

Matters of the Heart: Inequities in Cardiovascular Maternal Health Outcomes in Wisconsin



Issued by the Wisconsin Maternal Mortality Review Impact Team



Why is this issue important?

Cardiovascular conditions are the leading cause of pregnancy-related death for Black people in Wisconsin.

Black people in Wisconsin continue to die from pregnancy-related causes at more than twice the rate of the general population, with 72.3 pregnancy-related deaths per 100,000 live births among non-Hispanic Black people, compared to 34.5 deaths per 100,000 live births for all races and ethnicities (see graph below).

While mental health conditions are the leading cause of pregnancy-related deaths for Wisconsinites overall, cardiovascular conditions are the leading cause for Black people.

Black people experience higher rates of cardiovascular conditions during pregnancy, including hypertension and preeclampsia, which increase the risk of severe complications during pregnancy, delivery, and postpartum, and can even lead to death. In Wisconsin, cardiovascular conditions account for nearly one in three (31%) pregnancy-related deaths among Black people.²

This highlights a critical and preventable contributor to maternal mortality in our state. Addressing this crisis is essential, not only to save lives, but to ensure that every pregnant and postpartum receives the care and support they deserve.

In this brief, we explore the impact of cardiovascular health on maternal outcomes and share recommendations for creating lasting change.

Number of pregnancy-related deaths per 100,000 live births



Source: Wisconsin Department of Health Services, Division of Public Health, Maternal Mortality Review Program, 2020-2022.



Hypertension and cardiovascular disease play disproportionately large roles in Black maternal mortality, but it's not solely due to biological differences. A combination of systemic, social and health care-related factors significantly contributes to the increased risk.

Black people face higher rates of hypertensive conditions during and after pregnancy nationally, including:³

- Earlier onset and more severe progression of hypertension.⁴
- Greater risk of preeclampsia and eclampsia, which can lead to organ damage, stroke, and even death.⁵
- Elevated long term cardiovascular disease risk following adverse pregnancy outcomes.⁶

These medical conditions are worsened and too often left untreated leaving an increased risk for maternal mortality due to:

- Symptoms and concerns more likely to be ignored or downplayed by health care providers.⁷
- Limited access to care and poorer quality of care when it is received.⁸
- Chronic stress and the physiological impact of racism which contribute to poor heart health and pregnancy complications.⁸
- Implicit bias and structural racism that influence diagnosis, treatment, and outcomes across the health care system.⁷

Pregnancy-related cardiovascular conditions

- Blockages (sometimes called embolisms) in arteries and veins
- Stroke (also called cerebrovascular accidents)
- Blood pressure disorders of pregnancy, including preeclampsia and eclampsia
- Heart muscle problems (called cardiomyopathy)
- Heart disease

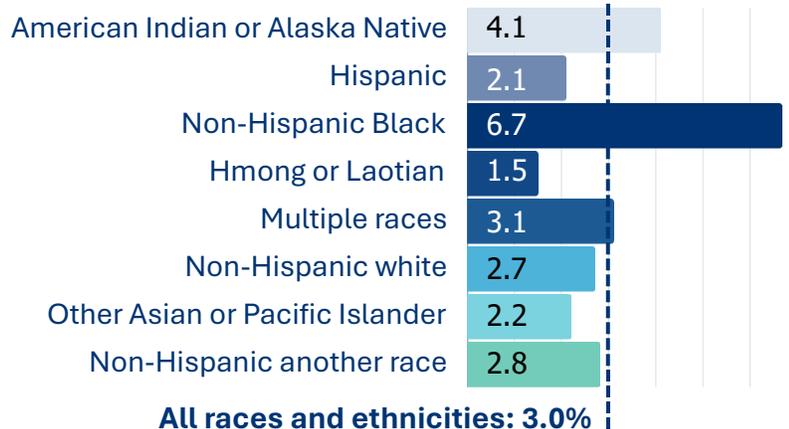
What else does the data show?

Cardiovascular conditions were the second most common cause of pregnancy-related death in Wisconsin from 2020–2022 (14%), which highlights a critical and possible preventable contributor to maternal mortality in our state.²

In 2020 alone, 7,113 Wisconsinites experienced hypertensive disorders during pregnancy or at delivery and 48 suffered severe cardiac complications.⁹

Hypertension and other cardiovascular conditions are also among the leading causes of pregnancy-related deaths in the U.S. nationally, disproportionately impacting Black people.^{10,11}

Percent of people with chronic hypertension during pregnancy by race and ethnicity



Source: Wisconsin Department of Health Services, Division of Public Health, Birth Records, 2022-2023

Recommendations to move data to action

Reducing black maternal mortality requires concerted action across patient, provider, and public health policy levels.

