Black-White Disparities in Maternal Mortality

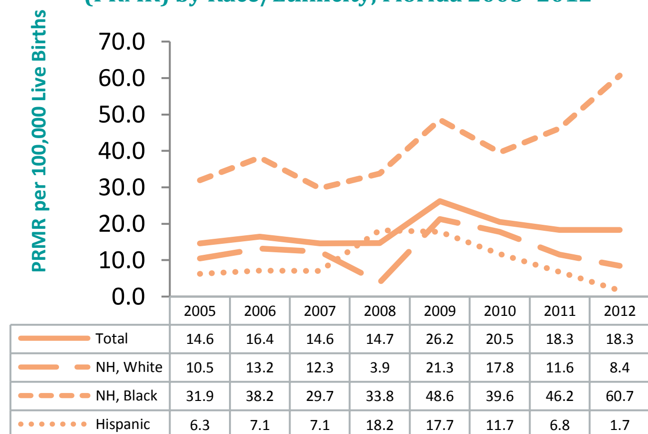
Public Health Issue

Despite dramatic declines in U.S. maternal mortality during the 20th century and improvements in pregnancy care, women still die from pregnancy complications [1]. The U.S. pregnancy-related mortality ratio (PRMR) increased from 7.2 in 1987 to 16.8 per 100,000 births in 2003, and declined slightly to 15.5 in 2008 [2]. In the U.S., black women died from pregnancy-related causes at higher rates than white women, 37.5 per 100,000 births versus 10.2 per 100,000 births during the 1998 -2005 period [3]. Black women are also more likely to die from complications of pregnancy, including hemorrhage, hypertensive disorders, and cardiomyopathy. Social factors such as low levels of social support, lower socioeconomic status, chronic exposure to environmental hazards or social stressors such as racism, fragmentation of or difficulty accessing health care may be playing an important role in the higher rates of maternal deaths for black women [4]. Understanding and addressing why black women have higher rates of pregnancy-related deaths than white or other race/ethnicity women is a major challenge for public health [5].

Magnitude and Trend

From 2005-2012 the Florida Pregnancy-Associated Mortality Review (PAMR) classified 321 cases as pregnancy-related deaths (PRDs). During this period, the PRMR for non-Hispanic black women was significantly higher than non-Hispanic white and Hispanic women (RR=3.3, 95% CI=2.6-4.3), (RR=4.3, 95% CI=3.1-5.93) respectively (Figure 1).

Figure 1. Pregnancy Related Mortality Ratios (PRMR) by Race/Ethnicity, Florida 2005–2012



	2005	2006	2007	2008	2009	2010	2011	2012
Total	14.6	16.4	14.6	14.7	26.2	20.5	18.3	18.3
NH, White	10.5	13.2	12.3	3.9	21.3	17.8	11.6	8.4
NH, Black	31.9	38.2	29.7	33.8	48.6	39.6	46.2	60.7
Hispanic	6.3	7.1	7.1	18.2	17.7	11.7	6.8	1.7

The PRMRs for non-Hispanic black women during the period 1999-2009 were higher and statistically significant ($p<0.05$) when compared with non-Hispanic white and Hispanic in almost all demographic characteristics. The excess risk of deaths for non-Hispanic black women were higher than non-Hispanic white and Hispanic, for women age 35 or older, married, obese class II (BMI 35-39.9), women with late prenatal care, women who had cesarean delivery, and women whose delivery was paid by Medicaid.

National and State Goals

Healthy People 2020 goals are to reduce the PRDs to 11.4 maternal deaths per 100,000 live births; to increase the proportion of women who receive early and adequate prenatal care; to reduce cesarean birth among low-risk (full-term, singleton, and vertex presentation); to increase abstinence from alcohol, cigarettes, and illicit drugs among pregnant women; to increase the proportion of women delivering a live birth who receive preconception care services; to increase the practice of key recommended preconception health behaviors; and to increase the proportion of women giving birth who attend a postpartum care visit with a health worker [6]. Three of the

goals for the Florida Department of Health (FDOH) are: By 2015, reduce the rate of maternal deaths per 100,000 live births from 20.2 to 16.0, increase from 17% to 21% women having a live birth who received preconception counseling about healthy lifestyle behaviors and prevention strategies from a health care practitioner prior to pregnancy, and increase from 83% to 84.5% of pregnant women receiving prenatal care during the first trimester [7].

