OFFICE OF THE ASSISTANT SECRETARY FOR HEALTH

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

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Director, Office on Women's Health

OFFICE OF THE ASSISTANT SECRETARY FOR HEALTH (OASH)

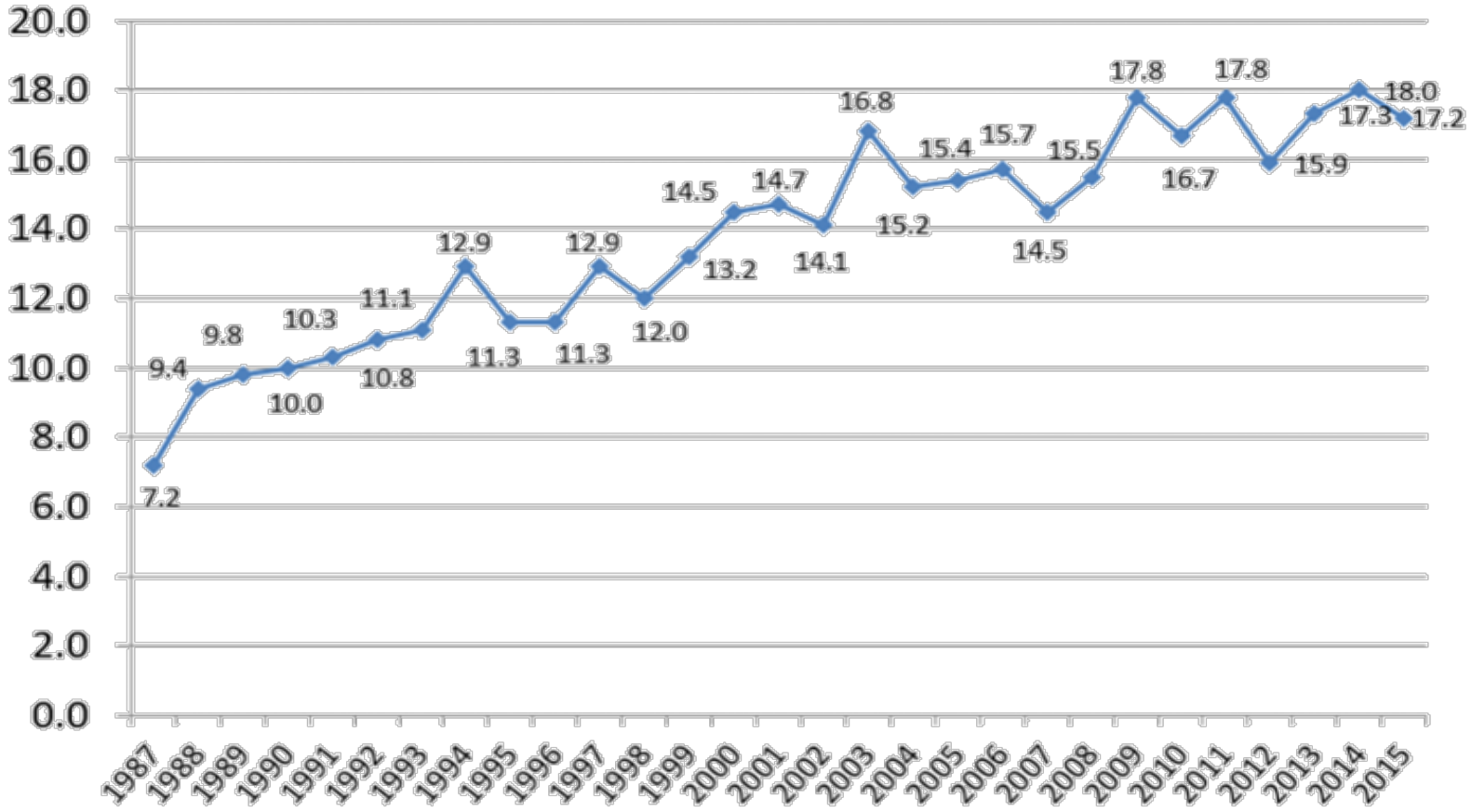
LEADING AMERICA TO HEALTHIER LIVES

- 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

DATA TRENDS

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

U.S. PRMR (1987-2015)

