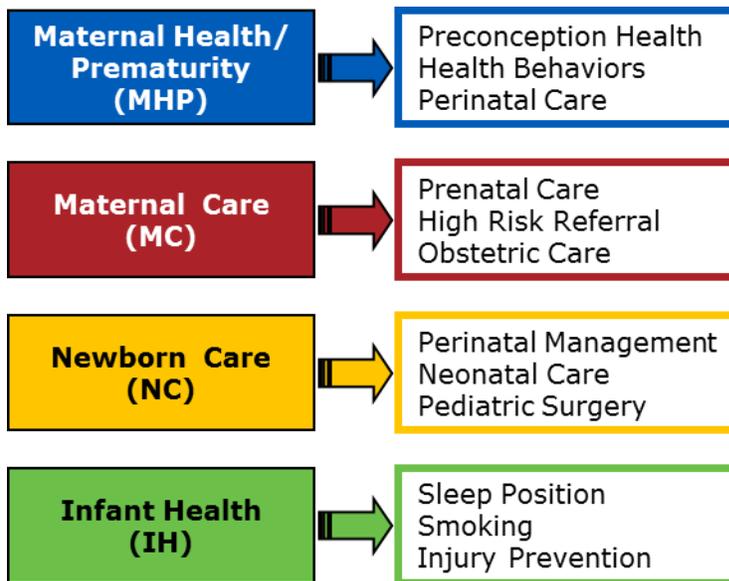


Feto-Infant Mortality in Public Health Region 9/10, 2010-2014

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 9/10 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:

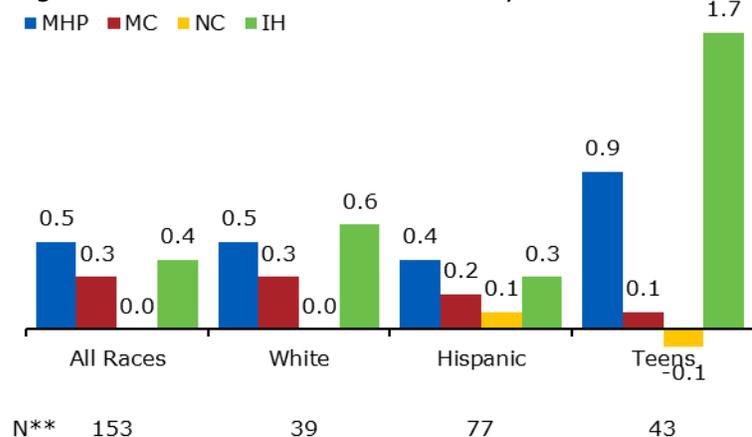
- 6.6/1,000 for White mothers
- 6.1 for Hispanic mothers
- 7.8 for teen mothers

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):

- 1.4 for White mothers
- 0.9 for Hispanic mothers
- 2.6 for teen mothers

NOTE: Due to low numbers of births and feto-infant deaths among the Black population in Region 9/10, 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 2 of the 4 risk periods
- Potentially 33% of fetal and infant deaths among teen mothers were preventable (i.e., excess fetal and infant deaths)
- For teen mothers, 64% of all excess feto-infant deaths occurred in the IH risk period
- For White mothers, 78% of excess feto-infant deaths occurred in the MHP and IH risk periods

Recommendations

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

Area with the Greatest Potential Impact Teen Infant Health Risk Period



TEXAS
Health and Human
Services

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)

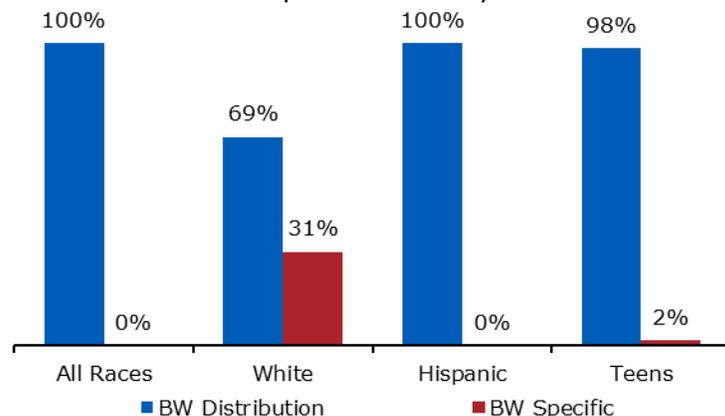
Birth Weight (BW) Distribution vs. Birth Weight (BW) Specific Mortality (Figure 3)

- 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, some proportion of excess fetoinfant 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 21% of VLBW births
- Teen pregnancy contributed to 4% of VLBW births
- 3% of VLBW births were attributable to inadequate prenatal care
- All study populations were more likely to gain less than 15 lbs. or report receiving inadequate prenatal care compared to the reference population

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



BW Specific Modifiable Risk Factors

- Inadequate prenatal care accounted for 9% of VLBW infants deaths
- Congenital anomalies contributed to 4%
- All study populations had higher rates of inadequate prenatal care
- Infants born to teen mothers had higher rates of congenital anomalies

Recommendations

- Improve access to and use of prenatal care
- Reduce the number of women gaining less than 15 lbs. during pregnancy
- Reduce teen pregnancy
- Reduce congenital anomalies

Phase II: Infant Health (IH) Period of Risk

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

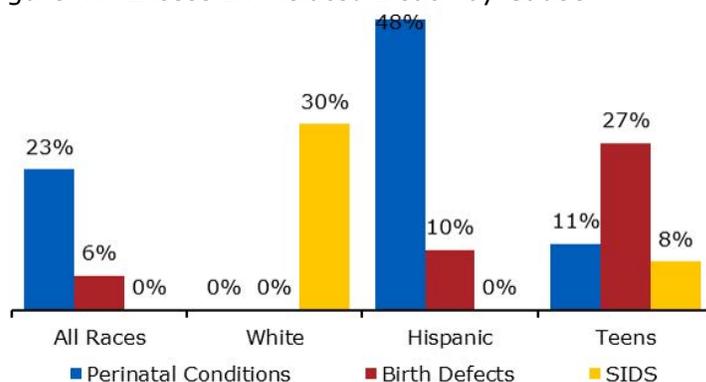
Causes of IH-Related Death (Figure 4)

- Perinatal conditions were the primary cause of death in the IH risk period accounting for 23% 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 30% of excess deaths among White infants and 8% among infants born to teen mothers
- Birth defects contributed to 27% of excess deaths among infants of teen mothers

IH-Related Modifiable Risk Factors

- Smoking during pregnancy and inadequate prenatal care had the greatest impact on overall risk of infant death (each factor contributed to 2% of infant deaths)

Figure 4: Excess IH-Related Death by Cause



Recommendations

- Reduce prematurity among all race groups
- Reduce birth defects among infants born to teen mothers
- Reduce SIDS among White infants and infants born to teen mothers
- Reduce parental smoking
- Increase access to and use of prenatal care