Current State Programs and Initiatives

Florida has been actively conducting ongoing surveillance of maternal mortality cases since 1996. To date, over 2,200 pregnancy-associated cases have been reviewed by a multidisciplinary team of maternal and child health specialists in the PAMR project. Each de-identified case is carefully and respectfully considered by the team before issues are identified and recommendations have been disseminated to the larger community through the team's dedicated efforts. The PAMR team findings are being used to support ongoing quality improvement projects in the perinatal community and the PAMR team recommendations have been disseminated to the larger community through publications, presentations, posters, and use of the media.

Preconception health, early entry to prenatal care, and the reduction of pregnancy-related morbidity (hemorrhage, hypertensive disorders, and cardiomyopathy) are important factors for the reduction in PRDs and the disparity between higher rates of maternal mortality for black women compared to white women.

Under contract with the FDOH, the Florida Perinatal Quality Collaborative (FPQC), in partnership with the American Congress of Obstetricians and Gynecologists (ACOG District XII) and the Obstetric Hemorrhage Initiative (OHI) Advisory Group (consisting of maternal, public, and quality improvement health leaders), developed an OHI Toolbox for Hospital Implementation. Participating hospitals assemble multi-disciplinary teams and implement strategies that respond to every obstetric hemorrhage through a two-year multi hospital collaborative. The objective is to reduce the PRDs due to hemorrhage, which is 5 ($p<0.05$) and 4 ($p<0.05$) times higher for non-Hispanic black women, compared with non-Hispanic white and Hispanic women respectively [8].

The FDOH is funding interconception care (ICC) and early entry into prenatal care through Florida's Healthy Start program. ICC is provided to a woman who has previously been pregnant and is capable of becoming pregnant in the future who has risk factors that may lead to a poor pregnancy outcome and is also a Healthy Start prenatal client; a mother who is being provided services on behalf of her Healthy Start infant, or any non-pregnant woman who had a pregnancy and has risk factors that may lead to a poor subsequent pregnancy outcome. Healthy Start coalitions are responsible for assisting pregnant woman with obtaining early access to prenatal care to mitigate risk factors and improve outcomes for mother and baby.

Public Health Strategies and Practices

Although the reasons for black and white disparities in PRDs are unclear, possible explanations include differences in pregnancy-related morbidity, access and use of health care services, and content and quality of care [9]. Preconception health and early entry into prenatal care (i.e., during the first trimester) may reduce the disparity between black and white maternal mortality rates and, consequentially, the overall PRD rate. Models of prenatal care should be flexible enough to allow

for the possibility that black women in the U.S. may have risk factors not traditionally considered by health care practitioners, such as psychological and social stress [10].

DOH Capacity

In Florida, there are numerous maternal and child health organizations that help families receive the care they need to have healthier mothers, babies, and children. The FDOH is Florida's Title V agency and receives the federal Title V Maternal and Child Health Block grant to fund, support, and facilitate MCH interventions, initiatives and systems of care, and care coordination in local health departments and Florida's network of Healthy Start Coalitions. Also at FDOH are the state's Title X Family Planning Program; Women, Infants, and Children Program (Florida WIC); Chronic Disease Prevention Program; School Health Program, Child and Adolescent Health Program and Children's Medical Services, a medical program for children with special health care needs. Together, these programs along with many other FDOH programs serve a large proportion of Florida's population (i.e., women of childbearing age, pregnant women, infants, children, adolescents and families). The FDOH also provides information and guidance to practitioners and community partners on maternal and child health issues [11-13]. However, there continues to be women in need of routine women's health care services in Florida.

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