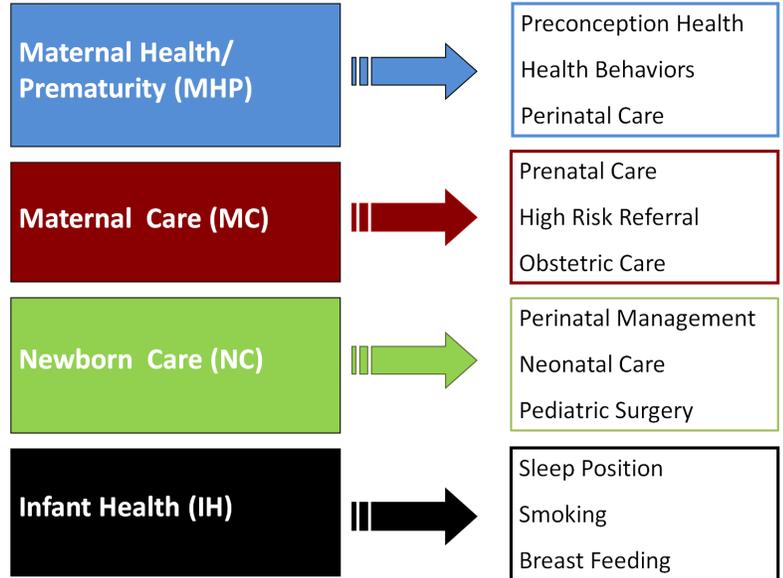


Feto-Infant Mortality in Collin County

About Perinatal Periods of Risk (PPOR):

- The goal is to prioritize and target prevention and intervention efforts
- Based on birth weight and age of death, the PPOR approach partitions fetal and infant deaths into four areas (Figure 1) corresponding to specific intervention points in the health care continuum. These four components have different risk factors, causes of death, and corresponding interventions
- Texas and sub-populations are compared to a state-level reference group (non-Hispanic White women who are at least 20 years of age and have at 13+ years of education) generally known to have better feto-infant mortality outcomes
- Phase I analysis: Differences between the perinatal periods
- Phase II analysis: Periods and populations with the greatest disparities

Figure 1: PPOR Risk Periods: Points of Intervention



NOTE: Due to relatively small excess mortality, the newborn care risk period is not discussed

Phase I: Perinatal Period Comparison

Excess Feto-Infant Mortality in Collin County

2005-2008 feto-infant mortality rates* (F-IMR) were:

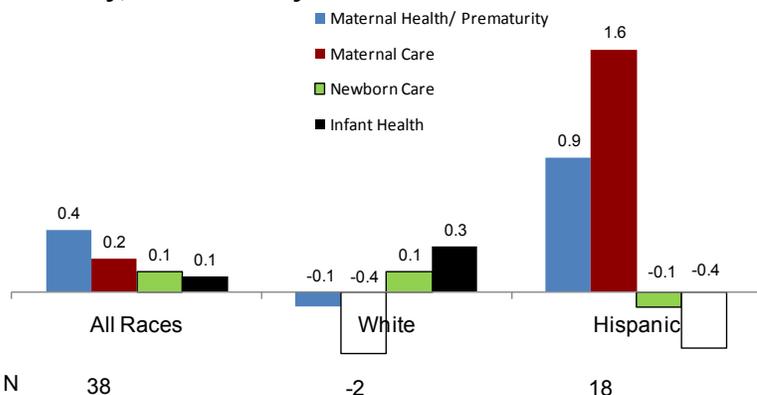
- 5.9/1,000 live births for all races
- 7.1 for Hispanics
- 5.0 for Whites

Excess F-IMR is the difference between the exposure group (i.e. Black, White, Hispanic, teen) and the reference group. The excess F-IMR was (Figure 2):

- 0.9 for all races
- 2.0 for Hispanics
- 0.1 for Whites

Due to low numbers of births and infant deaths among Blacks they could not be included in some analyses

Figure 2: Excess Feto-infant Mortality Rates by Race/Ethnicity, Collin County



* F-IMR = number of fetal and infant deaths \geq 500 grams and \geq 24 weeks gestation / number of live births & fetal deaths \geq 500 grams and \geq 24 weeks gestation

