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The Broward County Fetal Infant Mortality Review (FIMR) is dedicated to reducing infant mortality rates in our county by providing awareness, education, and resources to women and families.

Each year approximately 100 children under one year of age die in Broward County with an additional 200 fetal deaths. Although fetal and infant mortality rates are lower in Broward County than in the state of Florida as a whole, many of these deaths are preventable.

Communities can play an important role in efforts to reduce infant mortality by creating preventative programs targeting at risk populations. Florida's Fetal and Infant Mortality Review projects are organized under Florida Statute Section 766.101, utilizing the National Fetal and Infant Mortality Review (NFIMR) guidelines. FIMR is a community-based process designed to uncover patterns and factors associated with fetal and infant deaths. The overall goal of the FIMR project is to enhance the wellbeing of women, infants, and families while improving service delivery systems available to them. Through FIMR, a wide array of social, economic, health and environmental issues are investigated as they relate to fetal and infant loss on a local level.

The Broward County Fetal Infant Mortality Review Program could not be accomplished without the assistance and dedication of the health care providers, community agencies, and many other public and private institutions that provide ongoing support to our goal. Broward County Medical Association (BCMA) incorporates the Case Review Team (CRT) as a BCMA Public Health subcommittee (John Wright, MD, Co-chair) and provides space to meet monthly with dinner for the professional participants. We are grateful to Cynthia Peterson, Executive Vice President of BCMA, for the in-kind contributions as well as her enthusiastic encouragement.

In addition, without the generous support of our funders, the FIMR process would not be possible. We would like to say a special thank you to Children's Services Council of Broward County and the Broward Healthy Start Coalition, who have invested in our children and the community by supporting FIMR.

Lastly, we would like to dedicate this report to the parents who have shared their most personal experiences in hopes that other families will not suffer from the same experiences that they have endured. A special thank you to the bereaved families for allowing us into their lives and homes during this time.

**FIMR**



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## The FIMR Process

In the United States 28,000 children under the age of 1 die each year. In 2004, the latest year for which worldwide data is available, the US ranked 29<sup>th</sup> in infant mortality. Infant mortality is used to compare the health and wellbeing of populations across and within countries. Infant mortality is defined as the death of an infant less than one year of age. The infant mortality rate is the number of deaths of infants under one year of age in a given year per 1,000 live births. When referring to infant mortality there are two types of death: fetal and infant. A fetal death is defined as a baby who is born with no evidence of life. An infant death is a death that has occurred after the baby is born alive and can take place up through the first year of life. Infant deaths are broken down into two categories, neonatal and post-neonatal. A neonatal death is a baby who dies between birth and the 28<sup>th</sup> day of life, and post-neonatal death is from the 28<sup>th</sup> day until the first year of age. Each month, fetal/infant death cases are selected for review. The FIMR project uses a systematic approach called Perinatal Periods of Risk (PPOR) to select fetal/infant death cases and helps to identify where the excess mortality is occurring. Cases fall into four categories: maternal health/prematurity, maternal care, newborn care, and infant health. Cases for this report were over sampled in the maternal health/prematurity and infant care categories. The outcomes of the selected cases provide a picture of the factors contributing to the overall excess mortality.

### Maternal Interview

A maternal interview is an important and unique role of the FIMR process. The interview reveals the mother's perspective on her baby's death. After the case selection process, a letter is mailed to the mother notifying her of the project and requesting an interview. An information/resource packet is included with the letter and the bereavement material is tailored to her type of loss. If contact is made and the mother does not wish to participate, she can decline the interview.

A maternal interview helps obtain unique information that is not typically available from vital statistics or medical records. The interviewer follows guidelines which include maintaining confidentiality and privacy, avoiding implication of blame or mismanagement, and promoting sensitivity to family's grief. Mothers are contacted approximately 4-6 weeks after their loss and referrals to community agencies and services are made as requested.

Seven of the 45 cases that were reviewed for this period of time completed a maternal interview. The mothers had the option of completing the interview over the phone or in the comfort of their home. The interviews were conducted in private and facilitated by a bilingual, RTS trained bereavement professional.



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Interviewees commented:

**“This allowed me the opportunity to share my feelings and the experience of my loss...”**  
(Delivered at 35 weeks gestation stillborn, male)

**“I was able to hold my baby in my arms and provide comfort as he was dying...”**  
(Delivered at 30.6 weeks gestation, conjoined twins, male)

### **Records Review**

When collecting data, National Fetal/Infant Mortality Review (NFIMR) abstracting forms by the American College of Obstetrics and Gynecology (A.C.O.G.) are utilized for the case review. Forms include prenatal, delivery, newborn assessment, intensive care nursery, ambulatory data, emergency room records, placental information and autopsy abstraction. A FIMR abstractor reviews the records and gathers as much information as possible on each case. Hospitals, clinics and private physician offices are notified of the requests for records. Private providers are given the option to fill out the abstraction information themselves. Follow up calls are made to ensure all information has been received. Information is also obtained from community agencies and by review of available autopsy records.

### **Case Review**

The Case Review Team (CRT) consists of a multidisciplinary group of professionals which reviews and analyzes the information collected in interviews and medical data abstractions in such a way as to summarize findings and create recommendations. The team reviews and explores the findings in order to note gaps in delivery systems or barriers to services. Recommendations for improved linkages, alterations, and/or enhancements are made relating to fetal/infant mortality. They include: medical mother, fetal/infant; payment for care/services, problems with prenatal and pediatric care, substance use, prenatal and infant risk assessment, social support, poverty, mental health/stress, family violence/neglect, culture, transportation services, environment, occupation hazards and family planning.



## Community Action

After recommendations are made by the CRT, the Community Action Group's (CAG) role is to translate the recommendations into action. CAG is made up of community leaders with a vested interest in maternal and child health issues. FIMR findings are presented every six months, and the CAG develops new and creative solutions to improve services and resources for families. For the past couple of years, Broward County continues to see a higher rate of infant sleep related deaths and maternal infections. The Healthy Start Coalition of Broward County in collaboration with the Community Action Group launched the *Safe Baby* campaign in July of 2009. This campaign was adopted from the Healthy Start Coalition of Hillsborough County. The campaign focuses on reducing the infant mortality rate by educating and empowering parents and caregivers with information on promoting safe sleep practices, preventing Shaken Baby Syndrome, choosing a safe care giver, and drowning prevention. The Safe Baby curriculum has been implemented at Broward Health, Memorial Healthcare System and Plantation General birthing centers. During the Fiscal Year 2009/10 4,453 pregnant women and 2,653 mothers of newborns received Safe Baby Education and related materials. The Community Action Group also partnered with Healthy Mothers, Healthy Babies' Best for Broward Babies (B4BB) community awareness campaign to address the issue of maternal infections, STIs, and infant safe sleep. The media campaign focuses on a series of social marketing, radio, television, and print advertising to provide the county with messages showcasing the ideal outcome of the birth of a baby.

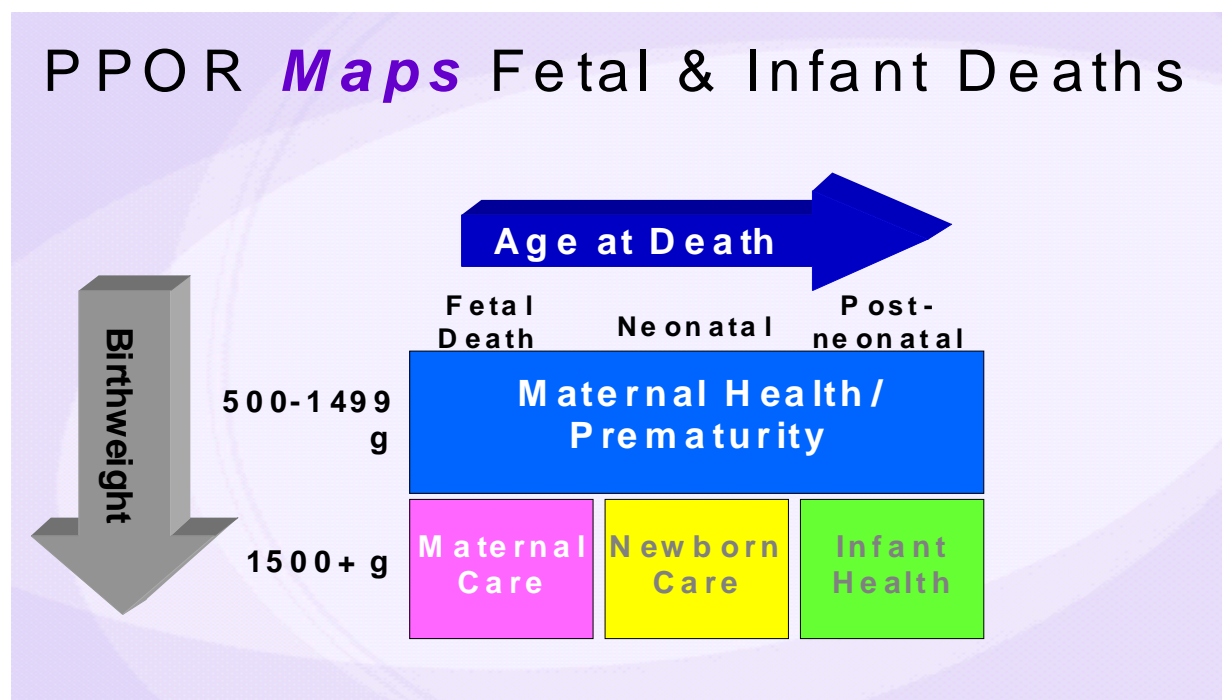
Figure 1.





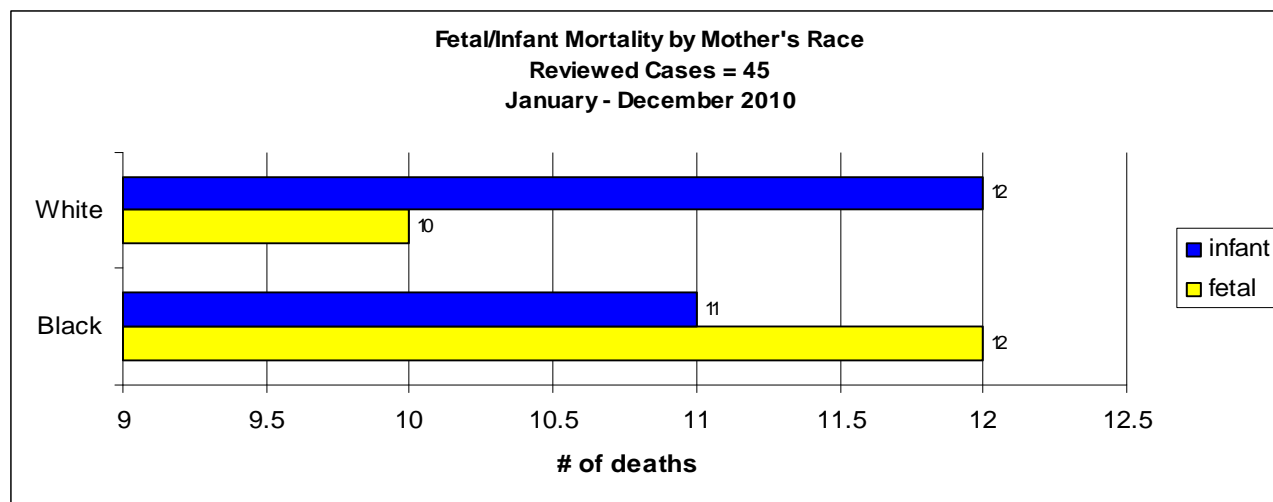
## Cases Reviewed by FIMR

The Broward County FIMR Program reviews a representative sample of 45 fetal and infant deaths each year. The FIMR program systemically selects cases based on the Perinatal Periods of Risk (PPOR) Analysis. PPOR was adapted from a Period of Risk model developed by Dr. Brian McCarthy from the World Health Organization (W.H.O.), (the process is used in developing countries.) The intent of the PPOR approach is to develop a simple method that can be used by the community to mobilize and prioritize prevention efforts. Using this approach, cases fall into four categories, which consist of maternal health/ prematurity, maternal care, newborn care, and infant health. Cases for this report were over sampled in the maternal health/prematurity and infant care categories.



