

# OFFICE OF THE ASSISTANT SECRETARY FOR HEALTH



## HHS: Addressing Maternal Health, Maternal Morbidity and Maternal Mortality in the United States

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# OFFICE OF THE ASSISTANT SECRETARY FOR HEALTH (OASH)

LEADING AMERICA TO HEALTHIER LIVES

## HEALTH OPPORTUNITY

Advancing health opportunities for all

## HEALTH TRANSFORMATION

Catalyzing a health promoting culture

## HEALTH INNOVATION

Fostering novel approaches and solutions

## HEALTH RESPONSE

Responding to emerging health challenges

- Provides overall public health policy development, coordination, and implementation
- 10 regional health offices across the nation
- Office of the Surgeon General and the Public Health Service Commissioned Corps

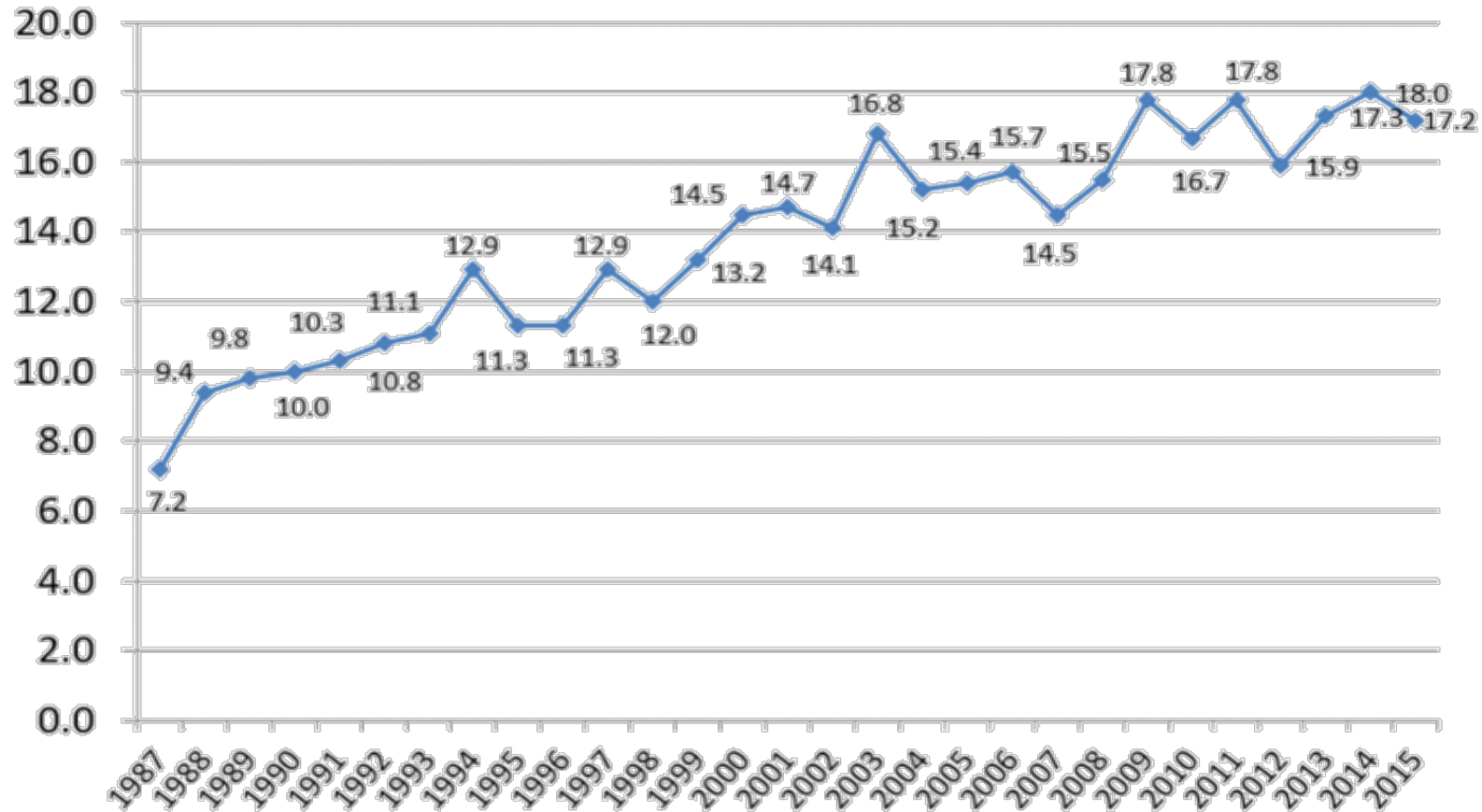


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# DATA TRENDS

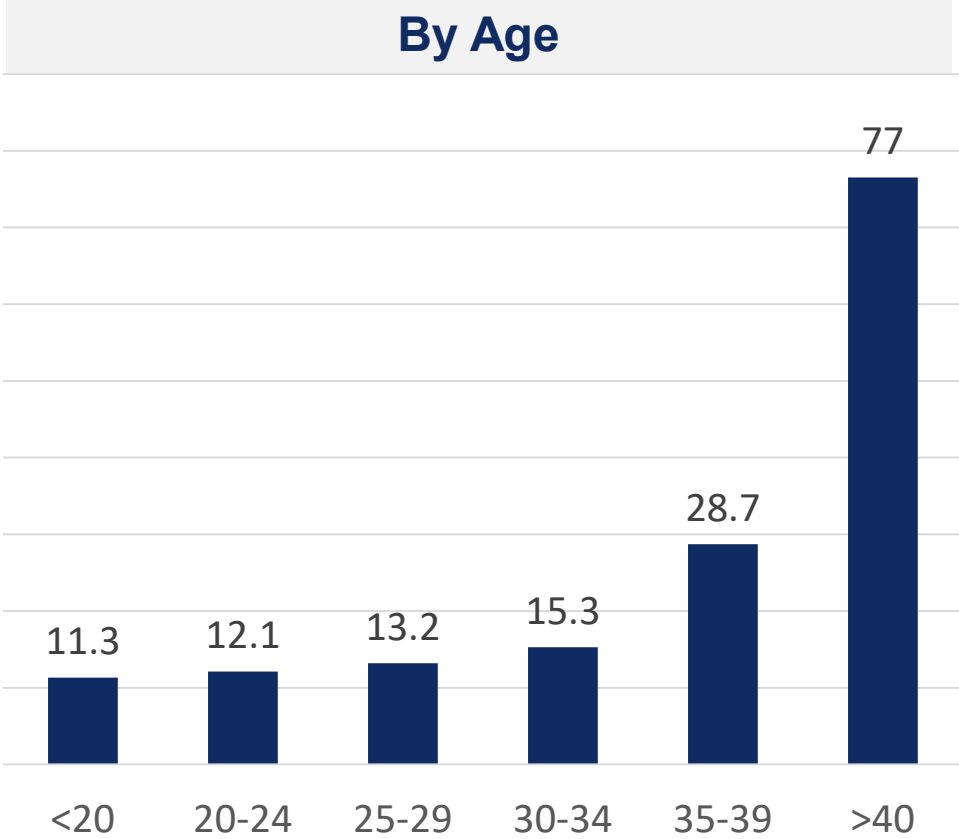
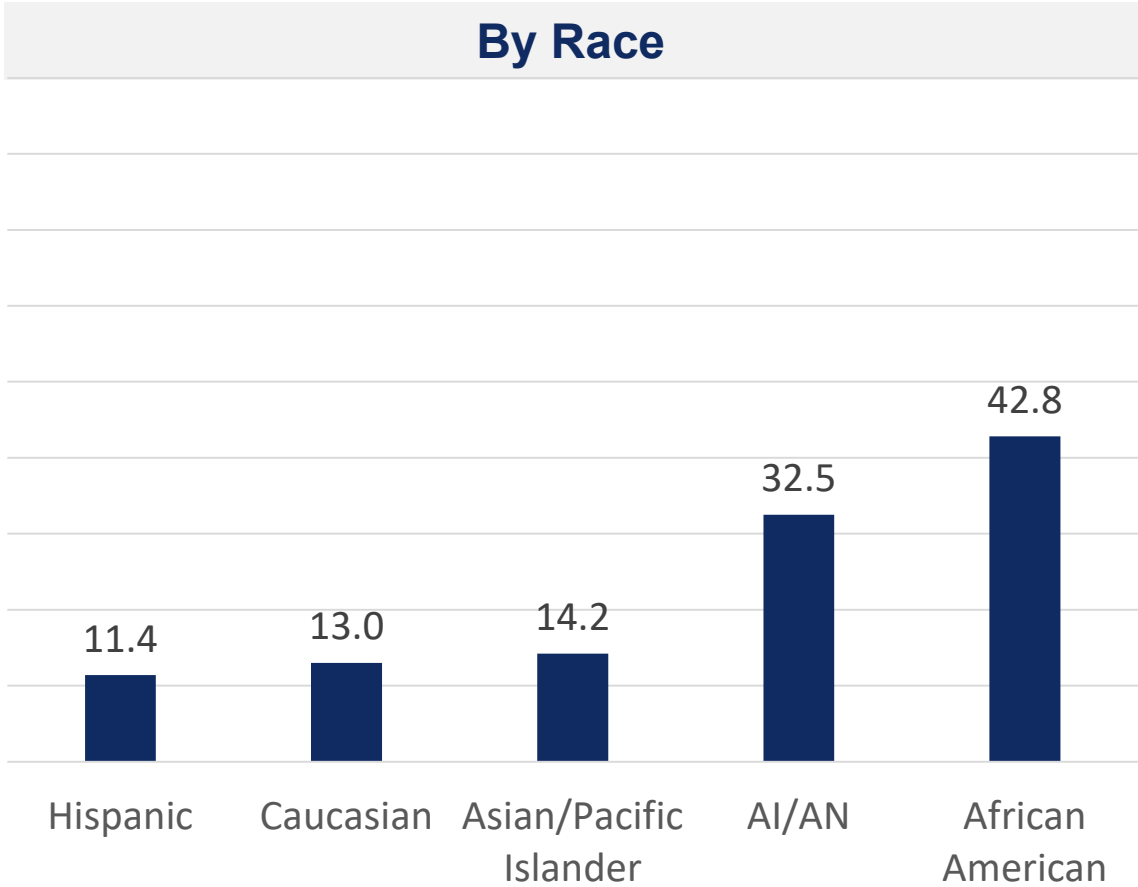
## PREGNANCY-RELATED MORTALITY (PRMR), PER 100,000 LIVE BIRTHS PER YEAR

### U.S. PRMR (1987-2015)



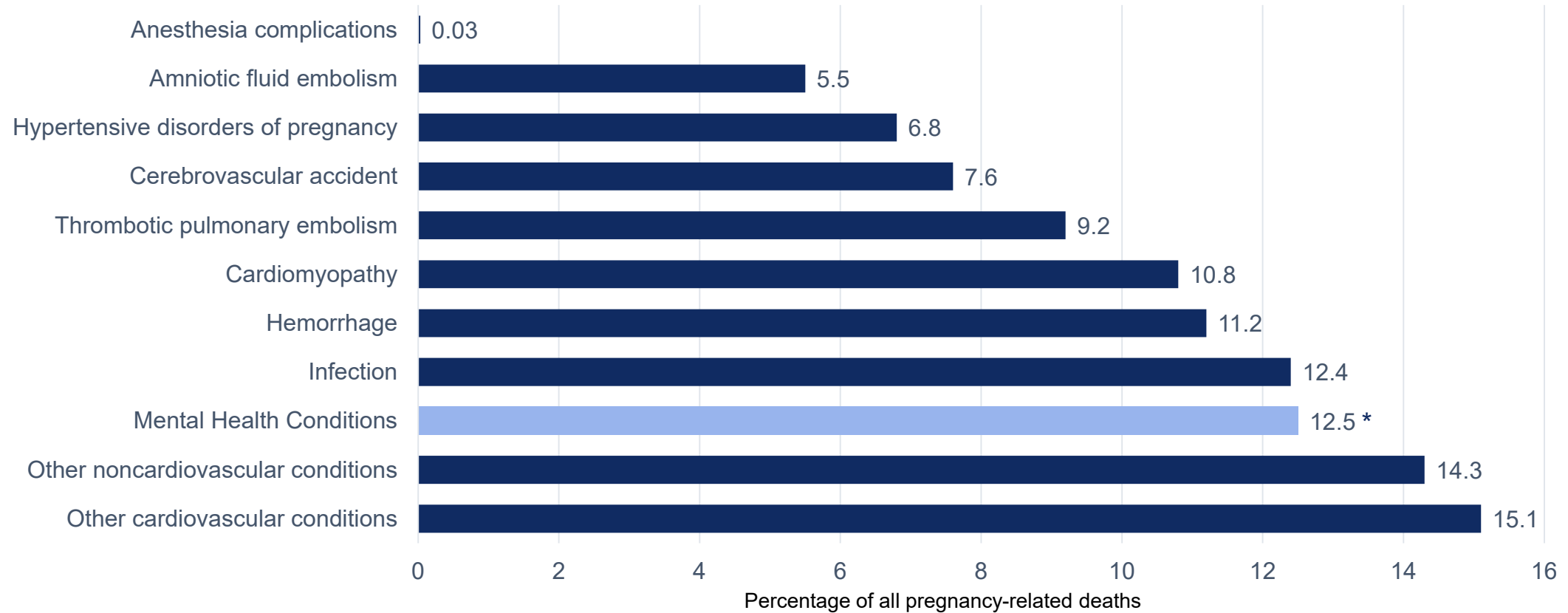
# PREGNANCY-RELATED MORTALITY RATIO (2011-2015)