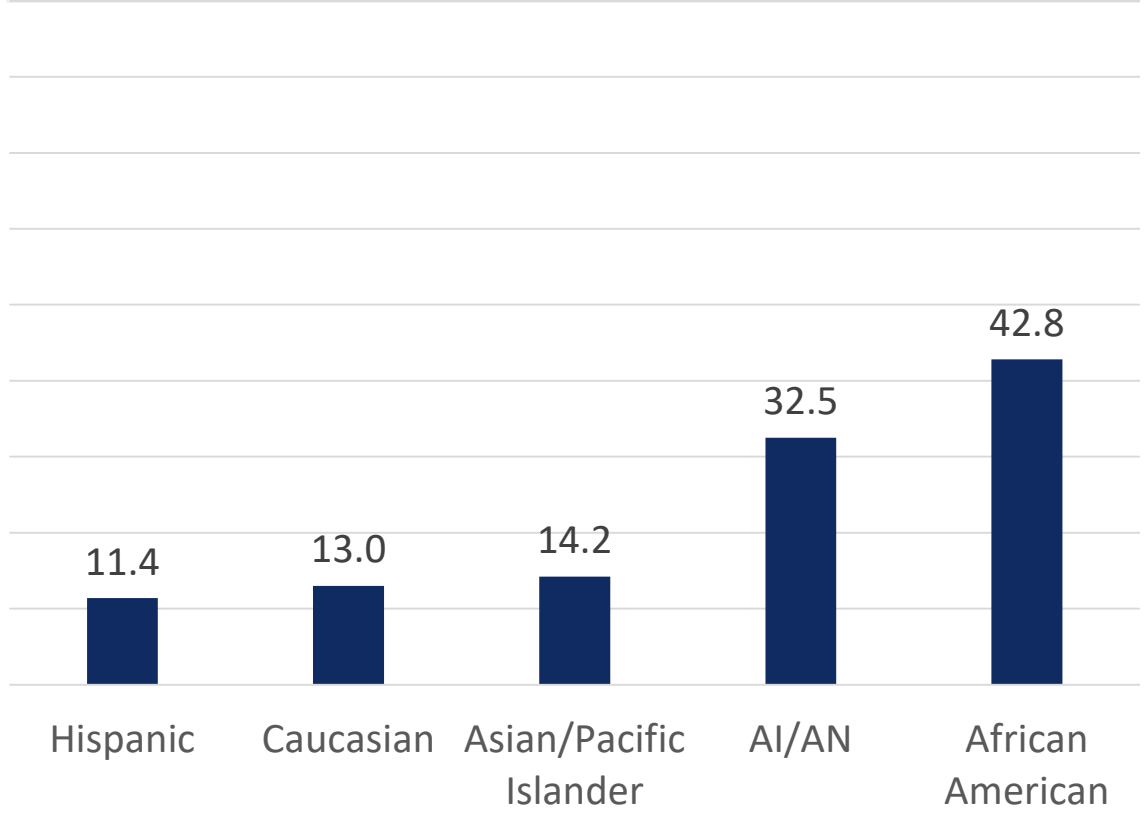


MMWR Morb Mortal Wkly Rep 2019;68:423–429

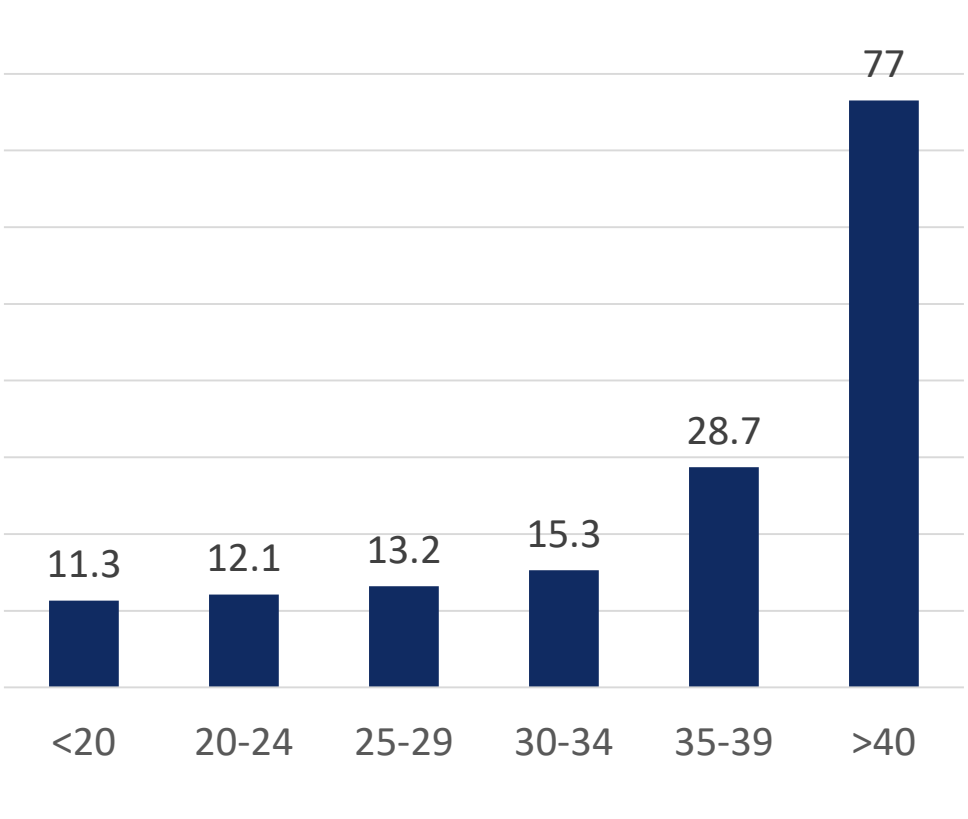
PREGNANCY-RELATED MORTALITY RATIO (2011-2015)

