Protecting America’s Moms and Their New Babies
A Conversation on Reducing Maternal and Infant Mortality

May 24, 2018
12:00 p.m. to 1:00 p.m.
Rayburn 2044

Sponsored by: Children’s Hospital Association, American Academy of Pediatrics, Family Voices, First Focus, Georgetown University Center for Children and Families, March of Dimes, and National Association of Pediatric Nurse Practitioners

Special thank you to the Congressional Children’s Health Care Caucus!
Pregnancy-related mortality ratio is the number of pregnancy-related deaths per 100,000 live births. A pregnancy-related death is the death of a woman during pregnancy or within one year of the end of pregnancy from a pregnancy complication, a chain of events initiated by pregnancy, or the aggravation of an unrelated condition by the physiologic effects of pregnancy.


TREND IN MATERNAL MORTALITY

Pregnancy-related death has more than doubled over the past 25 years.
MATERNAL MORTALITY among Very High Human Development Index countries

39 VHHDII countries had maternal mortality ratios that were lower than the ratio in the United States.

Notes: Countries included are those classified by the UNDP as very high human development index countries in 2015 excluding those for which data were not available (n=48).
Maternal mortality ratio: Number of deaths due to pregnancy-related causes per 100,000 live births.
Prepared by March of Dimes/Perinatal Data Center, July 2017.
In this country black women have maternal death rates over three times higher than women of other races.
INFANT MORTALITY among Very High Human Development Index countries

35 VHVD HDI countries had infant mortality rates that were lower than the rate in the United States.

Notes: Countries included are those classified by the UNDP as very high human development index countries in 2015 excluding those for which data were not available (n=41).

Infant mortality rate (IMR): the number of deaths under 1 year of age per 1,000 live births.

Sources: Infant mortality, United Nations Demographic Yearbook, 2015, Table 16
OECD, Infant mortality rates for Iceland and Luxembourg, Statistics Canada, Infant mortality rate, Canada.
Human Development Index country list, UN Development Program, 2015.
Prepared by March of Dimes/Perinatal Data Center, July 2017.
Babies born to women of color can face a 130 percent higher infant death rate.

An infant death occurs within the first year of life. Infant mortality rate is the number of infant deaths per 1,000 live births. Maternal rate based on “bridged” race; race categories exclude Hispanics. Source: National Center for Health Statistics, 2011-2013 period linked birth/infant death data. Prepared by March of Dimes Perinatal Data Center, February 2018.
Infant Mortality: Preterm-related causes of death

United States, 2013

In the United States, premature birth and its complications are the leading cause of infant death, accounting for more than one-third of all infant deaths.

Preterm is less than 37 weeks gestation. Gestational age based on obstetric estimate.
Preterm-related is a grouping of causes of death each determined to be a direct consequence of preterm birth (44 ICD-10 codes).
Source: National Center for Health Statistics, 2013 period linked birth/infant death data
Prepared by March of Dimes Perinatal Data Center, July 2015
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Maternal Mortality in the United States
Understanding the Problem, Finding Solutions

Lisa M. Hollier, MD, MPH, FACOG
President, American College of Obstetricians and Gynecologists
May 24, 2018
About ACOG

The American College of Obstetricians and Gynecologists (ACOG) is the nation’s leading group of physicians providing health care for women. With more than 58,000 members, ACOG strongly advocates for quality health care for women, maintains the highest standards of clinical practice and continuing education of its members, promotes patient education, and increases awareness among its members and the public of the changing issues facing women’s health care.
Maternal Mortality In The News

Serena Williams Survived Her Risky Childbirth But Many Don’t: Why Maternal Mortality Is Soaring

Maternal deaths keep rising in US raising scrutiny

Why America’s Black Mothers and Babies Are in a Life-or-Death Crisis

The answer to the disparity in death rates has everything to do with the lived experience of being a black woman in America.

by LINDA VILLAROSA. APRIL 11, 2018

Here’s One Issue Blue and Red States Agree On: Preventing Deaths of Expectant and New Mothers

Why Is U.S. Maternal Mortality So High?