The Wisconsin Maternal Mortality Review Team (MMRT) reviews all deaths that occur during or within one year of the end of pregnancy and then makes recommendations to prevent future similar deaths. The Maternal Mortality Review Team does their best to look at all potential contributing factors to the death, which can lead to a broader set of recommendations and more opportunities for prevention.

These recommendations and key questions are summarized from the 2024 report, [Wisconsin Maternal Mortality Review Team Recommendations: 2020 Pregnancy- Associated Deaths \(P-02108\) \(PDF\)](#).



Provider recommendations

- Educate patients on heart disease warning signs in culturally relevant ways.
- Discuss preconception planning for those with chronic conditions or past preeclampsia.
- Prioritize in person postpartum visits for high-risk patients
- Offer telehealth for those with access barriers.
- Refer pregnant patients with a history of cardiac disease to maternal and fetal medicine specialists.
- Follow American College of Obstetricians and Gynecologists (ACOG) guidelines for managing obesity and cardiac conditions during pregnancy.



Hospital and facility recommendations

- Implement systematic protocols for managing severe hypertension during pregnancy
- Use Hear Her campaign materials in patient education efforts.
- Ensure patients and support persons understand discharge plans
- Train emergency department staff on managing cardiac and hypertensive disorders in pregnancy.
- Embed maternal early warning signs in electronic health records for closer monitoring



Community recommendations

- Promote maternal early warning signs awareness using the Hear Her® campaign, Centers for Disease Control and Prevention's (CDC) efforts to prevent pregnancy- related deaths by sharing potentially life-saving messages about urgent maternal warning signs.
- Connect socially-isolated individuals to support groups and services.
- Continue public health efforts to prevent obesity and chronic disease across lifespan.
- Provide emotional and social support (wraparound services).



Health systems and policy maker recommendations

- Expand Medicaid and universal health care access to improve maternal health outcomes.
- Fund postpartum home visits by nurses for high risk patients.
- Implement flags in electronic health records to track postpartum status for one year after birth.
- Improve communication between dental and medical electronic records for better maternal care coordination.
- Support policies addressing food insecurity, environmental health risks, and housing stability for pregnant and postpartum individuals.
- Medical and nursing schools should implement ongoing training on medical charting and documentation that addresses issues of bias and discrimination in the medical record as well as in delivery of care.
- Medical and nursing schools and pipeline programs should work to increase diversity in the health care workforce as an important factor for eliminating inequities in health care.
- Payers should incentivize health systems to provide in-person culturally competent care coordinators from diverse backgrounds as part of the care team for complex patients to make sure all health care needs are addressed..



Meet Dr. Alexa Allyn Licon

What is your current role?

I am currently a Clinical Assistant Professor and Non-Invasive Cardiologist at the University of Wisconsin School of Medicine and Public Health. I have a particular interest in a field known as “Cardio-Obstetrics,” caring for individuals with cardiovascular risk factors or known cardiovascular conditions through their preconception, pregnancy and postpartum journeys.



What got you interested in becoming a Cardiologist? What inspired you to get involved in perinatal care?

I developed an interest in Cardiovascular Medicine during my Internal Medicine residency training. I was fortunate to train at a large, public hospital system, caring for a very diverse patient population of different racial, ethnic and socioeconomic backgrounds. I developed a keen interest in learning more about the health disparities affecting the patients I would care for, particularly relating to adverse cardiovascular outcomes. Knowing Black women are underrepresented as healthcare providers as a whole, and particularly in the field of Cardiovascular Medicine, I aspired to become a Cardiologist to serve as both a resource and advocate for patient populations at highest risk of suffering from adverse cardiovascular outcomes. During my Cardiovascular Medicine fellowship training I was introduced to the field of Cardio-Obstetrics and soon became aware of the alarming differences in the incidence and severity of pregnancy-related cardiovascular complications amongst racial and ethnic groups, particularly affecting Black maternal outcomes. The opportunity to apply what I have learned during my medical training to help reduce the incidence of adverse maternal cardiovascular health outcomes, including the disparities observed in these outcomes, ultimately inspired me to serve as a Cardiologist specializing in the provision of Cardio-Obstetric care.

What do you love most about your job?

It is always fulfilling to see a patient with a cardiovascular condition such as chronic hypertension continue on to have a healthy pregnancy and postpartum course with the help of the multidisciplinary care provided by the Cardio-Obstetrics healthcare team. I feel very privileged to know the recommendations and clinical care I provide are valuable to the Cardio-Obstetrics team and my role can help mitigate a patient’s risk for developing a pregnancy-related cardiovascular complication.

