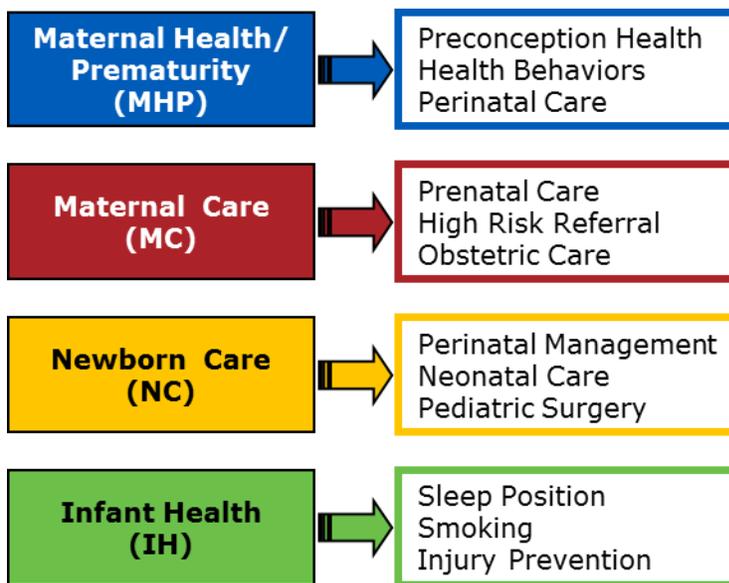


Feto-Infant Mortality in Public Health Region 11, 2010-2014

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 11 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:

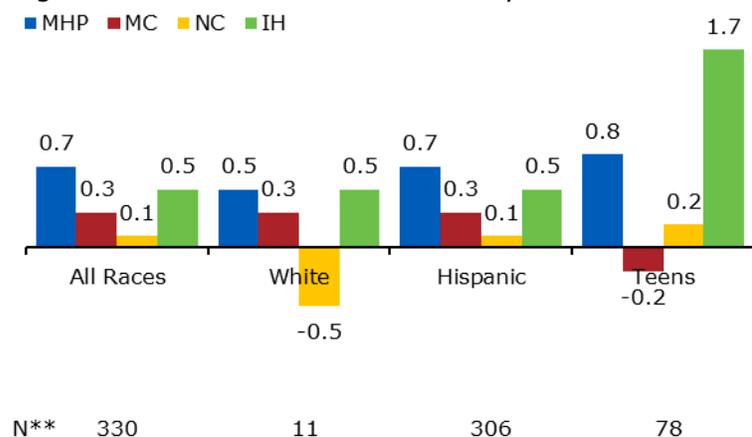
- 6.0/1,000 for White mothers
- 6.9 for Hispanic mothers
- 7.8 for teen mothers

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):

- 0.8 for White mothers
- 1.7 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 11, 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 34% of fetal and infant deaths among teen mothers were preventable (i.e., excess fetal and infant deaths)
- For teen mothers, 65% of all excess feto-infant deaths occurred in the IH risk period
- For Hispanic mothers, 72% 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 Hispanic populations for MHP and IH-related deaths
- Target MHP and IH-related deaths among White populations

Area with the Greatest Potential Impact Teen Infant Health 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)

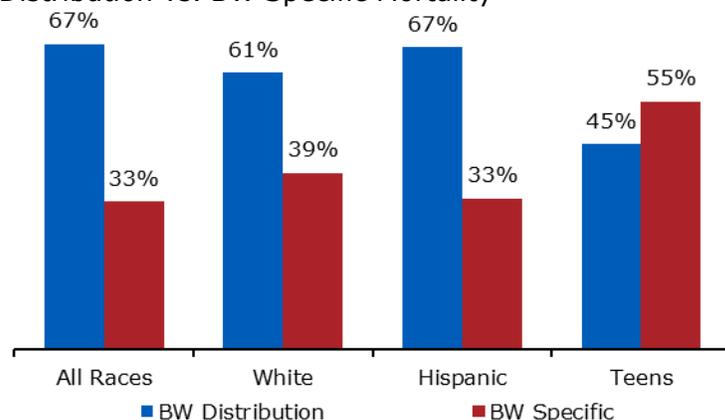
Birth Weight (BW) Distribution vs. Birth Weight (BW) Specific Mortality (Figure 3)

- 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 teen 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
- Inadequate prenatal care contributed to 7% of VLBW births
- 1% of VLBW births were attributable to previous preterm birth
- All study populations were more likely to gain less than 15 lbs. or 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

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
- Target interventions for women 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

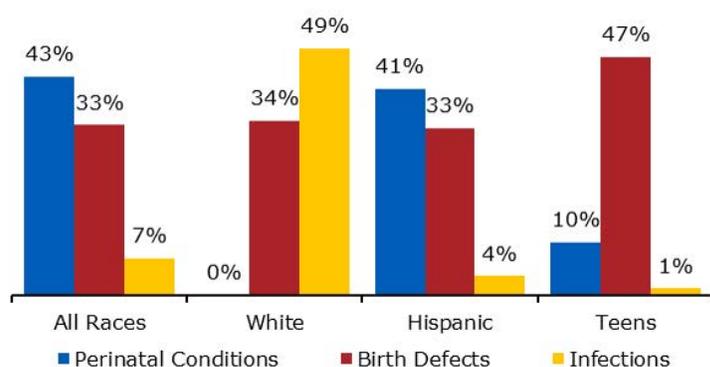
Causes of IH-Related Death (Figure 4)

- Perinatal conditions were the primary cause of death in the IH risk period accounting for 43% of excess deaths overall and 41% among Hispanic infants
- In Phase I, infants born to teen mothers had the greatest excess mortality in the IH risk period
- Birth defects accounted for 47% of excess deaths among infants of teen mothers and 33% overall
- Infections contributed to 49% of excess deaths among White infants

IH-Related Modifiable Risk Factors

- 5% of infant deaths were attributable to a lack of receiving prenatal care in the first trimester

Figure 4: Excess IH-Related Death by Cause



Recommendations

- Reduce prematurity among all populations and Hispanic infants
- Reduce birth defects among all study populations
- Reduce infections among White infants
- Increase access to and utilization of prenatal care