Opinion

If Americans Love Moms, Why Do We Let Them Die?

by Nicholas Kristof

July 25, 2017

The American College of Obstetricians and Gynecologists
Promotes Healthy Care Practiced
What Is Maternal Mortality?

• Maternal mortality: generally refers to maternal deaths that occur during, or within the 12 months following, pregnancy.

• Other terms to know:
  ‣ Pregnancy-associated death
  ‣ Pregnancy-related death
  ‣ Severe maternal morbidity
Maternal Mortality in the U.S. is Rising

Maternal Mortality Ratio: Number of Deaths Per 100,000 live births

Racial Disparities are Staggering

America's black-white maternal mortality gap is widening

Percentage of pregnancy-related deaths by race

- **2007**
  - black women: 34%
  - white women: 11.8%

- **2011**
  - black women: 42.8%
  - white women: 12.5%

SOURCE: CDC Pregnancy Mortality Surveillance System
CREDIT: Sarah Frostenson

Vox
State Maternal Mortality Review Committees: Part of the Solution

• What are MMRCs?
  ‣ Interdisciplinary groups of local ob-gyns, nurses, social workers, and other health care professionals to review individual maternal deaths and recommend solutions to prevent these tragic events in the future.

• Why are they important?
  ‣ Enhanced data collection processes
  ‣ Understanding the causes/contributing factors
  ‣ Translating data into action
Texas Maternal Mortality and Morbidity Taskforce

• FINDINGS:
  ‣ Black women bear the greatest risk of maternal death
  ‣ Opportunities exist to screen and refer women with mental health & substance use disorders
  ‣ Data quality issues
Data to Action: Alliance for Innovation on Maternal Health

• Collaborative, national data-driven maternal safety and quality improvement initiative to:
  ✓ Reduce maternal mortality
  ✓ Reduce severe maternal morbidity

• Assists states and hospitals to assess culture of safety & improve outcomes.

• Creates maternal safety “bundles”
AIM Quality and Safety Bundles

*STATES NEED A MMRC TO PARTICIPATE!*

**Safety Bundle**
- Obstetric Hemorrhage
- Severe Hypertension in Pregnancy
- Maternal VTE Prevention
- Patient, Family and Staff Support
- Safe Reduction of Primary Cesarean Births

**Safety Tools**
- Maternal Early Warning Criteria
- SMM Case Review Forms
- Maternal Mental Health

**For Every Birth**
- Reducing Disparities in Maternity Care
- Postpartum Care Basics
- Interconception Care *Coming Soon*

**Obstetric Care of Women with Opioid Dependence**
National Interest Is Growing
Key Partners
Levels of Maternal Care

**Goal:** Reduce maternal mortality and morbidity in the United States by ensuring that pregnant women receive care in facilities that are appropriate to their risk.
What Can Congress Do?
HR 1318, Preventing Maternal Deaths Act

• House Sponsors:
  ✓ Representatives Jaime Herrera Beutler (R-WA), Diana DeGette (D-CO), and Ryan Costello (R-PA).

• What the bill does:
  ✓ Authorizes the CDC to assist states to create or expand MMRCs.
  ✓ HHS to research disparities in maternal health outcomes.

✓ Senate Companion Bill: S. 1112, the Maternal Health Accountability Act, sponsored by Senators Heidi Heitkamp (D-ND) and Shelley Moore Capito (R-WV).
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Clinical Interventions in Infant Mortality
Frank Belmonte, D.O., MPH
Chief Medical Officer – Advocate Children’s Hospital
Background

• Infant mortality is the death of an infant prior to his or her first birthday

• There are 5 main causes of infant mortality in the US
  – Preterm Birth an Low Birth Weight
  – Birth Defects
  – Sudden Infant Death Syndrome
  – Maternal Pregnancy Complications
  – Injury (Inflicted and Accidental)
March of Dimes Report Card

