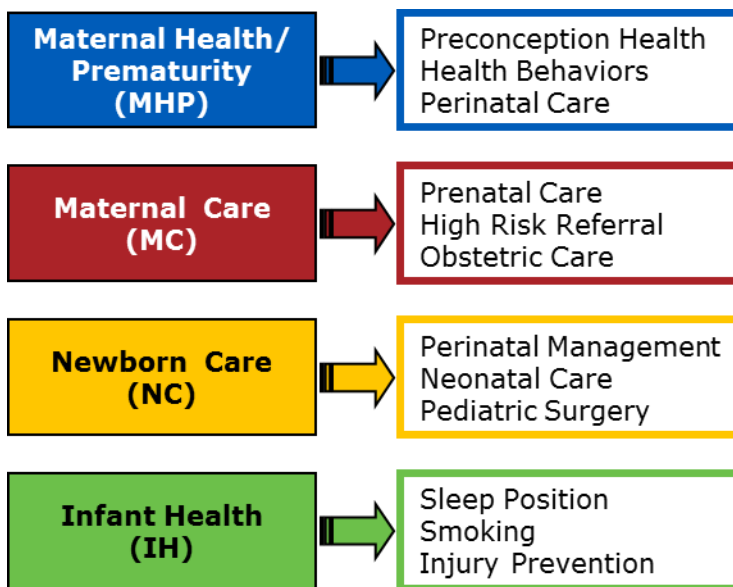


Feto-Infant Mortality in Public Health Region 4/5 North, 2010-2014

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 4/5 North 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:

- 8.1/1,000 for White mothers
- 11.2 for Black mothers
- 6.3 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):

- 2.9 for White mothers
- 6.0 for Black mothers
- 1.1 for Hispanic mothers
- 3.5 for teen mothers

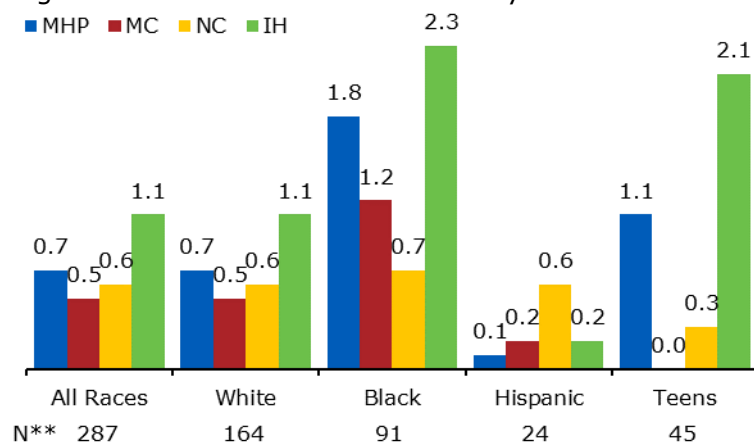
- Black mothers had the highest excess F-IMR in all of the 4 risk periods
- Potentially 54% of Black fetal and infant deaths were preventable (i.e., excess fetal and infant deaths)
- For Black mothers, 39% of all excess feto-infant deaths occurred in the IH risk period
- For teen mothers, 91% of excess 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 NC-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



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)

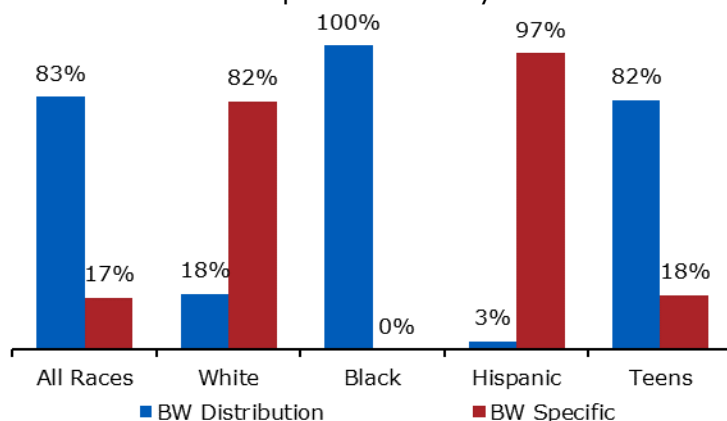
Birth Weight (BW) Distribution vs. Birth Weight (BW) Specific Mortality (Figure 3)

- 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 15% of VLBW births
- Inadequate prenatal care contributed to 7% 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 2% of VLBW infants deaths
- White, Black and Hispanic infants had higher rates of congenital anomalies compared to the reference group

Recommendations

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

Phase II: Infant Health (IH) Period of Risk

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

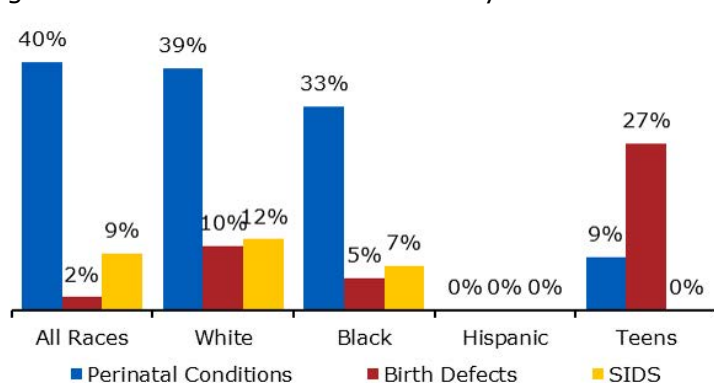
Causes of IH-Related Death (Figure 4)

- Perinatal conditions accounted for 40% of overall excess deaths in the IH risk period
- In Phase I, Black infants and infants born to teen mothers had the greatest excess mortality in the IH risk period
- SIDS accounted for 12% of excess deaths among White infants and 7% among Black infants
- Birth defects contributed to 27% of excess deaths among infants born to teen mothers and 10% among White infants

IH-Related Modifiable Risk Factors

- 3% of infant deaths were attributable to smoking during pregnancy
- Infants who were breastfed had 14% reduced risk of infant death

Figure 4: Excess IH-Related Death by Cause



Recommendations

- Reduce prematurity among all populations
- Reduce SIDS among Black infants and White infants
- Reduce birth defects among infants born to teen mothers and White infants
- Reduce parental smoking
- Increase rates of breastfeeding