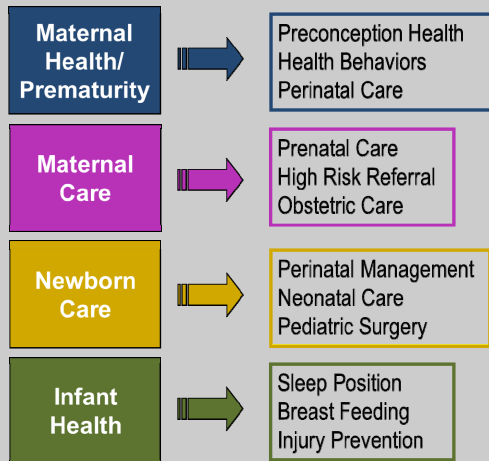


## About Perinatal Periods of Risk (PPOR)

- The goal is to prioritize and target prevention and intervention efforts in order to improve birth outcomes
- Analysis divides fetal and infant deaths into four intervention areas (Figure 1) within the health care continuum based on birth weight and age of death.
- Tarrant County is compared to an external reference group to determine the rate and number of excess deaths in our community. (**Reference group noted to generally have better birth outcomes includes Non-Hispanic White mothers aged 20+ years with a high school diploma or higher education level).**

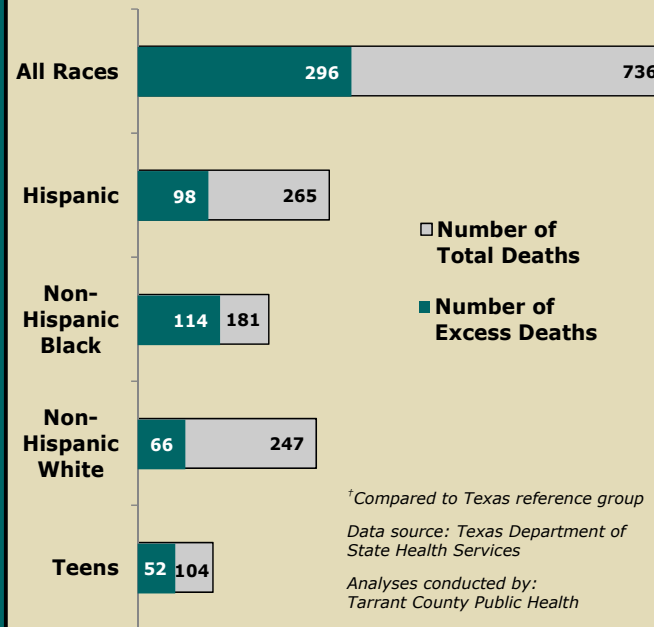
**Figure 1. PPOR Risk Periods: Points of Intervention**



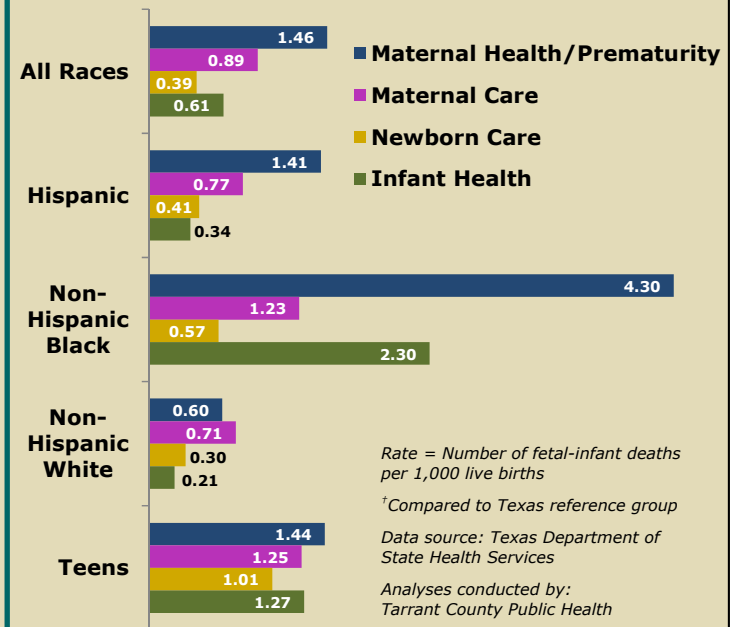
# Fetal-Infant Mortality in Tarrant County

## Phase I: Perinatal Period Comparison

**Figure 2. Number of Total and Excess Fetal-Infant Deaths by Subpopulation, Tarrant County, 2007-2009<sup>†</sup>**



**Figure 3. Excess Fetal-Infant Mortality Rates by Subpopulation and Intervention Area, Tarrant County, 2007-2009<sup>†</sup>**



### 2007-2009 Fetal-Infant Mortality Rates (F-IMR) in Tarrant County were:

- 7.92 deaths per 1,000 live births for Hispanics
- 13.39 for Non-Hispanic Blacks
- 6.81 for Non-Hispanic Whites
- 9.96 for Teens
- 8.34 for Tarrant County overall

### Excess F-IMR is the difference between the exposure group and the reference group. Excess death rates were:

- 2.93 deaths per 1,000 live births for Hispanics
- 8.40 for Non-Hispanic Blacks
- 1.82 for Non-Hispanic Whites
- 4.97 for Teens
- 3.35 for Tarrant County overall

- Potentially 40% of fetal and infant deaths in Tarrant County were preventable (Figure 2).**

- Overall, 44% of excess deaths in Tarrant County occurred in the Maternal Health/Prematurity risk period.
- Non-Hispanic Blacks had the highest excess F-IMR (8.40).
- Non-Hispanic Blacks had high excess rates in both the Maternal Health/Prematurity (4.30) and Infant Health risk periods (2.30) (Figure 3).