United States

Preterm Birth Rate 9.8%
Grade C

Premature Birth Report Card grades are assigned by comparing the 2016 preterm birth rate in a state or locality to the March of Dimes goal of 8.1 percent by 2020. The Report Card highlights priority areas for action with city and racial/ethnic disparities data and a disparity ratio. Report Cards are intended to spur action to improve equity and reduce preterm birth, with the goal of giving every mother and baby a fair chance for a healthy pregnancy and birth.
## Global Preterm Delivery Rates

<table>
<thead>
<tr>
<th>Region</th>
<th>Percent Preterm Deliveries</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Total</td>
<td>9.6%</td>
<td>9.1-10.1%</td>
</tr>
<tr>
<td>More Developed Countries</td>
<td>7.5%</td>
<td>7.3-7.8%</td>
</tr>
<tr>
<td>Less Developed Countries</td>
<td>8.8%</td>
<td>8.1-9.4%</td>
</tr>
<tr>
<td>Africa</td>
<td>11.9%</td>
<td>11.1-12.6%</td>
</tr>
<tr>
<td>Asia</td>
<td>9.1%</td>
<td>8.3-9.8%</td>
</tr>
<tr>
<td>Europe</td>
<td>6.2%</td>
<td>5.8-6.7%</td>
</tr>
<tr>
<td>Latin America and Caribbean</td>
<td>8.1%</td>
<td>7.5-8.8%</td>
</tr>
</tbody>
</table>

World Health Organization
RACE & ETHNICITY IN THE UNITED STATES

Aggregate 2013-2015 preterm birth rates are shown for each of the five bridged racial and ethnic groups. The racial/ethnic group with the highest rate is compared to the combined rate for all other racial/ethnic groups.

Percentage of live births in 2013-2015 (average) that are preterm

- Asian/Pacific Islander: 8.5%
- White: 8.9%
- Hispanic: 9.1%
- American Indian/Alaska Native: 10.5%
- Black: 13.3%

49%

In the United States, the preterm birth rate among black women is 49% higher than the rate among all other women.

March of Dimes Report Card
Preterm Delivery Rate in Illinois

Percentage of live births that are preterm

2007: 10.6
2008: 10.4
2009: 10.3
2010: 10.0
2011: 10.1
2012: 10.0
2013: 10.0
2014: 10.1
2015: 10.2
2016: 10.3
# Factors that affect preterm delivery

<table>
<thead>
<tr>
<th>Social and Medical Factors</th>
<th>% Increase in Risk of Preterm Birth</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Medicaid (vs. Private Insurance)</td>
<td>11.7%</td>
</tr>
<tr>
<td>No education beyond high school</td>
<td>9.2%</td>
</tr>
<tr>
<td>Had 3 or more previous live births</td>
<td>44.1%</td>
</tr>
<tr>
<td>Did not enter prenatal care during 1st trimester</td>
<td>4.7%</td>
</tr>
<tr>
<td>Smoked during pregnancy</td>
<td>29.1%</td>
</tr>
<tr>
<td>Had hypertension before or during pregnancy</td>
<td>204.0%</td>
</tr>
<tr>
<td>High poverty in county of residence*</td>
<td>7.0%</td>
</tr>
<tr>
<td>High unemployment in county of residence*</td>
<td>6.1%</td>
</tr>
</tbody>
</table>

Illinois Infant Mortality Data Report 2018
Moving Upstream

Preconception | Pregnancy | Labor & Delivery | Birth Outcomes

A Standardized Approach for Evaluating Infant Mortality
Developing a Response

- Decrease Clinical Variation in Maternal Care
- Decrease Clinical Variation in Neonatal Care
- Support Mothers during their Pregnancy
## Decreasing Variations in Care

<table>
<thead>
<tr>
<th>Maternal Pathways</th>
<th>Neonatal Pathways</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension Management in Pregnancy</td>
<td>Neonatal Hypoglycemia Management</td>
</tr>
<tr>
<td>Mitigation of Preterm Labor</td>
<td>Respiratory Care of the Preterm Infant</td>
</tr>
<tr>
<td>Addressing Substance Use in Pregnancy</td>
<td>Nutrition Support of the Preterm Neo</td>
</tr>
</tbody>
</table>
Supporting Mothers (and Fathers) Through the Journey

