

# CODE BLUE SERIES

## Addressing the growing threat of non-communicable diseases on maternal health

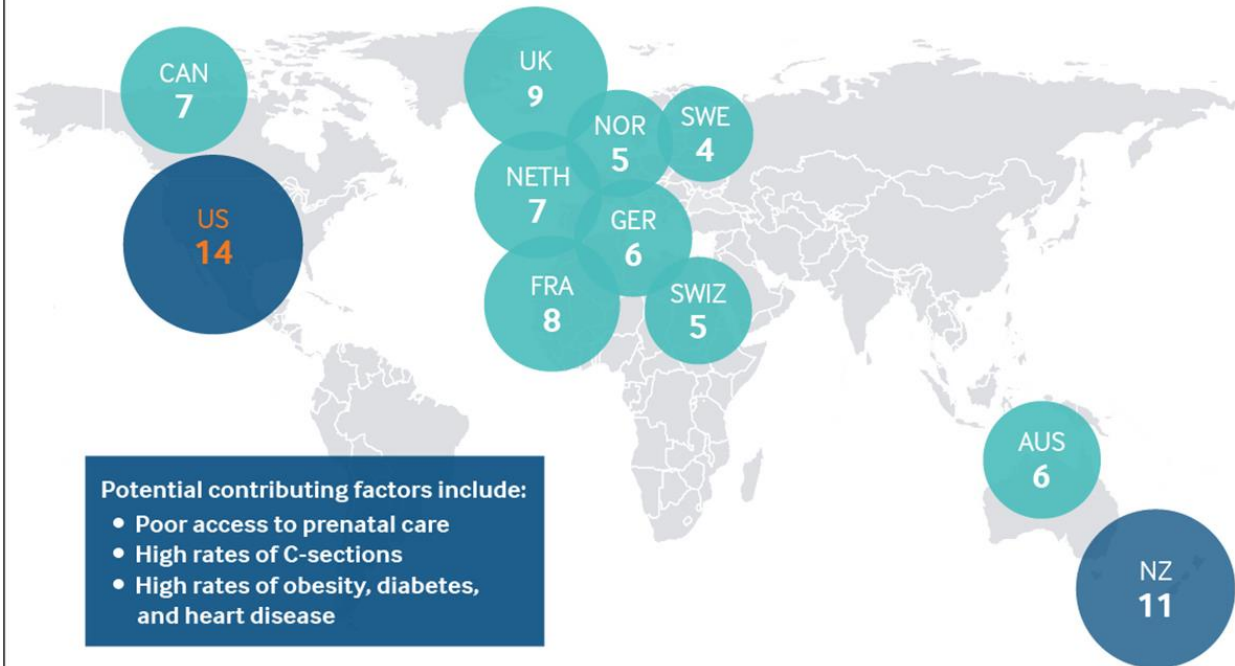
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## Comparing Mortality Rates

### U.S. Women Are More Likely to Die in Pregnancy and Childbirth Than Those in Other Wealthy Nations

*Maternal mortality ratio (maternal deaths/100,000 live births) among women ages 15–49*



Data: The data reflect UNICEF estimates because of missing internationally comparable data for the U.S. National statistics are available for most countries from the OECD.

Source: Munira Z. Gunja et al., *What Is the Status of Women's Health and Health Care in the U.S. Compared to Ten Other Countries?* (Commonwealth Fund, Dec. 2018). <https://doi.org/10.26099/wy8a-7w13>

# CVD -a non-communicable disease contributor to maternal mortality

- CVD is the leading cause of death in pregnancy and postpartum in the U.S.
- 25% of maternal deaths are due to CVD or cardiomyopathy
- Myocardial infarction, postpartum cardiomyopathy, arrhythmia and congenital heart disease are common conditions
- Growing rates of gestational and type 2 diabetes and obesity in childbearing women contribute to CVD risk

Cycle of  
obesity,  
diabetes  
and CVD



# Health inequity in access and treatment

- Barriers
  - Barriers to pre-pregnancy CVD assessment
  - Missed opportunities to identify risk factors during prenatal care
  - Gaps in intrapartum care
  - Minimal postpartum follow-up
- African American women have a 3 times higher risk of death from CVD compared to white women
  - institutional and systemic barriers
  - racial bias and gender inequity





### **National Public Health and Professional Organizations**

- Engage/coordinate national partners and resources
- Develop QI tools
- Support multi-state data platform
- Support inter-state collaboration



### **Perinatal Collaborative, Department of Public Health, Hospital Assoc., Professional Groups**

- Support/coordinate hospital efforts
- Share tools, resources, and best practices
- Use state data for outcome metrics
- Share and interpret progress




