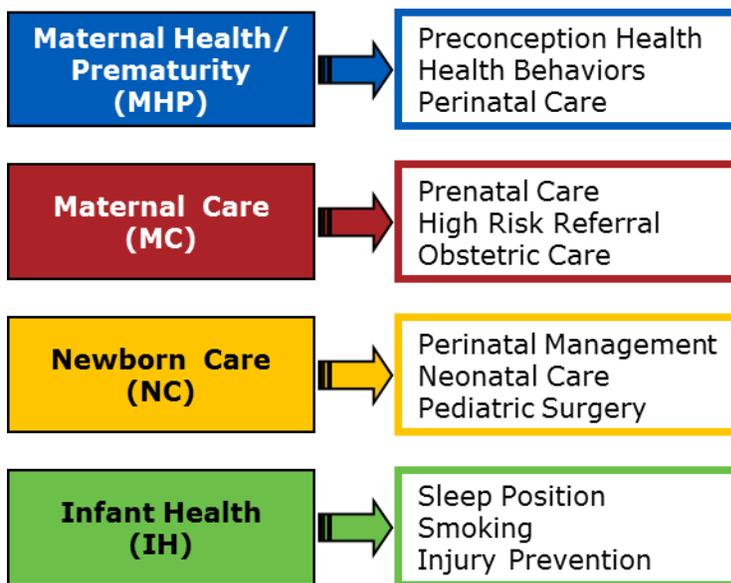


# Feto-Infant Mortality in Public Health Region 8, 2010-2014

## 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 8 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:

- 6.5/1,000 for White mothers
- 9.6 for Black mothers
- 6.7 for Hispanic mothers
- 7.3 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):

- 1.3 for White mothers
- 4.4 for Black mothers
- 1.5 for Hispanic mothers
- 2.0 for teen mothers

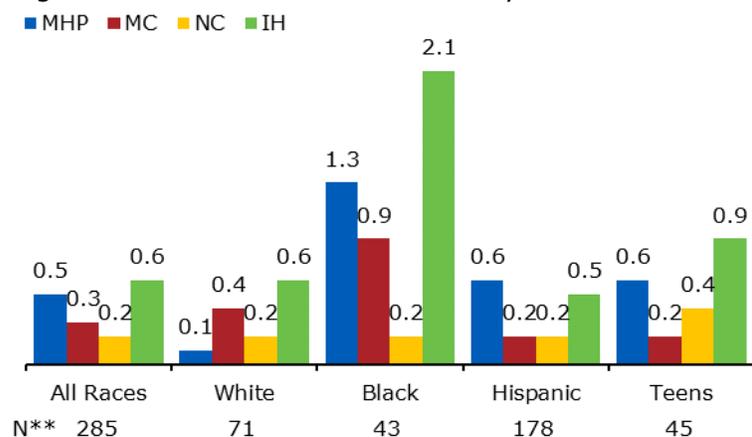
- Black mothers had the highest excess F-IMR in 3 of the 4 risk periods
- Potentially 46% of Black fetal and infant deaths were preventable (i.e., excess fetal and infant deaths)
- For Black mothers, 47% of all excess feto-infant deaths occurred in the IH risk period
- For teen mothers, 72% of excess 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 IH-related deaths among White populations

### Area with the Greatest Potential Impact Black Infant Health Risk Period

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



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## 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)

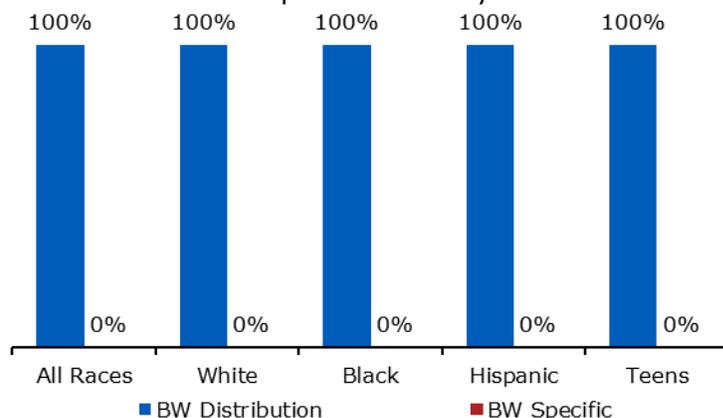
### Birth Weight (BW) Distribution vs. Birth Weight (BW) Specific Mortality (Figure 3)

- 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)
- All study populations had lower mortality rates among VLBW births than the reference population; for these populations, all excess deaths were potentially attributable to a greater number of VLBW births

### BW Distribution Modifiable Risk Factors

- Weight gain less than 15 lbs. accounted for 18% of VLBW births
- Inadequate prenatal care contributed to 6% of VLBW births
- All study populations 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

- Congenital anomalies accounted for 3% of VLBW infants deaths
- White infants had higher rates of congenital anomalies than the reference group

### Recommendations

- Reduce the number of women gaining less than 15 lbs. during pregnancy among all study populations
- Increase access to and utilization of prenatal care among all study populations
- Reduce congenital anomalies among White infants

## 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

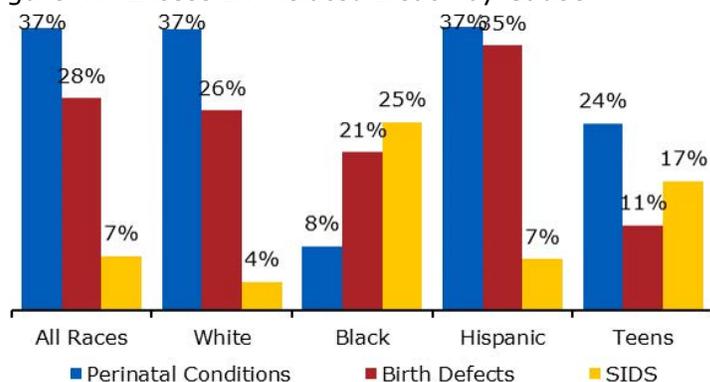
### Causes of IH-Related Death (Figure 4)

- Perinatal conditions were the primary cause of death in the IH risk period accounting for 37% of overall excess deaths
- In Phase I, Black infants and infants born to teen mothers had the greatest excess mortality in the IH risk period
- SIDS accounted for 25% of excess deaths among Black infants and 17% among infants born to teen mothers
- Birth defects contributed to 21% of excess deaths among Black infants and 26% among White infants

### 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 SIDS among Black infants and infants born to teen mothers
- Reduce birth defects among Black infants and White infants
- Reduce parental smoking