• Many of our parents did not have a sense of joy regarding their pregnancy
• Social Determinants of Health can influence outcomes when not addressed
• Toxic stress impacts a woman’s ability to carry a baby to term
Centering Pregnancy

• Brings mothers (and fathers) together for group prenatal care
• Allows an opportunity to bond with other prospective parents who are on the journey
• Visits are “facilitated” but the therapeutic benefits emerge from the relationships
The Pair of ACEs

**Adverse Childhood Experiences**
- Maternal Depression
- Emotional & Sexual Abuse
- Substance Abuse
- Domestic Violence

**Adverse Community Environments**
- Poverty
- Discrimination
- Community Disruption
- Lack of Opportunity, Economic Mobility & Social Capital
- Violence
- Poor Housing Quality & Affordability
Lessons Learned

• Preterm delivery and subsequent infant mortality is a multifaceted issue
• Solutions are both scientific and sociologic in nature
• We need to acknowledge the racial and socioeconomic disparities that exist in this area
Thank You!
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The Urgency of Collectively Working Upstream and Downstream to Address Maternal and Infant Mortality

Presented to
Protecting America’s Moms and Their New Babies: A Conversation on Reducing Maternal and Infant Mortality – A Briefing Sponsored by the Children’s Hospital Association in Cooperation with the Congressional Children’s Health Care Caucus

Estrellita “Lo Berry”, President / CEO
REACHUP, Inc.
**To advocate for and mobilize resources to help communities achieve equality in healthcare and positive health for families**

**To be known as a nationally recognized center of excellence, assisting in creating a community where there is equality in health care and health for all families**

**Committed to Research, Education and Advocacy for Healthy Living!**
The Impact of Women’s Health Across the Lifespan
Life Course Perspective

Epigenetics is the study of changes in organisms caused by modification of gene expression rather than the alteration of the genetic code itself; the interaction of genes with their environment.
Example: Epigenetics and Maternal Exposures

Decreased maternal nutrition, substance abuse, and altered hormonal/metabolite milieu result in fetal growth restriction and low-birth-weight newborns who develop a “thrifty phenotype.” Specifically, they exhibit enhanced appetite, reduced satiety, increased fat cell proliferation, and increased propensity for fat storage. Overnutrition (e.g., formula feeding, high-fat diets) during the postnatal period causes rapid catch-up growth, resulting in childhood and adult obesity. From Hales CN, et al.6
The Weathering Effect

The health of African-American women may begin to deteriorate in early adulthood as a physical consequence of cumulative disadvantage (including perceived and actual racism), impacting patterns of births and birth outcomes.
Where Do We Go From Here?
Upstream / Downstream

PUBLIC POLICY
national, state, local laws

COMMUNITY
relationships among organizations

ORGANIZATIONAL
organizations, social institutions

INTERPERSONAL
family, friends, social networks

INDIVIDUAL
knowledge, attitudes, skills
Downstream (Activities) Examples

- **Federal Healthy Start** (Began as bi-partisan effort under President George H. W. Bush)
- **Other**
  - Nurse Family Partnership
  - MIECHV Program
  - Florida March of Dimes Prematurity Summit
  - Florida Perinatal Quality Collaborative (FPQC)
  - Florida Pregnancy-Associated Mortality Review (PAMR)
  - Hillsborough County Fetal Infant Mortality Review (FIMR)
  - CHAPTER 2007-243 Florida House Bill 1269 (BIHPI)
Upstream (Public Policy) Examples

- Create / Sustain Policies and Procedures That Positively Impact Social Determinants of Health
  - Healthy Start Reauthorization Act
- Always ask: How does this help and how does this hurt?
  - Examine the research
  - Get community input
  - Begin as a pilot, review and adapt as necessary
Upstream / Downstream – A 12-point plan to close the Black-White gap in birth outcomes: A lifecourse approach

