

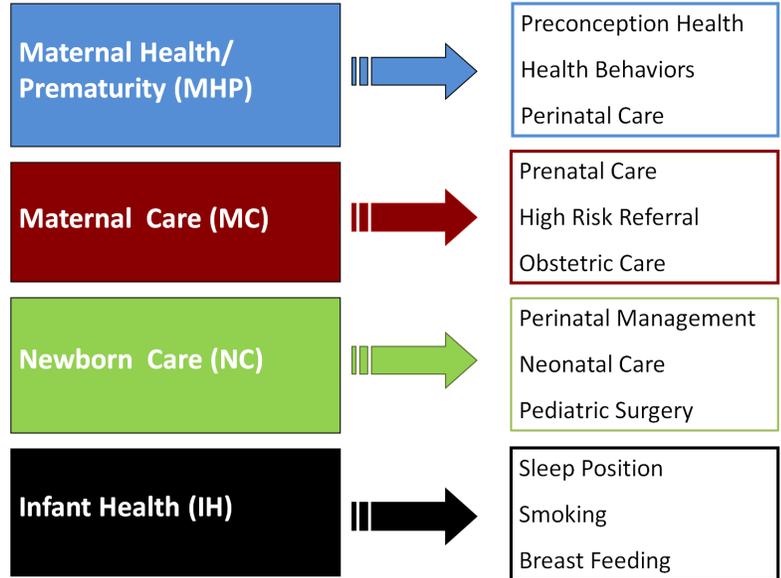


Feto-Infant Mortality in Texas

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 Texas

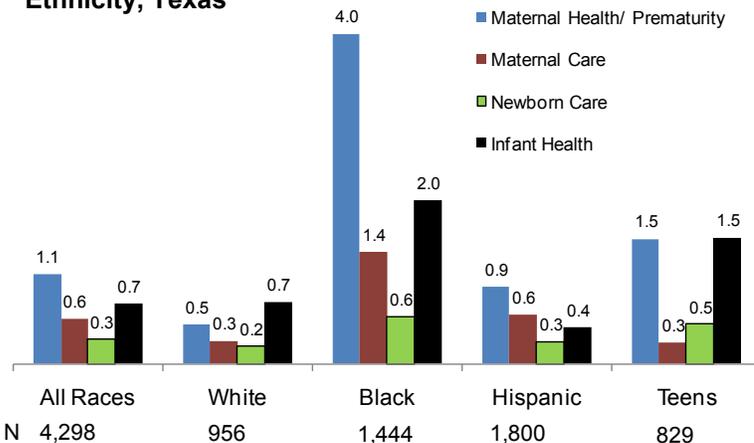
2005-2008 feto-infant mortality rates* (F-IMR) were:

- 13.0/1,000 live births for Blacks
- 7.3 for Hispanics
- 6.8 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):

- 7.9 for Blacks
- 1.7 for Whites
- 2.2 for Hispanics
- 3.8 for teens

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



- Blacks had the highest excess F-IMR for each of the 4 risk periods. **Potentially 61% of Black fetal and infant deaths were preventable**
- For Blacks, 51% of the overall excess deaths occurred in the Maternal Health/Prematurity risk period, with an excess rate 8 times that of Whites
- For teens, 80% of excess deaths occurred in the Maternal Health/Prematurity and Infant Health risk periods (40% each)
- In the Infant Health risk period, the rate of excess feto-infant mortality among Blacks was 2.8 times that of Whites and 5 times that of Hispanics

Recommendations

- Target interventions to Black populations for Maternal Health/Prematurity, Maternal Care and Infant Health-related deaths
- Target interventions for teens for Maternal Health/Prematurity and Infant Health-related deaths
- Target Maternal Health/Prematurity-related deaths among Hispanics
- Target Infant Health-related deaths among the White population

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 Texas: 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 to Blacks, Whites, and teens, with 100% of deaths to Blacks attributed to VLBW (Figure 3)
- Hispanic deaths are primarily due to higher mortality rates (56.1%) at specific birth weight categories (Indicates a higher mortality rate among VLBW babies)

