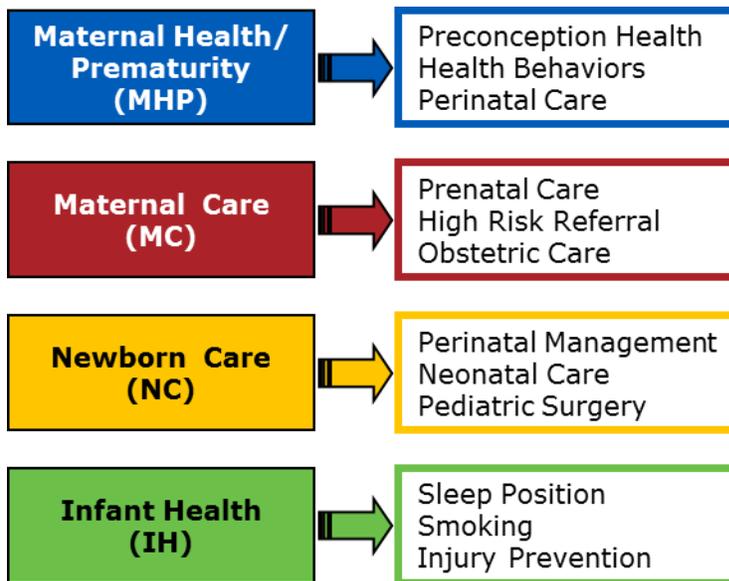


# Feto-Infant Mortality in Public Health Region 2/3, 2010-2014

## About Perinatal Periods of Risk (PPOR)

- Based on birth weight and age at death, fetal and infant deaths are partitioned into four corresponding risk periods
- These four periods have different risk factors and causes of death, and hence, different opportunities for prevention
- These four risk periods represent distinct points of intervention in the health care continuum (Figure 1)
- Region 2/3 and specific study populations are compared to a state-level reference group generally known to have better feto-infant mortality outcomes (i.e., non-Hispanic White women who are 20+ years of age and have 13+ years of education)

Figure 1: PPOR Risk Periods Points of Intervention



## Phase I: Perinatal Period Comparison

### Excess Feto-Infant Mortality in Texas

Feto-infant mortality rates\* (F-IMR) were:

- 6.7/1,000 for White mothers
- 12.2 for Black mothers
- 7.1 for Hispanic mothers
- 8.7 for teen mothers

Excess F-IMR is the gap in F-IMR between the study population (i.e., Black, White, Hispanic or teens) and the reference group. Total excess F-IMR estimates were (Figure 2):

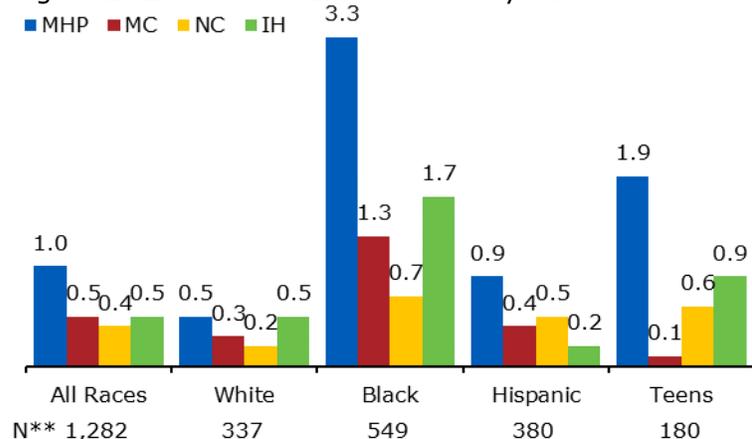
- 1.5 for White mothers
- 7.0 for Black mothers
- 1.9 for Hispanic mothers
- 3.5 for teen mothers

- Black mothers had the highest excess F-IMR in all of the 4 risk periods
- Potentially 57% of Black fetal and infant deaths were preventable (i.e., excess fetal and infant deaths)
- For Black mothers, 47% of all excess feto-infant deaths occurred in the MHP risk period
- For teen mothers, 81% of excess feto-infant deaths occurred in the MHP and IH risk periods

### Recommendations

- Target interventions to Black populations for MHP, MC and IH-related deaths
- Target interventions to teen mothers for MHP and IH-related deaths
- Target MHP-related deaths among Hispanic populations
- Target MHP and IH-related deaths among White populations

