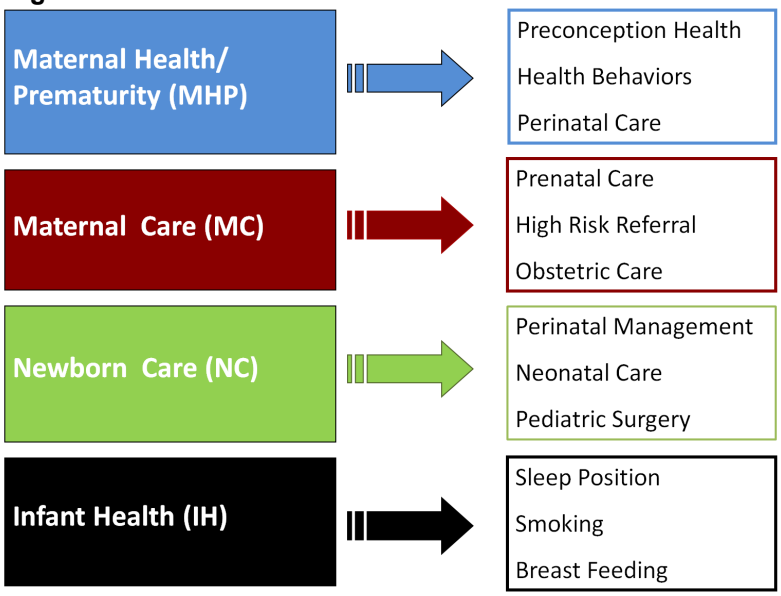
Feto-Infant Mortality in Health Service Region 4/5 North

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 HSR 4/5N

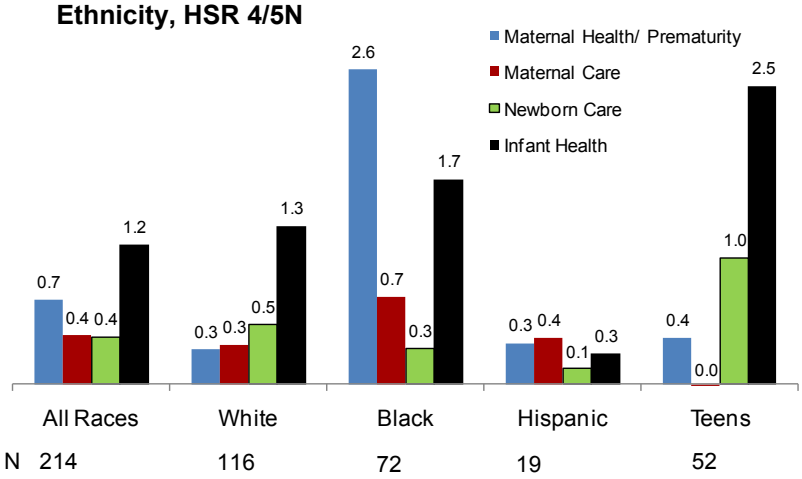
2005-2008 feto-infant mortality rates* (F-IMR) were:

- 10.4/1,000 live births for Blacks
- 6.2 for Hispanics
- 7.5 for Whites
- 8.9 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):

- 5.3 for Blacks
- 1.1 for Hispanics
- 2.4 for Whites
- 3.9 for teens

Figure 2: Excess Feto-infant Mortality Rates by Race/ Ethnicity, HSR 4/5N



* 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

- Among races/ethnicities, Blacks had the highest excess F-IMR for 3 of the 4 risk periods. **Potentially 51% of Black fetal and infant deaths were preventable**
- For Blacks, 49% of the overall excess deaths occurred in the Maternal Health/Prematurity risk period, with an excess rate 9 times that of Whites
- For teens, 63% of excess deaths occurred in the Infant Health risk period with an excess rate 8 times that of the Hispanic rate
- In the Infant Health risk period, the rate of excess feto-infant mortality among Blacks and Whites was 6 and 4 times that of Hispanics, respectively

