

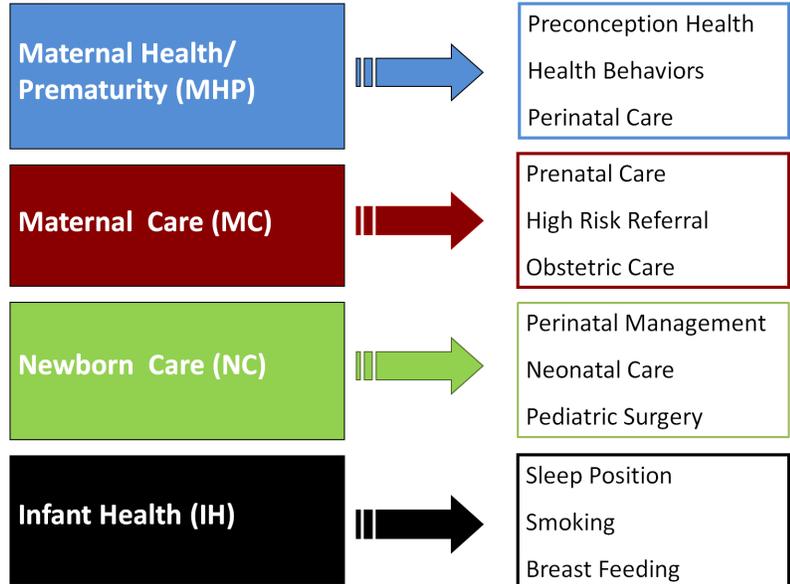


# Feto-Infant Mortality in Health Service Region 9/10

## 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 HSR 9/10

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

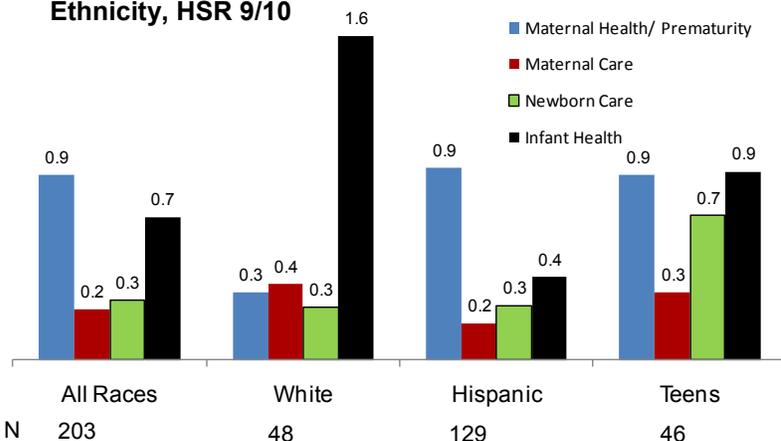
- 6.9/1,000 live births for Hispanics
- 7.6 for Whites
- 7.9 for teens

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):

- 1.8 for Hispanics
- 2.5 for Whites
- 2.9 for teens

Due to low numbers of births and infant deaths among Blacks in HSR 9/10, they could not be included in some analyses

**Figure 2: Excess Feto-infant Mortality Rates by Race/Ethnicity, HSR 9/10**



- Overall, 42.1% of excess deaths occurred in the Maternal Health/Prematurity risk period. The Infant Health period contributed another 32.6% of excess deaths. Maternal Care and Newborn Care periods contributed 11.6% and 13.7% respectively
- Overall, teens had the highest excess F-IMR (2.9). **Potentially 37% of teen fetal and infant deaths were preventable**
- Whites had the highest excess rate in the Infant Health period; 4 times as high as the Hispanic rate
- For teens, 31.5% of excess deaths occurred in the Maternal Health/Prematurity, and 32.2% occurred in the Infant Health risk periods
- For Whites, 62.1% of excess deaths occurred in the Infant Health risk period
- For Hispanics, 52.4% of excess deaths occurred in the Maternal Health/Prematurity risk period

### Recommendations

1. Target Maternal Health/Prematurity and Infant Health for teens
2. Target Infant Health for Whites
3. Target Maternal Health/Prematurity for Hispanics

