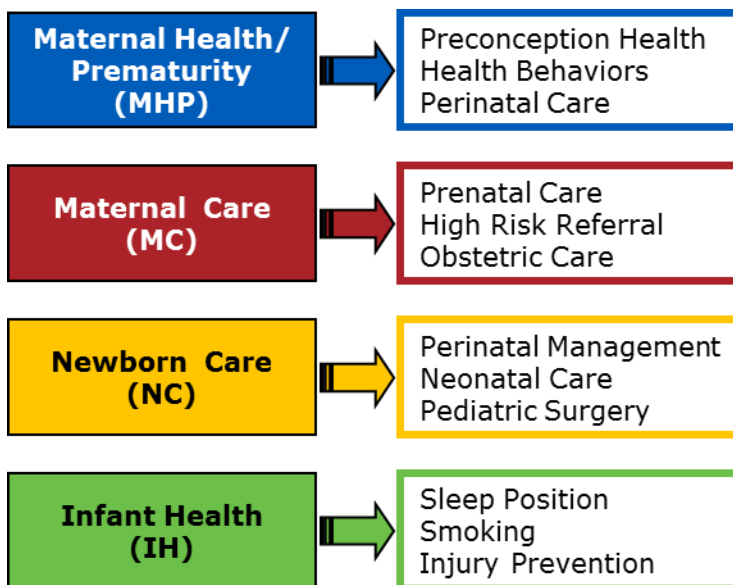


Feto-Infant Mortality in Texas, 2010-2014

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)
- Texas 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

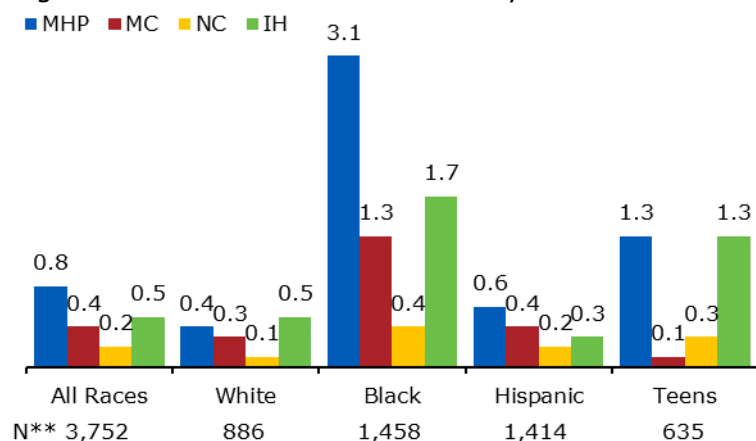
Feto-infant mortality rates* (F-IMR) were:

- 6.5/1,000 for White mothers
- 11.8 for Black mothers
- 6.7 for Hispanic mothers
- 8.3 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
- 6.6 for Black mothers
- 1.5 for Hispanic mothers
- 3.1 for teen mothers

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

- Black mothers had the highest excess F-IMR in all of the 4 risk periods
- Potentially 56% 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, 85% 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 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)

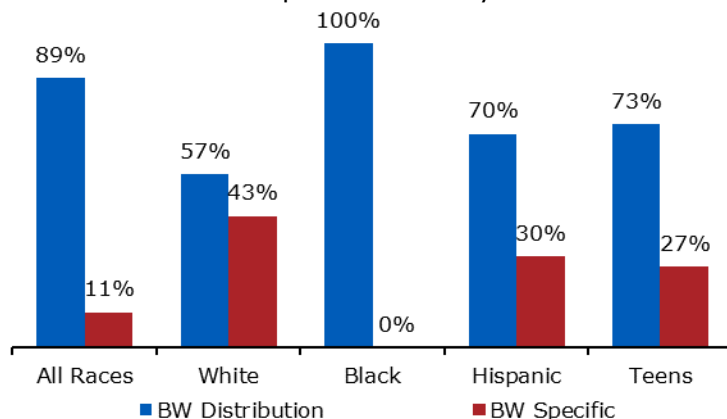
Birth Weight (BW) Distribution vs. Birth Weight (BW) Specific Mortality (Figure 3)

- 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, Hispanic and teen mothers, a proportion of excess death was 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 19% of VLBW births
- Inadequate prenatal care contributed to 5% 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

- Inadequate prenatal care and premature rupture of the membranes contributed the most to VLBW infant death (3% each)
- Receipt of prenatal steroids was associated with a 22% reduced risk of infant death

Recommendations

- Reduce the number of women gaining less than 15 lbs. during pregnancy
- Increase access to and use of prenatal care
- Target interventions for women with premature rupture of the membranes
- 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 ≥ 28 days

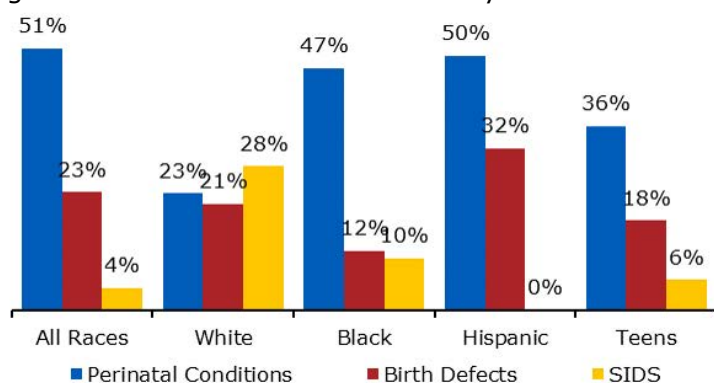
Causes of IH-Related Death (Figure 4)

- Perinatal conditions accounted for 51% of 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
- Birth defects contributed to 21% of excess deaths among White infants and 18% among infants born to teen mothers
- SIDS accounted for 28% of excess deaths among White infants and 10% among Black infants

IH-Related Modifiable Risk Factors

- No first trimester prenatal care contributed to 2% of infant deaths
- Infants who were breastfed had a 9% reduced risk of infant death

Figure 4: Excess IH-Related Death by Cause



Recommendations

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