PER 100,000 LIVE BIRTHS

By Race



By Age



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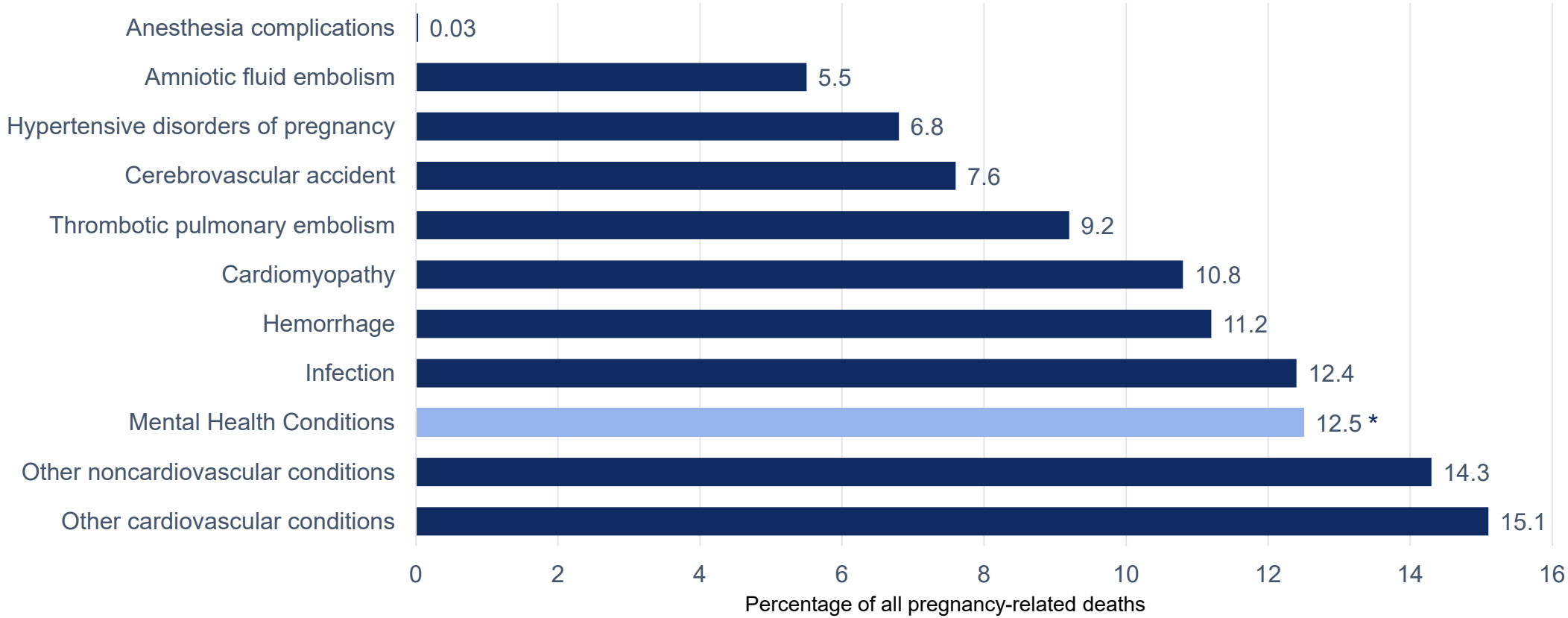
Petersen EE, Davis NL, Goodman D, et al. *Vital Signs:* Pregnancy-Related Deaths, United States, 2011–2015, and Strategies for Prevention, 13 States, 2013–2017. MMWR Morb Mortal Wkly Rep 2019;68:423–429.

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

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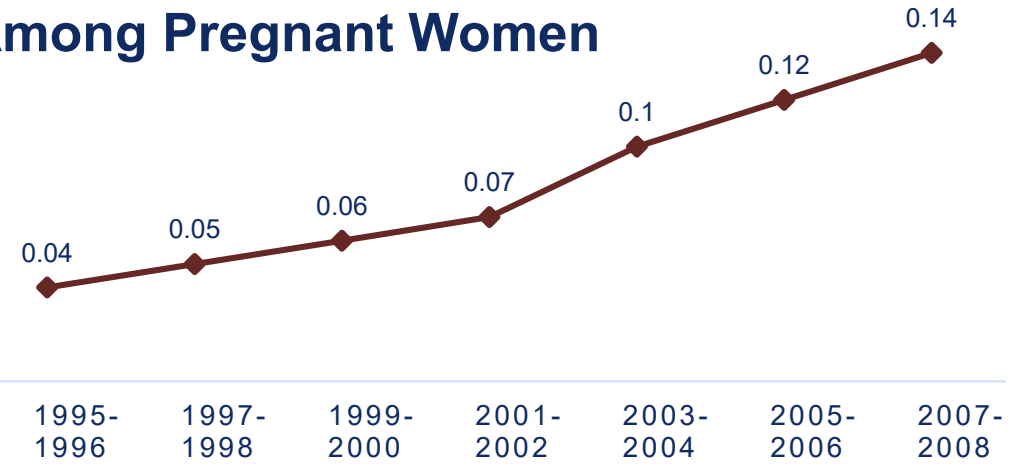
UNDERLYING HEALTH CONDITIONS WORSENING OVER TIME

