

Pregnancy-Related Deaths in Georgia: Highlights of 2002 Review

¹Heena Joshi, MSc, ²Iffath Abbasi Hoskins, MD, ¹Stic Harris, MPH, ¹Chinaro Kennedy, DrPH, MPH, ¹Emily Kahn, PhD, MPH
¹Georgia Division of Public Health/MCH Epidemiology Section | ²Women's Health Institute, Memorial Health University Medical Center Savannah, Georgia



Objective

- Identify and investigate all pregnancy-related deaths and collect information from all available sources on each death
- Review all pregnancy-related deaths with a multi-disciplinary committee
- Quantitatively and qualitatively assess medical and non-medical factors contributing to deaths
- Intervene in key areas – e.g., strengthen referrals for high-risk women
- Educate women and providers about modifiable risks for death and associated prevention strategies

Methodology

- Identified cases through death certificate review:
 - Women 10 - 50 years old
 - Cause of death in any of 3 fields between O00 and O99 (causes related to pregnancy, childbirth and puerperium)
- An epidemiologist and a maternal/fetal medicine sub-specialist abstracted hospital charts for labor, delivery and terminal event

Maternal Mortality Case Definition

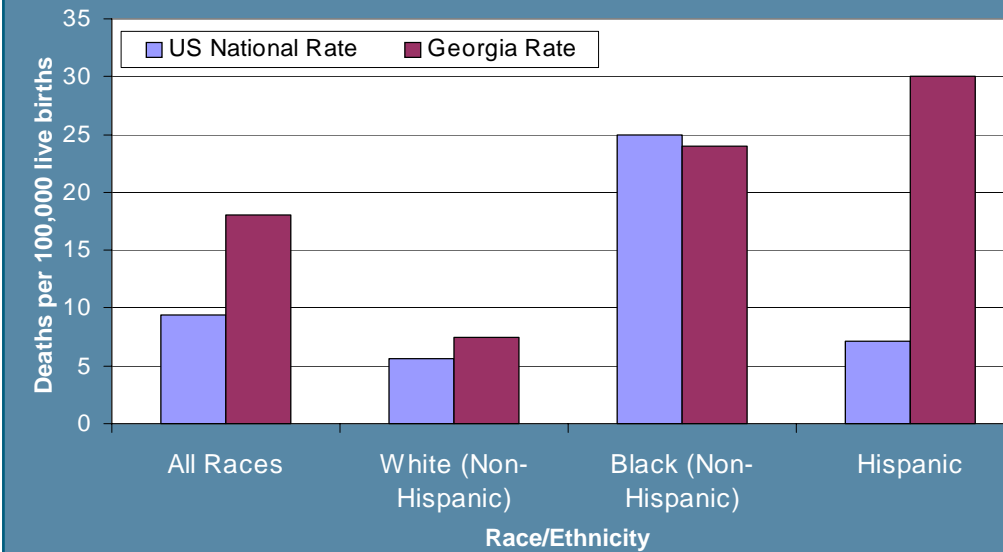
- Maternal deaths are a reportable condition in the Georgia
- Two categories of maternal death:
 - Pregnancy-associated death:** Death of a woman, from any cause, while she is pregnant or within one year after end of pregnancy, regardless of duration and site of pregnancy
 - Pregnancy-related death:** Death of a woman while pregnant or within one year of end of pregnancy, regardless of the duration and the site of the pregnancy or its management, but not from accidental or incidental causes

Background on Maternal Mortality in Georgia

- In 2002, 106 women died during or within one year after the end of pregnancy
 - 25 deaths (23%) were directly attributable to pregnancy
- Georgia's 2002 pregnancy-related mortality rate was 1.9 times the national rate (18 vs. 9.4 per 100,000 live births)