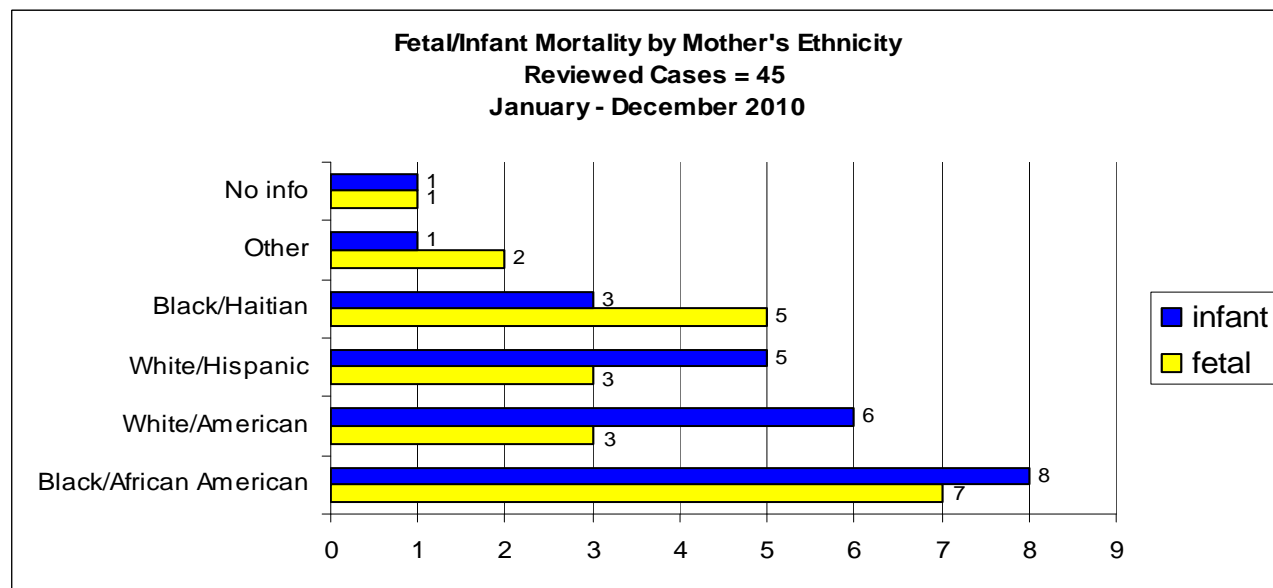


## Racial Group



**Figure 1** shows the breakdown of cases reviewed by the Case Review Team according to maternal race. Of the 45 cases reviewed **51%** were **Black deaths** and **49%** were **White deaths**.

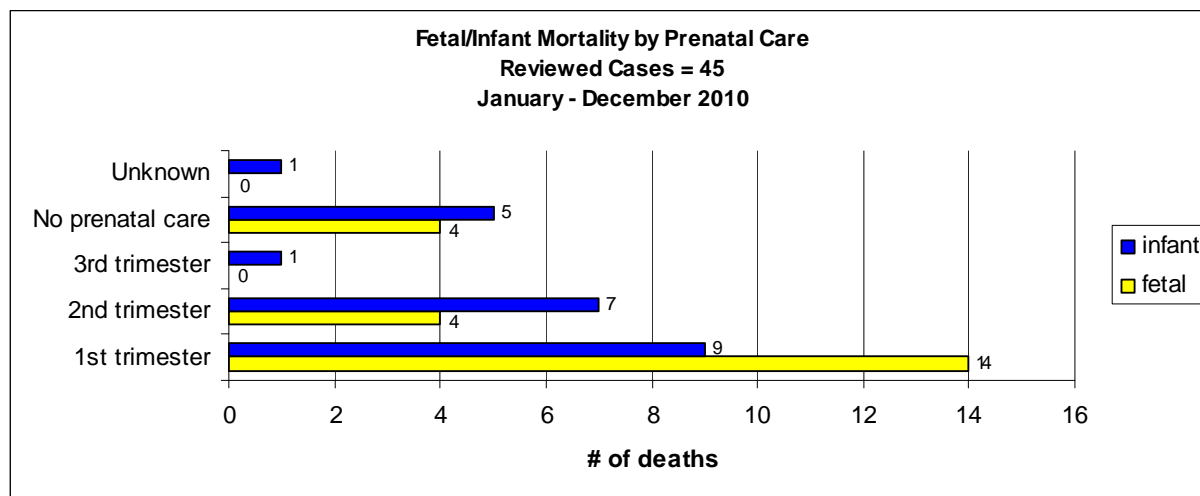
## Ethnicity



This figure shows the breakdown of cases reviewed by the Case Review Team according to maternal ethnicity. **Black/African American** deaths made up the largest portion of reviewed cases. This finding is representative of what is being seen nationally that Black/African American babies are dying at a greater rate than white babies. White/American deaths accounted for the second largest ethnic group of cases that were reviewed.

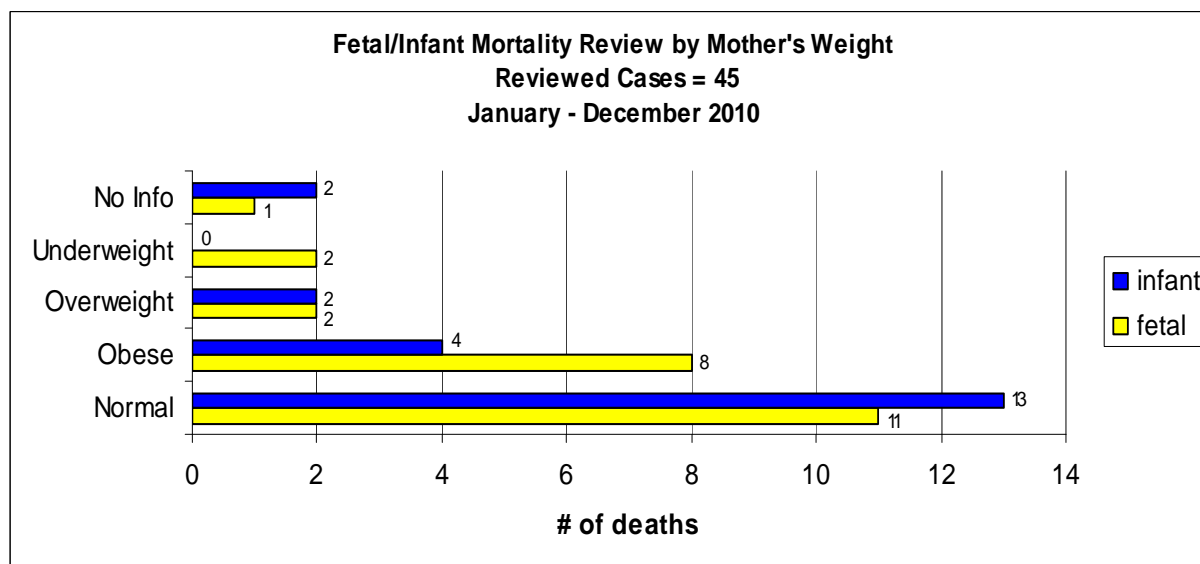


## Trimester Prenatal Care



**Figure 3** shows that **51%** of the cases reviewed entered prenatal care in the first trimester.

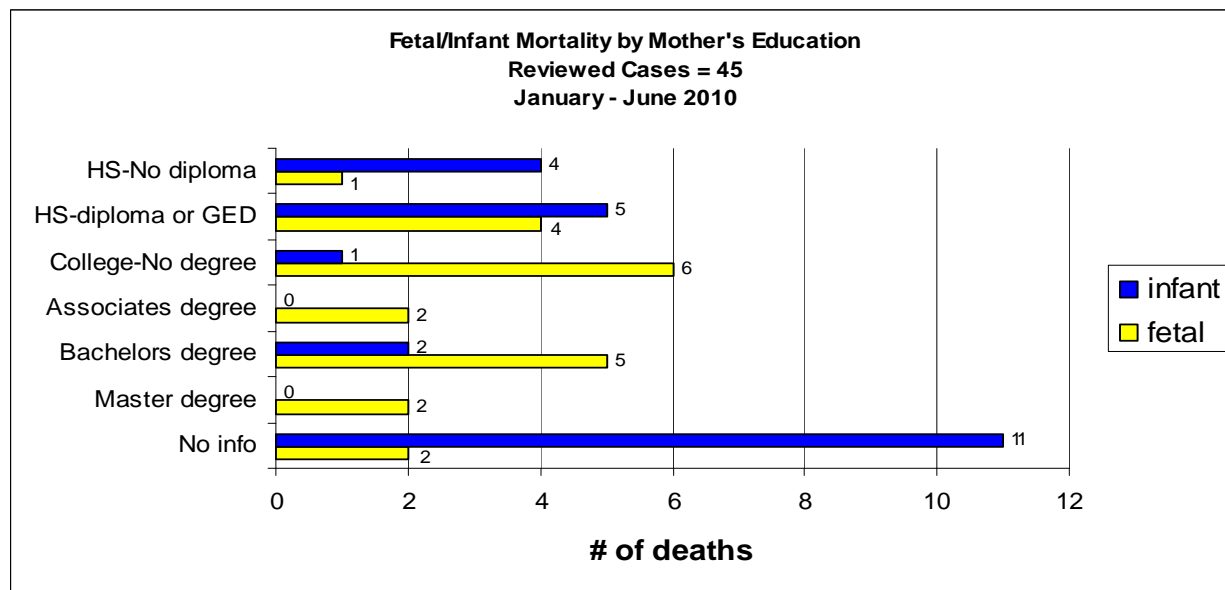
## Mother's Weight/BMI



**Figure 4:** In this table, you will see the mother's weight rank for the cases reviewed. **36%** of the mothers were overweight or obese.



## Education



**Figure 5** shows the mother's education level for the cases reviewed.



## Type of Insurance

Figure 5 shows the distribution of cases reviewed by the type of health insurance the mother had for prenatal care.

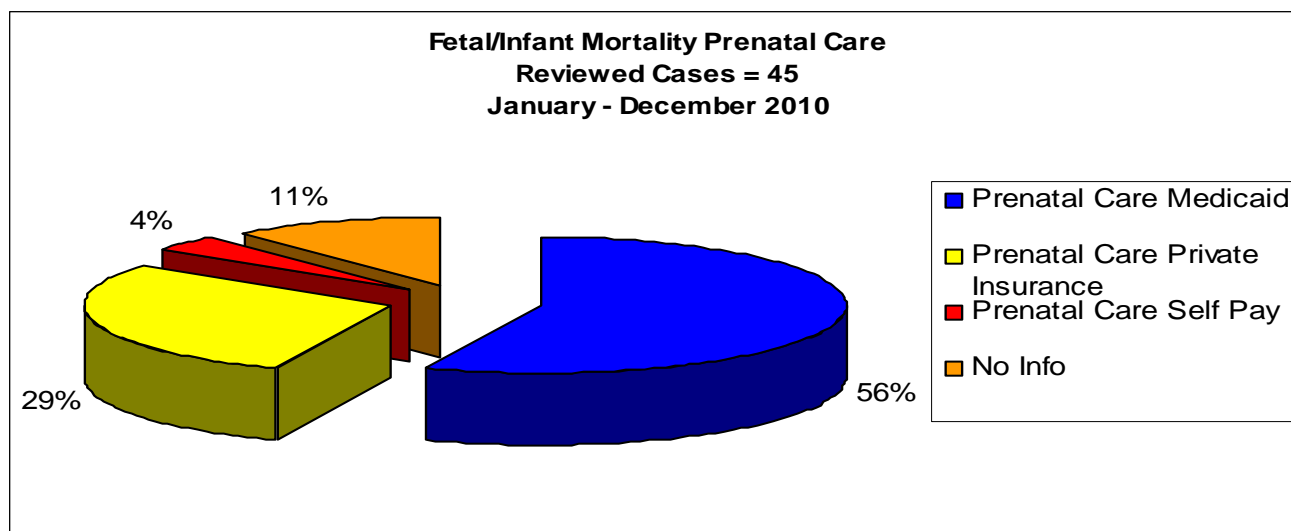


Figure 5: During prenatal care, 56% were on Medicaid, 29% had private insurance, 4% were self paid, and 11% there was no information.

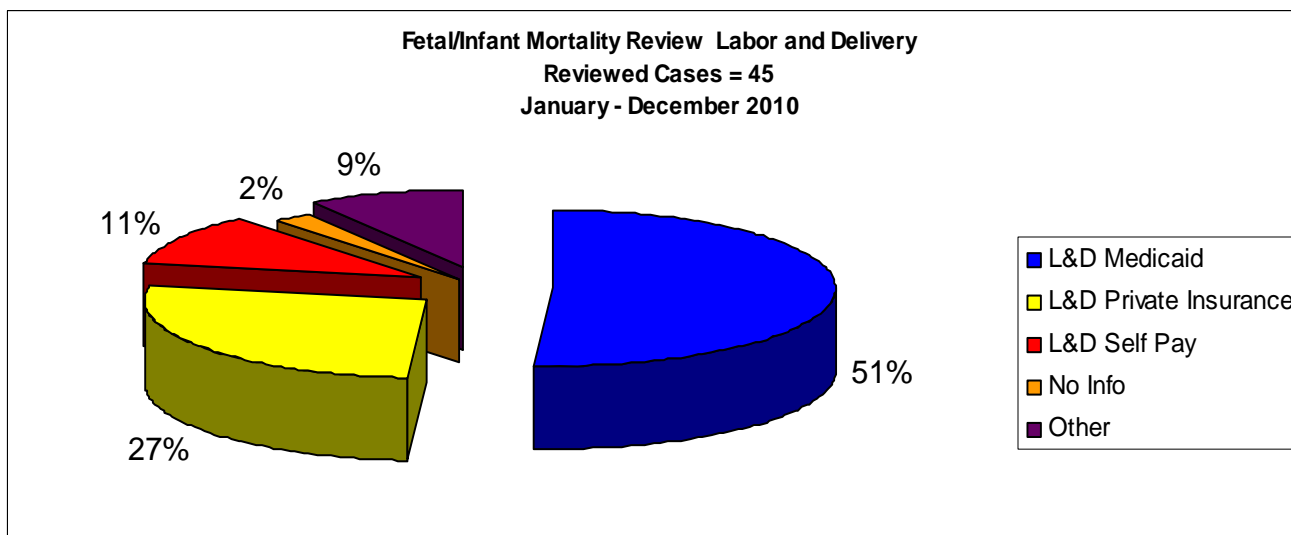


Figure 6: During labor and delivery. 51% were on Medicaid, 27% were on private insurance, 11% were self paid, and 2% there was no information.