- Overall, 47.5% of excess deaths occurred in the Maternal Health/Prematurity risk period. The Maternal Care period contributed another 25.2% of excess deaths. Newborn Care and Infant health periods contributed 15.9% and 11.4% respectively
- The excess F-IMR for Hispanics was 2.0. **Potentially 28% of Hispanic fetal and infant deaths were preventable**
- The highest excess rate among Hispanics occurred in the Maternal Care risk period
- Hispanics also had an increased excess F-IMR for the Maternal Health/Prematurity risk group as well
- F-IMR rates were lower than the state reference group for Maternal Health/Prematurity and Maternal Care risk periods among Whites
- F-IMR rates were lower than the state reference group for Newborn Care and Infant Health risk periods among Hispanics

Recommendation

- Target Maternal Care and Maternal Health/Prematurity-related interventions to Hispanics

Area with the Greatest Potential Impact:
Maternal Care among Hispanics

Phase II: Maternal Health and Prematurity (MHP)

Maternal Health/Prematurity (MHP) death in Collin County: fetal and infant deaths weighing 500-1,499 grams

Very Low Birth Weight (VLBW) vs. Birth Weight Specific mortality:

- Among Hispanics, a larger percentage of fetoinfant deaths in the MHP period are due to increased birth weight specific mortality (mortality rate among VLBW babies) (Figure 3)

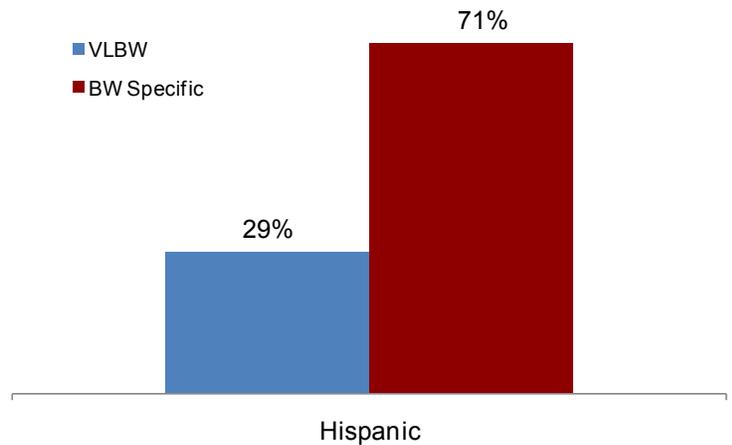
VLBW-Related Modifiable Risk Factors:

- The risk factors contributing most to VLBW were:
 - Weight gain less than 15 lbs. during pregnancy
 - Less than 13 years of education
 - Teen pregnancy
 - High parity (i.e. number of pregnancies) for age
- 15% of VLBW births were attributed to weight gain less than 15 lbs
- Blacks and Hispanics were more likely to gain less than 15 lbs. during pregnancy, to have high parity for age, and had higher rates of teen pregnancy
- Teens also had increased risk for high parity for age

BW Specific Modifiable Risk Factors for VLBW Births:

- Less than 13 years of education contributed to 15% of BW specific deaths in this period

Figure 3: VLBW vs. Birth Weight Specific Mortality, Collin County



Recommendations:

- Reduce the number of women gaining less than 15 lbs. during pregnancy
- Provide opportunities/incentives for continuing education beyond high school for women of child-bearing ages
- Reduce rates of teen pregnancy
- Target interventions that reduce high parity for age

Phase II: Maternal Care (MC)

Maternal Care risk period death in Denton County: fetal deaths greater than or equal to 1,500 grams

- Among Maternal Care risk factors examined, gaining less than 15 lbs. during pregnancy represented the majority of excess risk for Hispanics and Blacks, with rates 1.1 and 1.6 times that of the state reference group, respectively
- Teen mothers were more likely to smoke during pregnancy

Recommendations:

- Target interventions to reduce the rates of Hispanic and Black women gaining less than 15 lbs. during pregnancy
- Target interventions that reduce parental smoking among teens