### **Hospitals, Providers, Nurses, Offices, and Patients**

- Create QI team
- Implement bundles
- Share best practices
- Collect structure and process metrics
- Review progress



# Maternal Safety Bundles: 4 Rs-Readiness, Recognition, Response, Reporting



COUNCIL ON PATIENT SAFETY  
IN WOMEN'S HEALTH CARE  
safe health care for every woman

**1** **READINESS**

*Every Unit*


- Standards for early warning signs, diagnostic criteria, monitoring and treatment of severe preeclampsia/eclampsia (include order sets and algorithms)
- Unit education on protocols, unit-based drills (with post-drill debriefs)
- Process for timely triage and evaluation of pregnant and postpartum women with hypertension including ED and outpatient areas
- Rapid access to medications used for severe hypertension/eclampsia: Medications should be stocked and immediately available on L&D and in other areas where patients may be treated. Include brief guide for administration and dosage.
- System plan for escalation, obtaining appropriate consultation, and maternal transport, as needed

**2** **RECOGNITION & PREVENTION**

*Every Patient*

- Standard protocol for measurement and assessment of BP and urine protein for all pregnant and postpartum women
- Standard response to maternal early warning signs including listening to and investigating patient symptoms and assessment of labs (e.g. CBC with platelets, AST and ALT)
- Facility-wide standards for educating prenatal and postpartum women on signs and symptoms of hypertension and preeclampsia

**PATIENT SAFETY BUNDLE**  
**Hypertension**



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**3** **RESPONSE**

*Every clinical encounter*

- Engage in best practices for shared decision making.
- Ensure a timely and tailored response to each report of inequity or disrespect.
- Address reproductive life plan and contraceptive options not only during or immediately after pregnancy, but at regular intervals throughout a woman's reproductive life.
- Establish discharge navigation and coordination systems post childbirth to ensure that women have appropriate follow-up care and understand when it is necessary to return to their health care provider.
- Provide discharge instructions that include information about what danger or warning signs to look out for, whom to call, and where to go if they have a question or concern.
- Design discharge materials that meet patients' health literacy, language, and cultural needs.

**4** **REPORTING & SYSTEMS LEARNING**

*Every clinical unit*

- Build a culture of equity, including systems for reporting, response, and learning similar to ongoing efforts in safety culture.
- Develop a disparities dashboard that monitors process and outcome metrics stratified by race and ethnicity, with regular dissemination of the stratified performance data to staff and leadership.
- Implement quality improvement projects that target disparities in healthcare access, treatment, and outcomes.
- Consider the role of race, ethnicity, language, poverty, literacy, and other social determinants of health, including racism at the interpersonal and system-level when conducting multidisciplinary reviews of severe maternal morbidity, mortality, and other clinically important metrics.
- Add as a checkbox on the review sheet: Did race/ethnicity (i.e. implicit bias), language barrier, or specific social determinants of health contribute to the morbidity (yes/no/maybe)? And if so, are there system changes that could be implemented that could alter the outcome?

**PATIENT SAFETY BUNDLE**  
**Reduction of Peripartum  
Racial/Ethnic Disparities**

Available with resource links at:  
[safehealthcareforeverywoman.org](https://safehealthcareforeverywoman.org)

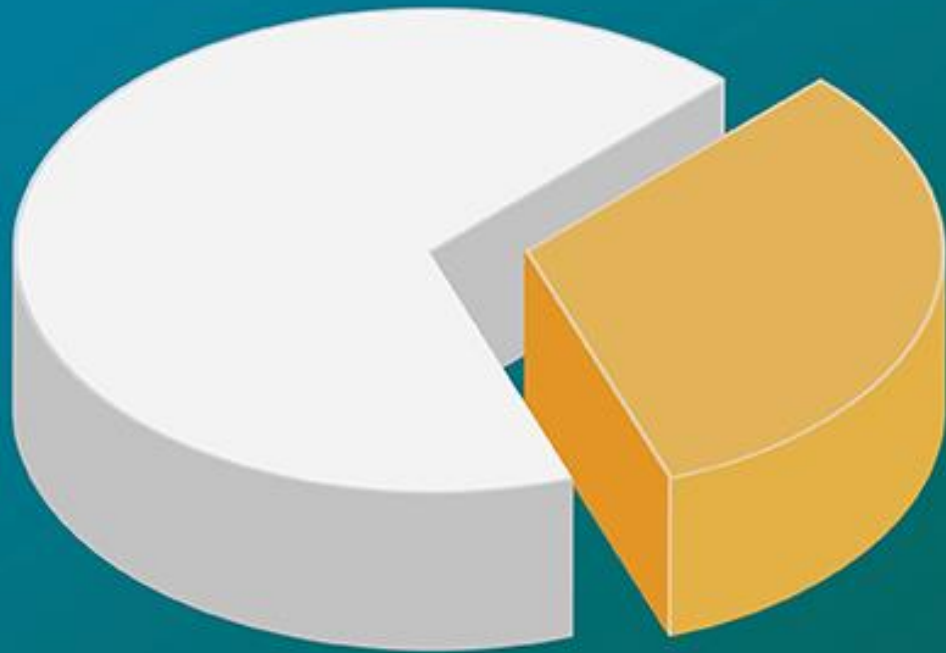
# ACOG and American Heart Association –a call to action for pregnancy and postpartum care



