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 July 2006 - June 2011, more than 140 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.

Infant Death Rates Continue to Improve in 2010

The infant mortality rate in Northeast Florida continued to improve in 2010, with all counties posting decreases. The area’s infant death rate was 7.3 deaths per 1,000 live births in 2010 compared to 7.9 deaths per 1,000 in 2009. Rates remained well below the 2005 level of 10.4 deaths per 1,000. Nonwhite infant mortality in the five county area dipped below statewide rates for the second consecutive year in 2010. Nonwhite infant mortality rates ranged from 11.4 deaths per 1,000 in Baker County to 3.7 deaths per 1,000 in Clay County.
INFANT LOSSES

In 2010, there was a total of 254 fetal and infant losses in Northeast Florida. This includes 125 fetal deaths or stillbirths (49%) and 129 infant deaths (51%).

The five-county area had a fetal-infant mortality rate of 14.4 deaths per 1,000 live births and fetal deaths in 2010, compared to the state rate of 13.7 deaths per 1,000. Fetal-infant mortality rates for nonwhites were below the state rate, while rates for whites were higher.

Infant mortality includes deaths of live born babies during their first year of life. In 2010, the five-county area had an infant mortality rate of 7.3 deaths per 1,000 live births. The infant mortality rate for nonwhites (10.5 deaths per 1,000) remained nearly twice as high as the rate for whites (5.6 deaths per 1,000).

Northeast Florida continues to exceed the overall state infant mortality rate, although the mortality rate for nonwhites ranked below statewide levels. Florida’s infant mortality rate was 6.5 deaths per 1,000 live births in 2010. Statewide, the infant mortality rate for whites was 4.9 deaths per 1,000 live births; for nonwhites it was 10.8 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 that occur before birth following at least 20 weeks gestation. In 2010, the five-county area had a ratio of 7.1 fetal deaths for every 1,000 live births, comparable to the state rate (7.2 deaths per 1,000 live births).

The fetal mortality ratio for whites in the region was 5.2 deaths per 1,000 live births compared to 5.3 deaths per 1,000 statewide. For nonwhites it was 10.5 deaths per 1,000, compared to 12.1 deaths per 1,000 statewide.

NEONATAL MORTALITY

Neonatal mortality includes deaths occurring to infants before they are 28 days old. In 2010, the neonatal mortality rate in Northeast Florida was 4.9 deaths per 1,000 live births, comparable to 2009 rates. The neonatal mortality rate for whites was 3.7 deaths per 1,000; for nonwhites the rate was 10.0 per 1,000. Statewide, the neonatal mortality rate in 2010 was 4.6 deaths per 1,000 (3.5 deaths per 1,000 for whites and 7.3 deaths per 1,000 for nonwhites).

More than 40 percent of infants 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 2010, the five-county area had a postneonatal death rate of 2.4 per 1,000 live births (1.9 deaths per 1,000 white and 3.2 deaths per 1,000 nonwhite). The state postneonatal death rate in 2010 was 2.2 deaths per 1,000 live births (1.6 deaths per 1,000 white and 3.6 deaths per 1,000 nonwhite).

Sleep-related deaths, including SIDS, are a leading cause of postneonatal deaths in the region.
Abuse of both legal and illicit drugs during pregnancy is taking its
toll on babies born in Northeast Florida and the state, according to
new data from the Agency for Health Care Administration. In 2010,
nearly nine out of every 1,000 babies born in Jacksonville and the four
surrounding counties experienced newborn withdrawal, compared
to six out of every 1,000 statewide.

This represents a four-fold increase in substance-affected infants
since 2005. The proliferation of “pill mills” has been linked to this
state epidemic. More than 110 newborns were treated for withdrawal
symptoms in Duval County in 2010, the third highest number among
counties statewide. Babies can spend days and even weeks detoxing.
Substance abuse was identified as a contributing factor in more than
one-third of the FIMR cases reviewed between 2006-2011.

In response, the Florida March of Dimes and Florida Association of
Healthy Start Coalitions are working to develop a strategic plan to address this issue. Task forces are reviewing data and best
practices for prevention, treatment, child development, pregnancy and third trimester opioid dependency.

MAKING A DIFFERENCE! ACTIVITIES TARGET AWARENESS,
LIFE COURSE

The Make a Noise! Make a Difference! initiative is working to raise awareness
and engage community residents in the fight to prevent infant mortality and
reduce health disparities. Health inequities and life course issues are key
issues contributing to poor birth outcomes in the region based on FIMR case
reviews.

