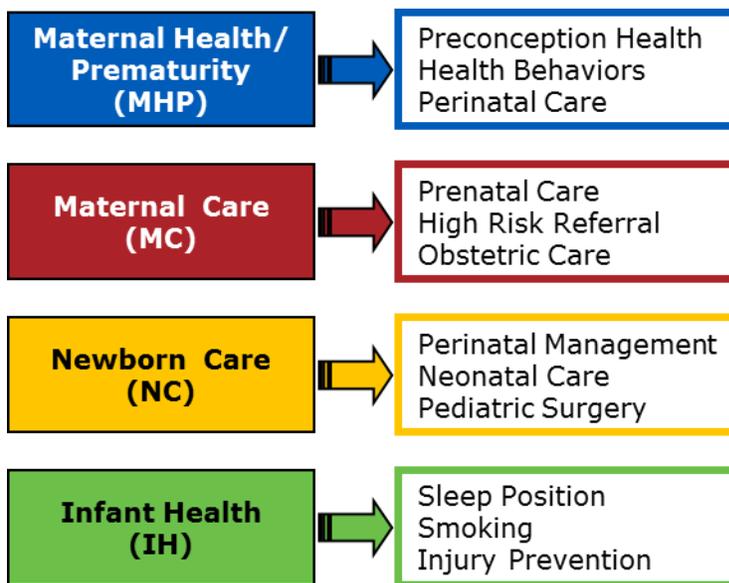


Feto-Infant Mortality in Public Health Region 1, 2010-2014

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 1 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:

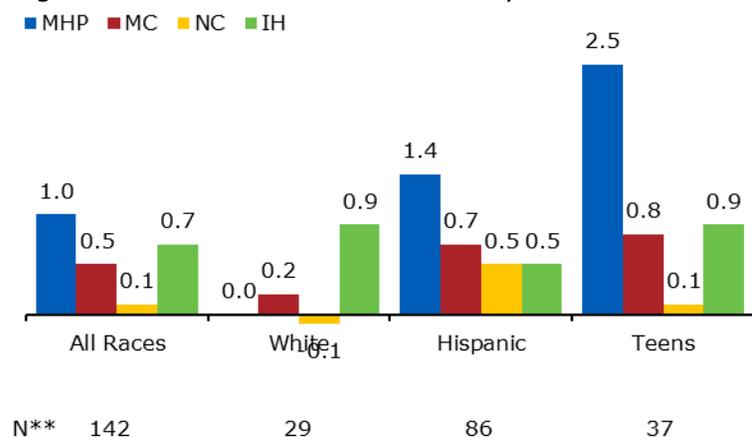
- 6.2/1,000 for White mothers
- 8.2 for Hispanic mothers
- 9.5 for teen mothers

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):

- 1.0 for White mothers
- 3.0 for Hispanic mothers
- 4.3 for teen mothers

NOTE: Due to low numbers of births and feto-infant deaths among the Black population in Region 1, PPOR results are not presented for this study population.

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

- Teen mothers had the highest excess F-IMR in 3 of the 4 risk periods
- Potentially 45% of fetal and infant deaths among teen mothers were preventable (i.e., excess fetal and infant deaths)
- For teen mothers, 58% of all excess feto-infant deaths occurred in the MHP risk period
- For Hispanic mothers, 68% of excess feto-infant deaths occurred in the MHP and MC risk periods

Recommendations

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

Area with the Greatest Potential Impact Teen 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)

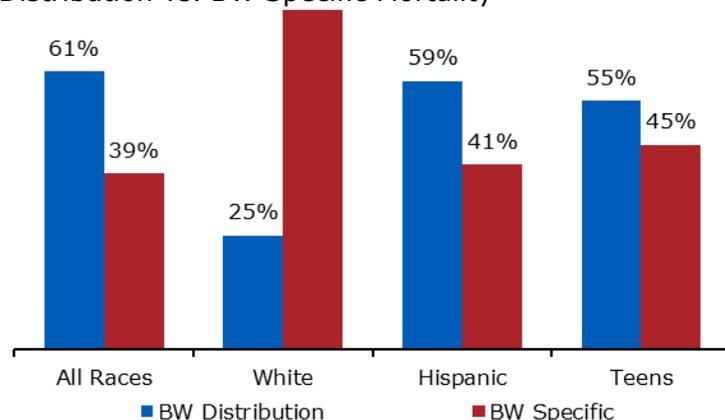
Birth Weight (BW) Distribution vs. Birth Weight (BW) Specific Mortality (Figure 3)

- 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 mothers, the majority of excess fetoinfant 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 21% of VLBW births
- Smoking during pregnancy contributed to 5% of VLBW births
- 6% of VLBW births were attributable to previous preterm birth
- All study populations were more likely to gain less than 15 lbs. than the reference
- Teen mothers had higher rates of smoking
- Hispanic mothers had higher rates of having a previous preterm birth

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



BW Specific Modifiable Risk Factors

- Congenital anomalies accounted for 6% of VLBW infants deaths
- All study populations had higher rates of congenital anomalies compared to the reference population

Recommendations

- Reduce the number of women gaining less than 15 lbs. during pregnancy
- Reduce smoking during pregnancy among teen mothers
- Target interventions for Hispanic mothers with a previous preterm birth
- Reduce congenital anomalies

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

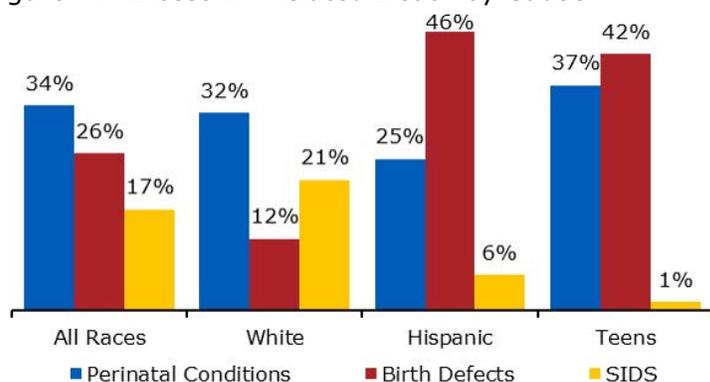
Causes of IH-Related Death (Figure 4)

- Perinatal conditions were the primary cause of death in the IH risk period accounting for 34% of excess deaths
- In Phase I, White infants and infants born to teen mothers had the greatest excess mortality in the IH risk period
- SIDS accounted for 21% of excess deaths among White infants
- Birth defects contributed to 42% of excess deaths among infants of teen mothers

IH-Related Modifiable Risk Factors

- 6% of infant deaths were attributable to a lack of receiving prenatal care in the first trimester
- 2% were attributable to receiving inadequate prenatal care

Figure 4: Excess IH-Related Death by Cause



Recommendations

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