- Low threshold for investigating cardiac symptoms in pregnancy and postpartum
- Suspect ischemic heart disease or cardiomyopathy with symptoms of shortness of breath or chest pain
- Provide clinical work-up (EKG, chest X-ray, echocardiogram and CT pulmonary angiography)
- Women at high-risk of cardiovascular disease may need careful monitoring for up to one year postpartum

From ACOG Presidential Task Force on Pregnancy and Heart Disease, Obstetrics and Gynecology, May, 2019





Approximately 33%  
of pregnancy-related  
**deaths occur in the  
postpartum period.**

Source: CDC MMWR Pregnancy-Related Deaths, United States,  
2011-2015, and Strategies for Prevention, 13 States, 2013-2017



ACOG

Eliminate preventable maternal mortality  
**#EveryMomEveryTime**

Postpartum care that integrates lifestyle change with medical surveillance



Postpartum HTN,  
glucose treatment



Lifestyle behaviors  
(nutrition, physical  
activity)



Psychosocial,  
depression, anxiety



Collaborative  
Clinical partners



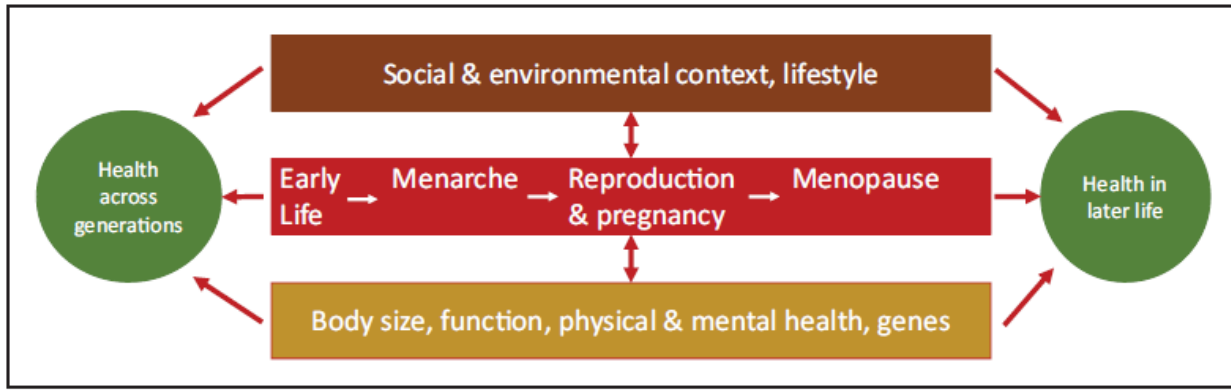
# Healthy Transitions

*better health at every phase of life*



University of North Carolina

## Life Course Approach



From Hussein J, Obstetric Medicine, 2017; 10 (1): 26-29



# Pursuing a Life Course Approach to Reduce Threats of Non-Communicable Diseases



# Alliance for Innovation on Maternal Health (AIM)

## Goal: Reduce maternal deaths and severe maternal morbidity

By

Promoting safe maternal care for every U.S. birth.	Engaging multidisciplinary partners at the national, state and hospital levels.	Developing and implementing evidence-based maternal safety bundles.	Utilizing data-driven quality improvement strategies.	Aligning existing safety efforts and developing/collecting resources.
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# Proposed Paradigm Shift for Postpartum Visits

Postpartum Process	Primary maternal care provider assumes responsibility for woman's care through the comprehensive postpartum visit.											
	Contact with all women within the first 3 weeks			Ongoing follow-up as needed 3-12 weeks								
	BP check 3-10 days	High risk f/u 1-3 weeks		Comprehensive postpartum visit and transition to well-woman care 4-12 weeks, timing individualized and woman-centered								
Weeks	0	1	2	3	4	5	6	7	8	9	10	11

Modified from ACOG's "Optimizing Postpartum Care" Committee Opinion.



Eliminate preventable maternal mortality  
**#EveryMomEveryTime**