PER 100,000 LIVE BIRTHS



# MATERNAL MORTALITY

## CAUSES OF PREGNANCY RELATED DEATHS IN THE U.S. (2011-2015)



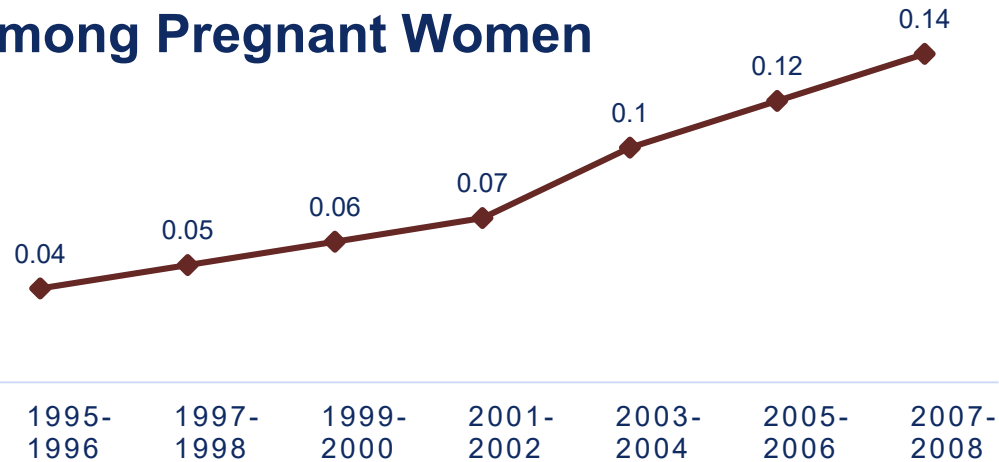
Note: The cause of death is unknown for 6.7% of all pregnancy-related deaths.

Source: CDC Pregnancy Mortality Surveillance System

\* Source: CDC Foundation, Report from Nine Maternal Mortality Review Committees, 2018

# UNDERLYING HEALTH CONDITIONS WORSENING OVER TIME

## Chronic Hypertension Among Pregnant Women

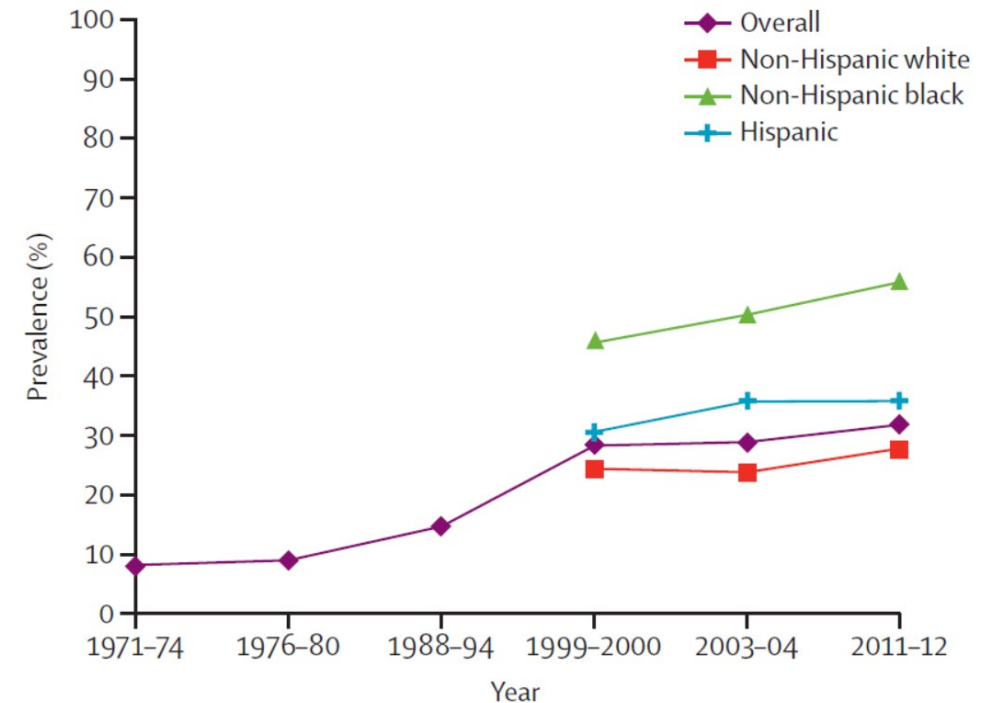


### Chronic hypertension impacts maternal adverse outcomes

- Acute renal failure (21%)
- Pulmonary Edema (14%)
- Preeclampsia (11%)
- In-hospital mortality (10%)

*Am J Obstet Gynecol.* 2012 February ; 206(2): 134.e1–134.e8. doi:10.1016/j.ajog.2011.10.878.

