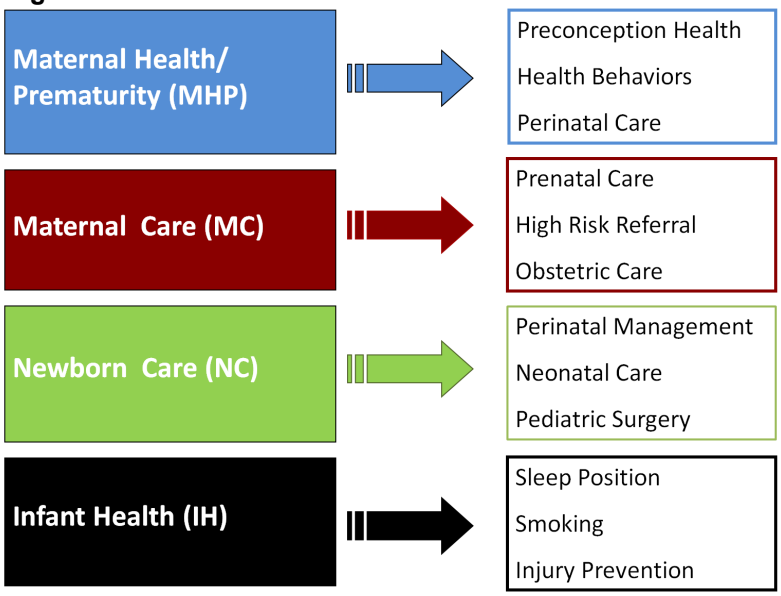
Feto-Infant Mortality in Gregg County

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 overall excess mortality, the newborn care risk period is not discussed

Phase I: Perinatal Period Comparison

Excess Feto-Infant Mortality in Gregg County
2005-2008 feto-infant mortality rate* (F-IMR) was:

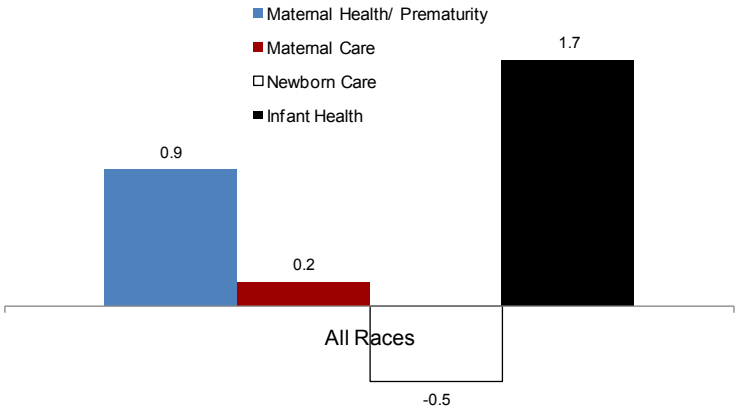
- 7.4/1,000 live births

Excess F-IMR is the difference between the exposure group (i.e. Gregg County residents) and the reference group. The excess F-IMR was (Figure 2):

- 2.3/1,000 live births

Due to low numbers of births and infant deaths for race/ethnicity groups, data for Gregg County are analyzed collectively. There were 59 feto-infant deaths recorded from 2005-2008

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



- Overall, 60.3% of excess deaths occurred in the Infant Health risk period
- The Maternal Health/Prematurity and Maternal Care periods contributed 33.6% and 6.1% each
- The F-IMR for the Newborn Care period was less than that of the state reference group
- There were an estimated 18 excess deaths overall. Fourteen were attributed to the Infant Health risk period
- Overall, the excess F-IMR was 2.3. **Potentially 31% of fetal and infant deaths in Gregg County were preventable**

Recommendations

1. Target Infant Health-related interventions for Gregg County residents
2. Target Maternal Health/Prematurity-related interventions

