

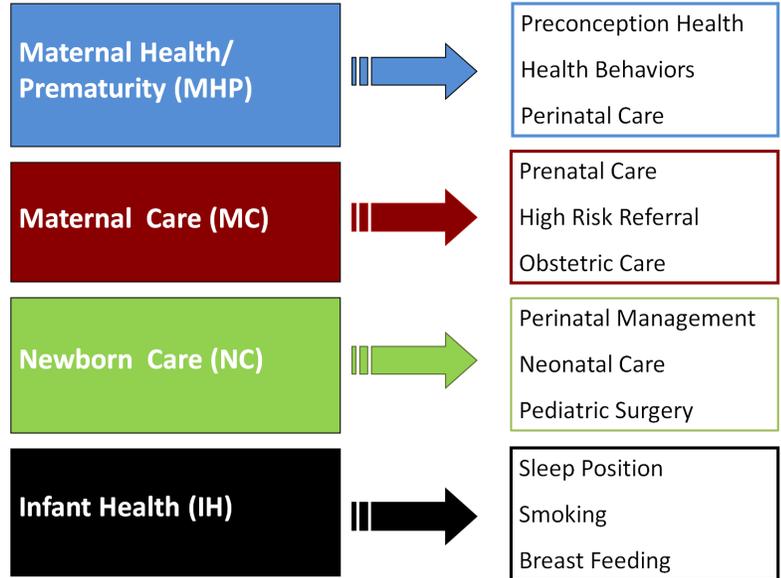


Feto-Infant Mortality in Health Service Region 8

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

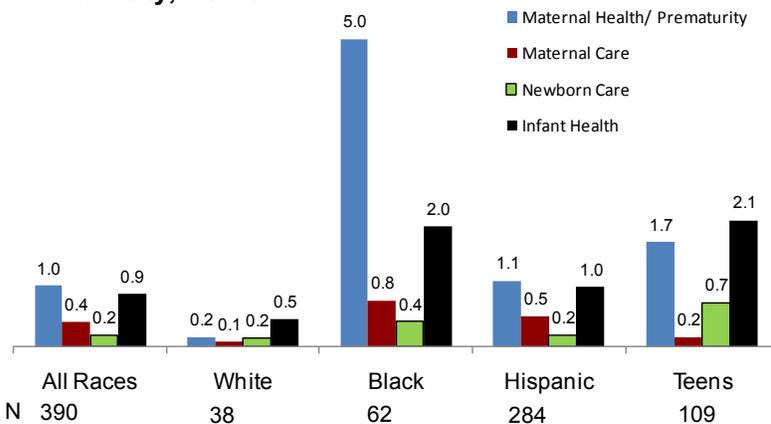
2005-2008 feto-infant mortality rates* (F-IMR) were:

- 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

Phase II: Maternal Health and Prematurity (MHP)

Maternal Health/Prematurity (MHP) deaths in HSR 8: 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, with 95.9% of deaths among Blacks attributed to VLBW (Figure 3)
- White deaths are due to higher mortality rates at specific birth weight categories (Indicates a higher mortality rate among VLBW babies)

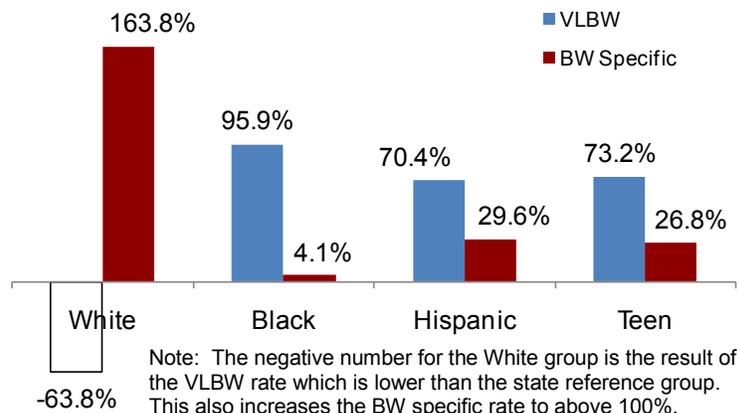
VLBW-Related Modifiable Risk Factors:

- Risk factors contributing most to VLBW:
 - Weight gain less than 15 lbs.
 - High parity (i.e. number of pregnancies) for age
 - Teen pregnancy
 - Inadequate prenatal care
- 18% of VLBW births were attributed to weight gain less than 15 lbs
- Blacks, Hispanics, and teens were much more likely:
 - To gain less than 15 lbs. during pregnancy
 - To have inadequate prenatal care
 - To have high parity for their ages
- Blacks and Hispanics had greater proportions of teen mothers

BW Specific Modifiable Risk Factors for VLBW Births:

- Birth defects contributed to 7.4% of VLBW fetoinfant death

Figure 3: VLBW vs. Birth Weight Specific Mortality, HSR 8



- Teen pregnancy, inadequate prenatal care, and premature rupture of membranes also contributed.
- Blacks, Hispanics, and teens had the highest rates of inadequate prenatal care
- Blacks had higher rates of premature rupture of membranes

Recommendations:

- Improve access to and use of prenatal care for all race groups and teens
- Stress importance of early entry into care
- Target interventions that reduce high parity for age
- Reduce the number of women gaining less than 15 lbs.
- Target interventions that reduce birth defects
- Reduce rates of teen pregnancy
- Reduce rates of premature rupture of membranes

Phase II: Infant Health

Infant Health deaths in HSR 8: infants weighing more than 1,500g at birth and survived to more than 28 days