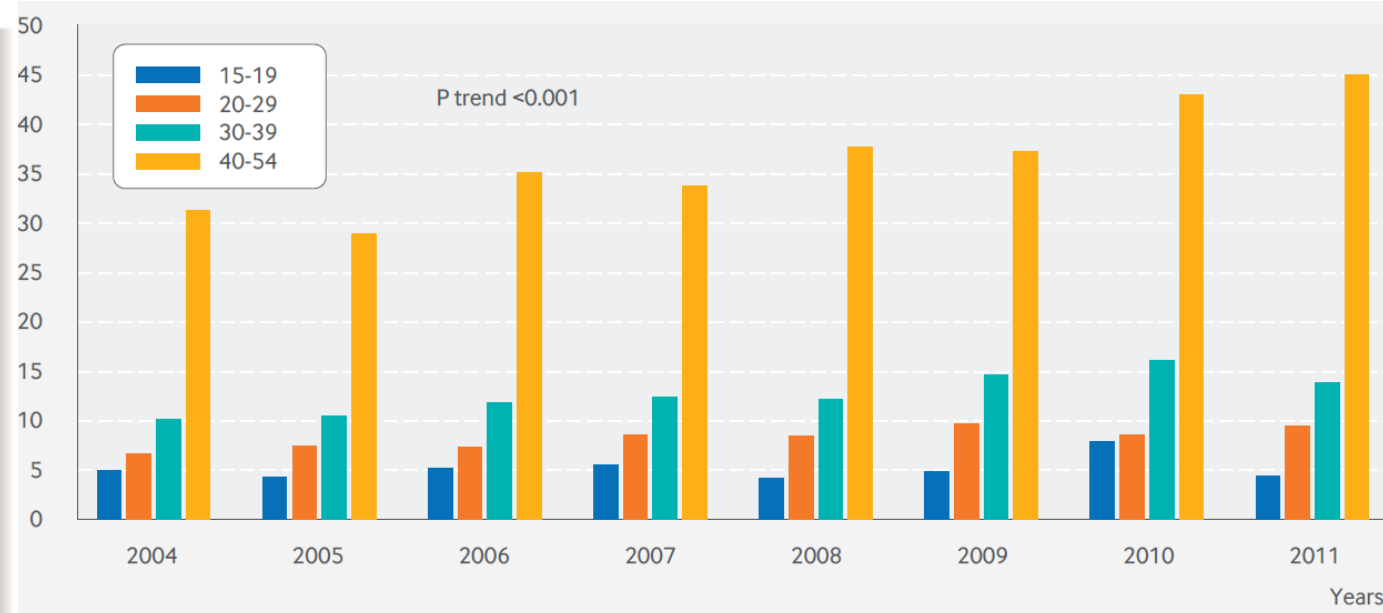
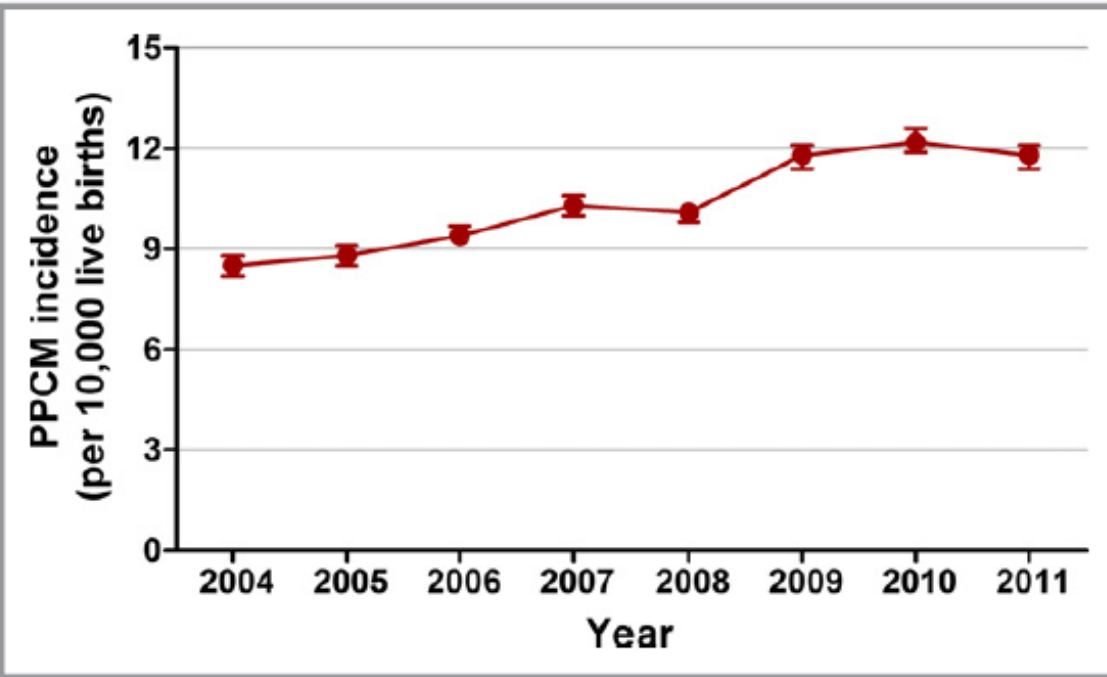
## Prevalence of Maternal Obesity



[www.thelancet.com/diabetes-endocrinology](http://www.thelancet.com/diabetes-endocrinology) Vol 4 December 2016