Area with the Greatest Potential Impact:
Infant Health

* F-IMR = number of fetal and infant deaths >=500 grams and >=24 weeks gestation / number of live births & fetal deaths >=500 grams and >=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 Gregg County: fetal and infant deaths weighing 500-1,499 grams

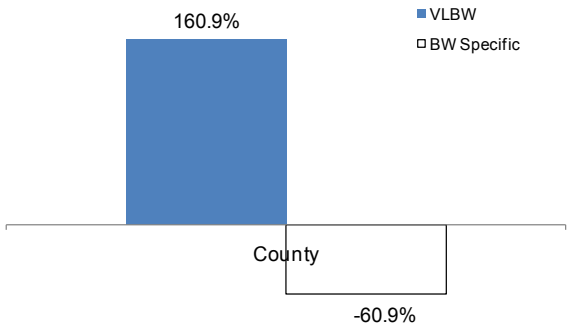
Very Low Birth Weight (VLBW) vs. Birth Weight Specific mortality:

- A larger percentage of feto-infant deaths in the MHP period are due to a greater number of VLBW births among Gregg County residents, with all deaths attributed to VLBW (Figure 3)
- Birth weight specific mortality is an indication of the mortality rate among VLBW babies. Birth weight specific deaths rates among VLBW babies were lower in Gregg County than for the state reference group

VLBW-Related Modifiable Risk Factors:

- Risk factors contributing most to VLBW:
  - Inadequate prenatal care
  - Weight gain less than 15 lbs.
  - Teen pregnancy
- 10% of VLBW births were attributed to inadequate prenatal care
- Blacks and Hispanics were more likely to have inadequate prenatal care and to gain less than 15 lbs. during pregnancy
- Teens were also more likely to have inadequate prenatal care

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



Note: The negative number is the result of the BW specific birth rate which is lower than the state reference group. This also increases the VLBW rate to above 100%.

- Blacks and Hispanics had higher rates of teen pregnancy

Recommendations:

- Improve access to and use of prenatal care
- Stress importance of early entry into care
- Reduce the number of women gaining less than 15 lbs.
- Target interventions that reduce rates of teen pregnancy

Phase II: Infant Health (IH)

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

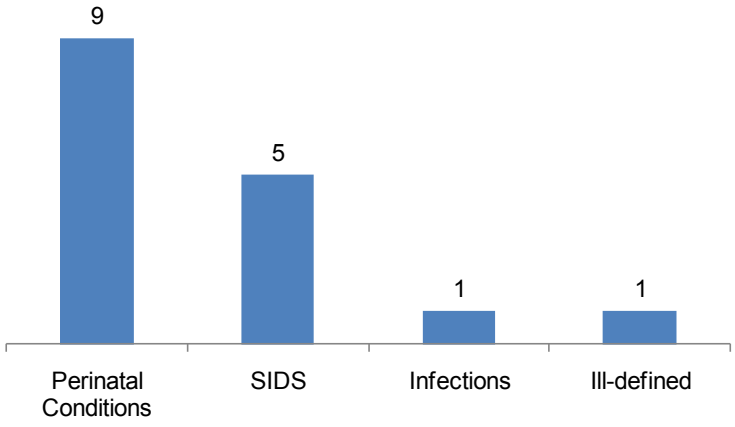
Causes of Infant Health-related death (Figure 4)**:**

- Perinatal conditions (primarily disorders related to short gestation and to complications of pregnancy, labor, and delivery) and SIDS were the primary causes of IH-related excess infant death
- Inadequate prenatal care was the primary risk factor contributing to 21% of excess deaths
- Parental smoking also contributed

Recommendations:

- Target interventions that reduce prematurity and SIDS-related deaths
- Improve access to and use of prenatal care
- Target interventions that reduce parental smoking

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



Phase II: Maternal Care (MC)

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

- Blacks were 1.6 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

Recommendations:

- Target interventions that reduce the number of pregnant women gaining less than 15 lbs.
- Target interventions that reduce parental smoking among women of child-bearing ages