

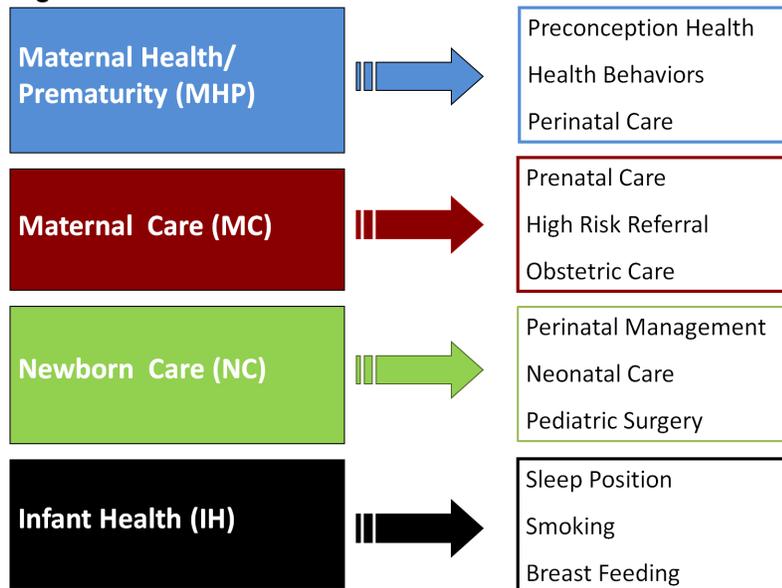


Feto-Infant Mortality in Health Service Region 7

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 7

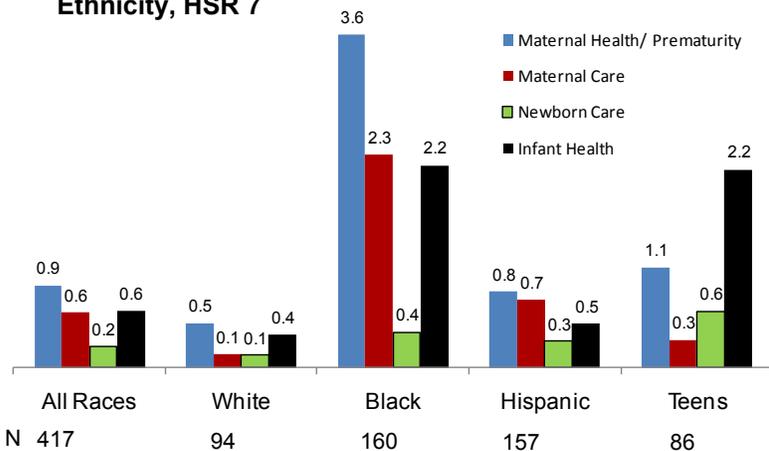
2005-2008 feto-infant mortality rates* (F-IMR) were:

- 13.7/1,000 live births for Blacks
- 7.4 for Hispanics
- 6.2 for Whites
- 9.3 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):

- 8.6 for Blacks
- 2.4 for Hispanics
- 1.1 for Whites
- 4.2 for teens

Figure 2: Excess Feto-infant Mortality Rates by Race/Ethnicity, HSR 7



- Among races/ethnicities, Blacks had the highest excess F-IMR for each of the 4 risk periods. **Potentially 63% of Black fetal and infant deaths were preventable**
- For Blacks, 42% of the overall excess deaths occurred in the Maternal Health/Prematurity risk period, with an excess rate 7 times that of Whites
- For teens, 52% of excess deaths occurred in the Infant Health, and 26.2% occurred in the Maternal Health/Prematurity risk periods
- In the Infant Health risk period, the rate of excess feto-infant mortality among Blacks was 6 times that of Whites and 4 times that of Hispanics

Recommendations

1. Target Maternal Health/Prematurity, Infant Health, and Maternal Care-related interventions for Blacks
2. Target Infant Health and Maternal Health/Prematurity-related interventions for teens
3. Target Maternal Health/Prematurity and Maternal Care-related deaths among Hispanics

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

* 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 HSR 7: 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, Whites and teens, with all deaths among Blacks attributed to VLBW (Figure 3)
- Hispanic deaths are primarily due to higher mortality rates at specific birth weight categories (Indicates a higher mortality rate among VLBW babies)

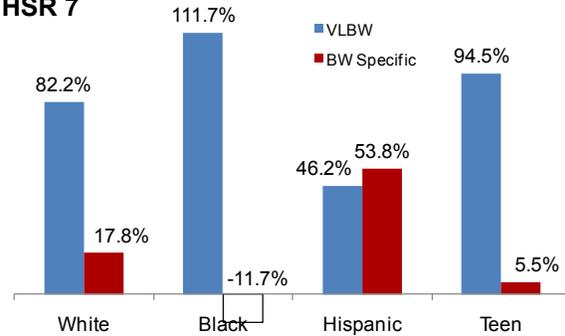
VLBW-Related Modifiable Risk Factors:

- Risk factors contributing most to VLBW:
 - Weight gain less than 15 lbs.
 - High parity (i.e. number of pregnancies) for age
 - Teen pregnancy
 - Parental smoking
- 18% 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 high parity for age
- Black and teen mothers were more likely to smoke
- Blacks and Hispanics had greater proportions of teen mothers

BW Specific Modifiable Risk Factors for VLBW Births:

- Premature rupture of membranes contributed to 10.6% of VLBW fetoinfant deaths

Figure 3: VLBW vs. Birth Weight Specific Mortality, HSR 7



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%.