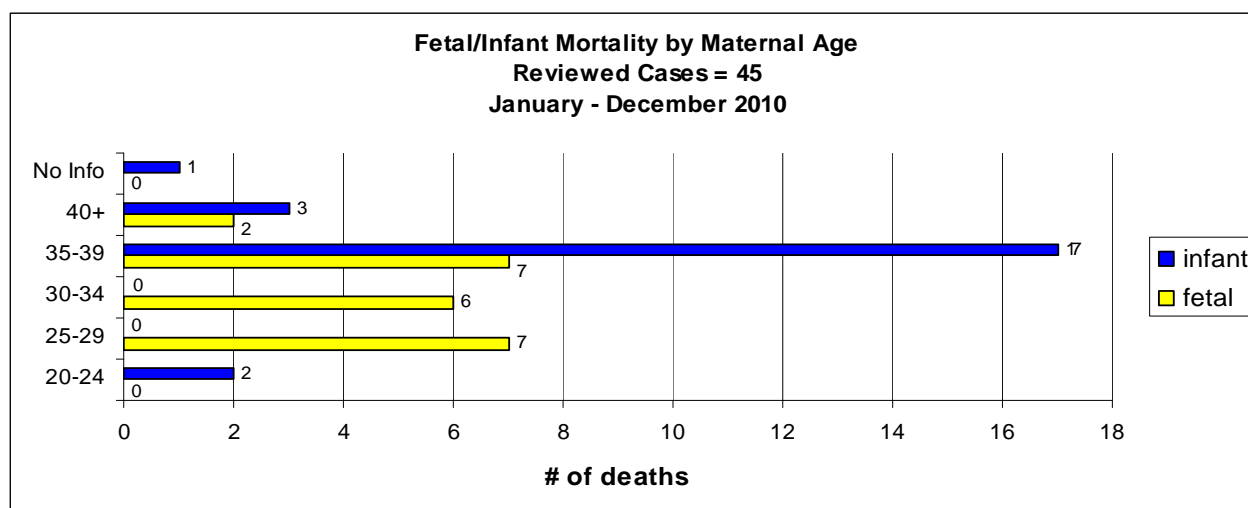
## Gestational Age

### Gestational Age for Reviewed FIMR Cases Reviewed Cases = 45 January – December 2010

Gestational Age	Fetal		Infant	
	Number of Cases	Percent of Cases	Number of Cases	Percent of Cases
20-24 weeks	0	0%	2	4%
25-29 weeks	7	16%	0	0%
30-34 weeks	6	13%	0	0%
35-39 weeks	7	16%	17	38%
40 + weeks	2	4%	3	7%
No Info	0	0%	1	2%

**Table 1** shows the distribution of fetal and infant deaths and the baby's gestational age at death. For both fetal and infant deaths, the greatest loss took place at **35-39 weeks of gestational age**. Please note, however, that FIMR cases were over sampled as part of the PPOR process in the post - neonatal cell group to pull out additional excess mortality details.

## Maternal Age

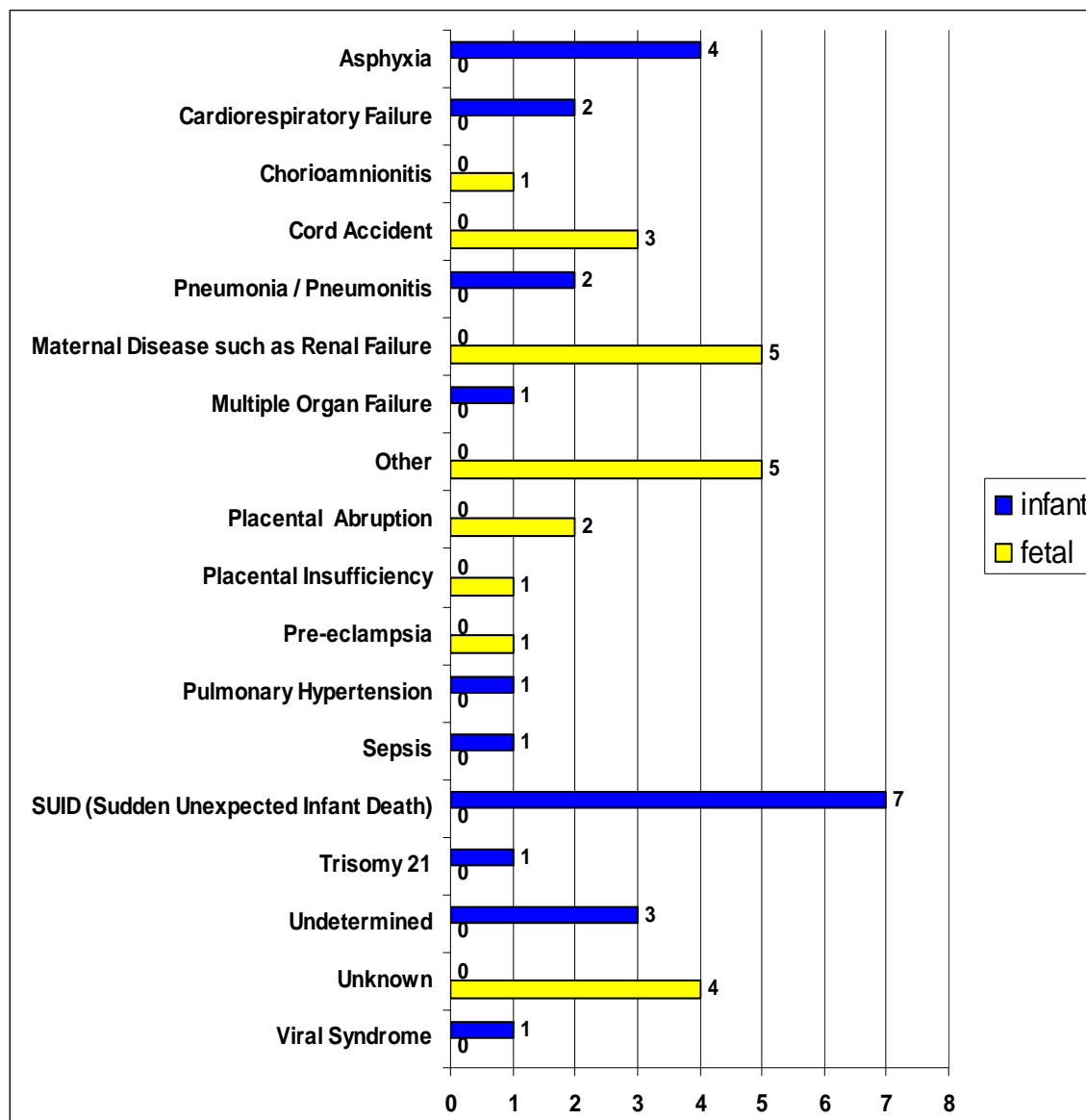


**Figure 7** represents the ages of the mothers whose cases were reviewed and who experienced a fetal or infant death in 2010. The largest age group that is represented is **35 - 39 years**. This age group represents **53%** of the cases reviewed this year. Mothers in the age **25 - 29** age group represented the second highest group, **16%** of cases reviewed.



## Causes of Death

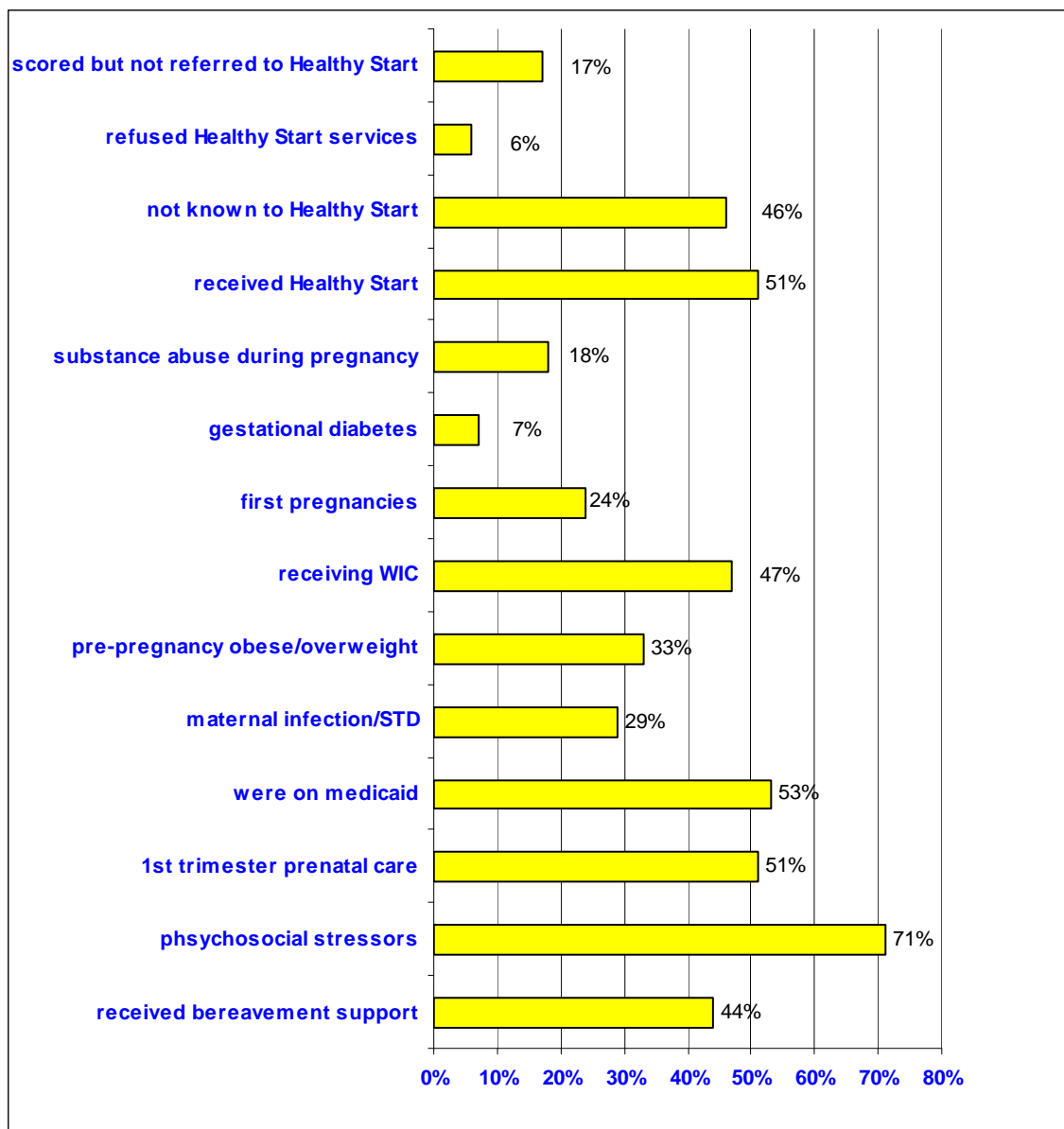
Without an autopsy, it is not always possible to get an accurate diagnosis of the cause of death. The cause of death is completed by the physician to the best of his/her ability given the circumstances relating to the death. For the 45 cases reviewed, **51%** were autopsied and **48%** were not.



\*\*Please note that dependent on the ME that did the case, the term undetermined may have been used instead of SUID\*\*



## Contributing Factors during the Case Review Process January – December 2010



Above is a synopsis of some of the factors present in these 45 reviewed cases. More in depth details can be found within this report. Percentages are based on rate of occurrence.



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## Contributing Factors Continued

The factors linked with specific health problems are often termed risk factors and can exist at one of three levels. Risk factors most closely associated with the health outcome in question are often termed determinants. Risk factors that play a role further back in the chain of causation are called direct and indirect contributing factors. Risk factors can be described at either an individual or a population level. After closely examining the 45 cases there were a number of reoccurring contributing factors that were identified.

Maternal risk factors that can contribute to adverse birth outcomes:

### **Drug use/smoking**

There are multiple risks to both mother and baby when alcohol or drugs are abused during pregnancy. Smoking, alcohol consumption and the use of illicit drugs place infants at greater risk for poor birth outcomes including infant mortality. Maternal smoking is also linked with increased SIDS risk. Even if the pregnant mother does not smoke, being exposed to second hand smoke puts her baby at risk. During the past couple of years, there has been an increase in drug and alcohol usage based on the toxicology report of the reviewed cases. 18% of the reviewed cases had substance abuse issues during the pregnancy and 50% of those mothers were using illicit drugs.