### Interventional Area with the Greatest Potential Impact Overall in Tarrant County

- Non-Hispanic Black Maternal Health/Prematurity

# Phase II: Maternal Health and Prematurity (MHP): Fetal and infant deaths weighing 500-1,499 grams

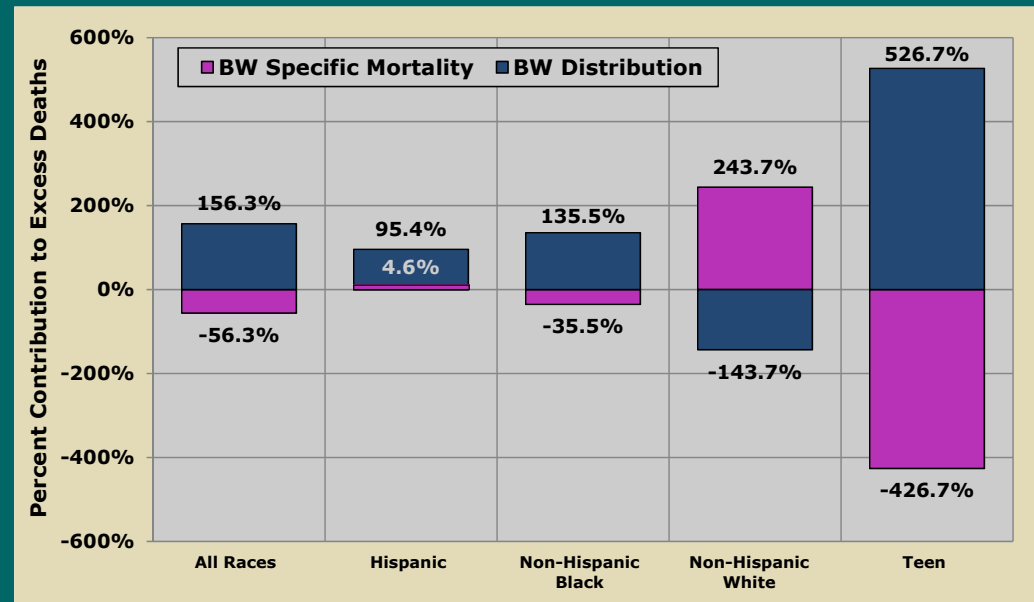
## Birthweight Distribution vs. Birthweight Specific Mortality

- For MHP rates, the PPOR protocol focuses on whether the excess deaths are due to:
  - Birthweight Distribution** (too many very low birthweight babies) or
  - Birthweight Specific Mortality** (poor survival at each low birthweight category).

This distinction is needed because the factors that generally affect birthweight distribution (health of the mother, risk behaviors like smoking, spacing between pregnancies, socioeconomics, etc.) are different from the factors that affect birthweight specific mortality rates (quality of perinatal care systems in the community).

- Birthweight distribution contributed the most to excess deaths in Tarrant County overall and among each subpopulation, (except Non-Hispanic Whites) (Figure 4).
- Negative percentages (Figure 4) indicate the contribution is lower than the reference group and in the case of specific mortality rates, indicates better survival in our community among very low birthweight infants than the reference group.

Figure 4. Birthweight Specific Mortality vs. Birthweight Distribution by Subpopulation, Tarrant County, 2007-2009<sup>†</sup>



<sup>†</sup>Compared to U.S. reference group  
BW = Birthweight

Data source: Texas Department of State Health Services  
Analyses conducted by: Tarrant County Public Health

## Modifiable Risk Factors

Overall in Tarrant County from 2007-2009, mothers of very low birthweight infants were more likely to:

- Smoke
- Not attend an adequate number of prenatal care visits
- Be obese (BMI  $\geq$  30.0)

Differences among racial/ethnic groups included:

- Hispanics and Non-Hispanic Blacks were more likely to
  - Not attend an adequate number of prenatal care visits
  - Be teen mothers
  - Be overweight (BMI 25.0-29.9) and obese (BMI  $\geq$  30.0)
- Non-Hispanic Whites were more likely to smoke

## Community Recommendations

- Improve access to and use of prenatal care
- Reduce rates of teen pregnancy
- Reduce the number of women who are overweight or obese before pregnancy
- Target interventions that reduce maternal smoking, especially among Non-Hispanic Whites and Teens



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