Recommendations

1. Target Maternal Health/Prematurity and Infant Health-related interventions for Blacks
2. Target Infant Health-related interventions for teens and Whites

Area with the Greatest Potential Impact:

Black Maternal Health/Prematurity

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 HSR 4/5N: fetal and infant deaths weighing 500-1,499 grams

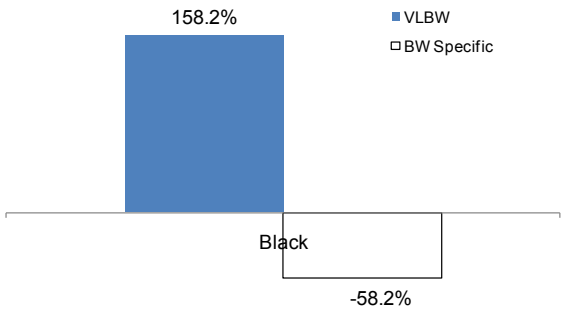
Very Low Birth Weight (VLBW) vs. Birth Weight Specific mortality:

- A larger percentage of feto-infant deaths in the MHP period are due to a greater number of VLBW births among Blacks (Figure 3)
- Birth weight specific mortality is an indication of the mortality rate among VLBW babies. BW specific death rates among VLBW babies were lower for Blacks in HSR 4/5 N than for the state reference group

VLBW-Related Modifiable Risk Factors:

- Risk factors contributing most to VLBW:
  - Weight gain less than 15 lbs.
  - Inadequate prenatal care
  - Teen pregnancy
  - Sexually transmitted diseases (STD)
- 13% 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
  - Have inadequate prenatal care
- Blacks and Hispanics had greater proportions of teen mothers

Figure 3: VLBW vs. Birth Weight Specific Mortality, HSR 4/5N



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%.

- The rate of STD among Black mothers was 14 times that of the state reference group

Recommendations:

- Reduce the number of women gaining less than 15 lbs.
- Improve access to and use of prenatal care
- Reduce rates of teen pregnancy
- Target interventions that reduce/control sexually transmitted disease among Black mothers

Phase II: Infant Health (IH)

Infant Health deaths in HSR 4/5N: infants weighing more than 1,500g at birth and survived to more than 28 days

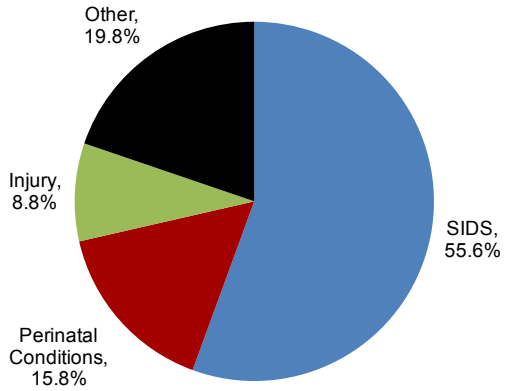
Causes of Infant Health-related death (Figure 4)**:**

- SIDS was the primary cause of IH-related death representing 55.6% of all IH deaths
- Perinatal conditions (primarily disorders related to short gestation and to complications of pregnancy, labor, and delivery) (15.8%) and injury (8.8%) also contributed
- Perinatal conditions were most problematic for Blacks
- No breast feeding at hospital discharge, inadequate prenatal care and smoking were risk factors contributing most to IH-related infant death

Recommendations:

- Reduce SIDS among Blacks, Whites and teens
- Reduce prematurity among Blacks and teens
- Target interventions that promote breast feeding
- Improve access to and use of prenatal care

Figure 4: Excess IH-Related Death by Race/Ethnicity and Cause, HSR 4/5N



- Target interventions that reduce parental smoking among women of child-bearing ages

Phase II: Maternal Care (MC)

Maternal Care risk period deaths in HSR 4/5N: fetal deaths greater than or equal to 1,500 grams

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

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