Examination of Risk Factors Contributing to Higher Rates of Maternal Mortality in African American Women: A Literature Review

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Table of Contents

Research Question

What factors contribute to elevated rates of maternal mortality among Black/African American women compared to other racial or ethnic groups in the United States?

INTRODUCTION

Roughly 22 women per 100,000 live births die from pregnancy-related causes in the United States, making maternal mortality a critical public health issue (Zephyrin et al., 2024). Maternal mortality is defined as "the annual number of female deaths from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy" (World Health Organization, 2025). While medical advancements have improved overall maternal health, the United States continues to report the highest maternal mortality rate among high-income nations (Zephyrin et al., 2024). For comparison, the maternal mortality rate in 2022 was 22.0 per 100,000 in the U.S., while countries such as Canada (8.4 per 100,000), Germany (3.5 per 100,000) and Japan (3.4 per 100,000) reported significantly lower rates (Zephyrin et al., 2024).

Maternal mortality can be driven by a range of medical complications, many of which are preventable. Over 75% of pregnancy-related deaths result from conditions such as mental health disorders, hemorrhage, cardiac and coronary conditions, infection, thrombotic embolism, and cardiomyopathy (Centers for Disease Control and Prevention [CDC], 2024). The leading underlying causes of maternal mortality vary by racial and ethnic groups: cardiac and coronary conditions are the primary causes of pregnancy-related deaths among NHB women and non-Hispanic white women, and hemorrhage is the leading cause among non-Hispanic Asian women (CDC, 2024). The risk of dying from pregnancy-related complications also increases with age, with maternal mortality rates reaching 138.5 per 100,000 for women aged 40 and older,

compared to 31.3 per 100,000 for women aged 25-39 and 20.4 per 100,000 for women under 25 (Katella, 2023). Preeclampsia/eclampsia is seasonally ranked as one of the leading causes of maternal mortality, as it is responsible for over 70,000 maternal deaths; furthermore, the rate of preeclampsia in Black women is 60% higher than white women (CDC, 2022). Compounding on this negative outcome is the fact that Black women are more likely to experience worse outcomes associated with this condition, including death, compared to white women (CDC, 2022.)

The burden of maternal mortality is not distributed equally across racial and ethic groups. Non-Hispanic Black (NHB), American Indian, and Alaska Native women experience significantly higher rates of pregnancy-related complications and death compared to their white counterparts (Hill, 2024). In 2021, the maternal mortality rate per 100,000 live births was 69.9 for non-Hispanic Black women, 28.0 for Hispanic women, 26.6 for white women, and 16.8 for Asian women (Hoyert, 2024). While maternal mortality rates declined slightly in 2022, disparities persisted, with Black women experiencing a rate of 49.5 per 100,000 live births, compared to 19.0 for white women and 16.9 for Hispanic women (Hoyert, 2024). The disproportionate impact of maternal mortality is evident across all age groups; Black women in their teens face a maternal death rate 1.4 times higher than their white counterparts, while those aged 20-24 have a rate which is 2.8 times higher, and all other age groups experience a rate nearly four times higher (Crandall, 2021).

Notably, these disparities persist even among NHB women with higher levels of education and income. Pregnancy-related mortality rates among NHB women who have completed college are higher than those of white women with the same level of education and even white women with less than a high school diploma (Hill, 2024). These trends suggest that

factors beyond socioeconomic status contribute to the elevated risk of maternal mortality among NHB women.

Despite the severity of this issue, maternal mortality remains an understudied issue in the U.S. and is at risk of becoming less prevalent with recent cuts to federal funding regarding ethnic disparities and health equity. Previous research has identified racial disparities in maternal health outcomes but has yet to fully explain their origins or propose effective solutions to curtail these elevated rates for NHB women. While structural racism, healthcare access, and implicit bias has been identified as contributing factors, gaps remain in understanding the extent to which these may interact.

By examining maternal mortality through a focused lens, this study aims to evaluate the risk factors contributing to maternal mortality in NHB women in the U.S.

METHODS

A search was conducted on two databases, PubMed and Web of Science, to select current, peer-reviewed articles answering the research question of this literature review.

Inclusion and Exclusion Criteria

To ensure relevance and reliability of literature, specific inclusion and exclusion criteria were applied. All databases were searched using key terms regarding maternal health, maternal mortality, health disparities, and risk factors. Publication dates were restricted to the last ten years, 2015-2025, to reduce the likelihood of obtaining outdated results. In all searches, meta-analyses, systematic reviews, literature reviews, editorials, non-original research articles, and non-peer reviewed research was excluded. Instead, peer-reviewed and original research was sought after. The key phrases “Black” or “African American” as well as “Maternal Mortality” were utilized in all searchers to target applicable research regarding the African American

population in the United States. Synonyms for search terms were included and separated by the Boolean operator "OR" to widen the search. Further, the Boolean operator "AND" was utilized in an effort to discover only research that pertained both to the target population as well as to maternal mortality. Literature regarding populations outside the United States was excluded. There were no criteria for socioeconomic status. Race, specifically NHB, was used as inclusion criteria to ensure citations were applicable to the target population. Sex, specifically female, was used as inclusion criteria for the same purpose.

Rationale for Selected Articles

Two searches, in addition to an external sourcing of an article via eLC, were needed to obtain relevant results. These searches employed the Boolean operators and key phrases described in Table 1. Articles were selected by reviewing the first nine pages of the results; literature was excluded based on title and abstract. Then a full text review was conducted, and appropriate articles were selected. Each title was assessed to determine if it seemed relevant to the topic of this literature review. Next, the abstract of each article whose title seemed appropriate was reviewed to assess whether the study could effectively address or relate to the stated research question. Once an article successfully navigated these two assessments, the methods section was reviewed to determine the strength of the research approach and ensure that the research article discussed maternal mortality data that is appropriate to include when examining disparities between non-Hispanic black women in the United States and other groups. Then the results section was analyzed to assess critical findings and statistics relating to maternal mortality. The limitations of each study were examined to ensure that referenced literature was ethically and scientifically sound.