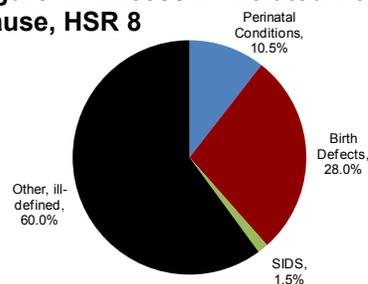
Causes of Infant Health-related death (Figure 4):

- Birth defects and perinatal conditions (primarily disorders related to short gestation and to complications of pregnancy, labor, and delivery) were the primary causes of death in the IH period, representing 28.0% and 10.5% of excess deaths, respectively
- No breast feeding at hospital discharge, less than 13 years of education, inadequate prenatal care, and teen pregnancy were risk factors contributing most to IH-related infant death

Recommendations:

- Reduce birth defects among all race groups and teens

Figure 4: Excess IH-Related Death by Race/Ethnicity and Cause, HSR 8



Note: A disproportionately large number of IH-related deaths were reported with an underlying cause of death indicating "ill-defined and unspecified causes of mortality" compared to the reference group.

- Reduce prematurity among all race groups 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 8: fetal deaths greater than or equal to 1,500 grams

- Hispanics were 2 and Blacks 1.9 times as likely to have gained less than 15 lbs. compared to the reference group
- Hispanics were more likely than the reference group to have diabetes

Recommendations:

- Target interventions aimed at Black and Hispanic women to reduce the number of pregnant women gaining less than 15 lbs.
- Target interventions to Hispanic women that reduce/control diabetes

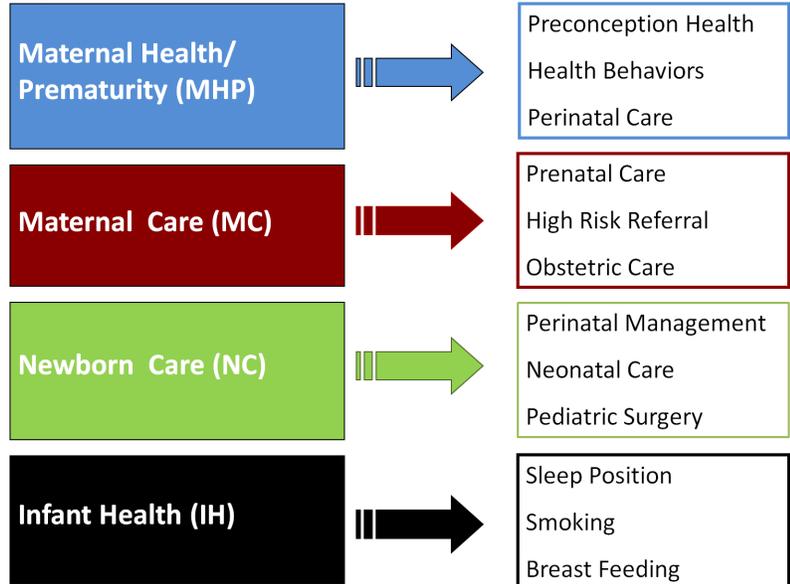


Feto-Infant Mortality in Health Service Region 9/10

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 9/10

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

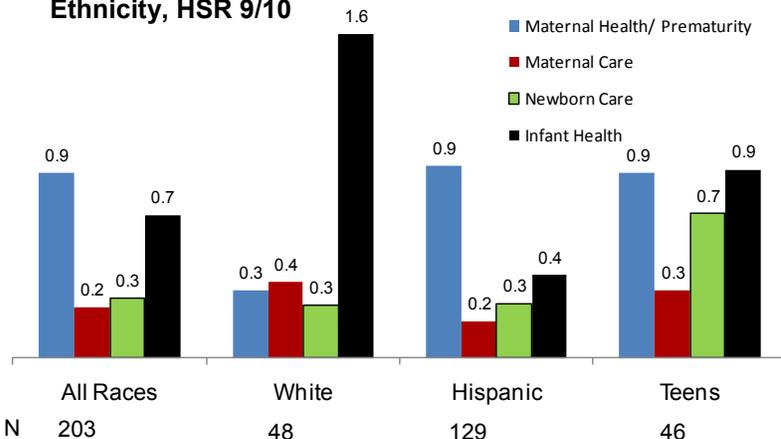
- 6.9/1,000 live births for Hispanics
- 7.6 for Whites
- 7.9 for teens

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):

- 1.8 for Hispanics
- 2.5 for Whites
- 2.9 for teens

Due to low numbers of births and infant deaths among Blacks in HSR 9/10, they could not be included in some analyses

Figure 2: Excess Feto-infant Mortality Rates by Race/Ethnicity, HSR 9/10



- Overall, 42.1% of excess deaths occurred in the Maternal Health/Prematurity risk period. The Infant Health period contributed another 32.6% of excess deaths. Maternal Care and Newborn Care periods contributed 11.6% and 13.7% respectively
- Overall, teens had the highest excess F-IMR (2.9). **Potentially 37% of teen fetal and infant deaths were preventable**
- Whites had the highest excess rate in the Infant Health period; 4 times as high as the Hispanic rate
- For teens, 31.5% of excess deaths occurred in the Maternal Health/Prematurity, and 32.2% occurred in the Infant Health risk periods
- For Whites, 62.1% of excess deaths occurred in the Infant Health risk period
- For Hispanics, 52.4% of excess deaths occurred in the Maternal Health/Prematurity risk period

Recommendations

- Target Maternal Health/Prematurity and Infant Health for teens
- Target Infant Health for Whites
- Target Maternal Health/Prematurity for Hispanics

Areas with the Greatest Potential Impact:

Teen pregnancy and White 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