### **Infections**

Maternal and neonatal infections are a significant cause of morbidity and mortality. Many STDs in women are silent without any signs or symptoms. They can be transmitted to the baby before, during, or after the baby's birth. Harmful effects of STDs and other maternal infections include low birth weight, conjunctivitis, neonatal sepsis, and stillbirth.

### **Maternal Age**

Maternal age can pose an increased risk for an unhealthy pregnancy and birth. Infants of teen mothers and older mothers, for both biological and social reasons, have a higher risk of infant mortality. 53% of the reviewed cases were to mothers over the age of 35.

### **Maternal health**

Maternal health also has an impact on birth outcomes. Mothers with preexisting health conditions are at risk for adverse pregnancy outcomes and/or maternal complications. Some of these conditions include maternal hypertension, cardiovascular diseases, gestational diabetes, asthma, and chronic lung conditions. 51 % of the reviewed cases had pre-existing medical conditions such as asthma, hypertension, diabetes, and obesity. 29% of the mothers had a history of a fetal or infant loss.



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### **Nutrition**

Nutritional care during pregnancy does not only affect you but your unborn baby. Being over or under nourished may place a pregnant woman at risk for an adverse birth outcome. It is important to include iron and folic acid in your diet during pregnancy. Folic acid has been shown to reduce the risk of neural tube defects. According to the American College of Obstetricians and Gynecologist (ACOG) overweight and obese women are at risk for gestational diabetes, high blood pressure, preeclampsia, and cesarean delivery. 33% of the reviewed cases were obese or overweight and 7 % had gestational diabetes.

### **Prenatal Care**

Prenatal care refers to the health care service that a pregnant woman receives during her pregnancy. It is crucial that a pregnant woman not only begins prenatal care early, but also receives continuous care throughout her pregnancy. The goal of prenatal care is not only to provide the best care for the pregnant woman and the unborn child, but also to prepare the mother-to-be for the delivery of a healthy baby. During prenatal visits, tests are performed on both the mother and the baby to assess any potential risks, to treat any maternal or fetal complications, and to monitor the growth and development of the fetus. Women who do not initiate early prenatal care or receive no prenatal care are at an increase risk for an adverse birth outcome. 20% of the reviewed cases received no prenatal care.

### **Stress**

Pregnancy can be a stressful time for many women. Stress is the way that your body and mind react to certain triggers in your environment. Pre- term births and low birth weight are among the most recognized affects of maternal stress during pregnancy. It is important that pregnant women are educated in recognizing when they are stressed, the consequences, and what are some simple techniques they can do to alleviate stress. 71% of the reviewed cases experienced some time type of stressor (such as lack of support system, poverty, and history of abuse) in their life during the pregnancy.

### **Infant risk factors that contribute to infant mortality**

#### **Prematurity**

According to the CDC more than a half million babies in the United States, 1 in 8, are born premature each year. A premature birth is a birth that occurs at least three weeks before a baby's due date. It is also known as a preterm birth (or less than 37 weeks — full term is about 40 weeks). Prematurity is the leading cause of death among newborn babies. Known risk factors for a preterm birth include carrying multiples, having a previous preterm, problems with the uterus or cervix, chronic health problems such as high blood pressure, diabetes, and certain infections during pregnancy, and cigarettes/drug use.



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### **Sudden Infant Death Syndrome (SIDS) / Sudden Unexpected Infant Death (SUID)**

Sudden Infant Death Syndrome is defined as the sudden death of an infant less than 1 year of age that cannot be explained after a thorough investigation is conducted, including a complete autopsy, examination of the death scene, and review of the clinical history. SIDS is the leading cause of death among infants aged 1–12 months, and is the third leading cause overall of infant mortality in the United States. Sudden Unexpected Infant Deaths are defined as deaths in infants less than 1 year of age that occur suddenly and unexpectedly, and whose causes of death are not immediately obvious prior to investigation. 16% of the infant deaths were attributed to SUID.

### **Sleep Related Deaths**

A sleep related infant death is a death that occurs because the baby was either in an unsafe sleep position or environment. Sleep related causes of death include asphyxia and sudden unexpected infant deaths. In 2010, there were a total of 17 sleep related infant deaths in Broward County.

### **Prevalence of Risk Factors Associated with Sleep Related Deaths in Broward County 2010**

<b>Risk Factor</b>	<b>Percentage of Deaths (n=17)</b>
Not in an infant bed	53 %
Not on back to sleep	47 %
Bed sharing	53 %
Second Hand Smoke	6 %



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Sudden Infant Death Syndrome (SIDS) is defined as the sudden death of an infant less than one year of age that cannot be explained after a thorough investigation is conducted, including a *complete autopsy, examination of the death scene, and review of the clinical history.*

SIDS is the leading cause of death among infants aged 1–12 months, and is the third leading cause overall of infant mortality in the United States.

Sudden Unexplained Infant Death (SUID), according to the U.S. Centers for Disease Control and Prevention (CDC), “are deaths that occur suddenly and unexpectedly, and whose manner and cause of death are not immediately obvious prior to investigation.”

A Sudden Unexplained Infant Death (SUID) can be caused by:

- Accidental suffocation and strangulation in bed (ASSB)
- Sudden Infant Death Syndrome (SIDS)
- Metabolic disorders, hypo and hyperthermia, cardiac arrhythmias (prolonged Q-T interval), neglect, homicide or poisoning
- *Unknown causes*

The SIDS rate has been declining significantly since the early 1990s. However, Center for Disease Control (CDC) research has found the decline in SIDS since 1999 can be explained by increasing SUIDS rates (e.g., deaths attributed to overlaying, suffocation, and wedging). This change in reporting or classification of SUID can be explained by changes in how investigations are conducted and how diagnoses of SUIDS are made.

### **Reducing the Risk of Sudden Infant Death Syndrome (SIDS) and Sudden Unexplained Infant Death**

- *Always place babies on their backs to sleep*
- Place your baby on a firm sleep surface, such as a safety-approved crib mattress covered with a fitted sheet
- Keep soft objects, toys, and loose bedding out of your baby’s sleep area
- Avoid letting your baby overheat during sleep
- Keep your baby’s sleep area close to, but separate from, where you and others sleep
- Do not allow smoking around your baby

### **SIDS Prenatal Risk Factors**

- Prenatal consumption of alcohol
- Low birth weight (less than 5 pounds)
- Premature (less than 37 weeks gestation)
- Maternal smoking during pregnancy (3x greater risk of SIDS as smoking may interfere with the development of the fetus’ nervous system)
- Multiple births (e.g., twins, triplets)
- Maternal age younger than 18 years
- Less than 18 months between births



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## Model Behavior

Broward County Community Partnerships Division and Healthy Mothers, Healthy Babies of Broward launched the Best for Broward Babies (B4BB) Project in October 1, 2010. Based on FIMR data and data provided by the Pediatric Autopsy Project, more than 40% of fetal and infant deaths in Broward County were preventable. After analyzing the data, strategies for reduction suggested by project medical /public health professionals included targeted intervention due to infection, SIDS, maternal medical causes and social stressors particularly lack of father involvement. The elements of B4BB consist of an Advisory Committee which assists in guiding the overall program efforts, a Public Awareness Campaign focusing on maternal infection, safe sleep protocols targeted at medical professionals in delivery hospitals as well as the private and public sector, a Fatherhood Mentorship Program to provide direct service to Broward fathers, and a Community Peer Educator program which provides training to lay health advisors who educate the community on important health topics.

The Medical Model Behavior curriculum by First Candle and the National SIDS and Infant Death Program Support Center is recognized as a proven best practice model on a national level. This model helps in providing consistent, accurate and up-to-date education on safe sleep practices to the medical community. Information is received on multiple levels; verbal instruction and physical modeling are two examples. Parents tend to copy practices that they observe from medical professionals in hospital settings. It is important that nurses model behavior that reduce an infant risk of death. When instruction is heard and received, then modeled, there will be a higher level of retention and future use of the information.

Preterm and low birth weight (LBW) infants now comprises a growing proportion of infants dying of SIDS. The American Academy of Pediatrics (AAP) is recommending that the Neonatal Infant Care Unit (NICU) nurses be vigilant about endorsing and modeling supine sleep position and safe sleep guidelines before discharge to ensure families know how to reduce the risk of SIDS. Few hospitals have written policies guiding staff in selecting the safe transition time point to place preterm infants supine.

One of the most crucial roles for nurses is as a patient educator and patient advocate. The Model Behavior curriculum enhances the skills and knowledge of medical professionals not only in SIDS reduction but in safe sleep infant practices using evidence-based information. Model Behavior provides guidelines that will ensure a safe sleep environment for all newborns by implementing AAP (2005) recommendations regarding safe sleep. The information in the curriculum also ensures that all recommendations are modeled and understood by parents/caregivers with consistent instructions given prior to discharge.



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The Model Behavior program has been fully implemented at Broward General Hospital well baby unit and NICU. Broward General is currently working on updating their discharge materials for the families in the NICU. Formal safe sleep policies are being developed by the individual units at this time. In addition to improving the discharge process, Healthy Mothers, Healthy Babies is supplying hospitals with sleep-related materials for patients to take home upon discharge. Hospitals are given 2-3 months of materials and a resource guide for personnel to utilize when needing to replenish supplies in order to ensure sustainability. Memorial Regional Hospital is in the training process using the Model Behavior curriculum. In addition to providing health education to hospitals, the maternal child health educators have been providing safe sleep education to both private and community health providers.

Furthermore, Model Behavior health educators have been working in collaboration with the Medical Examiner's Office on a "Safe Sleep Report" for Broward County. This report will entail a review of the last five years of infant deaths in the County that were autopsied by the ME. This review is specifically looking for the details of: where was the baby found at the time of death; position at the time of death and safe or unsafe sleep environment at the time of death. This report will show, regardless of the final cause of death, whether the sleep environment may have contributed to the death of the baby. This "Safe Sleep Report" will be presented at a safe sleep summit that is being planned for September 2011. The Safe Sleep Summit will bring nurses, physicians and community stakeholders to the table for an educational conference about safe sleep and what they can be doing to help address this serious issue. The goal of the conference is to engage the professional community and increase awareness and consistency throughout Broward County.



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## Summary of Recommendations

The final component of the case review process is the development of recommendations for change based on the case review findings. Although the findings and recommendations vary each year depending on the cases reviewed, the findings can be summarized and categorized into several groups. Please note these recommendations are made by the Case Review Team and are based on FIMR findings.

### **Patient and Community Education**

The medical community and community organizations should increase education on the importance of protected sex, STD and HIV prevention, as well as how maternal infections impact the health of the baby. Attention should be focused on the importance of compliance with the plan of care and early / consistent prenatal care. More education is needed on the importance of proper nutrition and weight gain during pregnancy. Patients need to be educated in a culturally sensitive manner about the signs and symptoms of preterm labor and the need to seek immediate medical attention if they experience these symptoms. Continued education to families regarding safe sleep strategies and SIDS reduction strategies is needed.

### **Family Planning**

Family planning enables couples and individuals to decide freely and responsibly the number and spacing of their children. A woman's ability to space and limit her pregnancies has a direct impact on her health, wellbeing, as well as on the outcome of her pregnancy. There should be an increased effort to promote healthy lifestyles prior to a woman becoming pregnant. There is also a need for more in-depth family planning education and better family counseling prior to a woman being discharged from the hospital.

### **Medical Care Provider Opportunities**

Great attention needs to be focused on educating providers on the importance of Healthy Start screening. Better interconception follow up should be done with providers to conduct overall evaluations on mothers before subsequent pregnancies occur. This should be done in conjunction with more intensive case management and follow up for mothers who are at risk of pregnancy complications. Lastly, there should be closer evaluation of dietary habits and of diet content, as well as more nutritional counseling tailored to each individual's needs by providers.

### **Case Management Services**

Case management services should be offered to women at risk of experiencing complications during/after pregnancy to ensure compliance of medical follow up and recommendations. Home visits during pregnancy should be made to monitor the clinical status in high risk patients. There should be sufficient follow up of home visits for newborns to assess the living situation and ensure pediatric follow up visits are attended.



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### **Safe Sleep Education**

Often parents and care givers make choices about infant sleep practices that place their baby at an increased risk of SIDS and accidental infant death. All parents and caregivers should be informed about SIDS reduction strategies and safe sleep practices and standards. Health care providers should provide safe sleep education and infant sleep messaging that is consistent, clearly understood and uniformly practiced.

### **Grief Support and Bereavement**

Overall, there needs to be a better continuum of providers taking an active part in addressing grief and denial issues. More grief support should be offered at delivery and/or pediatric care facilities. Debrief parents two to three months after the loss to assess understanding of cause/circumstances of death. Grief support and education should be offered to all families who experience a loss including SIDS/safe sleep related deaths.