What are some of the common cardiovascular complications of pregnancy that you see? Are there racial disparities in these conditions? Are these conditions preventable?

The most common cardiovascular complications I see in pregnancy and postpartum are hypertensive disorders of pregnancy, including preeclampsia and chronic hypertension with superimposed preeclampsia. Unfortunately, racial disparities are present; Black women are likelier to develop a hypertensive disorder pregnancy and likelier to suffer from a complication from a hypertensive disorder of pregnancy compared to other patient populations within the United States. Differences in access to healthcare resources, differences in the quality of healthcare delivered, biases within the healthcare system and a higher prevalence of risk factors associated with developing a hypertensive disorder of pregnancy are a few of the suspected contributors to these observed racial disparities. Adequate preconception counseling, using a multidisciplinary team approach to care for individuals at risk for or with a history of a hypertensive disorder of pregnancy through their preconception, pregnancy and postpartum journeys, and establishing telehealth blood pressure monitoring programs can help reduce the risk of developing a hypertensive disorder of pregnancy.

Meet Dr. Alexa Allyn Licon, continued

What advice would you give to birthing people and their families on ways they can reduce the risk of cardiovascular conditions of pregnancy? What broader advice would you give to community advocates and public health professionals on how to reduce disparities?

For those at risk of developing a cardiovascular condition, or for those with an established cardiovascular condition, a preconception counseling visit with a Cardio-Obstetrics team (i.e. including a Cardiologist specializing in Cardio-Obstetrics, Maternal Fetal Medicine specialist, etc.) allows the opportunity to comprehensively discuss the risks associated with pregnancy in the context of their cardiovascular history, transition to a medication regimen safe for use during pregnancy, and ensure risk factors associated with the development of pregnancy-related cardiovascular complications are as optimized as possible (i.e. blood pressures are well controlled prior to conception). Additionally, I encourage birthing people and their families to make sure their voices are heard by their healthcare provider team when they have a question or concern. Unfortunately, there are anecdotal experiences from childbearing individuals detailing how their concerns and/or symptoms have been downplayed or dismissed by healthcare professionals, ultimately leading to a delay in the diagnosis and appropriate treatment of a pregnancy-related complication; this is a healthcare systems issue.

There is a lot of work that needs to be done within the healthcare system to make sure our patients' voices are heard and their concerns are taken seriously. If the birthing person has questions or concerns and they do not feel heard, having a team of advocates (i.e. family members, friends, doulas) can help. I encourage everyone to learn more about the Center for Disease Control and Prevention's initiative called the HEAR HER campaign which helps shed light on the rising maternal mortality rate in the United States and the racial disparities associated with the rising maternal mortality rate. In addition to serving as an educational platform for birthing people to learn more about the concerning symptoms associated with a pregnancy-related complication and when to seek help, the HEAR HER campaign is also an educational resource for the birthing person's loved ones and health care providers to learn how to become advocates for the birthing person and to help ensure the symptoms and/or concerns expressed by the birthing person are appropriately addressed.

From a personal and professional standpoint, why are you so passionate about this topic?

As a Black woman and Cardiologist, I feel very in tune with the many disparities observed in the incidence of various adverse maternal cardiovascular outcomes negatively impacting Black women, their families and their communities. The United States has the highest maternal mortality rate compared to other industrialized countries; nationally, non-Hispanic Black women are 3 times likelier to die from a pregnancy-related complication compared to non-Hispanic White women. Nationally, non-Hispanic Black women are 3 times likelier to die from a pregnancy-related complication compared to non-Hispanic White women. As some studies have shown, Black women remain at increased risk of succumbing to pregnancy-related complications regardless of the level of educational achievement or socioeconomic status. The health disparities we continue to observe are in large part a reflection of the biases and structural racism which sadly have persisted over the course of this country's history. Our country as a whole must work together to address and dissolve the contributors to these disparities in maternal outcomes in order to see a meaningful reduction in the maternal mortality rate; I am very thankful to have the opportunity to join these efforts using the knowledge I have acquired through both life experiences and clinical training.

What positive things are you seeing happening related to this topic? What successes should we build on? What things are there to celebrate?

In the past few years increased attention has been brought to the rising maternal mortality rate in the United States on a national level. Not only is the Cardio-Obstetrics field becoming increasingly recognized and supported within the healthcare community, an ever-growing number of local, regional and national organizations are being established to help raise awareness of the rising maternal mortality rate and disparities in maternal cardiovascular outcomes. There is a greater interest in funding research initiatives relevant to the Cardio-Obstetrics field. It is encouraging to see impactful actions are being taken nationwide to improve maternal health outcomes, and the momentum seems to be only building from here.