Chronic Hypertension Among Pregnant Women

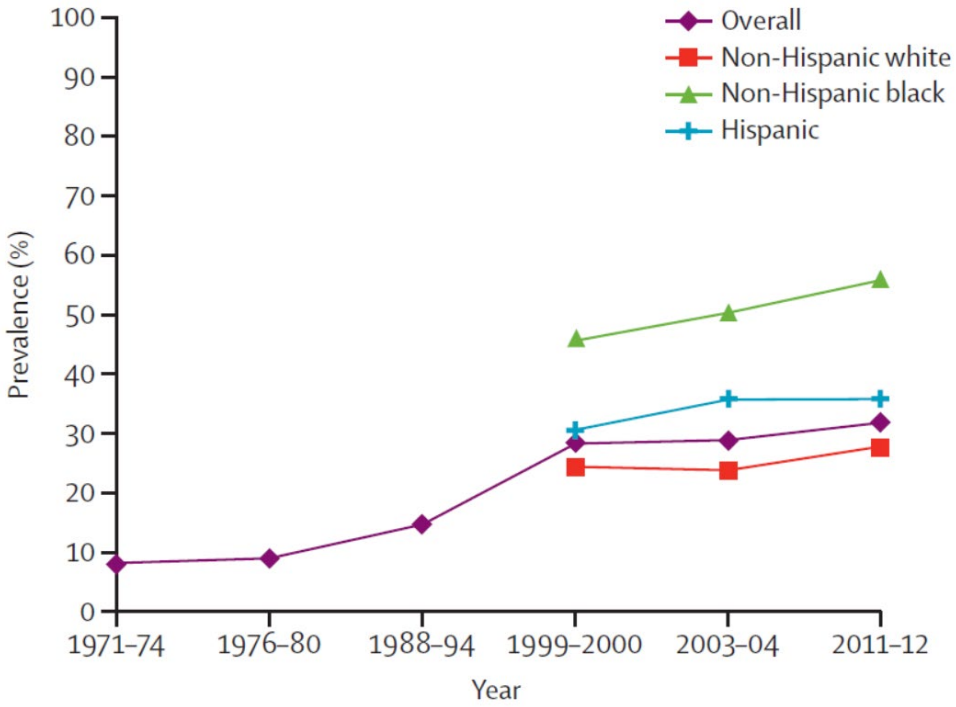


Chronic hypertension impacts maternal adverse outcomes

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

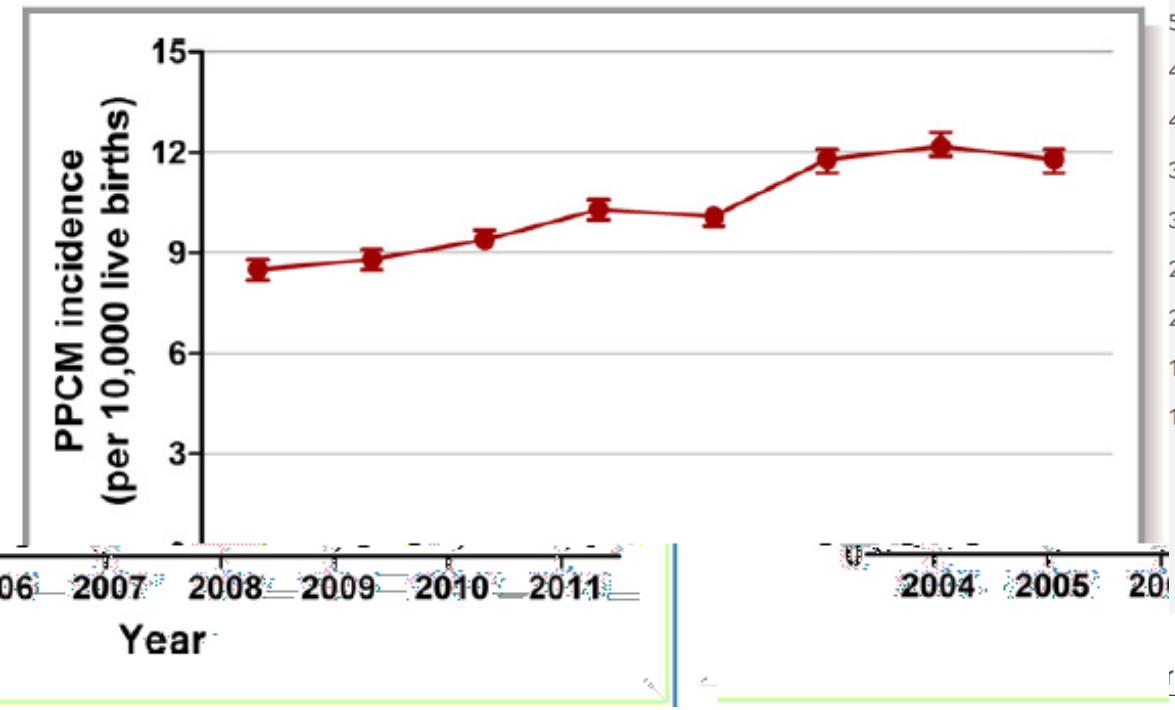
Am J Obstet Gynecol. 2012 February ; 206(2): 134.e1–134.e8. doi:10.1016/j.ajog.2011.10.878.

