

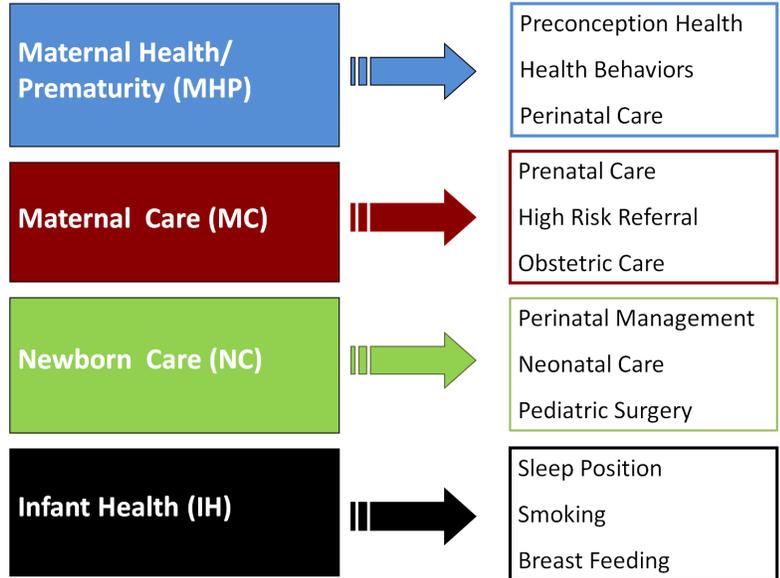


Feto-Infant Mortality in Fort Bend County

About Perinatal Periods of Risk (PPOR):

- The goal is to prioritize and target prevention and intervention efforts
- Based on birth weight and age of death, the PPOR approach partitions fetal and infant deaths into four areas (Figure 1) corresponding to specific intervention points in the health care continuum. These four components have different risk factors, causes of death, and corresponding interventions
- Texas and sub-populations are compared to a state-level reference group (non-Hispanic White women who are at least 20 years of age and have at 13+ years of education) generally known to have better feto-infant mortality outcomes
- Phase I analysis: Differences between the perinatal periods
- Phase II analysis: Periods and populations with the greatest disparities

Figure 1: PPOR Risk Periods: Points of Intervention



NOTE: Due to relatively small excess mortality, the newborn care risk period is not discussed

Phase I: Perinatal Period Comparison

Excess Feto-Infant Mortality in Fort Bend County

2005-2008 feto-infant mortality rates* (F-IMR) were:

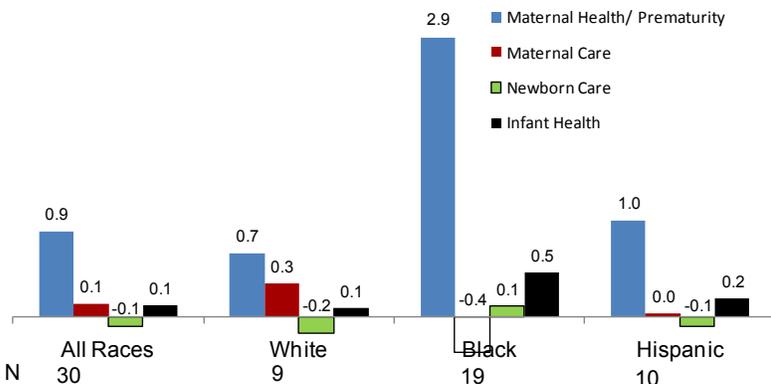
- 6.1/1,000 live births for all races
- 8.2 for Blacks
- 6.2 for Hispanics
- 6.0 for Whites

Excess F-IMR is the difference between the exposure group (i.e. Black, White, Hispanic, teen) and the reference group. The excess F-IMR was (Figure 2):

- 1.0 for all races
- 3.1 for Blacks
- 1.1 for Hispanics
- 0.9 for Whites

- Overall, 77.6% of excess deaths occurred in the Maternal Health/Prematurity risk period. The Maternal Care and Infant Health periods contributed 12.0% and 10.4% each. The F-IMR for Newborn Care was less than the reference group
- Overall, Blacks had the highest excess F-IMR (3.1). **Potentially 38% of Black fetal and infant deaths were preventable**
- Blacks had the highest excess rates in the Maternal Health/Prematurity and Infant Health risk periods among all races/ethnicities examined, with a rate 4 times that of Whites in the Maternal Health/Prematurity period
- For Hispanics, the Maternal Health/Prematurity period was most problematic

Figure 2: Excess Feto-infant Mortality Rates by Race/Ethnicity, Fort Bend County



* F-IMR = number of fetal and infant deaths >=500 grams and >=24 weeks gestation / number of live births & fetal deaths >=500 grams and >=24 weeks gestation

