

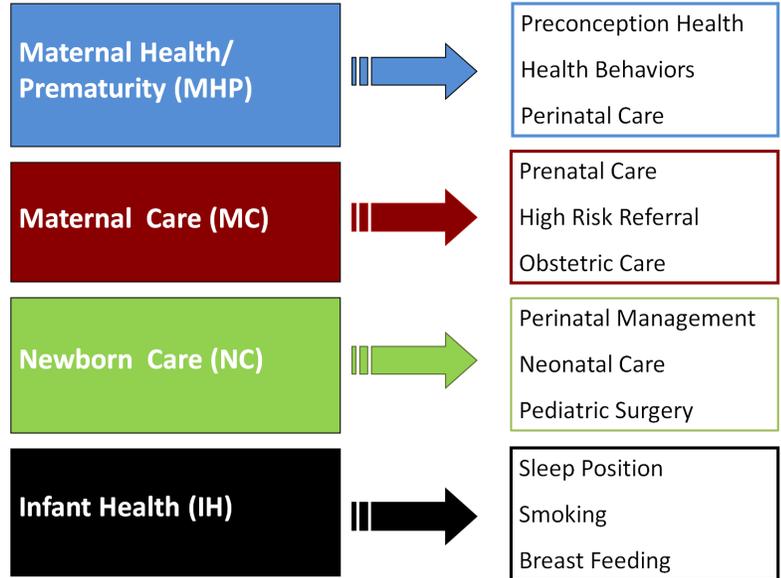


# Feto-Infant Mortality in Galveston County

## 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 Galveston County

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

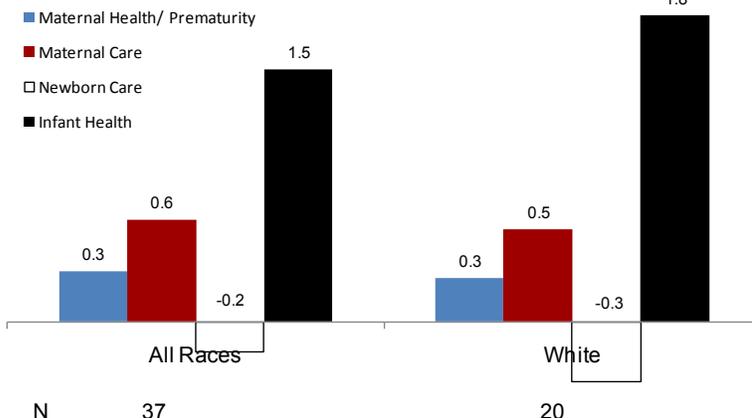
- 7.3/1,000 live births for all races
- 7.3 for Whites

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):

- 2.2 for all races
- 2.2 for Whites

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



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

- Overall, 62.2% of excess deaths occurred in the Infant Health risk period. The Maternal Care and Maternal Health/Prematurity periods contributed another 25.3% and 12.5%, respectively. The F-IMR for Newborn Care in Galveston County was lower than that of the state reference group
- Overall, the excess F-IMR was 2.2. **Potentially 30% of fetal and infant deaths were preventable**
- The highest excess rate among Whites occurred in the Infant Health risk period

### Recommendation

1. Target Infant Health to county residents

**Area with the Greatest Potential Impact:**  
Infant Health to all county residents

\* 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

Data Source: All data originate from Texas Department of State Health Services, Center for Health Statistics, 2005-2008

## Phase II: Maternal Health and Prematurity (MHP)

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

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

- A larger percentage of feto-infant deaths in the MHP period are due to a greater number of VLBW births with all deaths to Whites and at the county level attributed to VLBW (Figure 3)
- Birth weight specific mortality is an indication of the mortality rate among VLBW babies. Birth weight specific deaths rates among VLBW babies were lower in Galveston County than for the state reference group

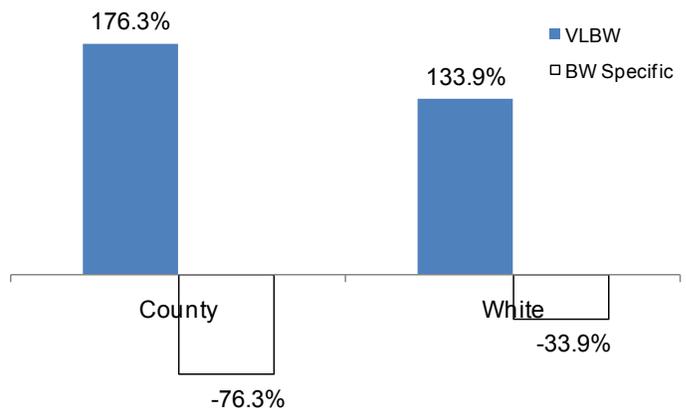
**VLBW-Related Modifiable Risk Factors:**

- The risk factors contributing most to VLBW:
  - Weight gain less than 15 lbs.
  - Less than 13 years of education
- 14% of VLBW births were attributed to weight gain less than 15 lbs
- Blacks, Hispanics, and teens were more likely to gain less than 15 lbs. during pregnancy

**BW Specific Modifiable Risk Factors for VLBW Births:**

- Premature rupture of membranes contributed to 26% of BW specific deaths

**Figure 3: VLBW vs. Birth Weight Specific Mortality, Galveston 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.
- Provide opportunities/incentives for continuing education beyond high school for women of child-bearing ages
- Target interventions that reduce rates of premature rupture of membranes

## Phase II: Infant Health (IH)

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

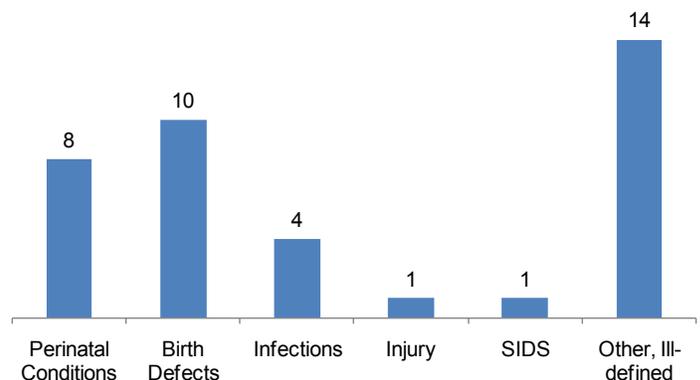
**Causes of Infant Health-related death (Figure 4):**

- Of the 38 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 47% of infant deaths in this period
- Frequencies of birth defects were evenly distributed by race/ethnicity (Black=3, Hispanic=3, White=4)
- Whites represented 6 of the 8 deaths due to perinatal conditions
- Parental smoking and no breast feeding at hospital discharge may have contributed to deaths in this period

**Recommendations:**

- Target interventions that reduce birth defects

**Figure 4: IH-Related Death by Cause, Galveston County**



- Target interventions that reduce prematurity
- Target interventions that reduce parental smoking among women of child-bearing ages
- Target interventions that promote breast feeding

## Phase II: Maternal Care (MC)

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

- Weight gain less than 15 lbs. and parental smoking was more likely among Galveston County mothers than for the reference population
- White and teen mothers were more likely to smoke while pregnant

**Recommendations:**

- Target interventions to reduce the number of pregnant women gaining less than 15 lbs.
- Target interventions that reduce parental smoking among women of child-bearing ages