- Less than 13 years of education and birth defects also figured prominently
- Hispanics and teens had higher rates of birth defects

Recommendations:

- Reduce the number of women gaining less than 15 lbs.
- Target interventions that reduce high parity for age
- Reduce rates of teen pregnancy
- Reduce rates of premature rupture of membranes
- 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
- Reduce birth defects among Hispanics

Phase II: Infant Health (IH)

Infant Health deaths in HSR 7: infants weighing more than 1,500g at birth and survived to more than 28 days

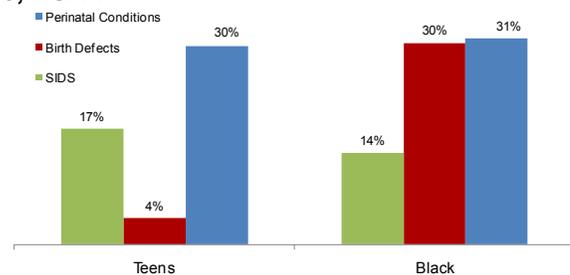
Causes of Infant Health-related death (Figure 4):

- Perinatal conditions (primarily disorders related to short gestation and to complications of pregnancy, labor, and delivery) were the primary cause of death in the IH period among Hispanics and teens
- Birth defects accounted for another 30% among Blacks
- SIDS accounted 17% among teens and 14% among Blacks
- No breast feeding at hospital discharge, inadequate prenatal care and teen pregnancy were risk factors contributing most to IH-related infant death

Recommendations:

- Reduce prematurity among Blacks and teens

Figure 4: Excess IH-Related Death by Race/Ethnicity and Cause, HSR 7



- Reduce birth defects among Blacks
- Reduce SIDS among Blacks and teens
- Target interventions that promote breast feeding
- Improve access to and use of prenatal care
- Target interventions that reduce teen pregnancy

Phase II: Maternal Care (MC)

Maternal Care risk period deaths in HSR 7: fetal deaths greater than or equal to 1,500 grams

- Blacks were 1.7 and Hispanics 1.8 times 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

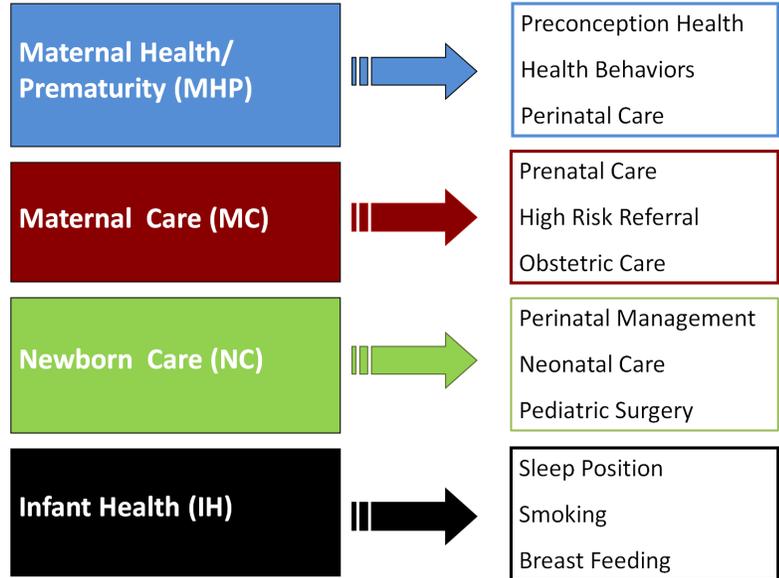


Feto-Infant Mortality in Health Service Region 8

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 8

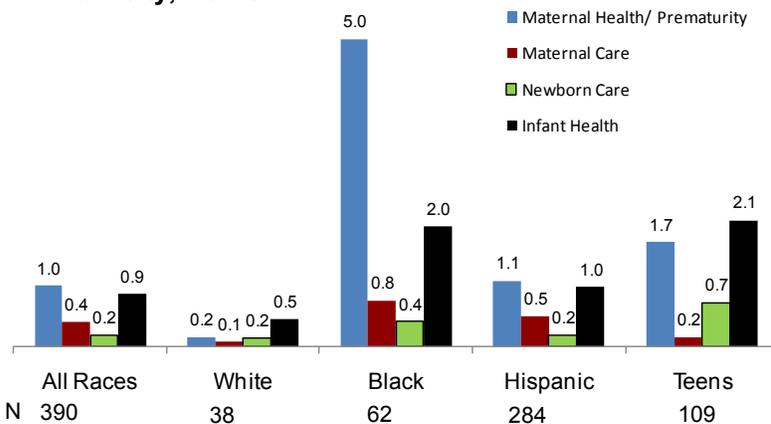
2005-2008 feto-infant mortality rates* (F-IMR) were:

- 13.2/1,000 live births for Blacks
- 7.8 for Hispanics
- 5.9 for Whites
- 9.8 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
- 0.9 for Whites
- 2.8 for Hispanics
- 4.7 for teens

Figure 2: Excess Feto-infant Mortality Rates by Race/Ethnicity, HSR 8



- Overall, 40.3% of excess deaths occurred in the Maternal Health/Prematurity risk period. The Infant Health period contributed another 35.0% of excess deaths. Maternal Care and Newborn Care periods contributed 16.5% and 8.1% respectively
- Blacks had the highest excess F-IMR for 2 of the 4 risk periods. **Potentially 62% of Black fetal and infant deaths were preventable**
- For Blacks, 61.5% of the overall excess deaths occurred in the Maternal Health/Prematurity risk period, with an excess rate 25 times that of Whites
- The rate of excess feto-infant mortality among Blacks was 4 times that of Whites in the Infant Health period, and 8 times the White rate in the Maternal Care period
- For teens, 44.3% of excess deaths occurred in the Infant Health period, and 36.5% occurred in the Maternal Health/Prematurity period

Recommendations

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

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

* 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