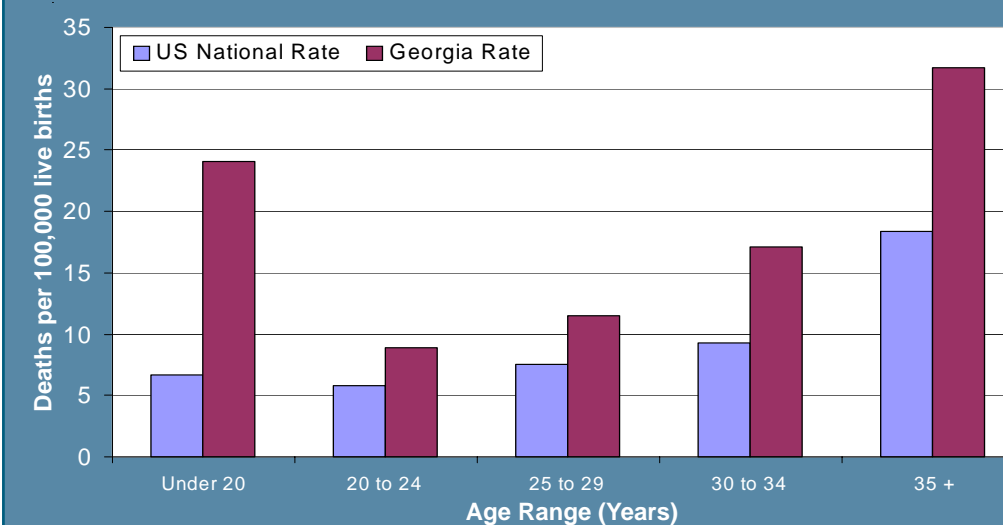


Race/Ethnicity of Pregnancy-Related Deaths in Georgia and the U.S., 2002



- Georgia's rate is ~ 2 times higher than the national rate
- Black rate is 3-4 times higher than the white rate
- Georgia's rates are slightly higher for whites; slightly lower for blacks
- Georgia's Hispanic rate is > 4 times higher than the national rate and much higher than the rate for Georgia whites

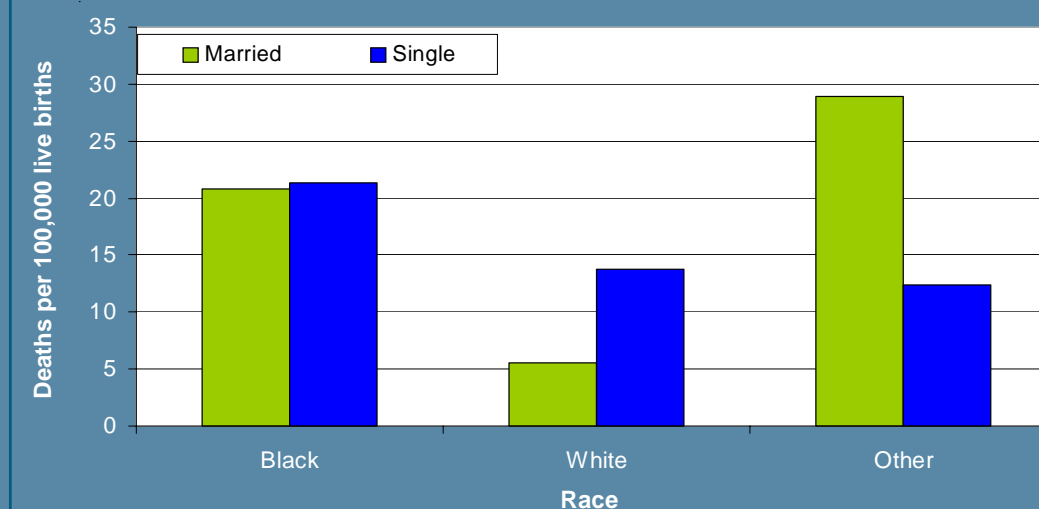
Age Range of Pregnancy-Related Deaths in Georgia and the U.S., 2002



- Georgia's rate is higher than National rate in every age group
- Georgia's rate is much higher among women under 20 or over 35 years old

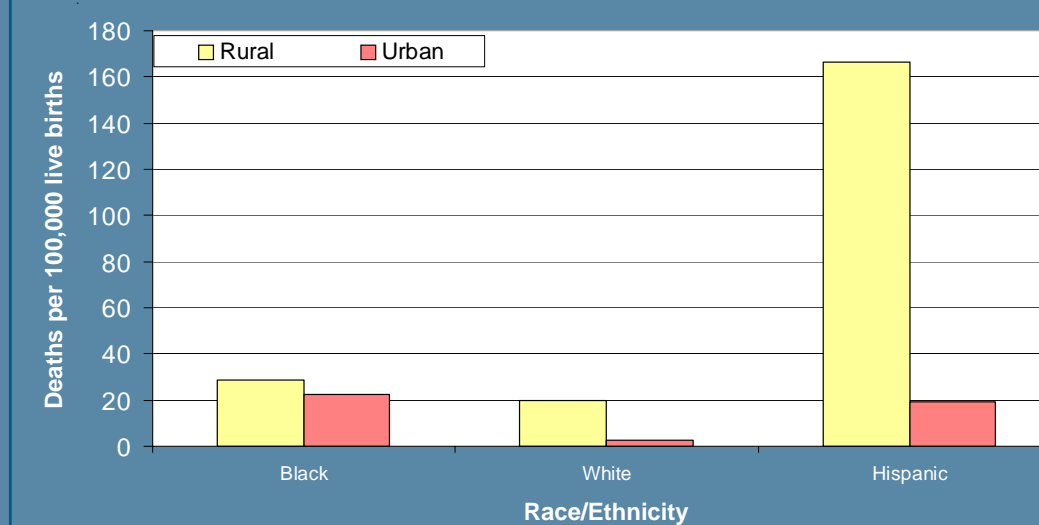
Results

Marital Status of Pregnancy-Related Deaths by Race, Georgia 2002



- Rates are similar among married and single Black women
- Rates for single white women are 2.5 times higher than for married women

