

Addressing the Role of Oral Health in Maternal Mortality and Pregnancy Outcomes



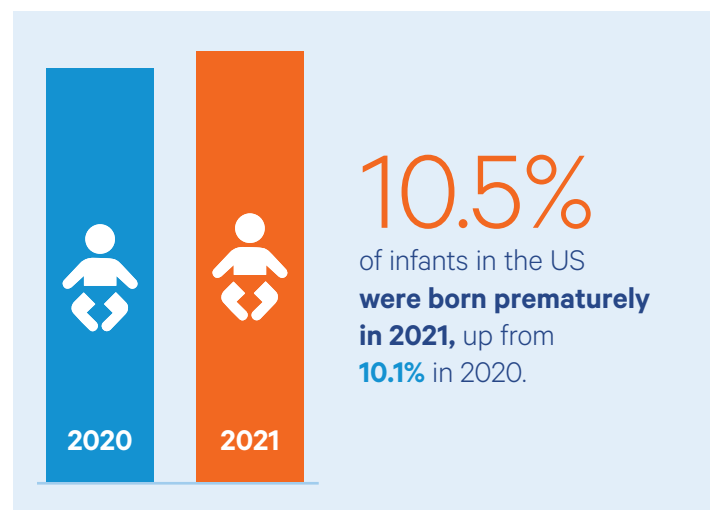
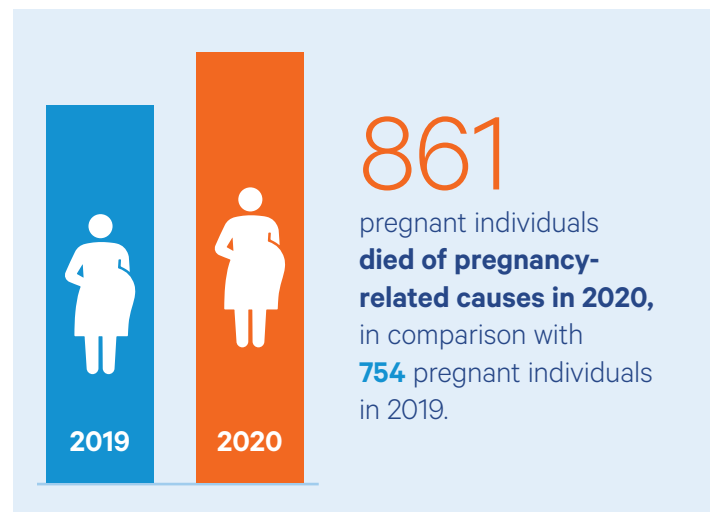
Maternal mortality¹ and preterm birth remain serious public health challenges in the United States, and it is critical to address birthing parents' health before, during, and after pregnancy.

The US must take action to eliminate preventable deaths among women, children, and adolescents, as well as improve population health. In 2020, 861 pregnant individuals died of pregnancy-related causes in the US, in comparison with 754 pregnant individuals in 2019. Additionally, in 2021, 10.5% of infants in the US were born prematurely, up from 10.1% in 2020. These striking statistics demonstrate the unfortunate, worsening state of both maternal and infant health in our nation — reinforcing the importance of research efforts to explore what is driving these trends.

Maternal Mortality

As defined by the Centers for Disease Control and Prevention (CDC), maternal mortality is the death of a woman during pregnancy, at delivery, or within 42 days of delivery. Maternal mortality is a tragedy for the mother's child, the family, and society at large. The risk of maternal mortality and morbidity (short- or long-term health problems resulting from pregnancy or giving birth) is even higher for people of color.

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¹ Throughout this paper, the term "maternal mortality" is used in accordance with terminology utilized by the Centers for Disease Control and Prevention to describe the death of a birthing parent during pregnancy. However, we recognize the inclusivity of all individuals who give birth, and also use terms such as "birthing parent" and "pregnant individuals/people" when appropriate. The terms "mother(s)" or "women" are used when describing results of research that refer specifically and exclusively to mothers or women (i.e., men, fathers, or other caregivers were not included in the research).

In the United States, [Black and American Indian/Alaska Native women are 2.9 and 2.5 times more likely](#), respectively, to die from pregnancy-related causes than non-Hispanic white women. [Black women with a completed college education or higher experience maternal mortality rates 1.6 times](#) that of white women with a less than high school degree. It is important to note that [more than half of these deaths are preventable](#) through adequate pre- and postnatal care. [Adequate prenatal care includes regular visits with a physician or midwife](#), who monitors the pregnancy and identifies problems and complications before they become serious. [Postnatal care refers to the 6 to 12 weeks following birth](#), when adequate rest, nutrition, and vaginal care are all critical.

Several factors contribute to these striking disparities, including, but not limited to, [inequities in the quality of health care, underlying chronic conditions, structural racism, and implicit bias](#). Social determinants of health, or the conditions of people's environments, prevent many individuals from marginalized racial and ethnic backgrounds from receiving equal opportunity for economic, physical, and emotional health. It is important for health care providers, hospitals, health care systems, states, and communities to address these issues. [Opportunities for action](#) include support for state perinatal quality collaboratives, support for states through the CDC's Enhancing Reviews and Surveillance to Eliminate Maternal Mortality Program, and promotion of such efforts as the CDC's Hear Her campaign, which raises awareness of warning signs during and after pregnancy.

