

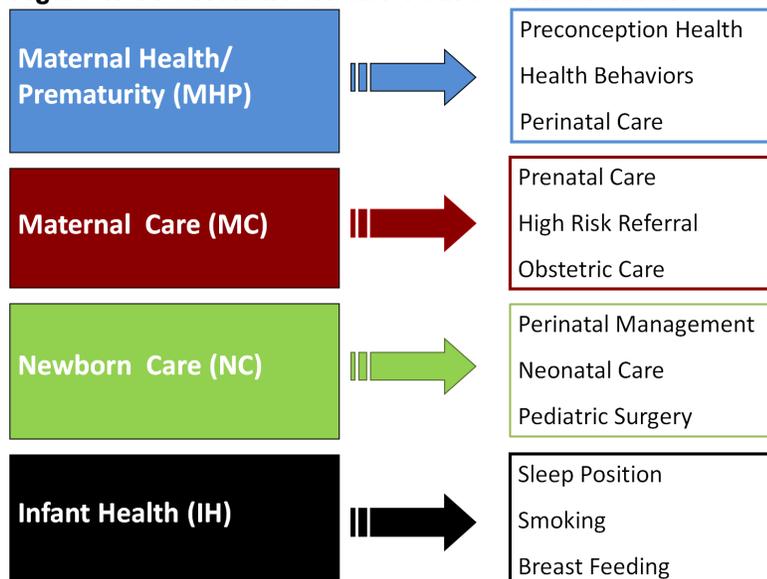


Feto-Infant Mortality in Montgomery County

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 excess mortality, the newborn care risk period is not discussed

Phase I: Perinatal Period Comparison

Excess Feto-Infant Mortality in Montgomery County 2005-2008 feto-infant mortality rates* (F-IMR) were:

- 7.1/1,000 live births for all races
- 6.2 for Hispanics
- 7.4 for Whites

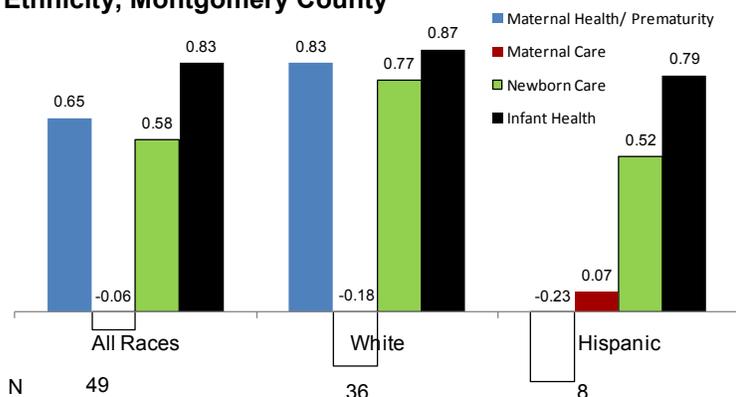
Excess F-IMR is the difference between the exposure group (i.e. Black, White, Hispanic, teen) and the reference group. The excess F-IMR was (Figure 2):

- 2.0 for all races
- 1.1 for Hispanics
- 2.3 for Whites

Due to low numbers of births and infant deaths among Blacks they could not be included in some analyses

- Overall, 40.4% of excess deaths occurred in the Infant Health risk period. The Maternal Health/Prematurity and Newborn Care periods contributed another 31.5% and 28.1%, respectively. The F-IMR for Maternal Care was less than that of the state reference group
- Whites had the highest excess F-IMR (2.3). **Potentially 31% of fetal and infant deaths among Whites were preventable**
- The highest excess rates among Whites and Hispanics occurred in the Infant Health risk period
- The excess rate for Maternal Health/Prematurity among Whites was also relatively high

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



Recommendation

- Target Infant Health to all races
- Target Maternal Health/Prematurity to Whites

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) death in Montgomery County: fetal and infant deaths weighing 500-1,499 grams

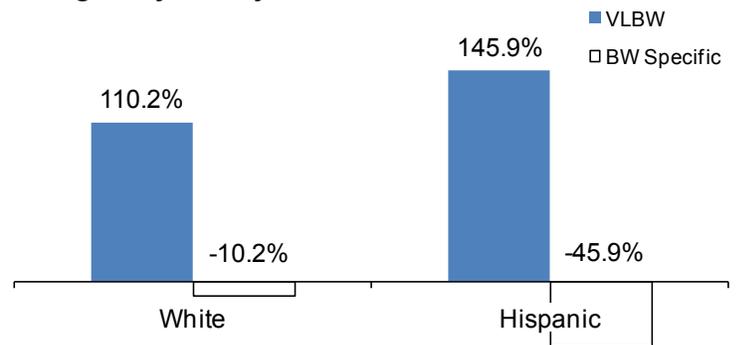
Very Low Birth Weight (VLBW) vs. Birth Weight Specific mortality:

- A larger percentage of fetoinfant deaths in the MHP period are due to a greater number of VLBW births with all deaths among Whites and Hispanics attributed to VLBW (Figure 3)
- Birth weight specific mortality is an indication of the mortality rate among VLBW babies. Montgomery County had BW specific births lower than the state reference group

VLBW-Related Modifiable Risk Factors:

- Risk factors contributing most to VLBW:
 - Weight gain less than 15 lbs.
 - Inadequate prenatal care
 - High parity (i.e. number of pregnancies) for age
 - Teen pregnancy
 - Parental smoking
- 17% 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
 - Have high parity for age
- Blacks and teens were more likely to smoke

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



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%.

Recommendations:

- Reduce the number of women gaining less than 15 lbs.
- Improve access to and use of prenatal care
- Target interventions that reduce high parity for age
- Target interventions that reduce teen pregnancy
- Target interventions that reduce parental smoking among women of child-bearing ages

Phase II: Infant Health (IH)

Infant Health death in Montgomery County: 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 death in the IH period accounting for 25.7% of excess deaths
- Perinatal conditions (primarily disorders related to short gestation and to complications of pregnancy, labor, and delivery) represented 13.8% of excess deaths
- Birth defects accounted for another 13.5%
- Less than 13 years of education, no breast feeding at hospital discharge, and parental smoking were risk factors contributing most to IH-related infant death

Recommendations:

- Target interventions that reduce SIDS
- Target interventions that reduce prematurity
- Target interventions that reduce birth defects
- Provide opportunities/incentives for continuing education beyond high school for women of child-bearing ages
- Target interventions that promote breast feeding
- Target interventions that reduce parental smoking

Figure 4: IH-Related Death by Cause, Montgomery County