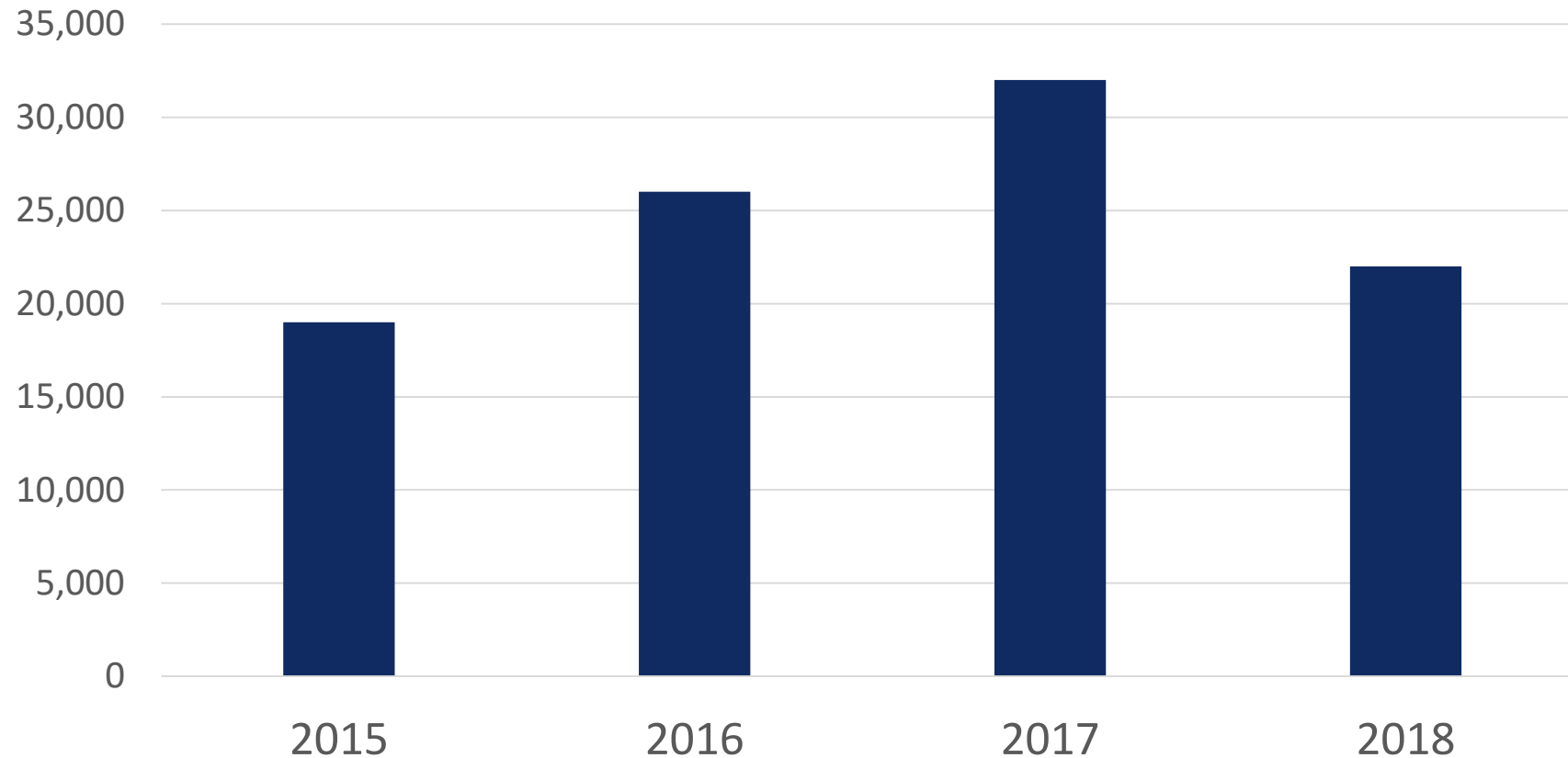
# PERIPARTUM CARDIOMYOPATHY



Temporal trend in the incidence of peripartum cardiomyopathy in the United States. Coloured bars indicate different maternal age groups (see legend). Adapted from Kolte and colleagues.<sup>12</sup>