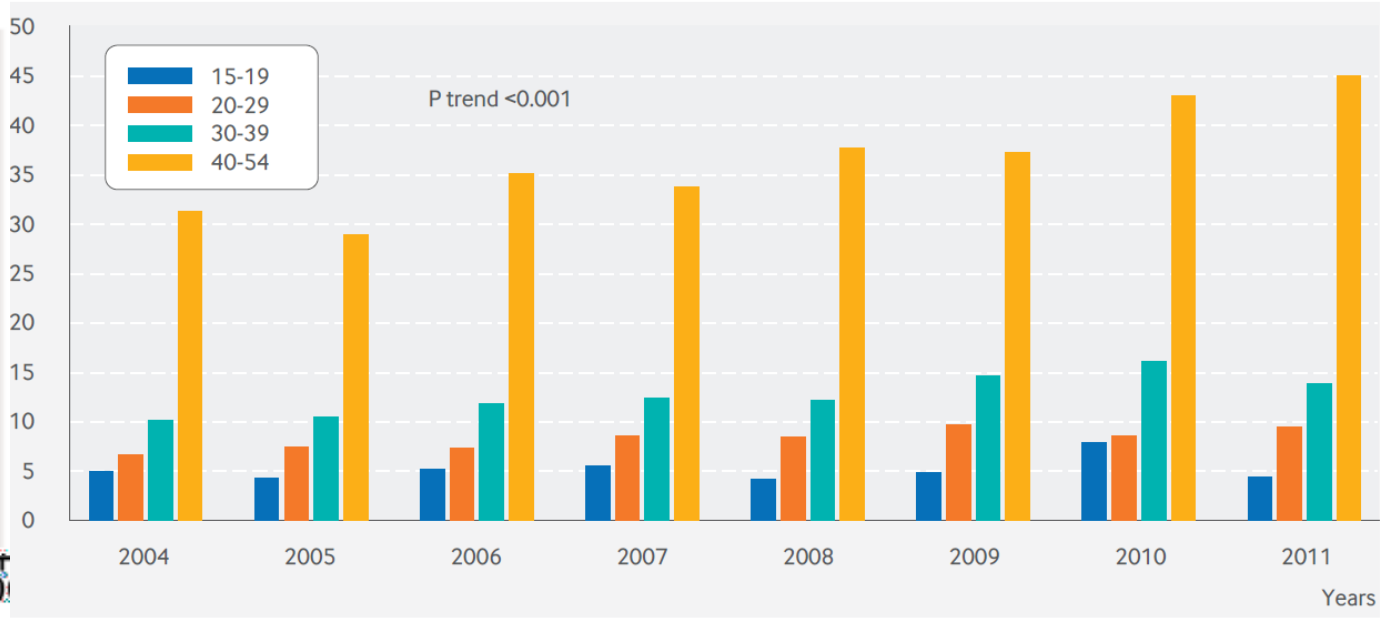
Prevalence of Maternal Obesity



www.thelancet.com/diabetes-endocrinology **Vol 4 December 2016**

PERIPARTUM CARDIOMYOPATHY

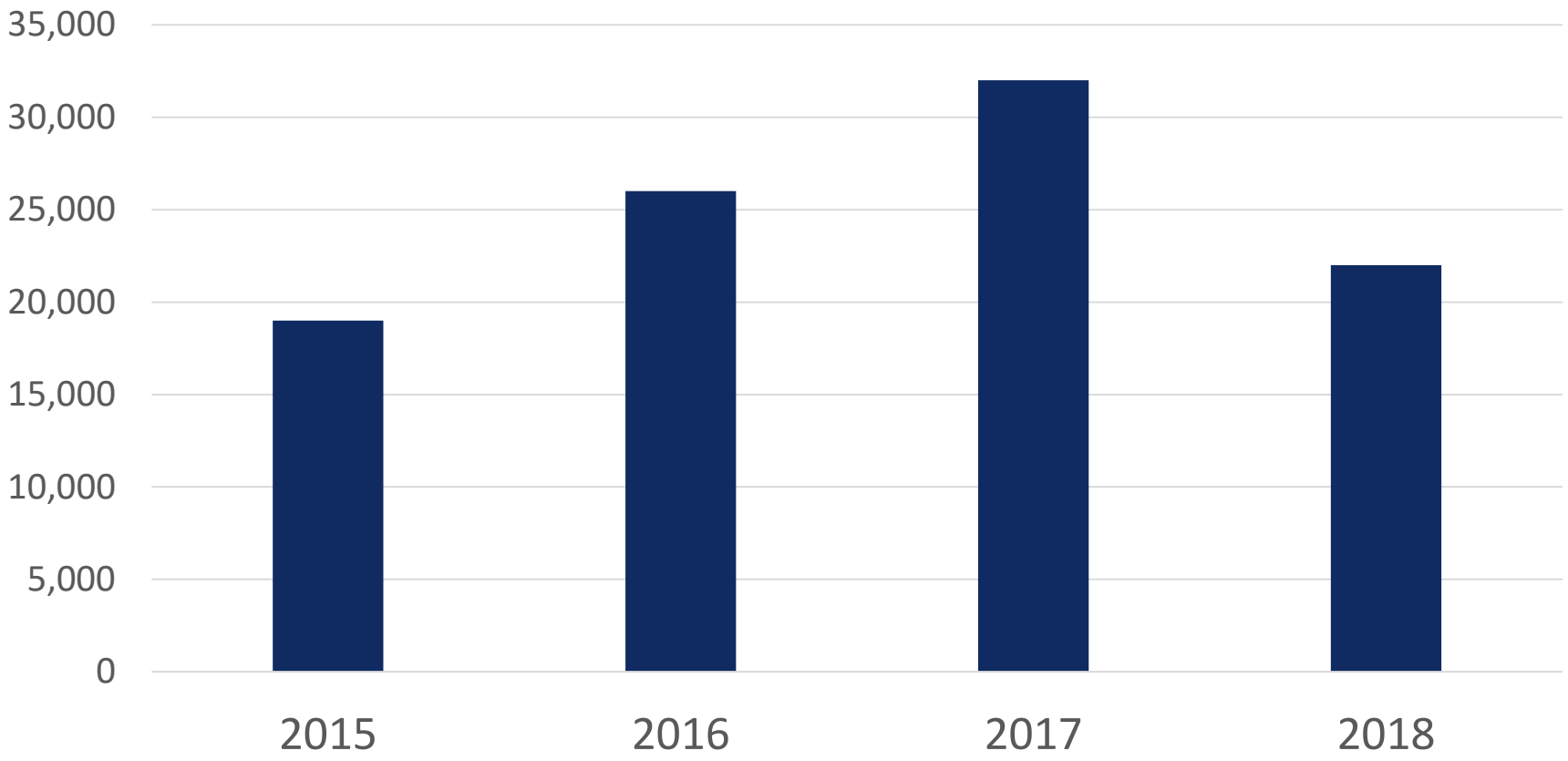




Temporal trend in the incidence of peripartum cardiomyopathy in the United States. Coloured bars indicate different nal age groups (see legend). Adapted from Kolte and colleagues.[12]

