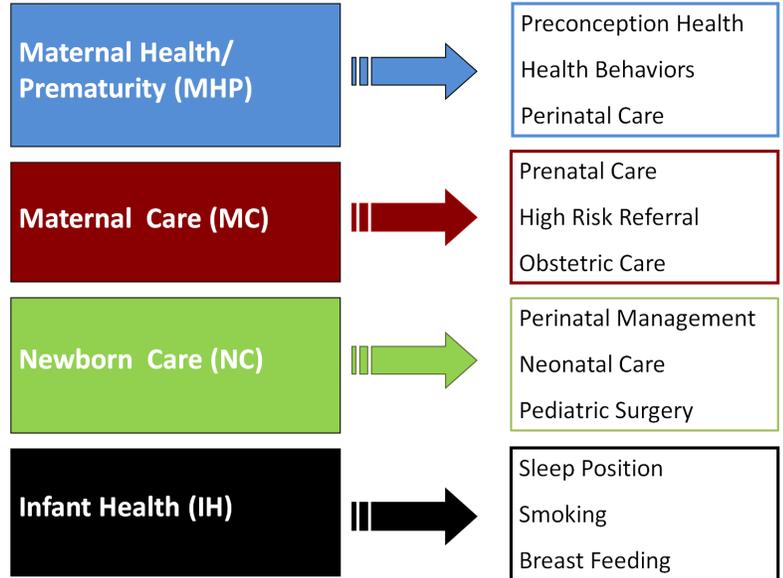


Feto-Infant Mortality in Brazoria County

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

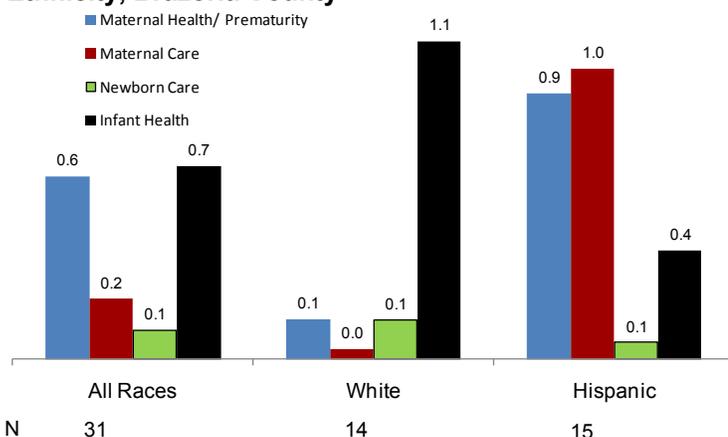
- 6.7/1,000 live births for all races
- 7.5 for Hispanics
- 6.5 for Whites

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):

- 1.6 for all races
- 2.4 for Hispanics
- 1.4 for Whites

Due to low numbers of births and infant deaths among Blacks they could not be included in some analyses

Figure 2: Excess Feto-infant Mortality Rates by Race/Ethnicity, Brazoria 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

- Overall, 41.5% of excess deaths occurred in the Infant Health risk period. The Maternal Health/Prematurity period contributed 39.2%. Maternal Care and Newborn Care periods contributed 13.0% and 6.3%, respectively
- Hispanics had the highest excess F-IMR (2.4). **Potentially 32% of fetal and infant deaths among Whites were preventable**
- The highest excess rates among Hispanics occurred in the Maternal Health/Prematurity and Maternal Care risk periods
- The highest excess rates among Whites occurred in the Infant Health risk period

Recommendation

- Target Maternal Health/Prematurity and Maternal Care to Hispanics
- Target Infant Health to Whites

Areas with the Greatest Potential Impact:

Infant Health among Whites, and Maternal Health/Prematurity and Maternal Care among Hispanics

Phase II: Maternal Health and Prematurity (MHP)

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

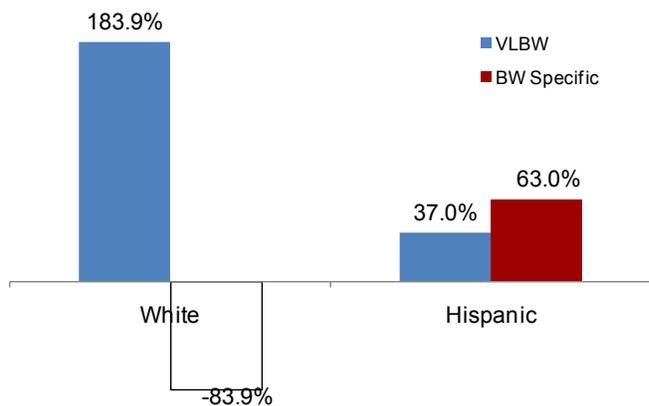
Very Low Birth Weight (VLBW) vs. Birth Weight Specific mortality:

- A larger percentage of fetoinfant deaths in the MHP period are due to a higher fetoinfant mortality (Birth weight specific mortality) among Hispanic VLBW births (Figure 3)
- All excess mortality among Whites in the MHP period were due to a higher number of VLBW births

Modifiable Risk Factors:

- Risk factors contributing most to MHP:
 - Weight gain less than 15 lbs.
 - Inadequate prenatal care
 - Teen pregnancy
 - Less than 13 years of education
- 18% 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
 - Have inadequate prenatal care
 - Be teen mothers
- Teens were more likely to have inadequate prenatal care
- Hispanics were more likely to have diabetes

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



Note: Negative numbers are the result of BW specific birth rates which are lower than the state reference group. This also increases the VLBW rates to above 100%.

Recommendations:

- Reduce the number of women gaining less than 15 lbs.
- Improve access to and use of prenatal care
- Target interventions that reduce teen pregnancy
- Target interventions that reduce/control diabetes among Hispanic women

Phase II: Infant Health (IH)

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

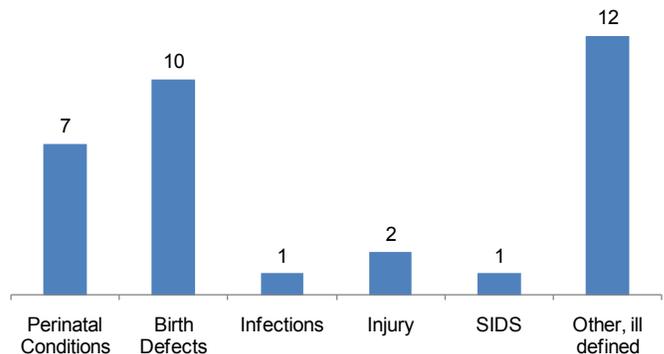
Causes of Infant Health-related death (Figure 4):

- Of the 33 Infant Health-related deaths, birth defects and perinatal conditions (primarily disorders related to short gestation and to complications of pregnancy, labor, and delivery) were the primary causes representing 52% of infant deaths in this period
- Hispanics accounted for 5 of the 10 deaths related to birth defects; Whites accounted for 3
- Whites and Hispanics represented 6 (3 each) of the deaths related to perinatal conditions
- No breast feeding at hospital discharge, inadequate prenatal care and less than 13 years of education were risk factors contributing most to IH-related infant death

Recommendations:

- Target interventions that reduce birth defects

Figure 4: IH-Related Death by Cause, Brazoria County



- Target interventions that reduce prematurity
- Target interventions that promote breast feeding
- Improve access to and use of prenatal care
- Provide opportunities/incentives for continuing education beyond high school for women of child-bearing ages

Phase II: Maternal Care (MC)

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

- Hispanics and Blacks were 1.8 times as likely to have gained less than 15 lbs. compared to the reference group
- Hispanics were more likely to have diabetes

Recommendations:

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