### **Substance Abuse**

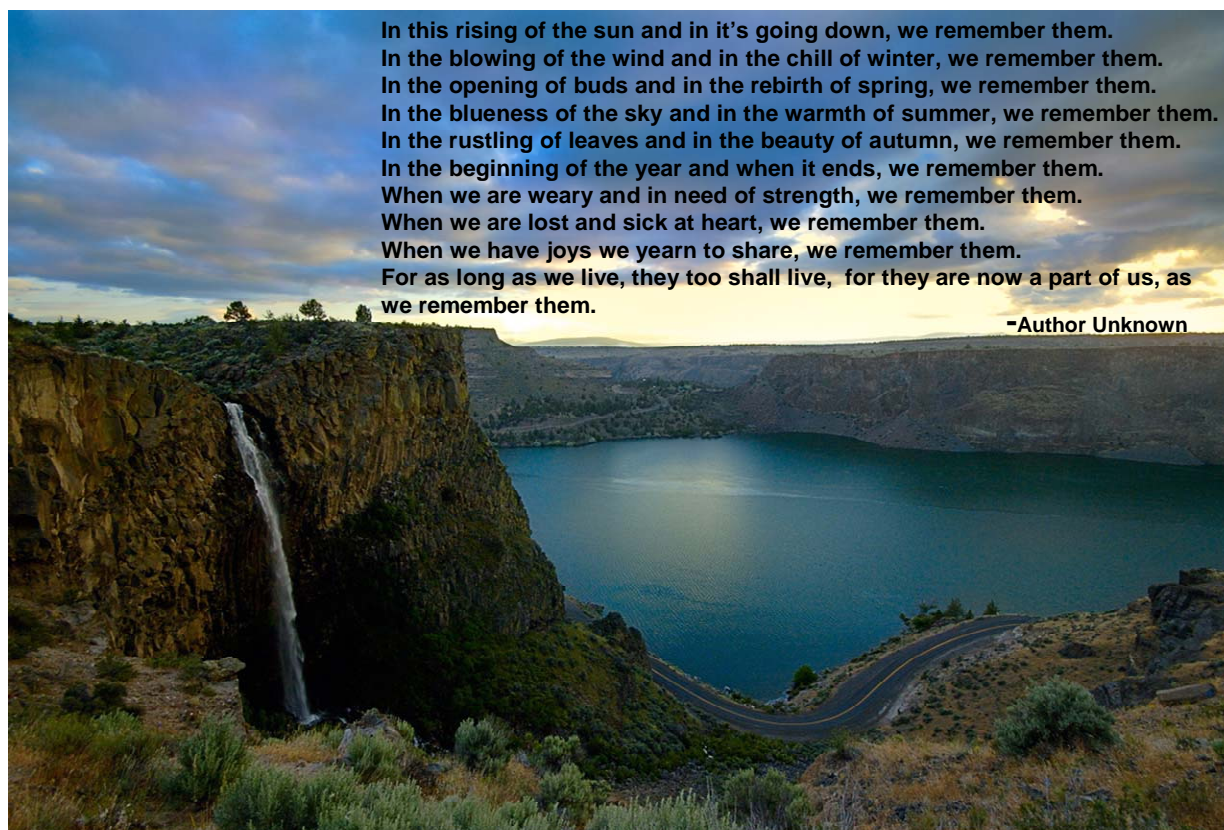
Promote identification of substance abuse issues and better community education on serious risk factors associated with substance abuse to the body especially when pregnant. Provide consistent and ongoing drug screening to all pregnant women. Provide referral and follow up to all patients who are identified with substance abuse issues.

### **Emergency Services/Law Enforcement**

Death scene investigation protocols and documentation of unexpected infant deaths need to be completed. There also needs to be better quality assurance measures put into place to ensure a thorough investigation is completed before a diagnosis is made. Intra-agency communication needs to be improved, especially for those investigating the deaths. Last, there needs to be better protocol on grief counseling after death and after the investigation has occurred. There needs to be more collaboration between law enforcement agencies and the ME office when it comes to investigation of the death scenes of infants. The ME office needs to ensure that they receive all medical records of the infant, including birth records, prenatal records and pediatrician records in order to have all information available prior to a final cause of death being made.



The Forget Me Not event is an annual event that is conducted every year in the month of October. The memorial event was established in 1996 in response to the needs of bereaved families and is produced by Healthy Mothers, Healthy Babies Coalition of Broward. The event provides an opportunity for families to honor the babies who have been lost but not forgotten. It is also a time to connect with other bereaved families.



**In this rising of the sun and in it's going down, we remember them.  
In the blowing of the wind and in the chill of winter, we remember them.  
In the opening of buds and in the rebirth of spring, we remember them.  
In the blueness of the sky and in the warmth of summer, we remember them.  
In the rustling of leaves and in the beauty of autumn, we remember them.  
In the beginning of the year and when it ends, we remember them.  
When we are weary and in need of strength, we remember them.  
When we are lost and sick at heart, we remember them.  
When we have joys we yearn to share, we remember them.  
For as long as we live, they too shall live, for they are now a part of us, as  
we remember them.**

**-Author Unknown**



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## Bereavement Support



Healthy Mothers, Healthy Babies of Broward County is also very unique in one of its other services, bereavement support. Bereavement counseling for families who have lost a baby due to miscarriage, ectopic pregnancy, fetal demise, stillbirth, newborn death or infant death is offered. Bereavement counselors are trained under the guidelines of RTS (Resolve Through Sharing) Bereavement Services. All counselors understand the inexpressible and overwhelming sadness felt during a time of loss. *One-on-one peer support* is offered via telephone or in person to any mother or father who needs help in the

weeks and months following the death of their baby.

HMHB of Broward in conjunction with Memorial Healthcare System offers *Healing Your Heart* a bereavement support group for parents experiencing a fetal or infant loss up to one year of age due to stillborn or newborn death. The group is led by a RTS trained facilitator and meets every second Thursday of the month from 6:30 – 8:00 pm.

A RTS trained bereavement facilitator conducts bereavement sensitivity trainings for medical and social service organizations. For more information visit our website [www.hmhbroward.org](http://www.hmhbroward.org)

**If you are experiencing pain or sorrow we are here for you.**

**Healing Your Heart  
Memorial Pembroke Pines  
7800 Sheridan Street – room 378  
Pembroke Pines, FL 33025**



## Prematurity

Prematurity, birth before 37 weeks gestation, is a significant cause of mortality and a cause for a wide variety of health and developmental problems throughout the lives of surviving infants. Complications include acute and chronic respiratory problems, gastrointestinal, immunologic, neurologic, hearing and vision problems and growth problems. In 2004, 12.5 % of births in the United States were preterm and the rate has increased steadily throughout the prior decade. The annual cost is estimated at \$26.2 billion in 2005.

Traditional methods of study of prematurity have focused on uterine contractility and methods to reduce contractions and stabilize/maturize the infant and transfer the baby to a facility capable of management of premature infants. However, the causes of prematurity are complex, multifactorial with overlapping factors of influence. Many factors occur in combination especially those related to socioeconomic factors and the effects of stress, nutritional and environmental neglect and risk. "... causes may include individual-level behavioral and psychosocial factors, neighborhood characteristics, environmental exposures, medical conditions, infertility treatments, biological factors, and genetics."

An excellent review of prematurity from the Institute of Medicine<sup>1</sup> examines the science behind the numerous factors that have been identified or proposed as contributing to the problem of preterm birth. Included are behavioral and psychosocial contributors. Well known among these are tobacco use (recognized to be among the most prevalent, preventable causes of adverse pregnancy outcome: strongly related to placental abruption, reduced birth weight, and infant mortality.) Alcohol use: heavy alcohol use definitely leads to prematurity. Illicit drug use: 1.) Marijuana: little influence on premature birth but could cause discernible increase risk through the inhalation of combustion products alone. 2.) Cocaine: twofold increase in preterm birth compared to non-users. There may be factors associated with screening bias and many of the users tested had many other risk factors.

A recent meta-analysis<sup>2</sup> on the effects of obesity and overweight issues on the risk of preterm birth combined 84 international studies including 1,095,834 women, finding that the

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<sup>1</sup> Institute of Medicine (US) Committee on Understanding Premature Birth and Assuring Healthy Outcomes: Behrman RE, Butler AS, editors. Preterm Birth: Causes, Consequences, and Prevention. Washington (DC), National Academies Press: 2007.

<sup>2</sup> McDonald, SD, Han Z, Mulla S, Beyene J. "Overweight and obesity in mothers and risk of preterm birth and low birth weight infants: systematic review and meta-analysis." *BMJ/ Online First/bmj.com* BMJ,2010;341:c3428doi:10.1136/bmj.c3428.



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overall risk of preterm birth was similar in overweight and obese women compared to women of normal weight but found that the risk of induced preterm birth was increased in overweight and obese women (relative risk 1.30, 95% confidence interval 1.23 to 1.37). There are studies suggesting an association between low pre-pregnancy weight and preterm birth. Low weight gain during pregnancy is associated with increased risk of preterm birth.

Numerous studies on dietary composition have been done on the relation to preterm birth. Older randomized studies in both developed and developing countries have noted an absence of benefit from dietary supplementation in preventing preterm birth and protein supplementation may actually increase risk (Berkowitz and Papiernik, 1993.) Studies of specific micronutrients including zinc, iron, foliate, vitamin c, fish and fish oil have had mixed results.

Studies of employment during pregnancy have generally found no increased risk of preterm birth but suggest that long work hours, physically demanding work, or other stressful conditions may be associated with an increased risk. Evidence has found a clear pattern of reduced risk of ptb (preterm birth) in association with being employed generally compared with the risk with being unemployed.

Sexual activity during pregnancy in the absence of transmission of certain infections (notably trichomonas and mycoplasma hominis that might increase risk of ptb) has been suggested to reduce the risk of preterm birth (Sayle et al, 2003.) This may reflect selection bias for those remaining sexually active being more physically fit and having more security of a partner who may provide social support, and having absence of contra-indications to remaining active.

Self reporting of douching before and during pregnancy has been associated with increased risk of preterm birth (the OR for preterm birth was 1.9 [95% CI 1.0-3.7]) This may reflect a selection bias of women who are self treating some genital complaint, bacterial vaginosis, etc.

The number of prenatal major life events are associated with gestational age. Three or more major life events in pregnancy are associated with very low birth weight (OR = 3.1.)

Chronic and catastrophic stress exposures have been studied with variable results suggesting an association between stress and preterm birth. Studies following the 9-11 attack showed significantly shorter gestations among non-smoking women whose place of employment was within 2 miles of the World Trade Center during the first trimester of their pregnancy. Other studies following an earthquake showed a significant effect of timing of the earthquake on the length of gestation with women who were earlier in gestation at the time of the quake having the most effect. There has also been a strong correlation between duration of homelessness and shortening of gestation. This may reflect a number of co-variables including inadequate nutrition and general health neglect.

The precise mechanism whereby stress has its effect on shortening gestation is a subject of active research. Maternal stress can cause the release of increased levels of catecholamine's and cortisol which could prematurely activate placental corticotrophin-releasing hormone. In addition to the hypothalamic pituitary axis, stress can alter immune function leading to increased susceptibility to amniotic colonization, infection, and



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inflammation. Evidence is accumulating to suggest that infection may play a key role in the pathogenesis of preterm birth: bacterial vaginosis, asymptomatic bacteruria, STI's and periodontal infections have all been implicated. Stress may also induce high risk coping behaviors.

Despite all of this research showing the effect of life stress on the rate of preterm birth, intervention studies have consistently failed to show a benefit. A meta analysis of 16 trials involving 13,651 women included interventions that ranged from standardized or individualized programs provided by home visiting midwives, nurses, or social workers. The conclusion was that the provision of additional support did not reduce the likelihood of giving birth too early or of delivering an infant who was smaller than expected. Numerous suggestions for this failure include: inaccurate or inadequate screening for high risk (no finding of the predictive value of the screening used on the actual outcomes in the control groups), mismatch between risk and intervention or assistance that was provided, and the social support was inadequate to reverse the long-standing conditions of social deprivation endured by the women at the highest risk.

Additional research on the intendedness of pregnancy showed that having an unintended pregnancy is estimated to increase the odds of delivery of an infant of low birth weight by about 1.2 to 1.8. Although unintended pregnancy occurs among women across the sociodemographic spectrum, it is disproportionately more likely among mothers who are adolescent, unmarried, or over age 40. The child of an unwanted pregnancy (as opposed to the child of a wanted or mistimed pregnancy) is at greater risk of low birth weight, death in the first year of life, abuse, and receiving insufficient resources for optimal early child development (IOM, 1995.)

Women treated with in-vitro fertilization techniques are known to have increased rates of preterm birth related to the increased chance of twin or greater gestation.

In summary: of all factors studied, cocaine use has the strongest evidence of having an adverse effect on the probability of preterm birth. Dietary factors have shown to have mixed benefits including increasing maternal iron, long-chain fatty acids, foliate, vitamin C. Leisure time physical activity has been associated with reduced incidence of preterm birth. Employment has no effect. Vaginal douching is worrisome.

Large numbers of major life events and the experiencing of severe stress both contribute to increased risk of preterm birth, but studies have not shown any beneficial effects of interventions in these situations. Numerous studies on African American women have confirmed that the experience of racism has an effect of increasing the rate of preterm birth.

Much is still to be elucidated about the complex factors that may be involved in preterm delivery. Moving forward, we should cherish women and support them in their healthy lifestyle decisions, improve access to fresh foods, reduce environmental hazards, and continue to try to match interventions to risk if we are to hope for a reduction in the burden of prematurity.