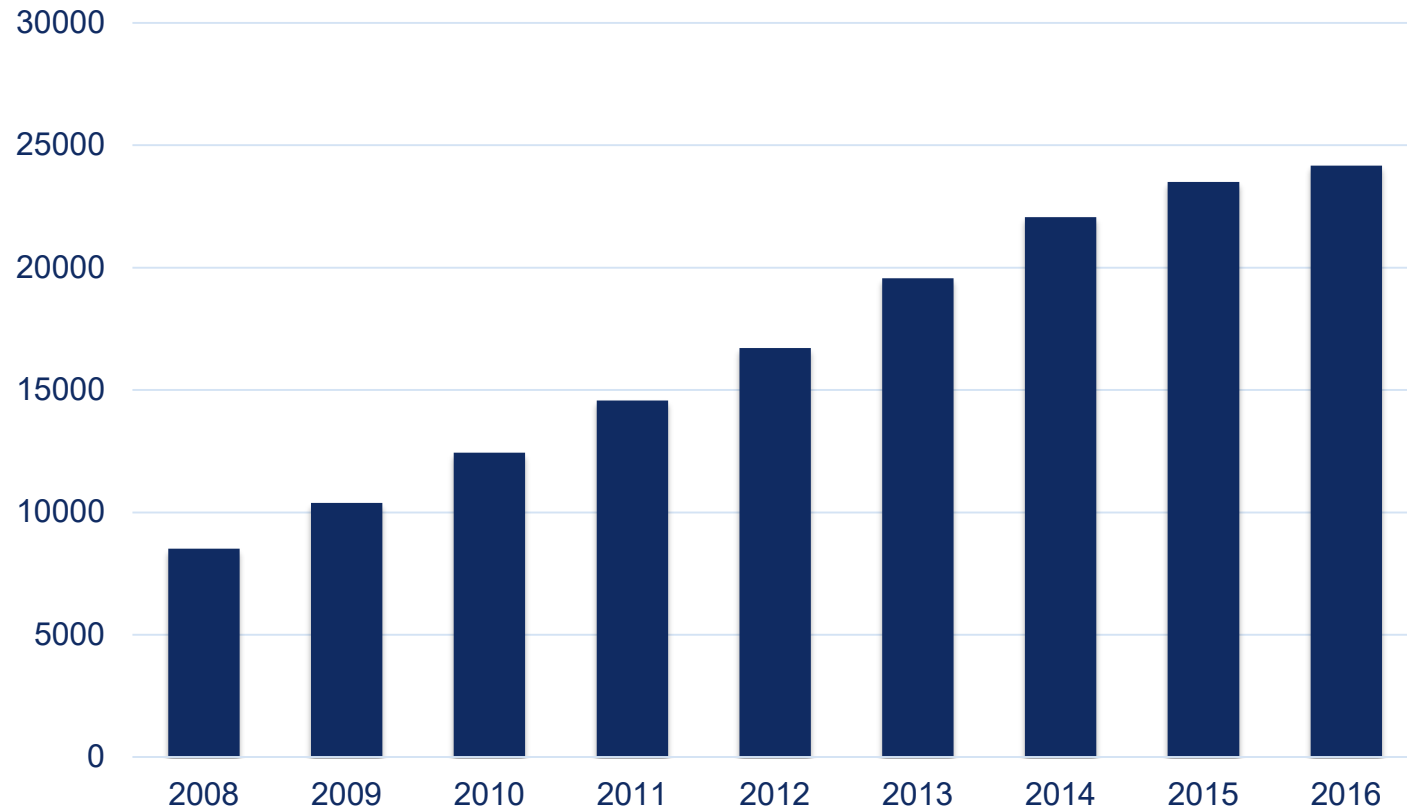
Kolte, JAMA 2014  
 Honigberg, BMJ 2019

# PAST MONTH OPIOID USE AMONG PREGNANT WOMEN





# NEWBORN VICTIMS OF THE OPIOID EPIDEMIC



Source: AHRQ HCUP State Inpatient Databases

## Outcomes in the Fetus

- Growth restriction
- Prematurity
- Death

## Outcomes in the Newborn

- Low birthweight
- Small head circumference
- Neonatal abstinence syndrome

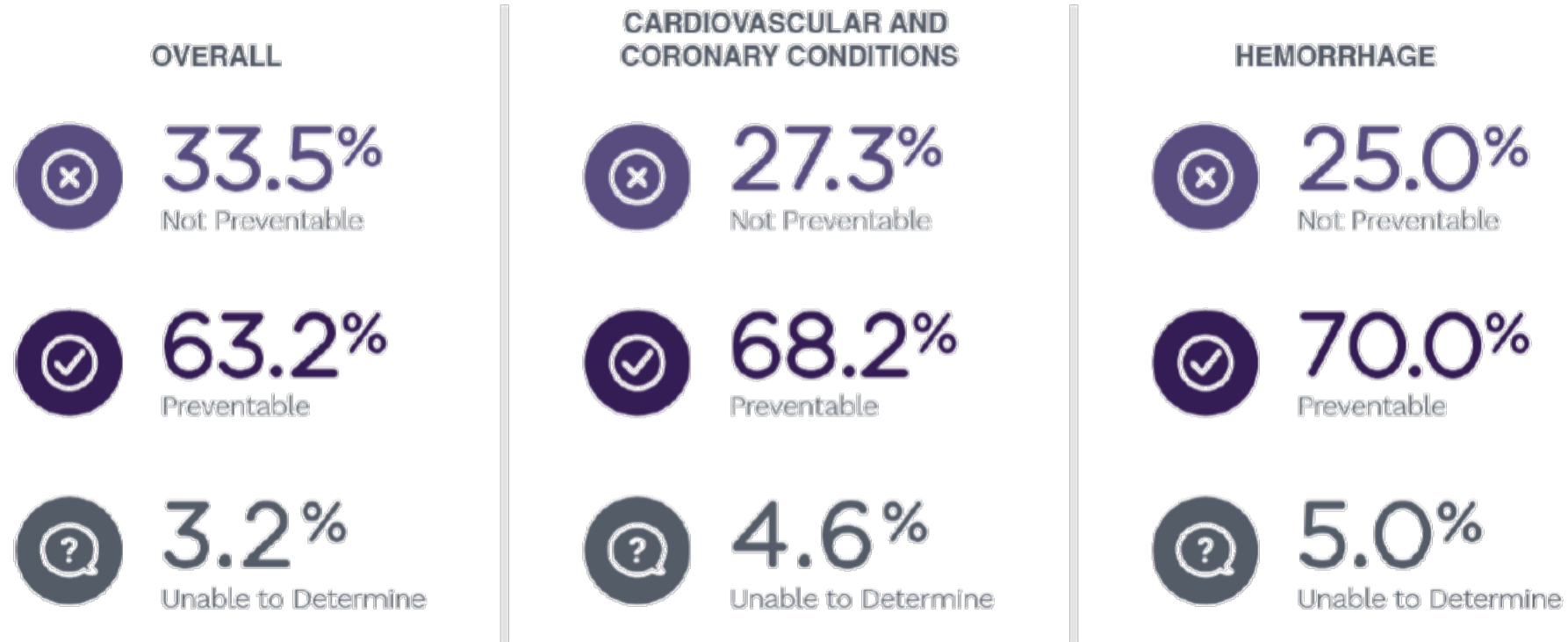
## Outcomes in the Child

- Developmental disorders

McQueen, NEJM 2016

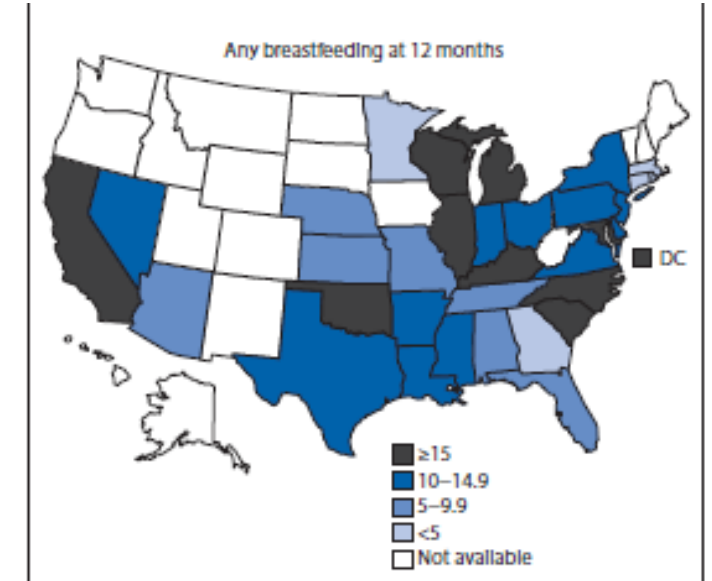
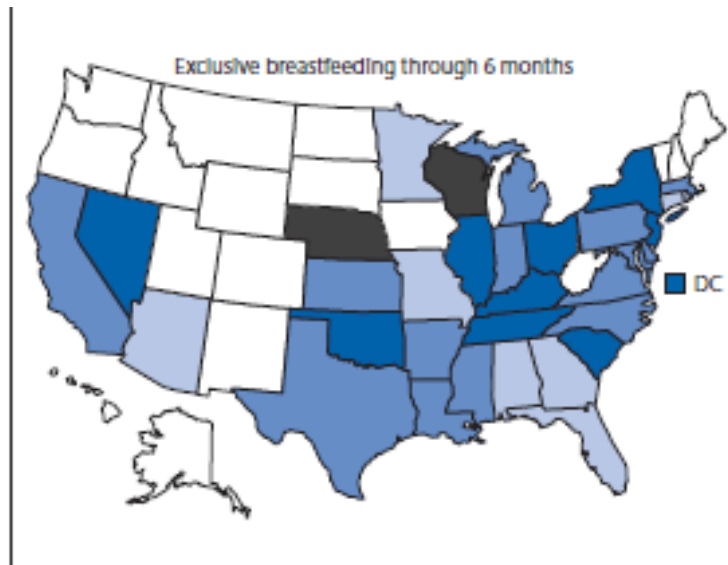
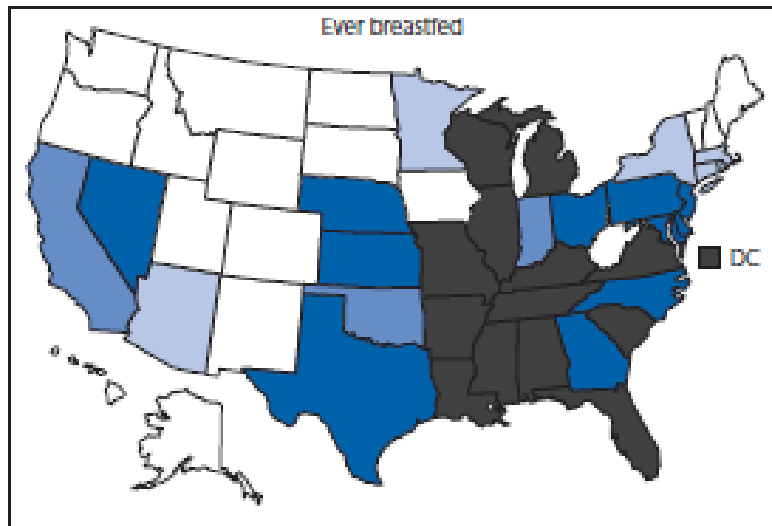