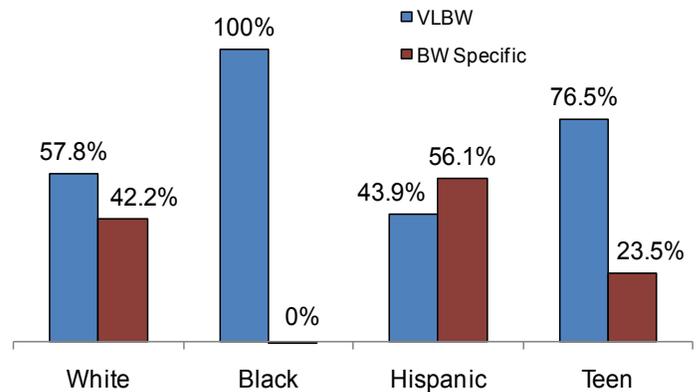
VLBW-Related Modifiable Risk Factors:

- Risk factors contributing most to VLBW:
 - Weight gain less than 15 lbs.
 - No first trimester prenatal care
 - Inadequate prenatal care
 - Teen pregnancy
- 16% of VLBW births were attributed to weight gain less than 15 lbs
- Blacks and Hispanics:
 - Were more likely to gain less than 15 lbs. during pregnancy
 - To have inadequate prenatal care and start prenatal care after the first trimester
 - Had greater proportions of teen mothers

BW Specific Modifiable Risk Factors for VLBW Births:

- Inadequate prenatal care contributed to 5.8% of VLBW fetoinfant deaths

Figure 3: VLBW vs. Birth weight Specific Mortality, Texas



- Premature rupture of membranes, less than 13 years of education and birth defects also figured prominently
- Blacks, Hispanics, and teens had higher prevalences of inadequate prenatal care
- Blacks had higher rates of premature rupture of membranes

Recommendations:

- Improve access to and use of prenatal care for Blacks, Hispanics, and teens
- Stress importance of early entry into care
- Reduce the number of women gaining less than 15 lbs.
- Reduce rates of teen pregnancy
- Reduce rates of premature rupture of membranes

Phase II: Infant Health (IH)

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

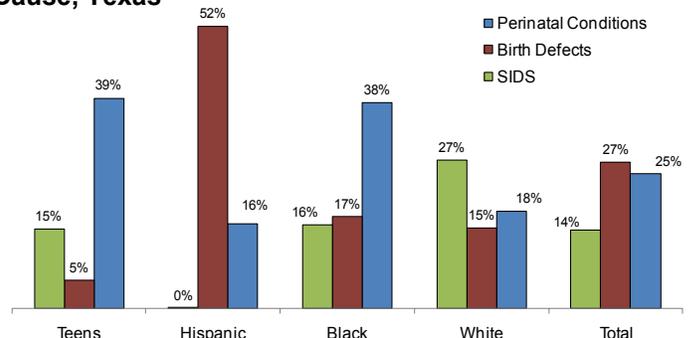
Causes of Infant Health-related death (Figure 4):

- Birth defects were the primary cause of death in the IH risk period accounting for 27% of the excess deaths
- Perinatal conditions (primarily disorders related to short gestation and to complications of pregnancy, labor, and delivery) contributed to 38% of excess deaths among Blacks and 39% among teens
- SIDS accounted for 27% among Whites and
- No breast feeding at hospital discharge, inadequate prenatal care and parental smoking were risk factors contributing most to IH-related infant death

Recommendations:

- Reduce prematurity among Blacks and teens
- Reduce birth defects among all race groups

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



- Target interventions that increase breast feeding
- Reduce SIDS among Whites, Blacks, and teens
- Improve access to and use of prenatal care
- Target interventions that reduce parental smoking

Phase II: Maternal Care (MC)

Maternal Care risk period deaths in Texas:

fetal deaths greater than or equal to 1,500 grams

- Blacks and Hispanics were 1.7, and teens 1.2 times as likely to have gained less than 15 lbs. compared to the reference group
- Hispanics were 1.2 times as likely to have diabetes compared to the reference group

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/control diabetes among Hispanic women