John E. Wright, MD, FAAP  
FIMR Case Review Team Member



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## One Premature Baby's Story



Benjamin "Spider" Reeves

4/28/10-8/17/10

I have traveled the paths of desire, gathering flowers and carrying fire.  
Raising a grave to the reasons behind me. Looking for strength as you lived  
to remind me. I am the fly who dreams of the spider, the path to the web  
became deeper and wider. I dream of the silk that was tangled inside you and  
know that I want to be somewhere beside you, I'm caught in you, I'm  
calling you.

I am crossing the bridges of sorrow, empty with yearning and full of  
tomorrow, the water is high and the bridges are burning. I know I've been  
hurt but I'll keep on returning.

**~Holly Reeves and Max Finkelstein**



## **Optimal Pregnancy Outcome, It Takes More than 9 months**

During the 1980's emphasis was placed on access to early prenatal care as a means to improve maternal and newborn outcomes. Although there are still gaps in this area that require attention, it has also been identified that the period prior to conception is of critical importance for healthy pregnancies.

Many care providers in Women's Health approach preconceptual care only when the client may comment on the desire to start a family. Healthy People 2000 acknowledged preconceptual care as a crucial component to our nation's health. One of the Healthy People 2000 goals included a projected target of 60% of health professionals caring for reproductive age women, provide age appropriate preconceptual care. This recommendation crossed all levels of care providers including dentists, physical therapists, pediatricians, chiropractors, mental health and social workers, not just those specializing in Women's health.

According to the CDC 50% of pregnancies in the United States are unplanned. This demonstrates the gravity and importance of preconceptual care for all reproductive age women and their unborn children. The fetus is most susceptible in the first 4- 10 weeks after conception. This is also the time when many women are unaware of their pregnant state. So their general health, medical and psychosocial status may already have a potential for negative influences.

So what constitutes Preconceptual Care? Preconceptual care encompasses interventions that identify and modify biomedical, behavioral, and social risks to a woman's health and future pregnancies. These interventions include both prevention and management, emphasizing health or risks issues that require action prior to conception or very early in pregnancy for maximal results. Historically, this evaluation focused on maternal factors, although today the paternal influences have more recently been identified as a target population benefiting from preconceptual assessments.

Many OB/GYNs and Nurse Midwives will schedule preconceptual counseling for the couple that expresses interest in beginning a family. Application of the Healthy People 2000 recommendations for all health care providers to provide preconceptual care will facilitate assessment of all persons of reproductive age. Begin the assessment with a comprehensive health history including maternal, paternal and family status. Both maternal and paternal age maybe associated with genetic and other morbidities. A family history of blood clots and recurrent fetal loss are examples of important screening data. Certain ethnic or culture groups are identified as risk populations for specific genetic or metabolic disorders and screening tests should be offered.



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Chronic or acute health conditions (mental/ physical), management, treatments and medications should be evaluated for potential maternal or fetal exposure risks. If you are under medical care for chronic conditions, discuss with you care provider what role they will play during your pregnancy. Stabilization or reversal of chronic conditions prior to attempting a pregnancy will benefit both mother and infant. Immunizations should be reviewed or updated depending on history and risk factors. Discuss any previous exposure or sexually transmitted infection as these may impact fertility or complications for both mother and fetus.

Adequate Folic Acid intake for all women of reproductive age may prevent spinal defects which develop in that crucial early time when the pregnancy may not yet be confirmed. Environmental exposures can also be identified during this evaluation. Home or work place toxic exposure of either parent may contribute to negative outcomes. Be aware of what chemicals, radiation, pesticides or heavy metals which you may be exposed. Avoid handling cat litter; this can be associated with pregnancy loss or poor outcomes. One of the most preventable risk exposures for the fetus is smoking, as well as recreational, over the counter or illicit drug use and alcohol consumption.

Obesity, eating disorders and undernourished women have an increased incidence of fetal/maternal morbidity or mortality. Proper nutrition and maintenance of appropriate BMI for several months prior to conception will contribute to a healthier pregnancy.

Domestic violence continues to be an increased threat for many pregnant women with the events increasing or escalating during the gestational period. Screening for domestic violence may be difficult, but the questions must be asked and followed by continual observation for signs of abuse. Always provide women with resources for shelters and counseling regardless of their screening risk status.

Appropriate intraconceptual spacing according to CDC is 18 months. During this time women can focus on replenishing and maintaining a health status that will contribute to her long term health and future pregnancy outcomes.

The CDC in 2006 identified the Sate of Florida as a “priority need for preconceptual health care”. Preconceptual health management is critical for our state and nation’s health. As healthcare workers, friends, family and fellow citizens we must all take responsibility and advocate for healthy mothers and healthy babies by acknowledging our role in prevention, education as well as empowering the families to make healthy life choices.

Shelia A. Love, MS, ARNP, CNM  
Perinatal Clinical Specialist  
Broward General Medical Center  
Chris Evert Children’s Hospital  
FIMR Case Review Team Member



## **Small Steps to Making a Difference**

The Infant mortality rate is defined as the number of deaths per 1,000 live births of children less than one year of age. The infant mortality rate can be considered a surrogate marker for the nation's health as it is associated with a variety of factors such as maternal health, socioeconomic conditions, quality and access to health care, and public health practices. The infant mortality rate has been declining around the world as well as in the United States. However, State of the World's Mothers annual report that analyzed data from governments, research institutions, and international agencies, reported that each year worldwide an estimate of 2 million infants die within their first 24 hours and the United States has the highest newborn mortality rate amongst the developed countries with the higher newborn mortality rates amongst the United States minorities and disadvantaged groups.

The "back to sleep" campaign began in 1994; it was a way to educate parents, healthcare providers, and other caregivers in order to reduce the risk of infants dying from sudden infant death syndrome. This campaign was associated with a reduction in deaths certified as sudden infant death syndrome by 50% from 1998 to 2005, however, despite this; the infant mortality rate has not changed. In 2005, the United States infant mortality rate was 6.86 infants per 1,000 live births; not significantly different than the rate of 6.89 in 2000, based on the information from linked birth/infant data. This is also true for Broward County Florida, where in 2000, the total number of infants certified as having died of sudden infant death syndrome was 10, which significantly dropped to 1, in 2009, based on vital statistic "fifteen year comparison of sudden infant death syndrome" report. In fact the infant mortality rate in Broward County, Florida fluctuated between 5.8 and 6.6 infant deaths per 1,000 live births from 2000 to 2009. The "apparent" decline in infants certified as having died from sudden infant death syndrome in Broward County with no significant change in infant mortality rate during this same time period indicates that these infants are dying from other causes.

Through the use of death scene reconstruction and thorough investigation of the circumstances, medical examiner offices around the country are now recognizing that these infants are dying due to asphyxia due to overlaying during co-sleeping with adults. There are a minority of cases where the infant is succumbed to other causes other than those cited above such as exposure to a high velocity kitchen fan that likely increased the stress on the infant's respiratory system or where an infant is put to sleep with a milk bottle propped in their mouth with a pillow support which likely impaired the breathing effort of the infant, aspiration, and cardiac arrest during feeding. Other contributory factors such as being a teenage single parent, poor socioeconomic conditions, little or no access to medical care, as well as drug and alcohol abuse are all important considerations.



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Healthy Mothers, Healthy Babies, an infant-support coalition of Broward County has been tirelessly working to offer many services to Broward County residents with a precise goal “...to enhance the health and well being of women, infants and families by improving the community resources and service delivery systems available to them” by targeting the four periods, maternal health/ prematurity, maternal care, newborn care, and infant care that are identified based on perinatal period of risk analysis as essential to infant survival. The Pediatric Autopsy Project was an essential step toward finding common factors behind infant mortality in Broward County, Florida, which revealed that 40% of infant deaths were preventable including those related to unsafe sleep environments or positions. Healthy Mother, Healthy Babies Coalition of Broward County has put forth programs to educate parents and our healthcare providers to raise questions of whether restrictions of adult-infant bed sharing is negatively affecting bonding between the mother and infant.

Bonding can affect the child’s social and cognitive development positively when parents are responsive to an infant’s signals and get up in the middle of the night to feed their hungry infant. Attentiveness to an infant’s signals will aid the infant to develop a sense of security and a positive self-esteem.

As part of the public health system, our goal is to educate parents, healthcare providers, teachers, and anyone who is involved in infant care. Agencies like Healthy Mothers, Healthy Babies of Broward County cannot affect the infant death rate from preventable causes unless our healthcare communities and the public unify their efforts to reduce the number of infants who die from preventable causes. Children will thrive only if their families thrive and if the whole society cares enough to provide for them.

Dr. Khalil Wardak  
Medical Examiner  
Broward County Medical Examiner’s Office  
FIMR Case Review Team Member



### Through my Eyes....

Ah, the sweetness of sleep. Who doesn't love the thought of a restful and peaceful slumber awaiting them after a long hard day? Sleep is necessary for all, a luxury for some and sometimes even deadly to others. You may be wondering how could sleep be deadly? Well, quite easily actually, especially if you are a baby. And that is the case that I have seen unfolding on a more regular basis over the last year in Broward County. As the abstractor for the Fetal Infant Mortality Review project in Broward County, I personally abstract the records of the babies that have been selected for review and it is through this abstraction process, that we have seen more babies dying of preventable sleep related accidents. The tragedy is doubly hard to endure because, yes a baby has died, but just as tragic is that these deaths are 100% preventable.

The abstractions are revealing more babies are co-sleeping with adults and other children and that babies are being placed to sleep in unsafe sleep environments. What exactly is an unsafe sleep environment? According to the American Academy of Pediatrics, infants should room share not bed share, the crib should have a firm mattress, a tight fitting crib sheet, be free of toys, loose bedding and no pillows. Just the baby alone in the crib on their back for each and every sleep. The abstractions of these deaths reveal babies suffocating on stuffed animals, babies entrapped between adult mattresses and walls, babies suffocated on pillows, babies dying after the parent or sibling has overlaid on them during the night. Reviewing these records gives me glimpses into the lives that these babies lived. The pieces of the puzzle are all there. I simply methodically put the pieces all together. But, even when all the pieces are put together, one may not have a true sense of what really happened to the baby. Why did the caretaker make the choice about how the baby would sleep? Was it a matter of lack of resources? Or perhaps, a lack of education? Or, was it merely their personal choice? Sometimes we never know the answer of why, but we do know the answer of how the death occurred.

For me as an abstractor, I see details. The tiniest of details and sometimes it is these details that will lead to the reality of what happened to the baby. And in the end, it is that truth that I seek. For, it is through my eyes, that I see how the life and death unfolded. These are not just case numbers, they are real human beings. They were someone's son, or someone's daughter. And it is for them that I speak. I am the voice for them, the voice that was silenced in just a brief moment. But as a community, we may mourn, but we must also rise above our pain and soldier on in our battle against infant mortality. Because in the end, it is all about the babies!

Jennifer Combs, MSN, ARNP  
Healthy Mothers, Healthy Babies Coalition of Broward, Inc.  
Fetal Infant Mortality Review Program

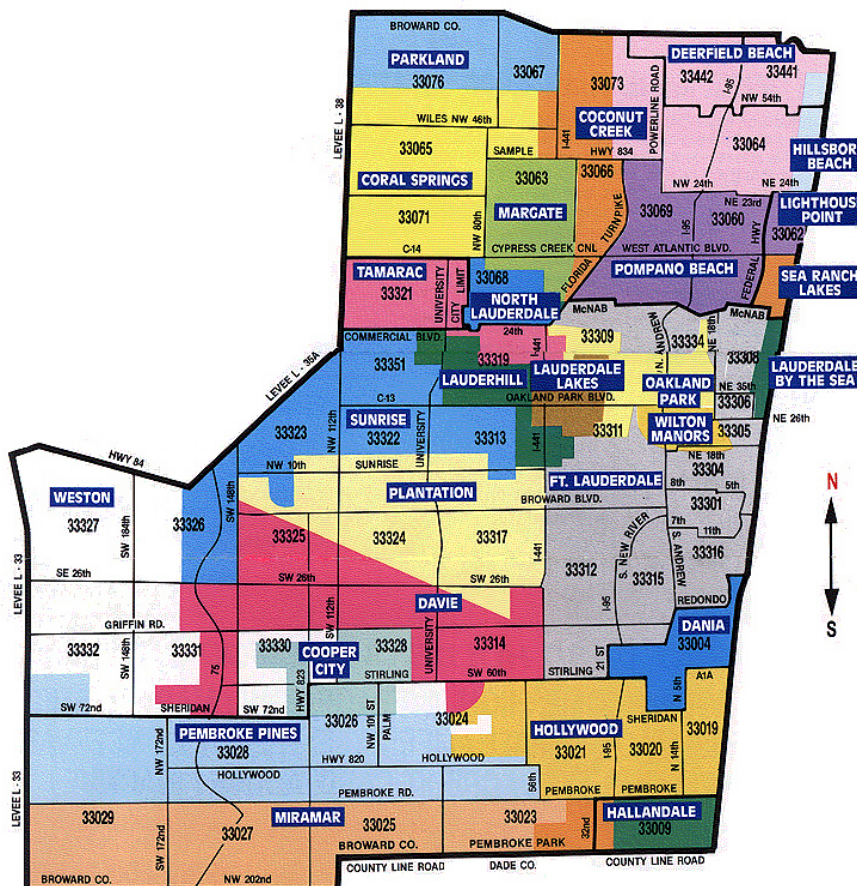


## Zip Codes

There are 53 zip codes in Broward County. The table below shows the top five zip codes for fetal and infant death.

