

What was the impact of COVID-19 on maternal mortality in the United States?

As compared with prepandemic and early pandemic pregnancy-related mortality, **maternal deaths within 1 year of birth increased dramatically in 2021.**

In a data analysis of pregnancy-related deaths, the authors stratified mortality into early and late periods. Early deaths (within 42 days of birth) increased significantly more than deaths beyond 42 days through 1 year postpartum, although there were increases during both time periods. Disparities in outcomes were exacerbated for Black and American Indian/Alaska Native birthing people, with pregnancy-related mortality more than doubling for the American Indian/Alaska Native population. Increases in maternal mortality were congruent with surges in overall COVID-19 deaths.

FAST TRACK

Thoma and Declercq looked at maternal mortality from prior to the onset of the pandemic through changes in the health care environment, availability of vaccines, and emergence of more highly contagious and potentially more lethal viral variants

Thoma ME, Declercq ER. Changes in pregnancy-related mortality associated with the coronavirus disease 2019 (COVID-19) pandemic in the United States. *Obstet Gynecol.* 2023. doi:10.1097/AOG0000000000005182.

EXPERT COMMENTARY

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Maternal mortality rates in the United States were embarrassingly high and rising compared with other high-income countries prior to the onset of the COVID-19 pandemic. Recently, Thoma

and Declercq aimed to assess the impact of COVID-19 on pregnancy-related deaths within 42 days of childbirth as well as out to 12 months postpartum.¹

During the pandemic, many issues may have affected maternity care and birthing experiences, including changes in prenatal care, restrictions that prevented support people from attending labor, and staffing shortages related to hospital overcrowding with personnel assignments away from labor and delivery. The study by Thoma and Declercq looked at maternal mortality from prior to the onset of the pandemic through changes in the health care environment, availability of vaccines, and emergence of more highly contagious and potentially more lethal viral variants.¹ All data were stratified by race, ethnicity, and locale. Death rates were compared between urban, metropolitan regions; suburban, mid-size regions; and rural locations.

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WHAT THIS EVIDENCE MEANS FOR PRACTICE

The COVID-19 pandemic resulted in increased maternal mortality overall but in disproportionate increases in maternal mortality in American Indian/Alaska Native, Black, and Hispanic birthing people. The sharpest rise in mortality occurred with the onset of the Delta variant—and after several COVID-19 vaccines were available, which were not tested in or recommended early in 2021 for pregnant people. Vulnerable populations were at highest risk for death associated with COVID-19 during pregnancy. Perhaps this can inform responses to future pandemics and prompt inclusion of pregnant people early in the development of vaccines and prevention strategies.

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FAST TRACK

Overall maternal mortality rose by 26% from the beginning of 2020 to the second quarter, remained stable through mid-2021, then increased dramatically in the second half of 2021

Details of the study

Data were collected from the Centers for Disease Control and Prevention's (CDC) publicly available WONDER database from 2019 to 2021. Because the absolute number of deaths within the American Indian/Alaska Native community was relatively small during that timeframe, data from 2018 also were accessed in order to verify reliability. The authors used the CDC's definition of pregnancy-related death as "a death while pregnant or within 1 year of the end of pregnancy from any cause related to or aggravated by the pregnancy."² International Classification of Diseases, Tenth Revision (ICD-10) codes were used to identify maternal deaths. The multiple causes of death file was queried to match maternal deaths with COVID-19 as a contributory cause.

Patterns of maternal deaths were compared with overall COVID-19 cases and COVID-19 death rates for reproductive-age women (ages 15 to 44) by quarters beginning in quarter 1 of 2019. Quarters through the first quarter of 2020 were prepandemic, then quarterly statistics were analyzed from the second quarter of 2020 through the end of 2021 to assess the impact of COVID-19 on early and late maternal mortality.

Findings. Overall maternal mortality rose by 26% from the beginning of 2020 to the second quarter, remained stable through mid-2021, then increased dramatically in the second half of 2021. Maternal mortality unrelated to COVID-19 remained fairly consistent at prior levels, whereas the COVID-19 associated

deaths mirrored the pattern of mortality among reproductive-age nonpregnant women attributed to COVID-19. In addition, the disparities in health outcomes observed in the population at large related to COVID-19 were similar among pregnant people.

American Indian/Alaska Native populations had the largest increase in mortality—more than doubling between early 2020 and the end of 2021. Black people experienced the largest absolute increase in mortality (up to 97.7/100,000 births) while Hispanic birthing people had the highest relative increase (from 19.3 to 29.8/100,000 births). While there were increases in maternal mortality among White and Asian birthing people, these variances were much smaller than for Black, Hispanic, and American Indian/Alaska Native populations.

When comparing mortality stratified by residence areas, early pandemic deaths were higher among birthing people in large urban areas (a 33% increase in 2020); however, later in the pandemic the rates increased substantially in medium-small metropolitan areas (39%) and rural areas (21%).

Study strengths and limitations

The administrative data used to inform this study is a relatively reliable dataset, although errors in both coding for COVID-19 as a contributory cause of maternal death and appropriate ascertainment of race and ethnicity may have occurred. Administrative data can highlight the trends in maternal mortality but cannot identify the root causes of these deaths. We are left with many questions regarding the contribution of staffing, support in labor, changes in prenatal care, and instability in food, housing, and comorbid medical conditions to this devastating rise in maternal mortality. ●

References

1. Thoma ME, Declercq ER. Changes in pregnancy-related mortality associated with the coronavirus disease 2019 (COVID-19) pandemic in the United States. *Obstet Gynecol*. 2023. doi:10.1097/AOG.00000000000005182.
2. Centers for Disease Control and Prevention. Pregnancy mortality surveillance system. Accessed April 17, 2023. <https://www.cdc.gov/reproductivehealth/maternal-mortality/pregnancy-mortality-surveillance-system.htm>