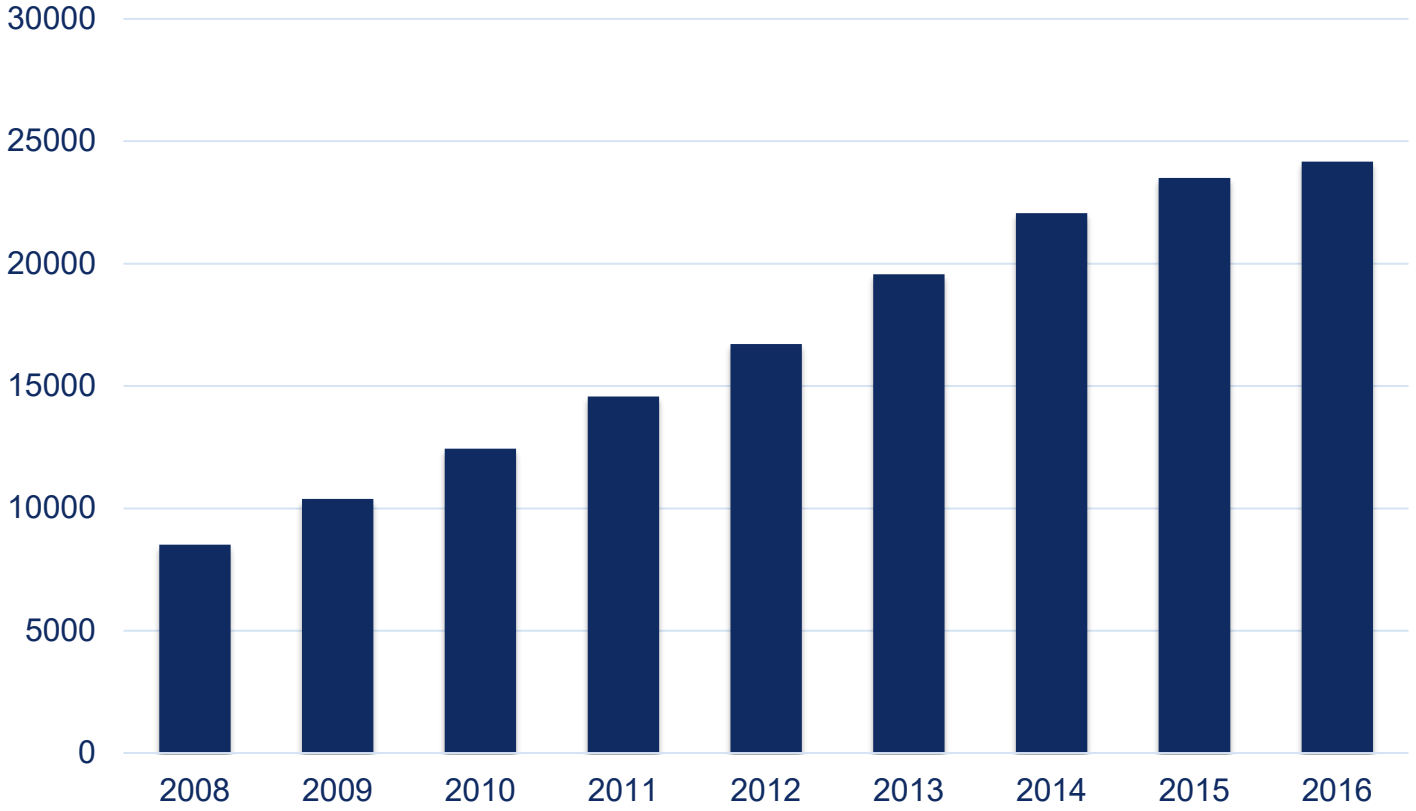
Kolte, JAHA 2014
Honigberg, BMJ 2019

PAST MONTH OPIOID USE AMONG PREGNANT WOMEN



Source: The National Survey on Drug Use and Health: 2018

NEWBORN VICTIMS OF THE OPIOID EPIDEMIC



Source: AHRQ HCUP State Inpatient Databases

Outcomes in the Fetus

- Growth restriction
- Prematurity
- Death

Outcomes in the Newborn

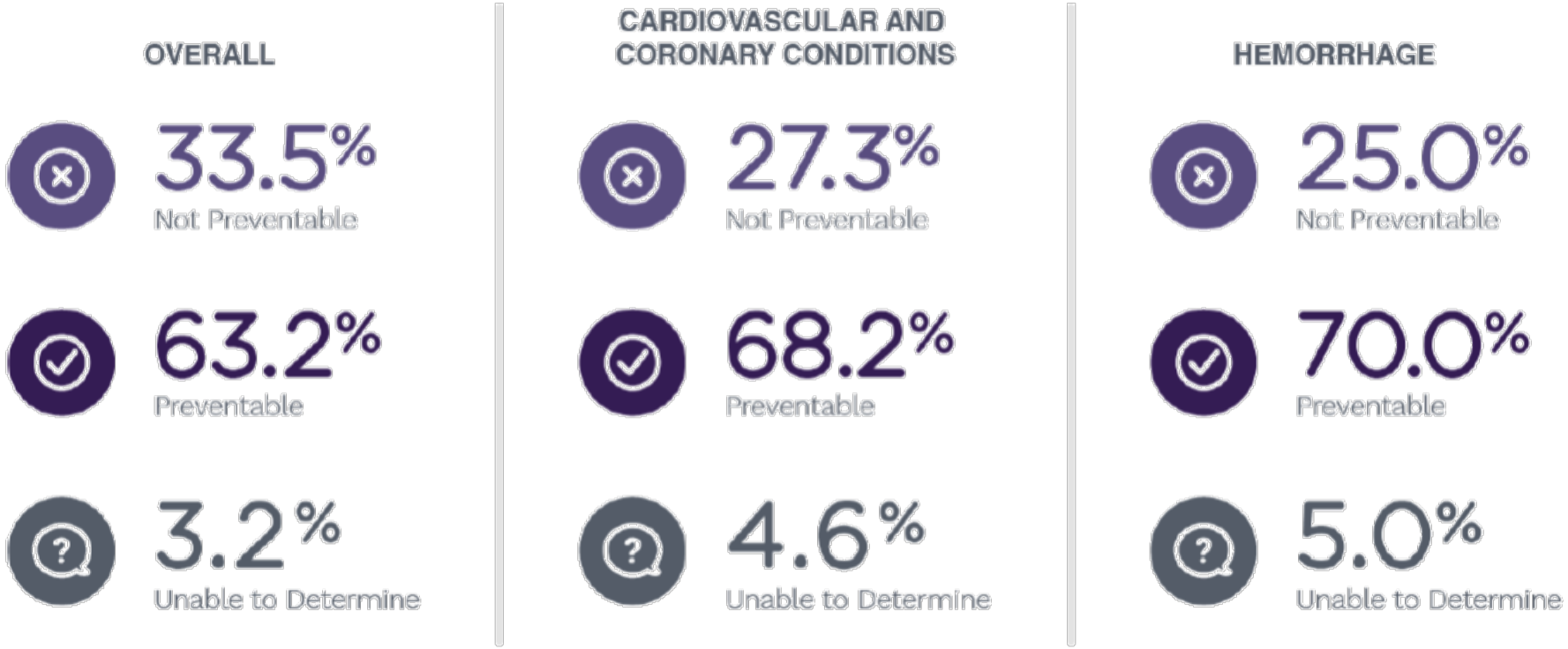
- Low birthweight
- Small head circumference
- Neonatal abstinence syndrome

