

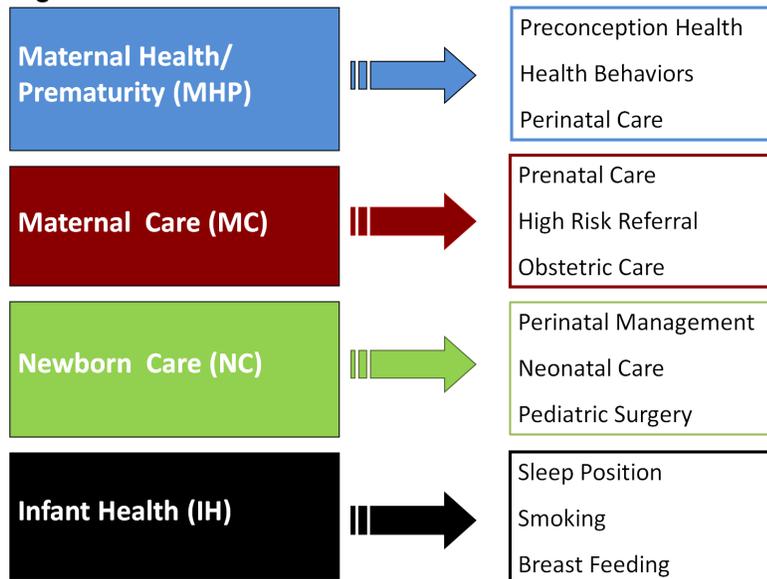


Feto-Infant Mortality in Travis County

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 Travis County

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

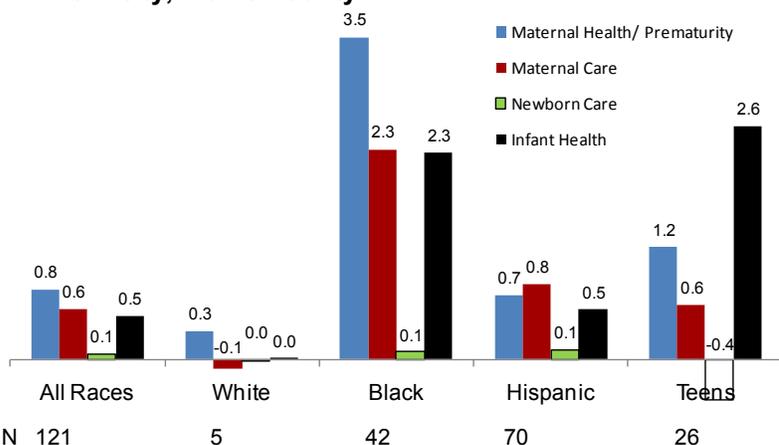
- 13.3/1,000 live births for Blacks
- 7.3 for Hispanics
- 5.3 for Whites
- 9.0 for teens

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):

- 8.2 for Blacks
- 2.2 for Hispanics
- 0.2 for Whites
- 4.0 for teens

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



- Among races/ethnicities, Blacks had the highest excess F-IMR for 3 of the 4 risk periods. **Potentially 62% of Black fetal and infant deaths were preventable**
- For Blacks, 43% of the overall excess deaths occurred in the Maternal Health/Prematurity risk period, with an excess rate 12 times that of Whites
- Blacks also had high excess rates in the Maternal Care and Infant Health risk periods
- For teens, 65% of excess deaths occurred in the Infant Health risk period, with another 31% occurring in the Infant Health period
- F-IMR rates among Whites were equal to or lower than state reference group for 3 of the 4 risk periods

Recommendations

- Target Maternal Health/Prematurity, Maternal Care, and Infant Health-related interventions for Blacks
- Target Infant Health-related interventions for teens
- Target Maternal Care-related interventions for Hispanics

Area with the Greatest Potential Impact:
Black Maternal Health/Prematurity

* 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

Data Source: All data originate from Texas Department of State Health Services, Center for Health Statistics, 2005-2008

Phase II: Maternal Health and Prematurity (MHP)