Zip Codes	Total Births	Total Deaths	Black Deaths	White Deaths	Infant Mortality Rates		
					All	Black	White
33311	1155	20	13	0	17.3	37.7	0.0
33313	1001	16	11	2	16.0	38.2	6.4
33023	930	13	6	5	14.0	29.0	23.4
33312	713	11	2	4	15.4	10.8	23.3
33064	680	12	2	2	17.6	19.0	14.6

Source of data: Broward County Health Department Epidemiology Dept .





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## “Her Journey Just Begun”



Don't think of her as gone her journey just begun;

life holds so many facets this earth is only one.

Just think of baby lois as resting from the sorrows of this world  
resting in a place of warmth and comfort where there are no days and years,

Think how baby lois must be wishing that we could know, today,

how nothing but our sadness can really pass away.

And think of her as living in the hearts of those she touched...

for nothing loved is ever lost --- and Chasmyne Lois Jordan was loved so much

Grandmom Lois and Family



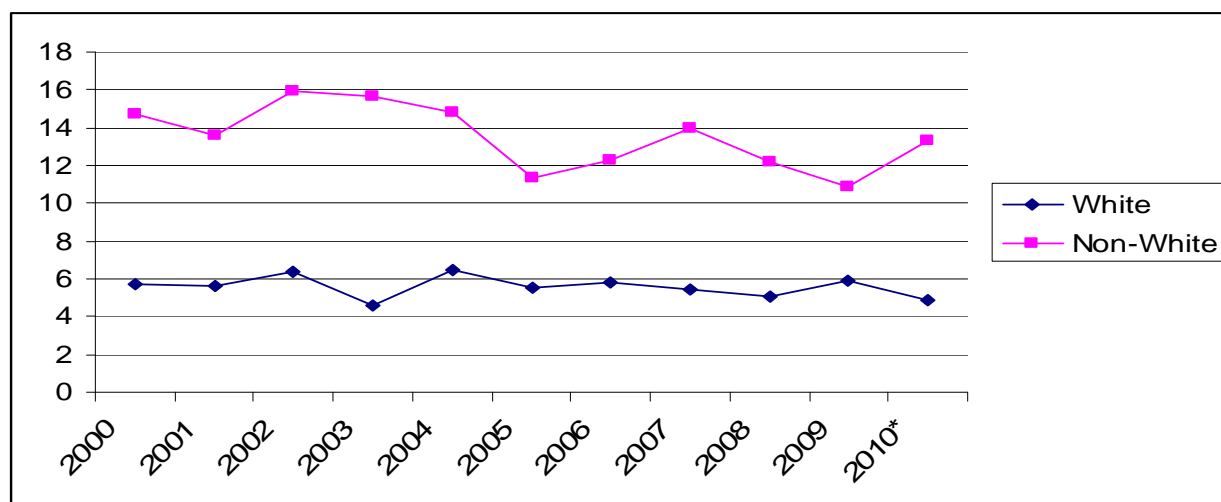
## Broward by the Numbers

The information in this section is based on the birth/death certificates requested from Broward Vital Statistics from January to December 2010. FIMR's review of monthly fetal/infant mortality statistics data gives information describing characteristics of the current deaths.

Broward County is the 2<sup>nd</sup> largest county in the state of Florida with an estimated population of 1,772,060 for the year 2010. Broward County was formed from parts of Palm Beach and Dade counties in 1915. Broward is part of the Southeast Florida Metropolitan area which includes Miami-Dade and Palm Beach Counties. Southeast Florida is the 6<sup>th</sup> largest metropolitan area in the United States. The three largest cities of Broward by population are Fort Lauderdale, Pembroke Pines, and Hollywood. In 2010, there were a total of 21,187 births in Broward County.



### Fetal Mortality Rates

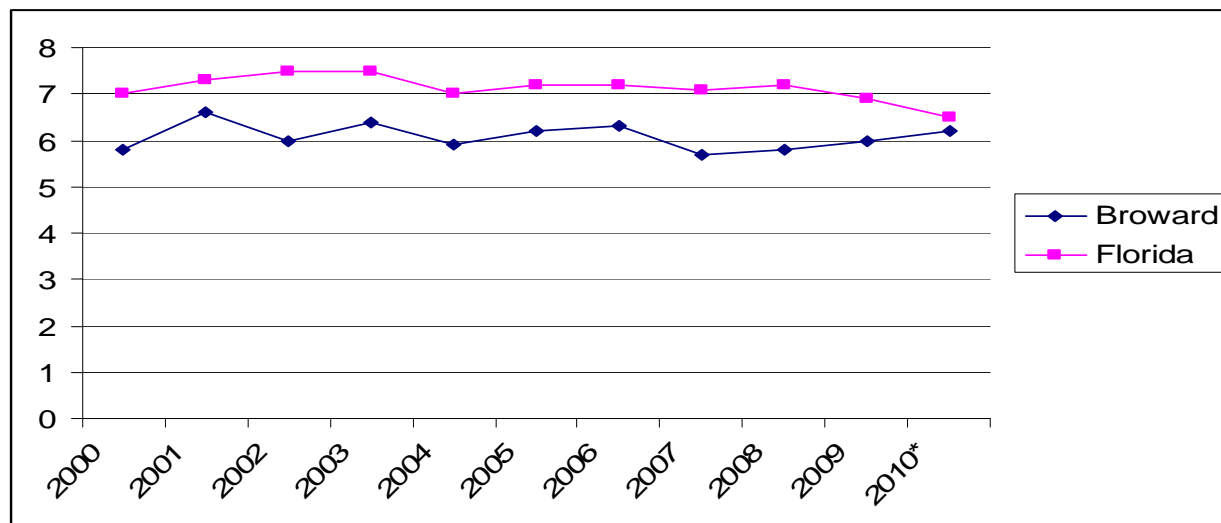


\*Please Note – the information for 2010 is based on provisional data from the Florida Department of Vital Statistics

Since the year 2000, we have observed that the Black fetal mortality ratio in Broward County has been almost 2.5 times greater than the White mortality ratio.



## Infant Mortality Rates



\*Please Note – the information for 2010 is based on provisional data from the Florida Department of Vital Statistics

The infant mortality rate for Broward County has been lower than the infant mortality rate for Florida during the past 10 years.

## Neonatal and Post-Neonatal Mortality Rates

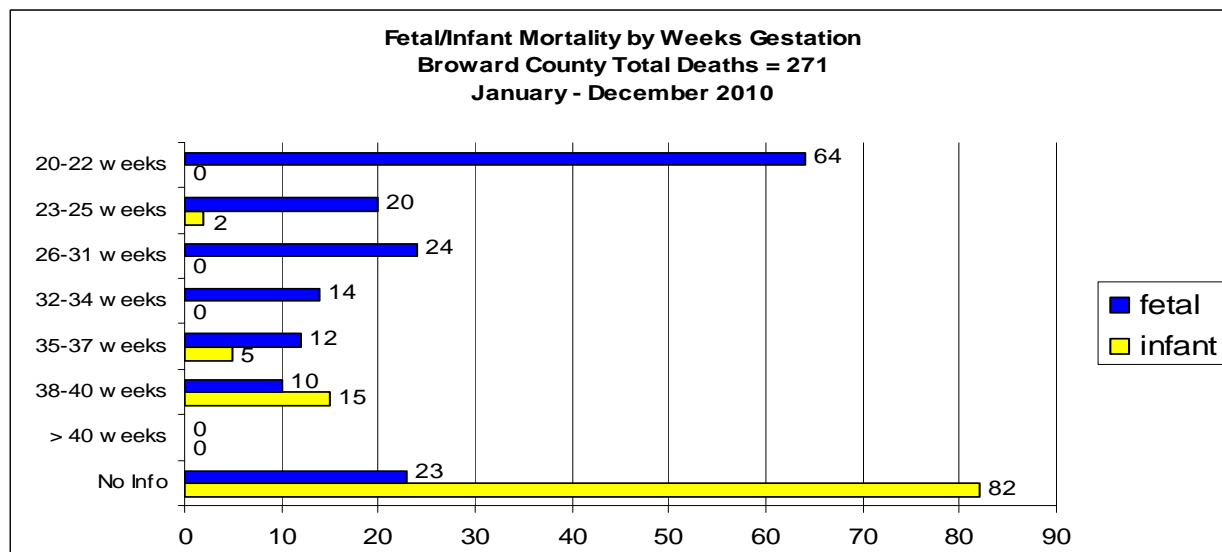
The neonatal mortality rate is the number of deaths of live-born infants that occur before 28 days of life per 1,000 live births. Post neonatal mortality rate is the number of deaths of infants that occur from 28 days through 364 days of life per 1,000 live births. In the table below, you see the death rates for infants broken down into three different categories: total infant death rate, neonatal death rate and post – neonatal death rate.

Infant Death Rates for 2010* in Broward County and the State of Florida						
	Total Infant Death Rate		Neonatal Death Rate		Post Neonatal Death Rate	
	Broward County	State of Florida	Broward County	State of Florida	Broward County	State of Florida
White	4.5	4.8	2.1	3.3	2.4	1.5
Non White	9.8	10.8	6.6	7.3	3.2	3.5
Total	6.2	6.9	4.0	4.4	2.2	2.5

\*Please Note – the information for 2010 is based on provisional data from the Florida Department of Vital Statistics.

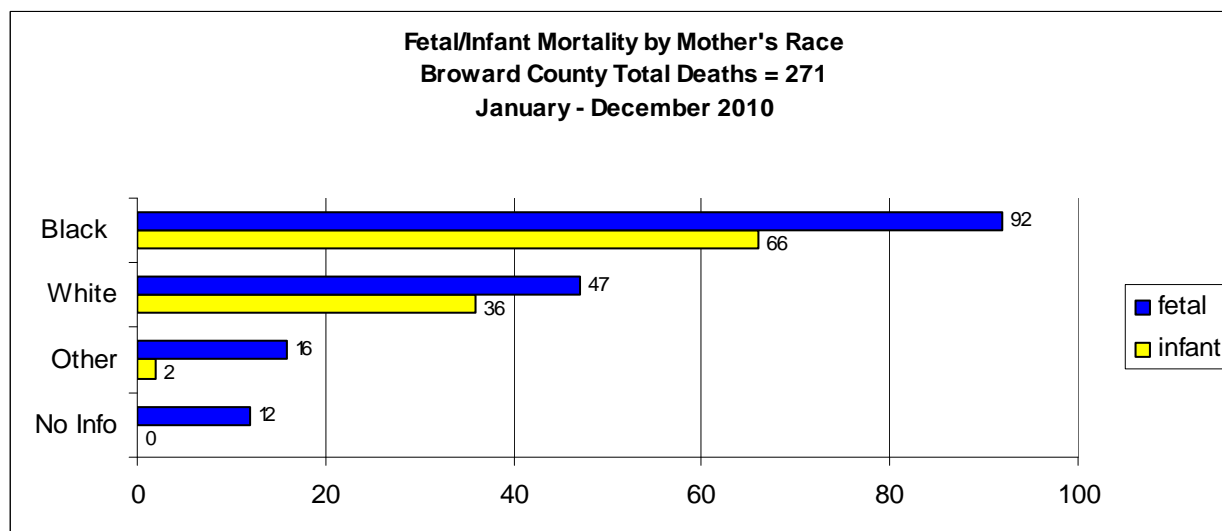


## Gestational Weeks



This table shows the average of baby's gestational age at death. From the data, we observe that most often fetal deaths occurred between **20 – 22 weeks gestation**.

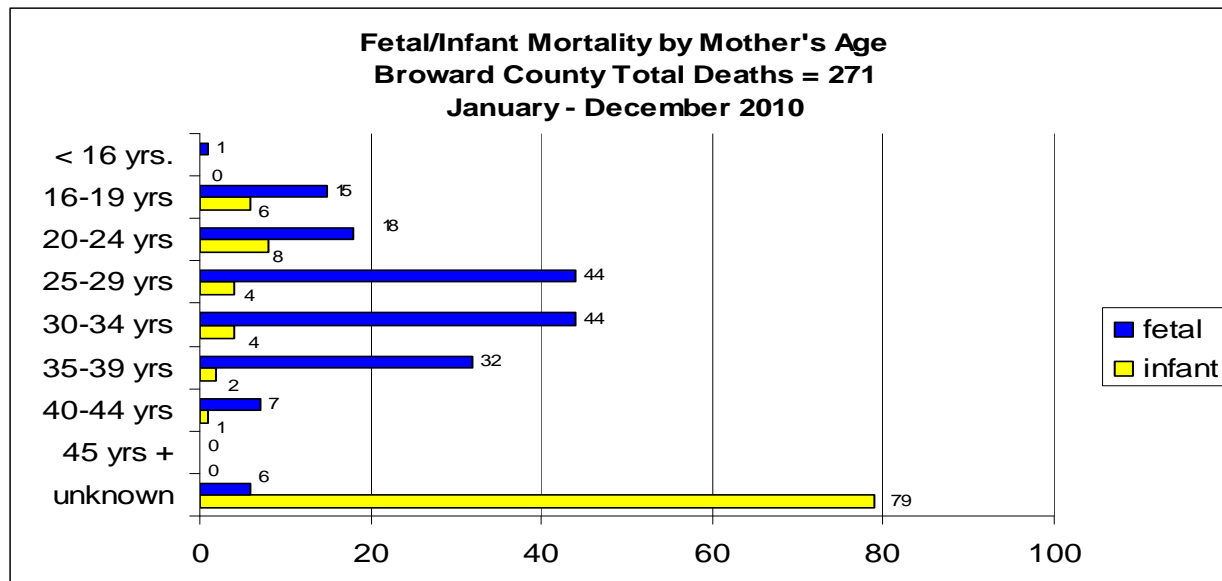
## Racial Group



In this table, we observe that 58% of fetal and infant deaths in Broward County were Black deaths and 31% were White deaths.