Resources

In addition to highlighting data and raising awareness toward inequities, it is important to also celebrate positive work that is happening across our state in the field of maternal and child health.

Community organizations and programs play a critical role in improving maternal health by providing information, fostering social support networks, addressing inequities, coordinating care, and empowering those who are pregnant. These programs are essential in ensuring that all pre- and post-partum people have access to the resources, support, and care they need for a healthy pregnancy, childbirth, and postpartum period.

The following highlight just a couple key organizations and efforts working to address disparities, empower pre- and postpartum people as advocates, and serve as a bridge between health care providers, social services, and support organizations.

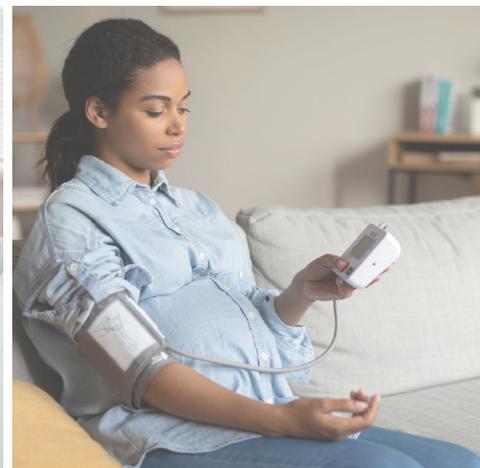
Black Mamas Matter Alliance is a national network of Black women-led and Black-led, birth and reproductive justice organizations and multi-disciplinary professionals, working across the full-spectrum of maternal and reproductive health.

Think Cultural Health offer Culturally and Linguistically Appropriate Services (CLAS) in Maternal Health Care. This free, two-hour e-learning program is designed for providers and students seeking knowledge and skills related to cultural competency, cultural humility, person-centered care, and combating implicit bias across the continuum of maternal health care.

HEAR HER Campaign (CDC) shares potentially life-saving messages about urgent maternal warning signs. The campaign includes resources for women who are pregnant or postpartum, their partners, and the health care professionals who interact with them.

Wisconsin legislator directory

Find your [legislators online](#) by entering your address into the search bar or click a location on the map.



Reflection

Seven key questions to reduce maternal mortality

- After reviewing this report, what are some of the data trends that stood out to you?
- Were there any key contributing factors that surprised you? If so, which ones and why?
- After reviewing the recommendations included in this report, what are the top two that seem feasible for your organization to implement in the next 60–90 days? What are the top two that are feasible for your organization to implement over the next year?
- Racism and discrimination play a role in many of the pregnancy-associated deaths in Wisconsin. What tangible steps can you take to combat this?
- After reviewing this report, which community or system-based partners can you commit to developing a relationship with and/or strengthening in order to implement some of the key recommendations?
- What are areas of promise or hope you see happening in your organization or surrounding community as it relates to maternal mortality prevention? What things are already working well you can support and/or bring awareness to?
- How do you plan to ensure accountability and follow-up on the implementation of the recommendations outlined in this report within your organization or community?

What is the Wisconsin Maternal Mortality Review Program?

The Wisconsin Maternal Mortality Review (MMR) Program works to review and increase awareness around deaths of individuals who died during pregnancy or within one year postpartum.

The overall mission is for partners to use this data to save lives. The MMR Program consists of Wisconsin Department of Health Services (DHS) staff as well as public health and health care experts who convene as the Maternal Mortality Review Team (MMRT) and Impact Team.

Maternal Mortality Review Team (MMRT): Wisconsin's MMRT meets every other month to review the information abstracted from records from the State Vital Records Office, coroners and medical examiners, law enforcement, and health care providers. Learn more about MMRT membership, including the MMRT co-chairs Drs. Jasmine Zapata and Jacquelyn Adams.

Maternal Mortality Impact Team: In 2022, the MMR Program launched the MMR Impact Team, a team of public health and health care experts who meet quarterly to identify critical action steps for disseminating and implementing MMRT recommendations. The focus of the MMR Impact Team is to move from data to action and assist with generating regular issue briefs.

Contact

Wisconsin Department of Health Services
Maternal Mortality Review
201 E. Washington Ave. Madison, WI. 53703
Email: DHSMMR@dhs.wisconsin.gov



WISCONSIN DEPARTMENT
of **HEALTH SERVICES**

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Citations in the order they appear in the brief:

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The recommendations in this brief reflect the views and opinions of the Maternal Mortality Review Team. They may not reflect the official policy or position of the Wisconsin Department of Health Services.