

Birth complications tied to death risk decades later

March 14 2023



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Complications from pregnancy and child birth have led to high death rates among people who have given birth in the United States, and a new study using long-range, racially-inclusive data shows that these complications can have deadly implications as long as 50 years later.

Compared to those who had typical pregnancies and childbirths, patients with conditions like [high blood pressure in pregnancy](#), [gestational diabetes](#), and [preterm delivery](#) were all tied to a greater risk of death in the decades following their deliveries, according to a new *Circulation* study led by a researcher at the Perelman School of Medicine at the University of Pennsylvania.

"We know that the context of childbirth has changed since the 1950s and '60s, but these findings demonstrate how crucial it is to people's long-term health that we invest in preventive care and screenings for people with complicated pregnancies and deliveries, both then and today," said the study's lead author, Stefanie Hinkle, Ph.D., an assistant professor of Epidemiology at Penn Medicine.

In the United States, more than 800 people die every year giving birth. The latest numbers show that, out of every 100,000 births, more than 23 result in the death of the person delivering. France's maternal death rate is the next highest among peer countries, and the United States' death rate is still three times as high.

These figures account for deaths in childbirth and during the immediate postpartum period, but the long-term effects of complicated childbirths—which can lead to serious, lifelong health conditions such as [heart disease](#), diabetes, and more—have often been overlooked.

Hinkle and her co-authors drew on data collected from more than 46,000 people who'd given birth at a dozen United States health centers between 1959 and 1966. The patients were tracked for deaths of any kind until 2016, at which time 39 percent, roughly 18,000, had died.

In their analysis, the researchers found that, a pre-term childbirth (a delivery three weeks or more before the due date) due to spontaneous labor was tied to a 7 percent increase in risk of death compared to those

who delivered a baby full-term. The risk climbed to 23 percent for those whose water broke before term, 31 percent for preterm induced labor, and actually doubled—109 percent—for patients who had a pre-term cesarean delivery, all compared to those who hadn't had these types of deliveries.

When it came to hypertensive disorders of pregnancy (high blood pressure conditions like preeclampsia, which can be life-threatening), the risk of death in subsequent years ranged from 9 percent for those with high blood pressure tied specifically to their pregnancy to 32 percent for those who already had high blood pressure before their pregnancy and then developed preeclampsia in their pregnancy.

Finally, gestational diabetes or high blood sugar levels in pregnancy increased the risk of death in the following decades by 14 percent.

As previous research has shown, deaths in childbirth and the immediate postpartum period disproportionately affect Black people, Hinkle and her colleagues specifically attempted to focus on an area of the research that is largely missing: Differences in outcomes by race.

"The value of these data is that they provide more inclusive findings, extending what has been mostly limited to predominately white samples to Black pregnant people, as well," Hinkle said. "It is essential for individuals to know that they are represented in data that leads to clinical recommendations."

Overall, the [death](#) rate for Black patients was higher than white patients (41 percent of the Black patients in the sample compared to 37 percent of white patients). Pre-term [delivery](#)—and, thus, the risk of complications—was much more common, comparatively, in Black patients than white patients (20 to 9 percent).

Hinkle believes more research is needed to study whether these findings point to pregnancy complications being "causal" in mortality, or "just predictive by revealing an underlying risk."

"Future work should seek to understand whether intervening earlier in the postpartum period among high risk patients prevents future disease incidence," Hinkle said. "Our group is also currently working to identify low-cost interventions to potentially prevent complicated pregnancies and deliveries."

More information: Stefanie N. Hinkle et al, Pregnancy Complications and Long-Term Mortality in a Diverse Cohort, *Circulation* (2023). [DOI: 10.1161/CIRCULATIONAHA.122.062177](https://doi.org/10.1161/CIRCULATIONAHA.122.062177)

Provided by University of Pennsylvania

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