### Areas with the Greatest Potential Impact:

Teen pregnancy and White Infant Health

\* F-IMR = number of fetal and infant deaths  $\geq$ 500 grams and  $\geq$ 24 weeks gestation / number of live births & fetal deaths  $\geq$ 500 grams and  $\geq$ 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 HSR 9/10: fetal and infant deaths weighing 500-1,499 grams**

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

- Compared to the reference group, all deaths among Whites, Hispanics, and teens are attributed to a greater proportion of VLBW births (Figure 3)
- Birth weight specific mortality indicates a higher mortality rate among VLBW babies. All race groups and teens had BW specific births lower than the reference group

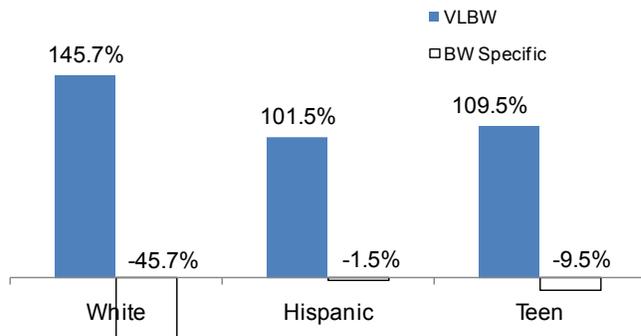
**VLBW-Related Modifiable Risk Factors:**

- Risk factors contributing most to VLBW:
  - Weight gain less than 15 lbs.
  - Teen pregnancy
  - High parity (i.e. number of pregnancies) for age
- 18% 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
  - To have inadequate prenatal care
  - To have high parity for their ages
- Blacks and Hispanics had greater proportions of teen mothers

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

- Inadequate prenatal care contributed to 10.2% of VLBW feto-infant deaths

**Figure 3: VLBW vs. Birth Weight Specific Mortality, HSR 9/10**



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%.

- Birth defects also figured prominently
- Blacks, Hispanics, and teens had higher rates of inadequate prenatal care

**Recommendations:**

- Improve access to and use of prenatal care for all race groups and teens
- Stress importance of early entry into care
- Target interventions that reduce high parity for age
- Reduce the number of women gaining less than 15 lbs.
- Target interventions that reduce birth defects
- Reduce rates of teen pregnancy

## Phase II: Infant Health (IH)

**Infant Health death in HSR 9/10: infants weighing more than 1,500g at birth and survived to more than 28 days**

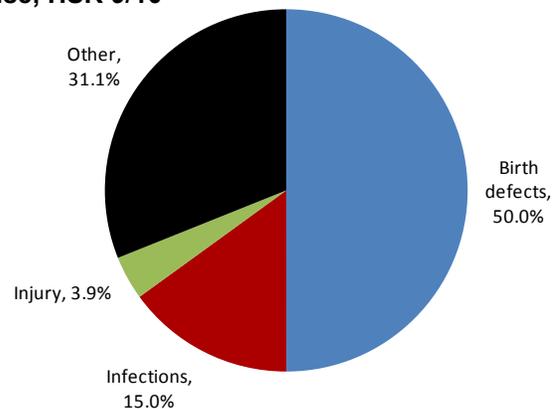
**Causes of Infant Health-related death (Figure 4):**

- Birth defects were the primary cause of death in the IH period accounting for 50% of excess deaths
- Infections represented 15.0% of excess deaths
- Injury accounted for another 3.9% of excess deaths
- No breast feeding at hospital discharge, inadequate prenatal care, no first trimester 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
- Improve access to and use of prenatal care
- Target interventions that promote breast feeding
- Stress importance of early entry into care

**Figure 4: Excess IH-Related Death by Race/Ethnicity and Cause, HSR 9/10**



- 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 HSR 9/10:**

**fetal deaths greater than or equal to 1,500 grams**

- Blacks were 2.1 and Hispanics 1.9 times as likely to have gained less than 15 lbs. compared to the reference group
- Black mothers were more likely than the reference group to smoke during their pregnancy

**Recommendations:**

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