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

October 23, 2019
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
DATA TRENDS
PREGNANCY-RELATED MORTALITY (PRMR), PER 100,000 LIVE BIRTHS PER YEAR

PER 100,000 LIVE BIRTHS

MATERNAL MORTALITY

Percentage of all pregnancy-related deaths

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
Chronic hypertension impacts maternal adverse outcomes

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

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.\textsuperscript{11}

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

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

Source: AHRQ HCUP State Inpatient Databases

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*†

† 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 breastfeeding 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

- **OFFICE VISIT**
  - Non-Black: 70%
  - Black: 33%

- **TEXT MESSAGE**
  - Non-Black: 91%
  - Black: 93%

Relative risk (RR) for follow-up:
- **OFFICE VISIT**: RR=1.95; 95% CI: 1.30-2.93
- **TEXT MESSAGE**: RR=0.99; 95% CI: 0.87-1.11

CI, confidence interval; RR, relative risk.

## Infertility and Maternal Morbidity

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

<table>
<thead>
<tr>
<th>3 Fertility Groups</th>
<th>Prevalence of Severe Maternal Morbidity</th>
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<tbody>
<tr>
<td>Fertile</td>
<td>1.09%</td>
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<tr>
<td>Subfertile</td>
<td>1.44%</td>
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<tr>
<td>Assisted Reproductive Technology</td>
<td>3.14%</td>
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</tbody>
</table>

Belenoff, Obstet and Gyn 2016

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

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