Nearly 50 residents in high-risk areas of Jacksonville have completed
the five-week Make a Noise! training since May. The training provides
information on infant mortality and its impact on the black community,
as well as ways to prevent it by encouraging healthy behavior and early
prenatal care. Participants are enlisted as lay health workers and encouraged
to talk to people they know about what they have learned. Make a Noise!
is being implemented in the Magnolia Project area and two tipping point
neighborhoods (Arlington and the Westside).

A new effort to train grassroots leaders was launched with the Make a
Difference! leadership academy earlier this fall. Nine budding community
leaders, identified by the Azalea Project and other agencies, completed the
eight-week program. The group learned about leadership styles, community
values, ethics, team building, problem solving and action planning.

The program culminated with a field trip to a Jacksonville City Council
budget meeting. The goal of the leadership academy is to support the efforts
of local residents to make changes in neighborhood factors that contribute to
disparities in health and birth outcomes.

Make a Noise! Make a Difference! and other community engagement efforts
by the Coalition are supported by the Chartrand Foundation, funds raised
through Rounds at the Grounds and other donations. These activities aim
to impact social determinants and improve individual health behaviors that
contribute to infant mortality.
SLEEP-RELATED DEATHS DECREASE BUT REMAIN LEADING PREVENTABLE CAUSE OF INFANT MORTALITY

Sudden and Unexplained Infant Deaths (SUIDs), including SIDS and other sleep-related deaths, decreased in Northeast Florida to 1.1 per 1,000 live births in 2010, the lowest level in a decade. Sleep-related deaths accounted for 16 percent of all infant deaths in the region between 2005-2010 and are the leading preventable cause of infant mortality. In nearly 80 percent of the SUIDs cases, the infant was sleeping on an unsafe sleep surface. More than two-thirds were not in an infant bed; an equal proportion were not placed on their backs to sleep. Nearly half of the SUIDs cases had exposure to tobacco smoke and 67 percent were not breastfed.

The American Academy of Pediatrics (AAP) released updated guidelines this fall to promote safe sleep environments for babies. The guidelines include new recommendations encouraging breastfeeding, immunizations and avoidance of bumper pads in cribs.

NEW INITIATIVE FOCUSES ON LAST WEEKS OF PREGNANCY

The Florida Association of Healthy Start Coalitions (FAHSC), under the leadership of the Northeast Florida Healthy Start Coalition, has begun implementation of a three-year statewide consumer education campaign with funding from the March of Dimes Florida Chapter. The campaign, Healthy Babies are Worth the Wait, highlights the importance of the last weeks of pregnancy and the contribution of this period to healthy fetal development and reduced morbidity. The overall goal is to reduce elective deliveries prior to 39 weeks gestation.

Non-medically indicated deliveries before 39 weeks gestation have increased significantly in the past 10 years and are associated with increased NICU admissions, breathing and feeding problems, increased risk of infection and increased rates of C-sections and late preterm births. Much of the problem stems back to misconceptions about what constitutes a full-term delivery and the assumption that delivering after 36 weeks is safe.

The campaign officially launched this November during National Prematurity Awareness Month and will utilize consumer material and messaging developed by the national March of Dimes, as well as original material developed by FAHSC for Hispanics and fathers. The campaign will be coordinated with the Florida Perinatal Quality Initiative, currently being implemented in seven counties, and a parallel provider education program by the Chiles Center at the University of South Florida. Campaign partners include the Florida Department of Health, major state insurers and experienced social marketing firms.

PEER EDUCATORS AIM TO IMPROVE PRECONCEPTION HEALTH

More than 70 students from the University of North Florida, Chamberlain College of Nursing, Edward Waters College, the Jacksonville Job Corps and other local schools were trained as Preconception Peer Educators in 2011 to provide them with information needed to impact their health and the health of the community. The training is part of the federal Office of Minority Health’s “A Healthy Baby Begins With You” campaign. The purpose of the program is to enlist college students as peer educators not only on college campuses but also in the community at large, to help disseminate essential preconception health messages.

Participants played the Life Course Game, developed by CityMatCH, which provides an interactive experience that illustrates key concepts of the life course framework. They also watched a screening of the documentary “Unnatural Causes – When the Bough Breaks.” As part of the training, the students are required to get involved with program activities over the next year, both at their schools and in the community.
MATERNAL HEALTH REMAINS KEY FACTOR IN FETAL, INFANT DEATHS

The mother’s health prior to and during pregnancy remains the most frequent contributing factor identified in fetal and infant deaths reviewed using the FIMR process from 2006-2011.

