

Using Collaborative Care to Reduce Maternal Morbidity Related to High Blood Pressure

The following is a synopsis of “Collaboration Between Maternal and Child Health and Chronic Disease Epidemiologists to Identify Strategies to Reduce Hypertension-Related Severe Maternal Morbidity,” published in December 2019 in *Preventing Chronic Disease*.



health care systems in Florida, develop a program indicator to measure hypertension-related severe maternal morbidity (H-SMM), and identify ways to translate the H-SMM research into practice.

Determine the burden of severe maternal morbidity (SMM) in Florida

During 2014–2016, epidemiologists at the Florida Department of Health (FDOH) participated in a capacity-building program sponsored by the Centers for Disease Control and Prevention to analyze claims-based data—specifically hospital discharge and Medicaid data. After determining that SMM rates in Florida were similar to national rates and that the risk of SMM was twice as high in women who had chronic HBP or who developed HBP during pregnancy, the researchers shared these results with fellow MCH and chronic disease staff to figure out next steps. The staff advised that HBP rates are increasing among women of reproductive age and that HBP a risk factor for adverse MCH outcomes—including maternal deaths.⁵⁻⁷ Additionally, analyzing SMM as it relates to HBP could be very useful and could help inform MCH and chronic disease work that might better resonate with public health practitioners, policymakers, and health systems.

Develop an indicator to measure hypertension-related severe maternal morbidity (H-SMM)

Using state hospital discharge data, H-SMM rates were calculated by looking at 11 conditions that could relate to HBP disorders. H-SMM was defined as having one or more of the following conditions:

Acute myocardial infarction	Disseminated intravascular coagulation
Acute renal failure	Eclampsia
Aneurysm	Heart failure during a procedure or surgery
Cardiac arrest/ventricular fibrillation	Puerperal cerebrovascular disorders
Conversion of cardiac rhythm	Thrombotic embolism
Pulmonary edema	

What is already known on this topic?

Chronic disease impacts maternal death and morbidity rates at the national and state levels.¹⁻³ Severe maternal morbidity (SMM) is a cross-cutting topic that requires the expertise of both maternal and child health (MCH) and chronic disease experts. Defined as the unexpected outcomes of labor and delivery that result in significant short- or long-term consequences to a woman’s health, SSM has steadily increased in recent years and affected more than 50,000 women in the United States in 2014.⁴ Such alarming statistics may cause researchers to think about what can be done and how collaborative work across disciplines, coupled with team-based care, can help.

What is added by this article?

This article seeks to highlight the collaborative work of MCH and chronic disease epidemiologists who examined hypertension, or high blood pressure (HBP) related SMM and HBP disorders among 979,660 women at the time of delivery. The main objectives of this research were to determine the burden of SMM on

H-SMM rates were examined separately among pregnant women with [gestational HBP, preexisting or chronic HBP, and preeclampsia](#). H-SMM rates were highest among women who had preeclampsia (198.9 per 10,000 delivery hospitalizations). Furthermore, H-SMM rates were highest among non-Hispanic black women (65.0 per 10,000 delivery hospitalizations). Women with H-SMM also used more health services, as women with preeclampsia and preexisting HBP had a higher use of health services than women with gestational HBP or without HBP. Identify ways to translate the H-SMM research into practice. Based on the findings, the FDOH staff curated a list of tangible ways that state health agencies and their partners could translate the H-SMM research into practice with actions that would further support the MCH and chronic disease work.

Table. Recommended data-to-action strategies to support collaboration

Strategy	Rationale Based on Article
<i>Increase screening, monitoring, and guideline-based management of hypertension among women of reproductive age before, during, and after pregnancy</i>	Women with preexisting HBP and preeclampsia had longer, more expensive hospital stays. Interventions that focus on preventing HBP disorders before, during, or after pregnancy may help to reduce maternal morbidity and death. ⁸
<i>Examine H-SMM and SMM concurrently with maternal mortality to help identify upstream prevention strategies</i>	H-SMM is more common among women with HBP than among women without HBP. The Florida Pregnancy-Associated Mortality Review Committee identified HBP disorders as a major risk factor for pregnancy-related deaths in Florida.
<i>Include women of reproductive age in ongoing hypertension prevention and intervention efforts</i>	The rate of HBP among women of reproductive age is increasing. ⁷ Including women of reproductive age in ongoing prevention and intervention efforts may lead to an earlier diagnosis of HBP and reduce rates of maternal morbidity and death.
<i>Expand team-based care to include obstetricians, midwives, and doulas who collaborate with primary care providers for hypertension management</i>	Bidirectional feedback between primary care providers and MCH professionals (including community health workers) may help chronic disease patients better plan for pregnancy and may help postpartum patients manage HBP appropriately during follow-up (case example: North Carolina's Pregnancy Care Management Program).
<i>Create and share data products to guide the public, health care providers, and partner agencies about hypertension and related risk factors among reproductive-aged women</i>	The FDOH's Bureau of Chronic Disease Prevention is developing a communications plan to create and disseminate resources that inform target audiences about HBP and related risk factors. MCH staff could adapt this approach to target women of childbearing age.

What are the implications of these findings?

Collaborative work between MCH and chronic disease departments has the possibility to increase research capacity, lead to novel ways to approach complex work, and enhance the translation of evidence-based research into practice. In the partnership between MCH and chronic disease epidemiologists at the FDOH, staff were able to determine the burden of SMM on health care systems in Florida, develop a program indicator to measure H-SMM, and identify ways to translate the H-SMM research into practice. While this model specifically focused on chronic health conditions that may affect complications of pregnancy, the approach could be applied to any other intersection of topics where more interdisciplinary work is desired. As the authors stated, "No matter the size, state health agencies by design have multidisciplinary capacity and thus are in unique positions to serve as best practice examples for fostering collaboration and aligning activities for maximum effort." By coming to this realization, state health departments may see their untapped potential in more collaborative work and continue to intertwine efforts to improve and influence the enhancement of their programs, whether it be focused on MCH and chronic disease or on other topics.



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Resources

[Centers for Disease Control and Prevention: Division of Reproductive Health](#)

[Centers for Disease Control and Prevention: High Blood Pressure During Pregnancy Factsheet](#) [High Blood Pressure During Pregnancy Factsheet](#)

Florida Department of Health Resource: [Pregnancy Associated Mortality Review \(PAMR\) Committee](#)

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