Recommendation

1. Target Maternal Health/Prematurity for all race groups

Area with the Greatest Potential Impact:
Black Maternal Health/Prematurity

Phase II: Maternal Health and Prematurity (MHP)

Maternal Health/Prematurity (MHP) death in Fort Bend County: fetal and infant deaths weighing 500-1,499 grams

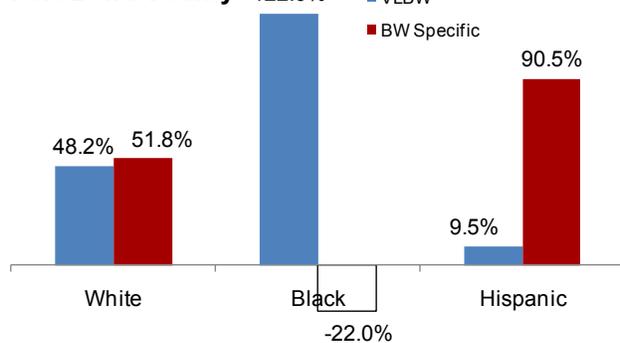
Very Low Birth Weight (VLBW) vs. perinatal mortality:

- A larger percentage of fetio-infant deaths in the MHP period are due to a greater number of VLBW births to Blacks with all deaths to Blacks attributed to VLBW (Figure 3)
- Hispanic and White deaths are primarily due to higher mortality rates at specific birth weight categories (Indicates a higher mortality rate among VLBW babies)

VLBW-Related Modifiable Risk Factors:

- Risk factors contributing most to VLBW:
 - Weight gain less than 15 lbs.
 - Inadequate prenatal care
 - Teen pregnancy
 - Parental smoking
- 17% of VLBW births were attributed to weight gain less than 15 lbs
- Blacks and Hispanics were more likely to:
 - Gain less than 15 lbs. during pregnancy
 - To have inadequate prenatal care
- Teens were more likely to have inadequate prenatal care
- Blacks and Hispanics had greater proportions of teen mothers

Figure 3: VLBW vs. Birth Weight Specific Mortality, Fort Bend County



Note: The negative number for the Black group is the result of the BW specific birth rate which is lower than the state reference group. This also increases the VLBW rate to above 100%.

BW Specific Modifiable Risk Factors for VLBW Births:

- Blacks, Hispanics, and teens were more likely to have inadequate prenatal care
- Hispanics were more likely to have diabetes

Recommendations:

- Reduce the number of women gaining less than 15 lbs.
- Improve access to and use of prenatal care for all race groups and teens
- Reduce rates of teen pregnancy
- Target interventions to Hispanic women that reduce/control diabetes
- Target interventions that reduce parental smoking

Phase II: Infant Health (IH)

Infant Health death in Fort Bend County: infants weighing more than 1,500g at birth and survived to more than 28 days

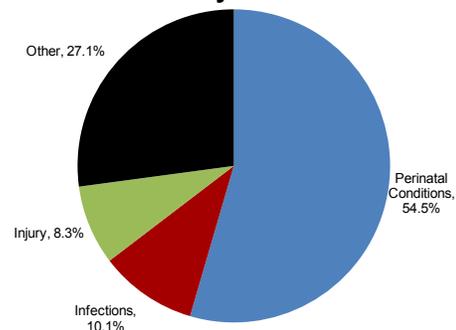
Causes of Infant Health-related death (Figure 4):

- Perinatal conditions (primarily disorders related to short gestation and to complications of pregnancy, labor, and delivery) was the primary cause of death in the IH period representing 54.5% of excess deaths
- Infections and injury also contributed, accounting for 10.1% and 8.3% of excess deaths, respectively
- No breast feeding at hospital discharge, inadequate prenatal care and parental smoking were risk factors contributing most to IH-related infant death

Recommendations:

- Target interventions that reduce prematurity
- Target interventions that reduce infections

Figure 4: Excess IH-Related Death by Race/Ethnicity and Cause, Fort Bend County



- Target interventions that reduce injury
- Target interventions that promote breast feeding
- Improve access to and use of prenatal care
- Target interventions that reduce parental smoking

Phase II: Maternal Care (MC)

Maternal Care risk period death in Fort Bend County: fetal deaths greater than or equal to 1,500 grams

- Blacks and Hispanics were 1.5 times as likely to have gained less than 15 lbs. compared to the reference group
- Hispanics were more likely than the reference group to have diabetes

Recommendations:

- Target interventions aimed at Black and Hispanic women to reduce the number of pregnant women gaining less than 15 lbs.
- Target interventions to Hispanic women that reduce/control diabetes