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

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

- A larger percentage of fetoinfant deaths in the MHP period are due to a greater number of VLBW births among Blacks, Hispanics, and teens attributed to VLBW (Figure 3)
- Birth weight specific mortality (mortality rate among VLBW babies) among Hispanics also contributed to fetoinfant mortality in the MHP period

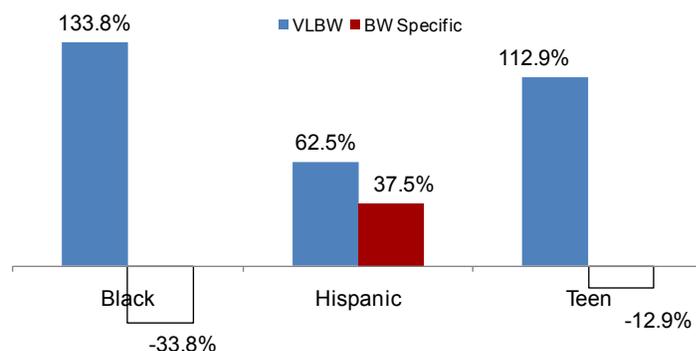
VLBW-Related Modifiable Risk Factors:

- Risk factors contributing most to VLBW:
 - Weight gain less than 15 lbs.
 - Teen pregnancy
 - Parental smoking
- 17% of VLBW births were attributed to weight gain less than 15 lbs
- Blacks, Hispanics and teens were more likely to gain less than 15 lbs. during pregnancy
- Black mothers had higher rates of parental smoking
- Blacks and Hispanics had greater proportions of teen mothers

BW Specific Modifiable Risk Factors for VLBW Births:

- Less than 13 years of education contributed to 12% of BW specific deaths

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



Note: Negative numbers are the result of BW specific birth rates which are lower than the state reference group. This also increases the VLBW rates to above 100%.

- Premature rupture of membranes also contributed

Recommendations:

- Reduce the number of women gaining less than 15 lbs.
- Reduce rates of teen pregnancy
- Target interventions that reduce parental smoking among women of child-bearing ages
- Provide opportunities/incentives for continuing education beyond high school for women of child-bearing ages
- Target interventions that reduce premature rupture of membranes

Phase II: Infant Health (IH)

Infant Health deaths in Travis County: infants weighing more than 1,500g at birth and survived to more than 28 days

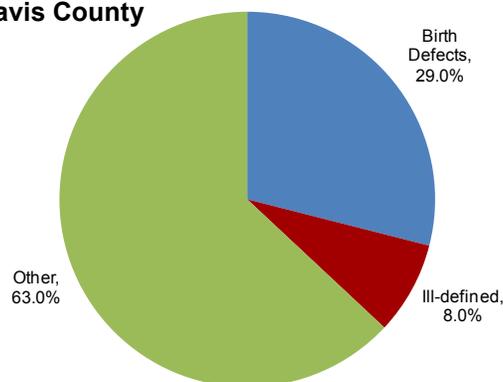
Causes of Infant Health-related death (Figure 4):

- Birth defects were the primary cause of IH-related death representing 29.0% of all IH deaths
- A disproportionate number of IH-related cases were classified as "Other", 40% of which were a result of accidental suffocation and strangulation in bed
- No breast feeding at hospital discharge and less than 13 years of education were the risk factors contributing most to IH-related infant death

Recommendations:

- Reduce birth defects among Blacks and teens
- Target interventions that reduce sleep-related deaths

Figure 4: Excess IH-Related Death by Race/Ethnicity and Cause, Travis County



- Target interventions that promote breast feeding
- Provide opportunities/incentives for continuing education

Phase II: Maternal Care (MC)

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

- Blacks and Hispanics were 1.7 times as likely to have gained less than 15 lbs. compared to the reference group
- Blacks were more likely than the reference group to smoke during pregnancy and to have hypertension

Recommendations:

- Target interventions aimed at Black and Hispanic women to reduce the number of pregnant women gaining less than 15 lbs.
- Target interventions that reduce parental smoking among women of child-bearing ages
- Reduce/control hypertension among Black mothers