Outcomes in the Child

- Developmental disorders

McQueen, NEJM 2016

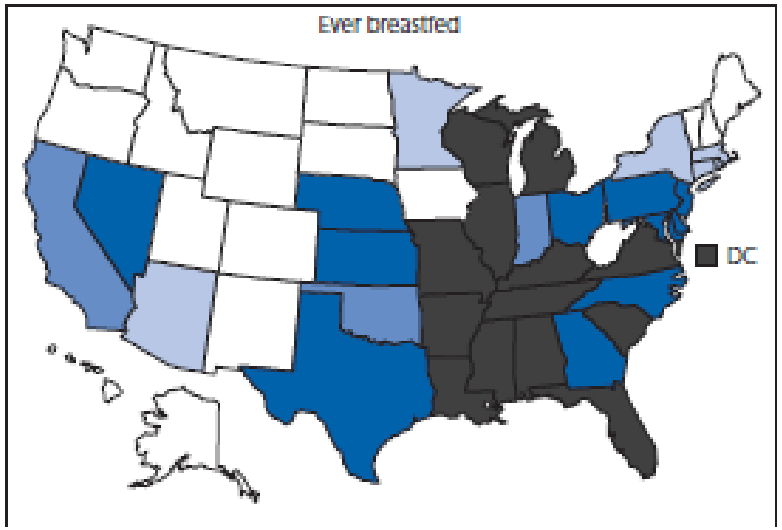
MATERNAL MORTALITY: 3 OF 5 PREGNANCY RELATED DEATHS ARE PREVENTABLE

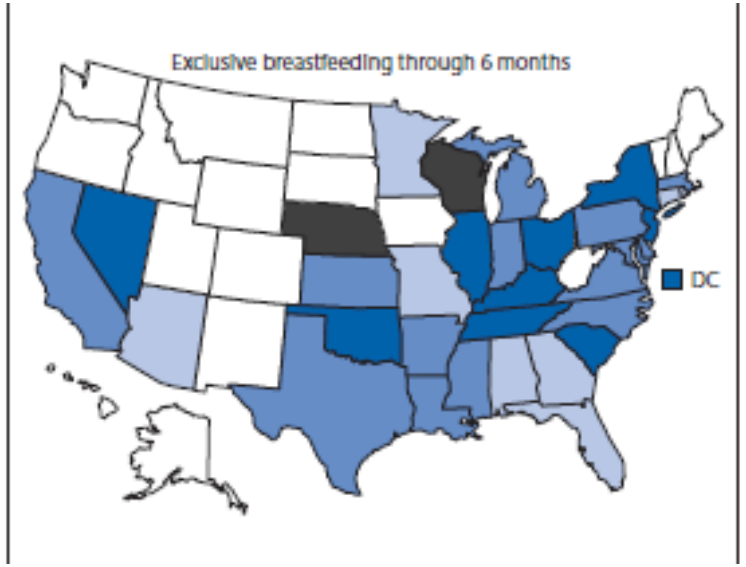


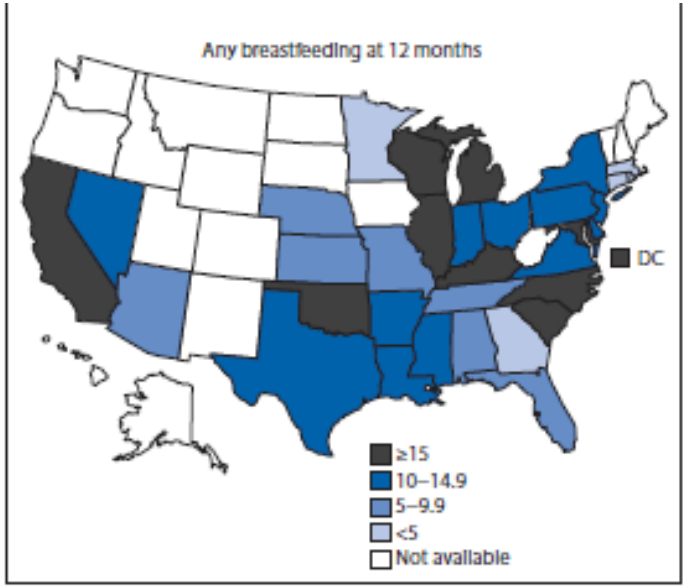
Source: CDC Foundation, Report from Nine Maternal Mortality Review Committees, 2018

