

Is the United States addressing maternal mortality rates from preeclampsia/eclampsia and chronic hypertension?

Racial disparities, advancing maternal age, and obesity all contributed to the **increase in the annual maternal death rate for chronic hypertension** over the last 40 years, according to an analysis of 155,710,441 live births and 3,287 hypertension-related maternal deaths from 1979 to 2018. The **annual maternal death rates for preeclampsia/eclampsia declined**. The maternal mortality rate (MMR) is 4-fold higher in Black women compared with White women. The decrease in MMR related to preeclampsia/eclampsia is likely due to better medical management.

FAST TRACK

Up to 10% of all US pregnancies are complicated by a hypertensive disorder, and rates of chronic hypertension and severe preeclampsia have steadily increased over the last 4 decades

Ananth CV, Brandt JS, Hill J, et al. Historical and recent changes in maternal mortality due to hypertensive disorders in the United States, 1979 to 2018. *Hypertension*. 2021;78:1414-1422. doi: 10.1161/HYPERTENSIONAHA.121.17661.

EXPERT COMMENTARY

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Maternal mortality is a pressing public health issue and is largely preventable. Up to 10% of all US pregnancies are complicated by a hypertensive

disorder, and rates of chronic hypertension and severe preeclampsia have steadily increased over the last 4 decades. However, maternal mortality is an outcome in a population with advancing maternal age, increasing obesity, and undermanaged chronic disease. The MMR due to hypertension is substantially higher among Black women compared with White women. Countless studies attribute systemic racism to these disparities.

Details of the study

Spanning 40 years, a recent study by Ananth and colleagues included live births across all 50 United States and Washington, DC. Of the 1.5 million live births examined, there were 3,287 hypertension-related maternal deaths.

Data were deidentified and available in the public domain. The researchers compiled mortality data and live births among women aged 15 to 49. The MMR was considered the death of a woman during pregnancy

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or within the 42 days following a live birth.

Key points of the study included:

- An estimated two-thirds of maternal deaths are preventable.
- The hypertension-related MMR was 2.1 per 100,000 live births.
- Preeclampsia-related MMR decreased, while hypertension-related MMR increased.
- The MMR from chronic hypertension has increased annually by 9.2%.
- Pregnancies among women with advanced maternal age have grown, especially among those over age 40.
- The MMR due to hypertension increases with age and is highest among women age 45 to 49.

Study strengths and limitations

A major strength of this study is the sheer size of the sample. This is one of the largest studies that examined changes in the MMR in the United States.

As with any study that spans a long period, a primary limitation is inconsistencies in the data collected. In 2003, the US death certificate was revised to include a set of “pregnancy checkboxes” indicating pregnancy at the time of death.

There also have been shifts in diagnostic coding and criteria for preeclampsia.

Classification of race and ethnicity has improved and broadened over time. Despite these limitations, the overarching trends are compelling. ●

WHAT THIS EVIDENCE MEANS FOR PRACTICE

This study’s authors note that maternal mortality is largely preventable. Patients need to be aware of their health and how to adopt healthy behaviors long before pregnancy is even a consideration. Primary and secondary prevention are essential for reducing the MMR.

Clinicians who care for women have an opportunity to emphasize cardiac health at every visit. This includes strict blood pressure control through modifiable behaviors like diet and exercise. The busy clinician could consider a 1- to 2-minute pitch to emphasize that heart disease is the leading cause of death in women both during pregnancy and later in life. A tool from the American Heart Association, Life’s Simple 7 (<https://www.heart.org/en/healthy-living/healthy-lifestyle/my-life-check--lifes-simple-7>), can help guide this language.

In office and clinical settings, consider strategies to raise awareness among staff and colleagues about cultural sensitivities to improve the health of all patients. Addressing systemic racism in the US health care system is critical to mitigate racial inequities in the rates of MMR. An editorial in *The New England Journal of Medicine* urges clinicians to observe patient color rather than be “color blind.”¹ The editorialists note that “physician-citizens must recognize the harm inflicted by discrimination and racism and consider this environmental agent of disease as a vital sign—alongside blood pressure, pulse, weight, and temperature—that provides important information about a patient’s condition.”¹

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Reference

1. Evans MK, Rosenbaum L, Malina D, et al. Diagnosing and treating systemic racism. *N Engl J Med*. 2020;383:274-276. <https://www.nejm.org/doi/full/10.1056/NEJMe2021693>. Accessed February 24, 2022.