1. Provide interconception care to women with prior adverse pregnancy outcomes
2. Increase access to preconception care to African American women
3. Improve the quality of prenatal care
4. Expand healthcare access over the life course
5. Strengthen father involvement in African American families
6. Enhance coordination and integration of family support services
7. Create reproductive social capital in African American communities
8. Invest in community building and urban renewal
9. Close the education gap
10. Reduce poverty among African American families
11. Support working mothers and families
12. Undo Racism

- Recognize that the quality of a case review, deliberations about individual deaths, and ultimately the recommendations that are crafted *directly align* with who is around the table.
- Look at the authorizing legislation for the MMRC and determine if stakeholders can specify community organization or survivors of a severe maternal morbidity to serve on the MMRC.
- Reconsider recruitment practices for new members and reach out to champions from the communities the MMRC serves. Ex: *ReachUP, Inc. membership on FL Pregnancy-Associated Mortality Review.*
- Respect and value the voices of the women and community champions engaged by the MMRC.
- Invest in training community members about the surveillance process and the systems it supports as a part of onboarding to the MMRC.
- Engage women in developing MMRC communication products (reports, briefs) that are understood by the community.
Pregnancy-Related Mortality Ratios (PRMRs) by Race/Ethnicity
Florida, 2006-2015

PRMR per 100,000 Live Births

Year

PRMR per 100,000 Live Births

2006

2007

2008

2009

2010

2011

2012

2013

2014

2015

Non-Hispanic White

Non-Hispanic Black

Hispanic

PRMR

REACHUP
where there's a will, we are the way
Infant mortality rates in CHHS Catchment Area, Hillsborough County, and Florida, 2010-2014

- CHHS
- Rest of Florida
- Rest of Hillsborough
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Committed to Research, Education and Advocacy for Healthy Living!

Changing Lives
✓ Reduction in infant mortality by 57% from 1998 to 2015 (Wilson et al. in-press)

Closing the Gap
✓ The infant mortality gap in the CHHS catchment area narrowed from 72% in 2010 to 6% in 2015 compared to the rest of the state, and was eliminated when compared to the rest of Hillsborough County (Wilson et al. in-press)
Select Resources:


- David R. Williams, PhD, MPH, MA, M. Div., Florence Sprague Norman and Laura Smart Norman Professor of Public Health, Harvard T. H. Chan School of Public Health; Professor of African and African American Studies and Sociology, Harvard University
  
  How Social Policies Shape Health
  
  https://www.youtube.com/watch?v=kYtkEM9hrJ8&ebc=ANyPxFpCBfB74rjw7xabEfvBRRqb4kWRj4CLP7PNuS4AQi5Aixel_-4GcHTkairXERokDRH171q7sKzrP42KkQ7pdsRz8gjw
  
  Racism and Health
  
  https://www.youtube.com/watch?v=BAh2A2qld80

- Camara Phyllis Jones, MD, MPH, PhD, Senior Fellow, Satcher Health Leadership Institute and Cardiovascular Research Institute, Adjunct Associate Professor, Community Health & Preventive Medicine, Morehouse School of Medicine
  
  How Racism Makes People Sick: A Conversation with Camara Phyllis Jones
  

  Allegories on Race and Racism, TEDxEmory
  
  https://www.youtube.com/watch?v=GNhcY6fTyBM

  
  https://www.unnaturalcauses.org/

- Arthur James, MD, FACOG, The Ohio State University Wexner Medical Center; co-chair, Ohio Collaborative to Prevent Infant Mortality
  
  Role of Social Determinants of Health, Dayton and Montgomery County Infant Mortality Task Force, "EveryOne Reach One" Infant Mortality Conference
  
  https://www.youtube.com/watch?v=ORbXzmIloe4
Estrellita “Lo” Berry, MA

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- Project Director/Principal Investigator, Central Hillsborough Healthy Start Project
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