# MATERNAL MORTALITY: 3 OF 5 PREGNANCY RELATED DEATHS ARE PREVENTABLE



# BREASTFEEDING DISPARITIES

FIGURE. Percentage-point difference in breastfeeding indicators for non-Hispanic white and non-Hispanic black infants — National Immunization Survey, United States, 2011–2015\*†



\* Among children born during 2010–2013.

† Data were suppressed when the group's sample size was <50 for the state.

Anstey, MMWR 2017

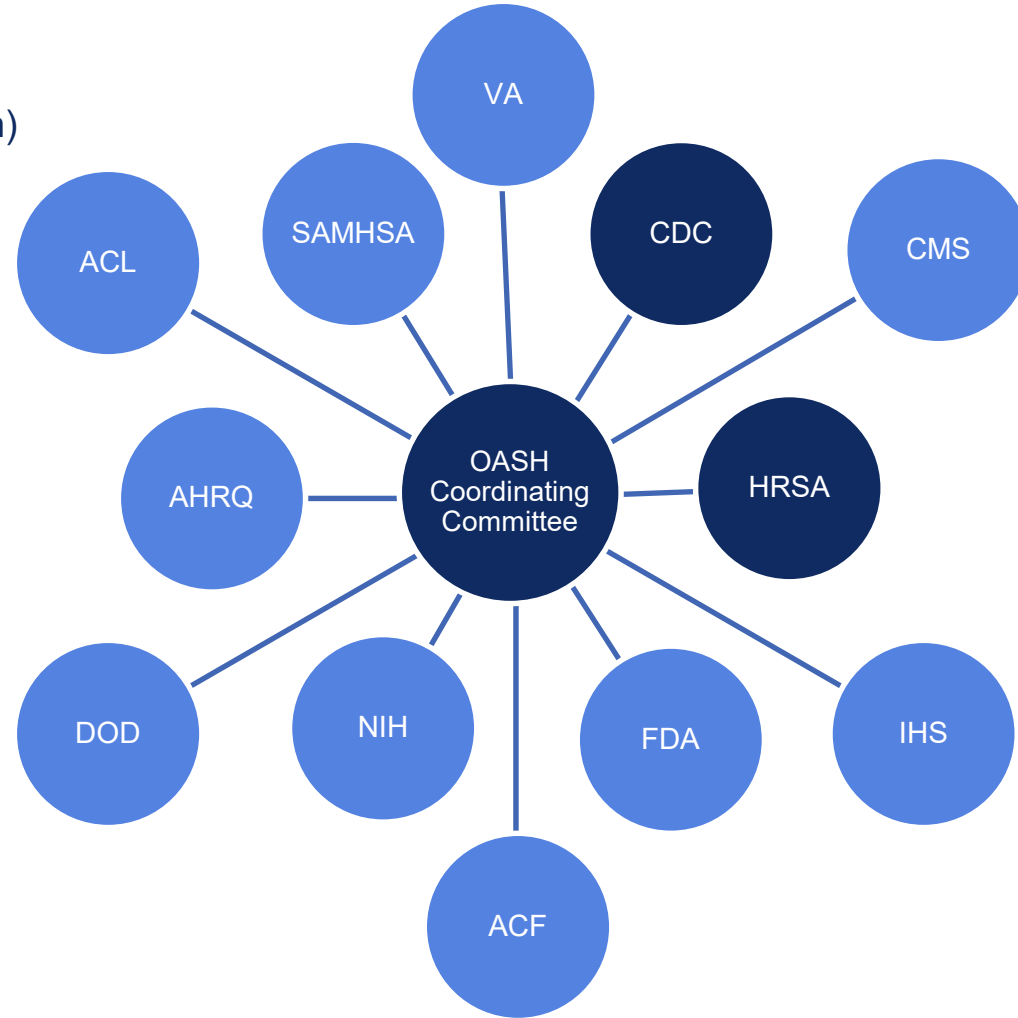


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# INTERAGENCY COORDINATION

## OWH

- Move Your Way (Maternal Health)
- It's Only Natural
- Postpartum Depression
- OWHPA Grants
- Opioid Care Coordination
- NAS



## HRSA

- AIM
- MIECHV
- MCH Services Block Grant
- Healthy Start Initiative
- WPSI
- Grand Challenges

## CDC

- PQCs
- MMRCs
- LOCATe
- Facility-based SMM Review
- MMRIA
- Review to Action



# HHS: CONFRONTING THE RISE IN MATERNAL MORTALITY

*Common themes and opportunities across HHS to address maternal health, morbidity and mortality*

Increased emphasis on **cardiovascular disease** among women, the leading cause of maternal mortality

More coordinated and targeted approaches to address the **preventable risk factors** faced by women of reproductive age