Rural/Urban County of Residence for Pregnancy-Related Deaths, Georgia 2002

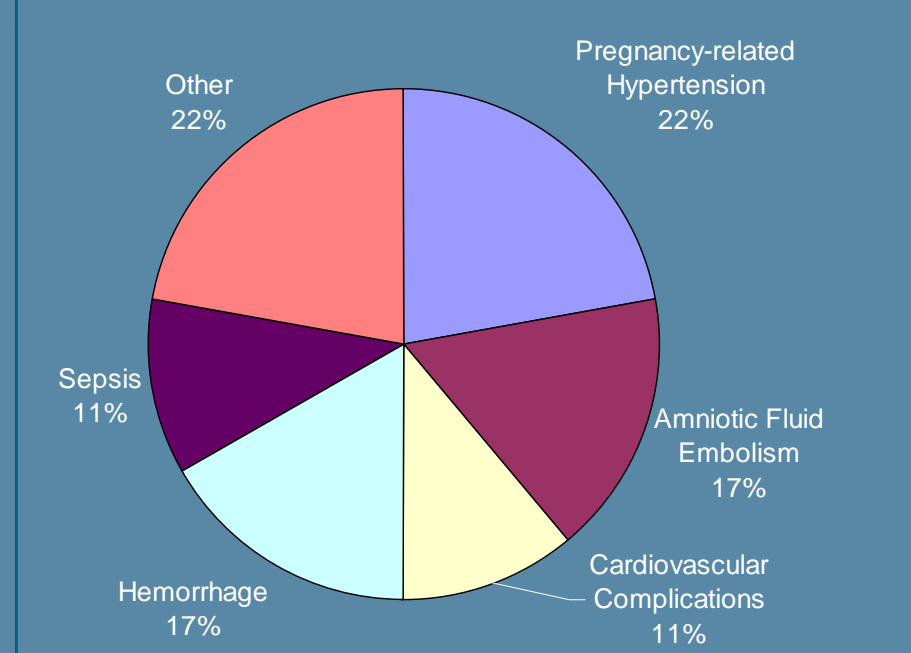


- Rural and urban blacks have similar rates of death
- The rural white rate is ~ 7 times higher than the urban white rate
- The Hispanic rate is strongly affected by small numbers

Other Risk Factors

- Most of the deaths occurred during the post partum period
- 43% of cases had no health insurance or unknown status; 38% had Medicaid coverage
- 19% of cases were morbidly obese
- 3 cases were Jehovah's witnesses who refused blood products

Causes of Pregnancy-Related Deaths Georgia 2002



Conclusions

- Case reviews identified in gaps in both prenatal and post- partum periods
- Increased awareness of and access to prenatal care and support services need to be aggressively targeted to African-American women
- Obese women should receive preconceptional and nutritional counseling
- Since the majority of maternal deaths occur postpartum, case management for women immediately after delivery must be improved

Limitations

- Data**
 - Small numbers limit ability to assess significance of risk factors
 - Limited access to complete medical and social records
 - Conflicting information from death certificate and medical records
- Review Process**
 - Determining best format for presenting facts: case summaries vs detailed abstraction
 - Determining best analytic approach: quantitative vs. qualitative
 - Defining preventability: clinical vs. public health approach

Future Directions

- Improved case identification process**
 - Link birth/fetal death certificates with death certificates for women of reproductive age
 - Search hospital discharge data for women with discharge status = died and obstetric discharge codes
- Improvements in data collection**
 - Adding medical examiners reports
 - Linking hospital discharge data to identify previous hospitalizations
- Improved review process**
 - Greater focus on case summaries and qualitative assessment
- Focus on four categories of modifiable factors**
 - Preconceptional care
 - Family planning and/or risk counseling before pregnancy
 - Patient factors
 - Noncompliance with medical advice
 - Behavioral risk factors such as substance abuse
 - System factors
 - No prenatal care
 - Wrong level of care for risk level
 - Lack of referral to available services
 - Quality of care
 - Improper or delayed treatment
 - Inadequate follow-up