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*,†







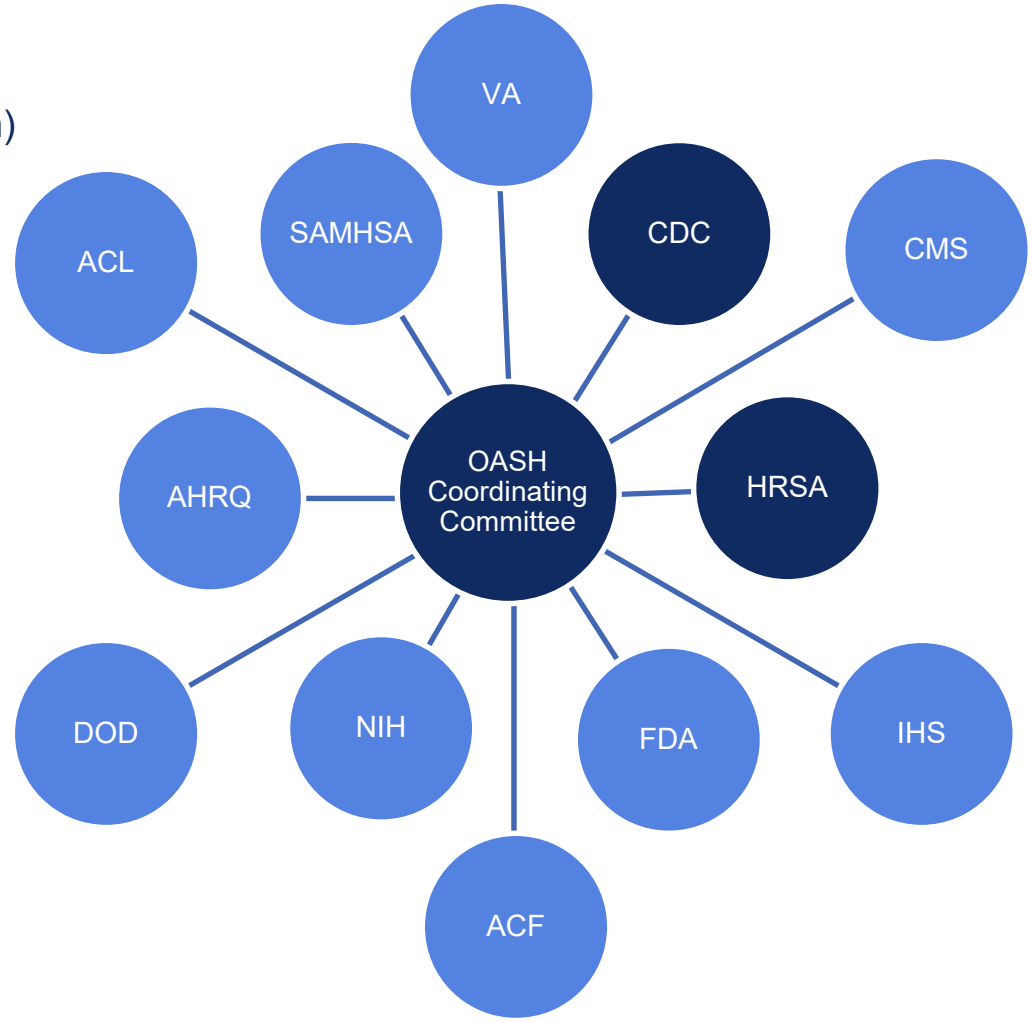
* Among children born during 2010–2013.
† Data were suppressed when the group's sample size was <50 for the state.

Anstey, MMWR 2017

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

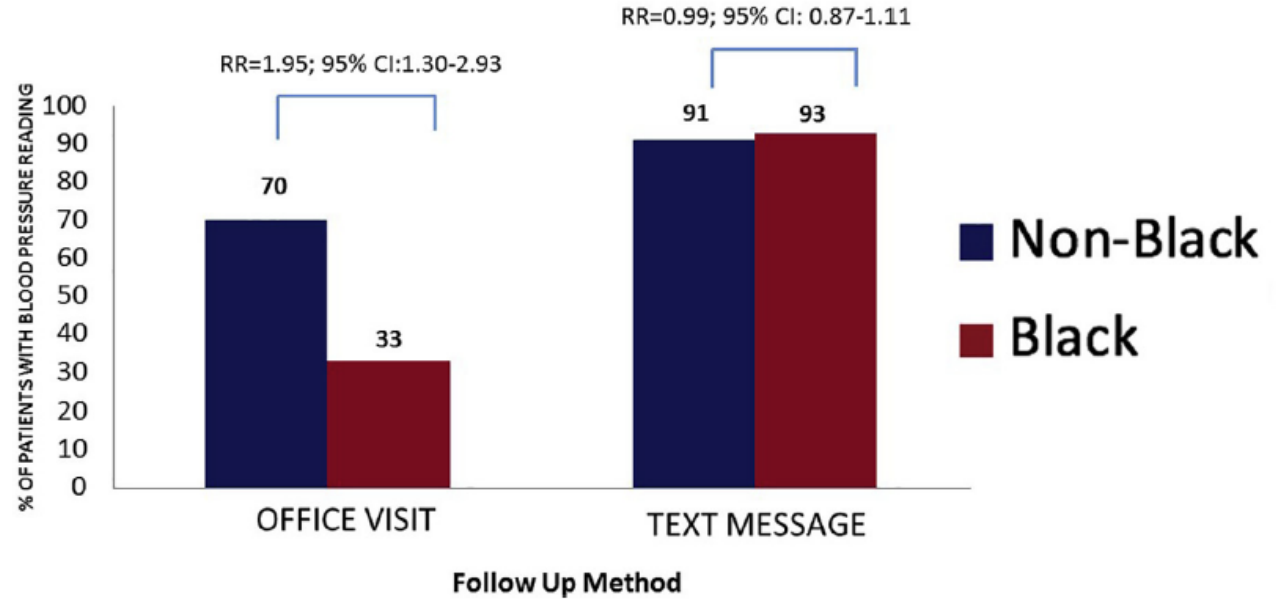
OASH POLICY AND OPIOID PROGRAMS FOR MATERNAL HEALTH

- **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[1.2]
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

Rothberg, Fertil Steril 2016

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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