Enhanced **data systems** to generate higher quality and more timely data on measures of maternal health outcomes and care

Improved understanding of the **social determinants** of health and impacts on maternal health, morbidity and mortality



# Office on Women's Health

## UPCOMING CAMPAIGNS FOR MATERNAL HEALTH

### MOVE YOUR WAY MATERNAL HEALTH



*Increasing awareness of benefits and self-efficacy of women to be physically active during and after pregnancy*

### IT'S ONLY NATURAL



*Improving breastfeed rates among African American women*

### POSTPARTUM DEPRESSION



*Lower the barriers women face in talking to their health care provider about symptoms*



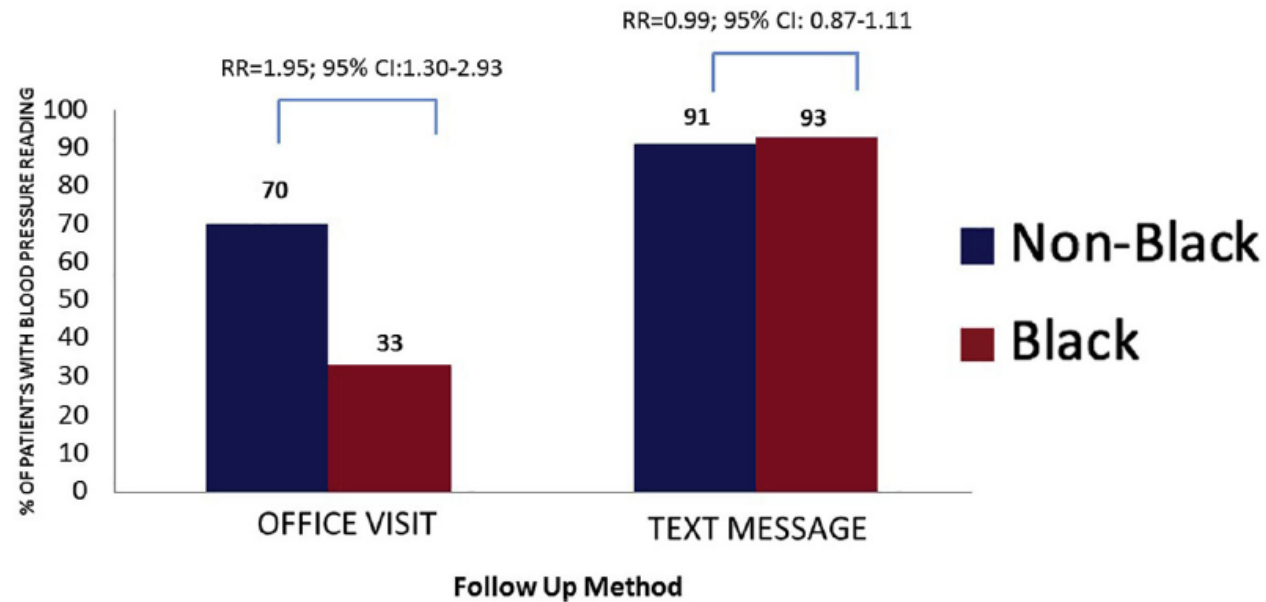
# OASH POLICY AND OPIOID PROGRAMS FOR MATERNAL HEALTH

- **Neonatal Abstinence Syndrome (NAS) and the Maternal-Child Dyad**
  - Focuses on the use of health information technology (IT) tools to improve long-term follow-up and care of opioid and other substance exposed mother and infants
  - Input from state, federal and private sector partners with expertise in maternal and infant care to discuss and suggest data elements that can support existing/emerging clinical priorities and the development of interoperable health IT tools for care delivery
- **Combatting the Opioid Epidemic With Improved Prevention and Treatment**
  - OWH is leading two projects to combat the opioid epidemic among women and girls, including pregnant and parenting women
    - Office on Women's Health Prevention Awards (OWHPA) – primary and secondary prevention
    - OWH/HRSA Collaboration – best practices in care coordination

# TEXT BASED MONITORING AND POSTPARTUM BLOOD PRESSURE FOLLOW-UP

FIGURE

Postpartum blood pressure ascertainment by race and follow-up method



CI, confidence interval; RR, relative risk.

Hirshberg. Text messaging remote blood pressure monitoring. *Am J Obstet Gynecol* 2019.

Hirshberg, *AJOG* 2019





# Infertility and Maternal Morbidity

## Massachusetts Outcomes Study of Assisted Reproductive Technology (MOSART)

3 Fertility Groups	Prevalence of Severe Maternal Morbidity
Fertile	1.09%
Subfertile	1.44%
Assisted Reproductive Technology	3.14%

Belanoff, Obstet and Gyn 2016



## Brief, Intensive Weight Loss Intervention to Improve Reproductive Outcomes in Obese, Subfertile Women

	IWL N=6	SCN N=5	p-value <sup>[1,2]</sup>
Participants with LH surge (non-hormonal users)	3 (out of 4)	1	0.21
Ovulation induction	5/6	3/5	0.14
Average number of cycles of ovulation induction medication	1	3	0.02
Confirmed pregnancies	3	0	0.18
Gestational diabetes	2	N/A	N/A
-diet controlled	1		
-metformin monotherapy	1		
Hypertension in pregnancy	0	N/A	N/A
Preeclampsia	0	N/A	N/A
Singleton live birth	3	0	1.00

# Research Gaps

## Basic

- The genetics, molecular biology, and environmental influences of peripartum cardiomyopathy
- Improved models to reveal molecular triggers of preterm birth and birth
- The effects of weight change on ovarian function at a molecular level
- Mechanisms of opioid exposure and dependence in utero
- Define and understand the consequences of the maternal and fetal exposome
- Determine the molecular mechanisms underlying the physiological effects of micronutrients and vitamins (Vitamin D associated with lower rates of preeclampsia and gestational diabetes)

## Clinical

- Early detection of peripartum cardiomyopathy
- Effects of rigorous diet and weight loss on pregnancy and outcomes in women with obesity and infertility
- Randomized large scale trials of remote monitoring for blood pressure
- Unique behavior change interventions for women who are pregnant
- The relationship between breastfeeding and risk of diabetes and hypertension
- The impact of postpartum hormone changes on postpartum depression
- Further define the impact of pre-pregnancy Vitamin D levels and Vitamin D supplementation on gestational diabetes and preeclampsia





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