Figure 2: Excess Feto-Infant Mortality Rates



\*F-IMR = # of fetal & infant deaths  $\geq$ 500g and  $\geq$ 24 weeks / # of live births & fetal deaths  $\geq$ 500g and  $\geq$ 24 weeks  
 \*\*N = # of excess fetal and infant deaths

### Area with the Greatest Potential Impact Black Maternal Health/Prematurity Risk Period



Texas Department of State Health Services

## Phase II: Maternal Health and Prematurity (MHP) Period of Risk

The MHP risk period includes very low birth weight (VLBW) fetal and infant deaths (<1,500g)

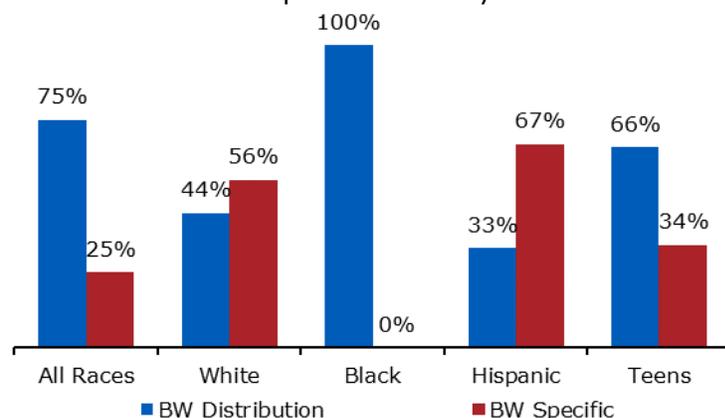
### Birth Weight (BW) Distribution vs. Birth Weight (BW) Specific Mortality (Figure 3)

- The majority of MHP-related excess deaths were due to a greater number of VLBW births among the study populations compared to the reference group (a difference in BW distribution)
- For White and Hispanic mothers, the majority of excess deaths were attributable to a higher mortality rate among VLBW births compared to the reference group (a difference in BW specific mortality)

### BW Distribution Modifiable Risk Factors

- Weight gain less than 15 lbs. accounted for 17% of VLBW births
- Inadequate prenatal care contributed to 6% of VLBW births
- White, Black and Hispanic mothers were more likely to gain less than 15 lbs. compared to the reference group
- All study populations were more likely to have inadequate prenatal care compared to the reference group

Figure 3: Excess MHP-Related Death Attributable to BW Distribution vs. BW Specific Mortality



### BW Specific Modifiable Risk Factors

- Premature rupture of the membranes and infant transfer contributed the most to risk of VLBW infant death (3% each)
- Receipt of prenatal steroids was associated with a 37% reduced risk of infant death

### Recommendations

- Reduce the number of women gaining less than 15 lbs. during pregnancy
- Increase access to prenatal care
- Target interventions for women with premature rupture of the membranes and transferred infants
- Increase access to prenatal steroids

## Phase II: Infant Health (IH) Period of Risk

The IH risk period includes infants weighing  $\geq 1,500$ g at birth and surviving  $\geq 28$  days

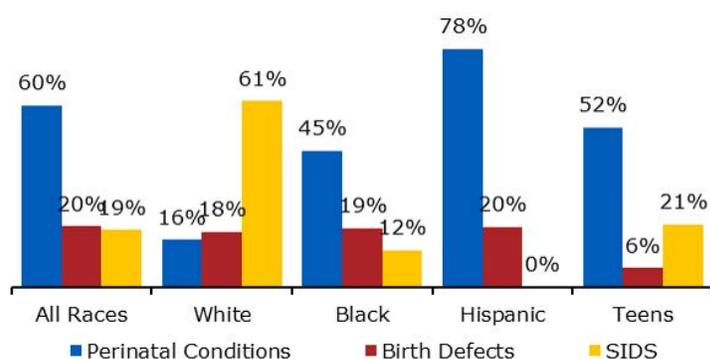
### Causes of IH-Related Death (Figure 4)

- Overall, perinatal conditions were the primary cause of death in the IH risk period accounting for 60% of excess deaths
- In Phase I, Black infants and infants born to teen mothers had the greatest excess mortality in the IH risk period
- Birth defects contributed to 19% of excess deaths among Black infants and 18% among White infants
- SIDS accounted for 61% of excess deaths among White infants and 21% among infants born to teen mothers

### IH-Related Modifiable Risk Factors

- 1% of infant deaths were attributable to smoking during pregnancy

Figure 4: Excess IH-Related Death by Cause



### Recommendations

- Reduce prematurity among all study populations
- Reduce birth defects among Black infants and White infants
- Reduce SIDS among White infants and infants born to teen mothers
- Reduce parental smoking