Preterm Birth

Preterm birth occurs when a baby is born alive before the completion of 37 weeks of pregnancy. While most preterm births are spontaneous, in some cases [early labor is induced, or early caesarean sections are performed](#), in response to medical complications such as infections. Babies who are born prematurely are at [higher risk for long-term intellectual and developmental disabilities, as well as breathing problems, feeding difficulties, hearing and vision loss, and cerebral palsy](#). Additionally, preterm birth can lead to [infant mortality](#). Among children under five, preterm birth complications are the leading cause of death, and in 2015, they were responsible for [approximately 1 million deaths globally](#). In 2022, [10.5% of babies](#)

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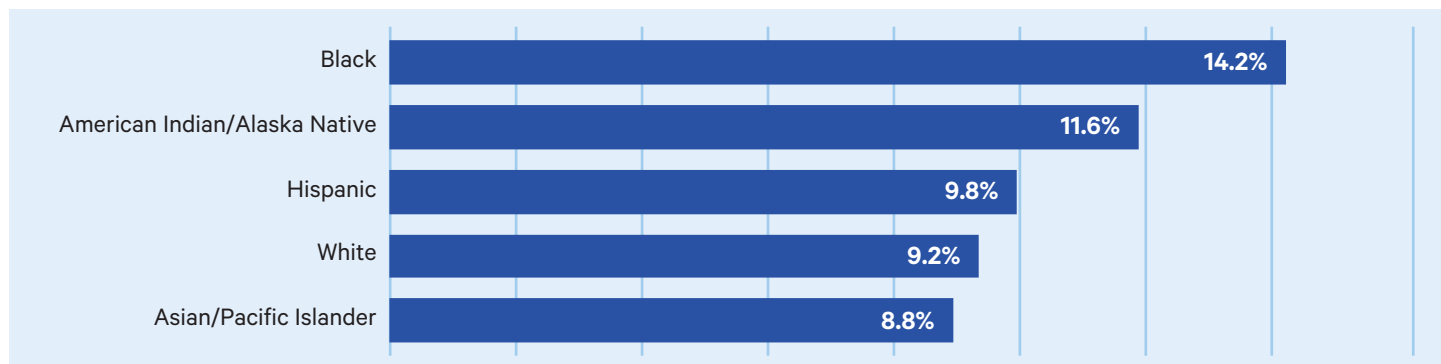


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[in the US](#) were born prematurely, with preterm birth rates varying by state. For example, [15% of births in Mississippi were preterm, compared with 13.1% in Alabama, 13.5% in Louisiana, 12.8% in West Virginia, and 8% in Vermont](#).

Additionally, as with maternal mortality, certain racial and ethnic groups are disproportionately affected by high rates of preterm birth. In the United States, Hispanic, American Indian/Alaska Native, Black, and Asian/Pacific Islander babies are born prematurely at a rate surpassing that of their white peers ([Figure 1](#)). Data reveals that the [preterm birth rate among Black women is 52% higher](#) than the rate among all other women.

Figure 1: Preterm Birth Rate by Race/Ethnicity: United States, 2018–2020 Average

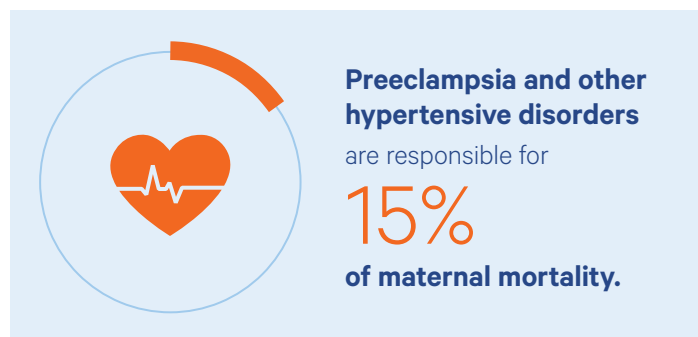


High rates of premature labor in these communities call attention to the role of racism. While studies have focused on inequities in access to quality education and health care as root causes of the disparities, findings reveal that preterm birth rates are higher even among Black women with high levels of education, high socioeconomic status, and adequate health insurance. Study findings point to the many physical, psychological, and social stressors experienced by Black women daily, and the association of this environmentally induced stress

with preterm labor. Evidence highlights the role of [chronically elevated stress hormones](#), likely induced by racism, that can lead to preterm birth. Additionally, [implicit bias toward black women](#), within the health care system and among some health practitioners, contributes to the alarmingly high rates of Black maternal deaths. Many Black mothers have shared stories of experiencing [devaluation and disrespect by medical providers](#) during pregnancy and childbirth — highlighting the role of racism in the health care system itself.

Oral Health and Maternal and Infant Health

Oral health plays a role in maternal and infant health. For example, it is important for pregnant individuals to watch for [gum redness, swelling, and bleeding, as pregnancy hormones can contribute to symptoms of gum disease](#). A small but significant correlation exists [between periodontitis and adverse pregnancy outcomes](#). Maternal periodontal disease — the chronic infection of the gingiva and supporting tooth structures — is associated with [preterm birth, development of preeclampsia, and delivery of a small-for-gestational age infant](#). Preeclampsia is a hypertensive disorder that occurs only during pregnancy and the postpartum period, affecting both the mother and the baby. Preeclampsia and other hypertensive disorders are responsible for [15% of maternal mortality](#). These findings highlight the intersections of maternal and oral health. Additional preliminary evidence suggests that [improved periodontal health can help reduce preterm delivery rates](#). These findings demonstrate the importance of communication between dentists and patients regarding the oral health risks faced during pregnancy, and the benefits of oral hygiene best practices for both maternal and infant health.



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Suggested Citation:

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