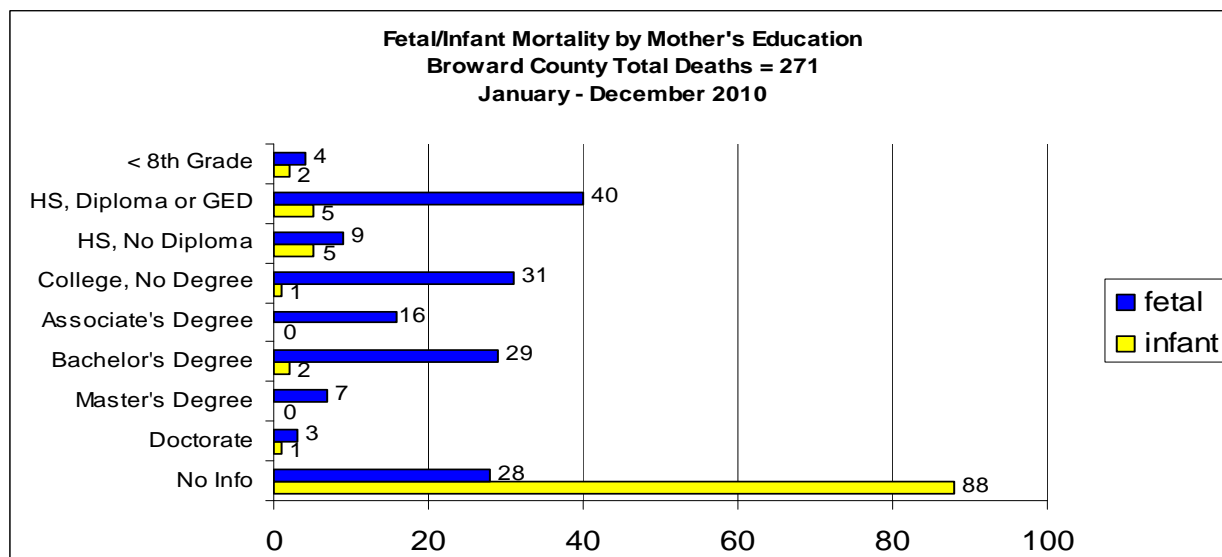


## Maternal Age



This table represents the ages of the mothers who experienced a fetal or infant death in 2010. The largest age group represented is **20 – 24 years**. This age group represents **17%** of deaths this year. The mothers in the **30 – 34** age group represented the second highest group of deaths with **16%** falling in this age group.

## Maternal Education



In this **Figure**, you will see the mother's education level for the death certificates we obtained. The majority of mothers, *we had information for*, have completed high or obtained a GED.



## Prenatal Care

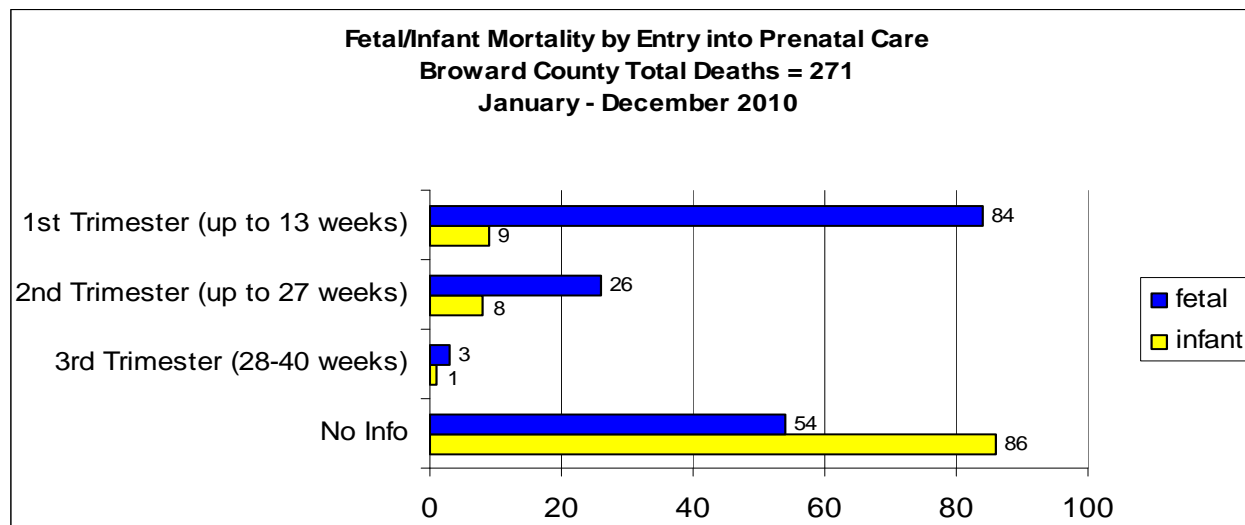
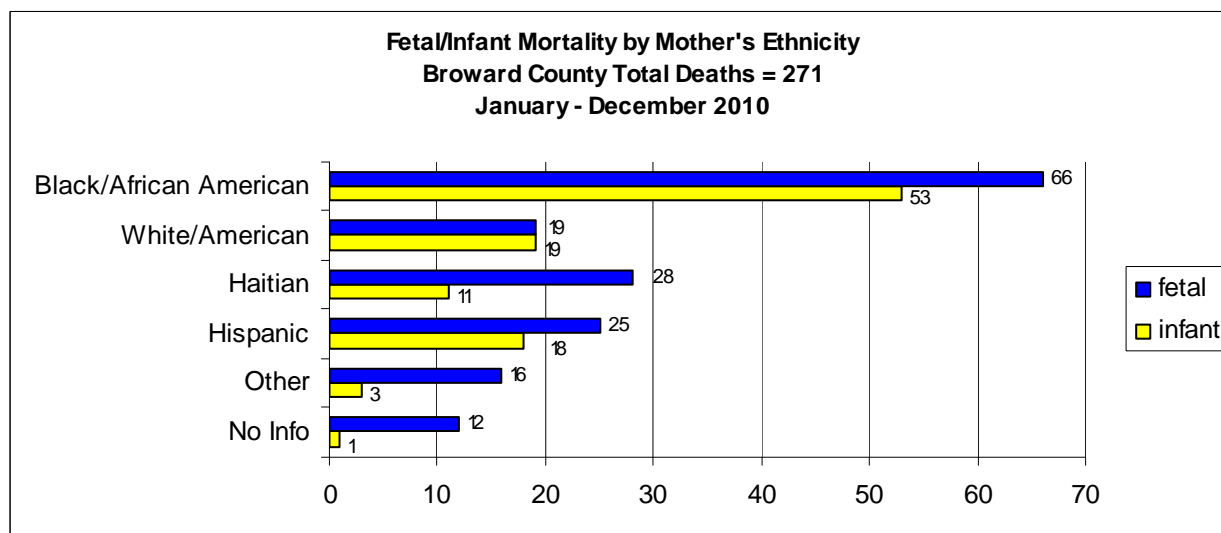


Figure 6 show that 34% of the mothers that experienced a loss entered prenatal care in the first trimester.

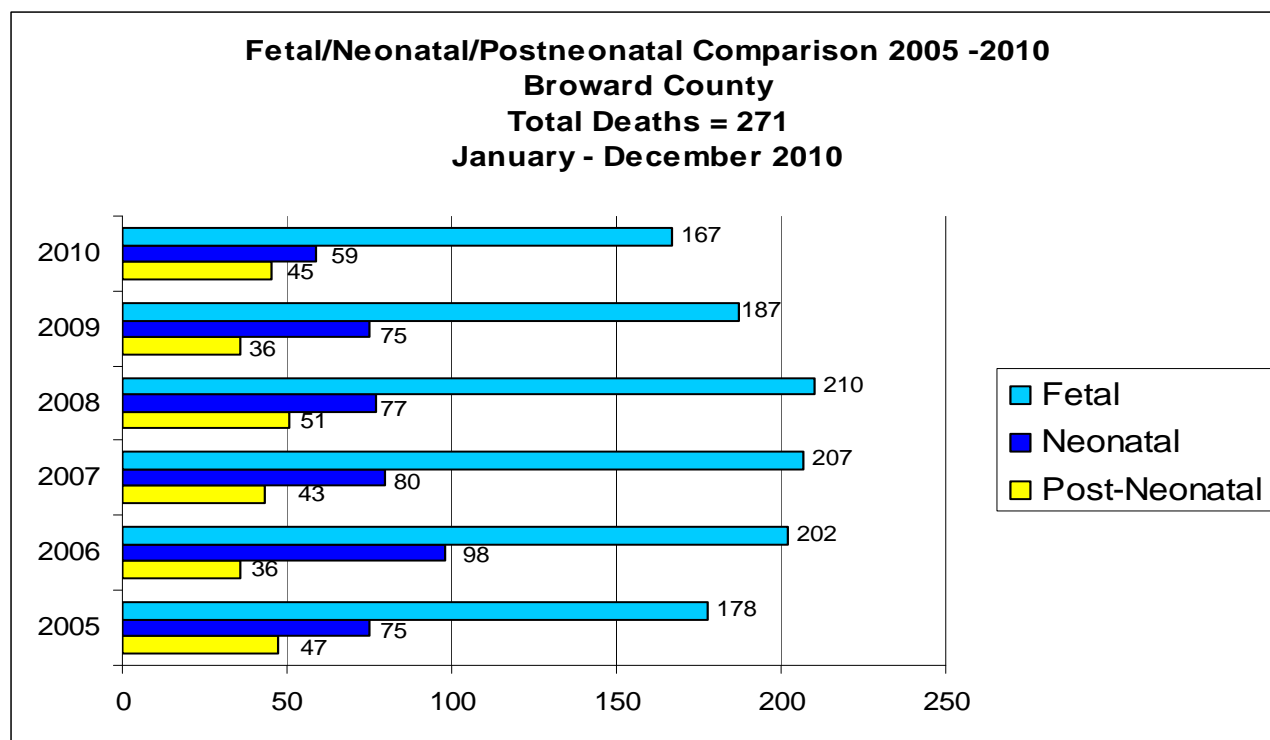
## Ethnicity



In the figure above, you will see the breakdown of maternal ethnicity. **Black/African American** deaths made up the largest portion of deaths. This finding is representative of what is being seen nationally: Black/African American babies are dying at a greater rate than White babies. In Broward County, they currently die at a rate of 2 – 1 over White babies.



## Fetal & Infant Mortality



**Figure 7** shows the overall fetal and infant deaths that occurred in Broward County. There were a total of 167 fetal and 104 infant deaths in 2010. A **Fetal death** is a death that occur 20 weeks gestation and greater with no evidence of life. A **Neonatal death** is the death of an infant that occurs in the first 28 days of life. A **Post – neonatal death** is an infant death that occurs after the 28<sup>th</sup> day through the first year of life.



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## Glossary of Terms, Diagnosis and Procedures

- Asphyxia: a lack of oxygen or excess of carbon dioxide in the body usually caused by interruption of breathing and causing unconsciousness.
- Cardio Respiratory Failure: failure of the ventricles in the heart to contract and the failure of the lungs to perform gas exchange.
- Cord Accident: general term for something having disrupted the blood flow to the baby through the umbilical cord.
- Incidence: a measure of the risk of developing some new condition within a specified period of time.
- Interstitial Pneumonitis: form of pneumonia that involves the interstitial tissues (connective tissues) of the lungs.
- Maternal Condition: maternal conditions affecting the mother's ability to deliver a live, healthy child (examples: incompetent cervix, premature rupture of membranes and chronic disease such as hypertension and diabetes).
- Multiple Organ Failure: the failure of 2 or more essential systems in the body (examples: liver and kidneys fail, etc.).
- Placental Abruption: A condition in which the placenta has begun to separate from the inner wall of the uterus before the baby is born.
- Placental Insufficiency: insufficient blood flow to the placenta during pregnancy.
- Pulmonary Hypertension: abnormally high blood pressure in the arteries of the lung.
- Sepsis: a toxic condition due to spread of bacteria or their products in the body.
- Sudden Unexpected Infant Death: an infant death that occurs suddenly and unexpectedly, and whose manner and cause of death are not immediately obvious prior to investigation.



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## 2010 Case Review Team

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