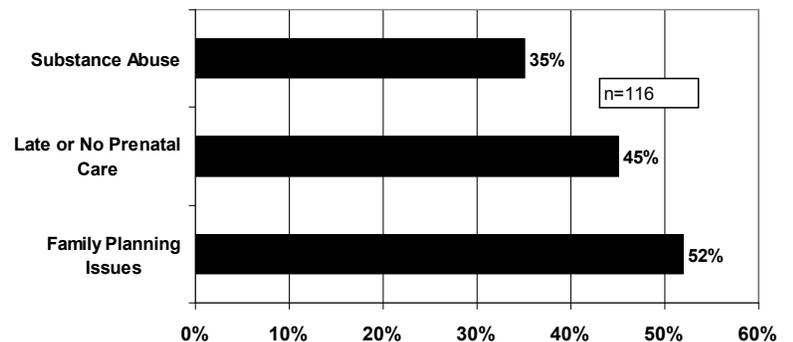
MATERNAL MEDICAL CONDITIONS DURING PREGNANCY

Maternal medical conditions during pregnancy were cited in 95 percent of the cases examined during 2005-2009. Included are maternal infections other than STDs (47%) and preterm labor (53%). Pregnancy complications, including pre-eclampsia, placental abruption, anemia and premature rupture of membranes (PROM), was cited as a contributing factor in about 14 percent of the cases reviewed.

KNOWLEDGE & BEHAVIOR

Family planning issues were identified in more than half of the cases examined by the FIMR case review team in 2005-2009. Substance use, including alcohol, tobacco and drugs, was present in 35 percent of the cases. Mothers received late or no prenatal care in 45 percent of the cases reviewed.

**Contributing Death Factors
Parental Knowledge and Behavior**

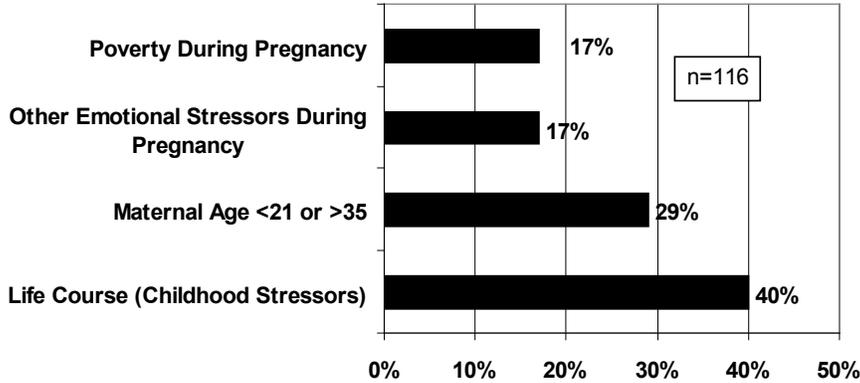


SOCIOECONOMIC & LIFE COURSE ISSUES

In four out of 10 cases reviewed, the mother experienced life course stressors. These include a history of abuse, poverty, lack of support during her childhood or early life. In 29 percent of cases, maternal age was a factor (< 21 or >35 years old).



**Contributing Death Factors
Socioeconomic and Life Course Issues**



PROVIDER & SERVICE ISSUES

Screening for Healthy Start was not evident in nearly one-third of the cases examined in 2005-2009. Needed medical and community resources were available, but not used in 15 percent of cases; patients voiced fear of or dissatisfaction with services in 16 percent of cases examined.



Most Frequently Identified Factors FIMR Case Reviews

<u>Contributing Factor</u>	<u>% Cases</u>
General Health, Medical History of Mom	66%
Preterm Labor	53%
Family Planning Issues	52%
Maternal Infections, other than STDs	47%
Late or No Prenatal Care	45%
Prematurity	41%
Life Course Issues	40%
History of Fetal, Infant Loss	38%
Substance Abuse	35%
Service Issues	34%

Source: April 2005 - June 2009 FIMR Case Reviews (n= 116).
Multiple factors may be present in individual cases.

FETAL/INFANT MEDICAL ISSUES

Prematurity was a contributing factor in nearly 41 percent of all FIMR cases in 2005-2009. For infant deaths, prematurity was cited as a contributing factor in 90 percent of the cases reviewed. In 25 percent of the cases, the infant experienced an infection and about 10 percent died as a result of a cord problem.

Project **IMPACT** Community Action Recommendations

1. Address the increase in sleep-related deaths in NE Florida through the implementation of an awareness and information campaign. Information should include: proper sleep positioning, dangers of bed sharing, impact of second hand smoke, importance of breastfeeding and appropriate use of infant beds. Continue Safe Sleep Partnership activities to target providers, expectant and new parents/families and the general public.
 - a. Focus provider and community education on age of vulnerability (2-4 months). Utilize WIC clinics, pediatricians, family practitioners, etc. to re-educate caregivers on all visits during this time frame. Encourage them to ask specifically about sleep positioning, sleep location, etc. during the baby's visit.
2. Implement strategies to address preconceptional health and planned pregnancies.
 - a. Focus on smoking cessation of all types (tobacco, marijuana, crack, etc.). Include the general public, women of child-bearing age and providers in educational efforts. Share local FIMR statistics. Focus on education regarding risks of smoking. Seventeen and 21 percent of mothers represented in all the fetal and infant deaths in our project area in 2007 and 2008, respectively, self reported some type of substance abuse. Eighty-three percent of those indicated they smoked tobacco in 2007 and 86 percent self reported in 2008. An additional 16 percent specified marijuana in 2008 as compared to 9.4 percent in 2007. Smoking was a documented risk factor in nearly half of our sleep-related deaths.
 - b. Focus on obesity. Twenty-seven percent of all moms in the 2008 death cohort had obese pregravid BMIs. Healthy Start services for the baby should also focus on the mom in helping her to lose her weight postpartum. Hold Out the Lifeline is also initiating a program focusing on postpartum weight loss. All healthcare students such as, nursing and medical, should be educated re: the prevalence of obesity and the importance of incorporating this general health focus into all aspects of care.
 - c. Finally, focus on planned pregnancy education to encourage 18 months between pregnancies, use of contraception when pregnancy is not desired, visiting the obstetric provider for preconception exam and education, etc. Fifty-five and 54 percent of the FIMR cases reviewed in 2007 and 2008, respectively, involved unplanned pregnancies. When FIMR cases reviewed between 2005 and 2007 were separated by race, unplanned pregnancy was a contributing factor in nearly 70 percent of the black cases.

CHARTS, Florida Vital Statistics, 2008 Florida Department of Health; Project *Impact* Summaries of Case Review Team Deliberations, April 2005 - June 2009

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