MATERNAL MEDICAL HISTORY

General health of the mother was identified as a contributing factor in nearly 80 percent of the 142 cases reviewed from 2006-2011. Pre-pregnancy conditions such as diabetes, hypertension, poor nutrition, obesity and related conditions were identified in nearly two-thirds (63 percent) of the cases reviewed. A history of previous poor outcome was present in nearly one-third of the cases. Obesity was identified as a contributing factor in 30 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. In 15 percent of the FIMR cases, a history of sexually transmitted or other infections was present.

MATERNAL MEDICAL CONDITIONS DURING PREGNANCY

Maternal medical conditions during pregnancy were cited in 94 percent of the cases examined during 2006-2011. Included are maternal infections other than STDs (53%) and preterm labor (55%). In more than 20 percent of FIMR cases, there was premature rupture of the membranes (PROM) or placental abruption. Anemia was diagnosed after the first trimester in 25 percent of the cases reviewed.

KNOWLEDGE & BEHAVIOR

Family planning issues were identified in nearly 60 percent of the cases examined by the FIMR case review team from 2006-2011. Substance use, including alcohol, tobacco and drugs, was present in 34 percent of the cases. Late entry into prenatal care was cited by 31 percent of cases, while 20 percent of mothers received no prenatal care prior to delivery.
In four out of every 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 Factors]?

**PROVIDER & SERVICE ISSUES**

Screening for Healthy Start was not evident in more than 40 percent of the cases examined from 2006-2011. Needed medical and community resources were available, but not used in 10 percent of cases; patients voiced fear of or dissatisfaction with services in nine percent of cases examined.

![Screening for Healthy Start]

**FETAL/INFANT MEDICAL ISSUES**

Prematurity was a contributing factor in nearly 45 percent of all FIMR cases from 2006-2011. In 33 percent of the cases, the infant experienced an infection and 11 percent died as a result of a chord problem.

![Frequency of Contributing Factors by Race 2006-2010]

**DISPARITIES IN CONTRIBUTING FACTORS**

Black mothers who experience a fetal or infant loss are more likely than their white counterparts to have life course issues like poverty, childhood trauma and other emotional stressors based on FIMR case reviews. There is also a marked disparity in the frequency of contributing factors by race.
Project IMPACT Community Action Recommendations

1. Continue to focus on preventing sleep-related deaths. Even though the rate of sleep-related deaths per 1,000 live births continued to decrease in 2010, 80 percent of these deaths occurred on an unsafe sleep surface. Sixty-three percent of the infants involved were not on their backs to sleep and not in infant beds. Nearly 50 percent of the infants were exposed to second-hand or third-hand smoke. Given that, there is a need to focus on the risks of smoke exposure, even when it is third hand on clothing, upholstery, skin. In addition community and provider education should continue, stressing the importance of placing babies on their backs to sleep in an infant bed or safe sleep surface.

2. Focus on family planning with prenatal and interconceptional care.
   a. In the 2010 death cohort (n=252), about one-third were first pregnancies. For those that were not first pregnancies, 21 percent had less than 12 months between pregnancies and another 25 percent had unknown pregnancy intervals. Within the FIMR reviewed cases (n=31), only one was a planned pregnancy. About one-fourth of the cases were first pregnancies. Of the remaining 23, one-third had inadequate birth spacing < 12 months. Seventy-seven percent of all the FIMR reviewed cases were unplanned pregnancies and one-third of those were also undesired.
   b. As for prenatal care, 37 percent of the moms represented in the death cohort did not have adequate prenatal care. They either started after the first trimester, missed visits or didn't have any care at all. Explore the impact of the Medicaid application process on early initiation of care.
   c. Smoking during pregnancy—17 percent of the mom's in the death cohort (n=252) self-reported some type of substance abuse. Ninety-three percent of these were tobacco smokers. Tobacco use during pregnancy is typically under reported. In the FIMR cases, this figure rose to 35 percent (n=31).
   d. Contraception in the immediate postpartum period is the fourth area to address. In the FIMR-reviewed cases (n=31), only one-third of the moms received a Depo shot or prescription for contraceptives prior to hospital discharge. Investigate whether Medicaid and insurance reimbursement is a barrier to providing contraception prior to hospital discharge.

3. The committee would like to initiate a “Did you know?” campaign to educate consumers and providers about key facts such as “did you know that by week 7 of pregnancy, your baby's brain and spinal cord are already growing” or “did you know that between 2½ and 8 weeks of pregnancy, your baby is most susceptible to factors that may affect normal growth?” This information can help stress the importance of entry into prenatal care as soon as the pregnancy is identified. The committee also discussed utilizing the prenatal care fans used in Baker County in all