A search was conducted on two databases. PubMed is a free, online database that hosts literature regarding biomedical and life sciences. This database contains over 37 million citations and abstracts of literature. It is produced by the U.S. National Library of Medicine and National Institutes of Health and has been managed since 1996. Web of Science is a free, online database that contains over 95 million records as part of its Core Collection. This literature focuses on various academic disciplines including science, arts, and humanities. Further, one article was obtained by referencing an outline regarding a similar topic which was posted to eLC. Permission to utilize this document to source articles was granted by Dr. Proctor on February 11, 2025. Regarding the PubMed searches, the search terms used were ((“black” OR “African American”) AND (“maternal mortality”)). This search yielded 643 results. Filters specifying aforementioned exclusion criteria were then applied. This narrowed the results to 218, of which 15 were selected. Regarding the Web of Science searchers, the search terms utilized were ((“black” OR “African American”) AND (“maternal mortality”)). This search yielded 479 results. Filters specifying aforementioned exclusion criteria were then applied. This narrowed the results to 298, of which four were selected.

Further, one article was sourced from outside of the aforementioned databases. This article was found from an example of a literature review covering a similar topic which was posted to the HPRB 5010 content located on the University of Georgia’s eLC platform. Permission to utilize this document to source articles was granted by Dr. Proctor on February 11, 2025.

Overall, this specific and premeditated approach allowed for the selection of 20 relevant articles which described the target population in regards to the aforementioned research question.

Search processes are further detailed in *Table 1* below.

Table 1. Search Terms and Yielded Results

Database	Search Terms	Filters Applied	Number of Results	Results After Filters	Articles Selected	Notes
PubMed	(“black” OR “African American”) AND (“maternal mortality)	-Publication date: 2015-2025 -U.S.-based populations only -Female, NHB only -Peer-reviewed sources only, not literature review, not meta-analysis	643	218	15	Managed by NIH/NLM; biomedical and life sciences focus
Web of Science	(“black” OR “African American”) AND (“maternal mortality)	-Publication date: 2015-2025 -U.S.-based populations only -Female, NHB only -Peer-reviewed sources only, not literature review, not meta-analysis	479	298	4	Core Collection spans sciences, arts, and humanities
eLC Reference	N/A (article obtained via Example Literature Review)	Confirmed relevance and permission by Dr. Proctor on 2/11/2025	N/A	N/A	1	Located via an outline posted on eLC; permission granted to use for sourcing

RESULTS

Despite efforts to address health equity, these articles highlight potential risk factors regarding maternal mortality in African American women in the United States. The available research conveys three overarching findings. First, maternal mortality could be negatively impacted by structural healthcare disparities and systematic racism experienced by this group. Second, lower hospital quality and decreased access to effective healthcare could contribute to

elevated risks of maternal mortality and related health outcomes. Third, this population experiences a higher prevalence of preexisting conditions and comorbidities which can complicate a pregnancy and increase the risk of maternal mortality.

Structural and Systemic Healthcare Disparities and Racism

In the reviewed literature, researchers noted that NHB women are more likely to experience communication problems and discrimination during maternity care, which can negatively impact health outcomes. In one study, over 40% of NHB women reported communication problems in prenatal care, and 24% perceived discrimination during birth hospitalization (Attanasio & Kozhimannil, 2015). These communication problems were assessed with questions regarding whether or not women held back questions during appointments, if they felt their providers spent enough time with them (Attanasio & Kozhimannil, 2015). Among SIDS cases, 36% of NHB mothers received inadequate prenatal care, whereas only 11% of mothers in the control group experienced the same (Hauck & Blackstone, 2022). These cases were compared to Black infants who were alive and matched to the cases on characteristics such as age and birth weight (Hauck & Blackstone, 2022). Additionally, black women had significantly higher odds of experiencing discrimination due to race, language, or culture compared to white women (AOR 1.89) (Attanasio & Kozhimannil, 2015). Black women were nearly twice as likely as white women to face communication barriers in maternity care, even when controlling for education level (AOR = 2.34, 2.43 vs AOR 1.29, 1.20) (Attanasio & Kozhimannil, 2015). Further, a national survey found that 23% of Black women reported mistreatment during childbirth compared to 14% of white women (Vedam et al., 2019).

Further, NHB women are more likely to face greater financial barriers to care, be uninsured, and are less likely to have access to prenatal care compared to white women (Huang

et al., 2024). Black women face barriers to optimal health, including transportation, psychological distress, and health literacy (Dodds et al., 2025). Lack of insurance or access to timely prenatal care can delay diagnosis and management of high-risk conditions, such as hypertension, diabetes, or cardiomyopathy, all of which are more prevalent in NHB women and strongly associated with maternal death (Huang et al., 2024).

Hospital Quality and Access to Healthcare

The reviewed literature highlights the role of hospital quality and access to healthcare in determining the outcome of a pregnancy. It is found that NHB women are disproportionately delivering in hospitals with higher maternal mortality rates. Roughly 53% of Black patients delivered in non-teaching, Black-serving hospitals, compared to only 19% of white patients (Burris et al., 2021). Black serving hospitals are generally defined as those where a large portion of the patients identify as Black, and more specifically, a hospital that falls in the top decile of U.S. hospitals by proportion of Black Medicare patients served (Himmelstein et al., 2022). These institutions are typically located in urban areas and are more likely to be safety-net or teaching hospitals (Himmelstein et al., 2022). Furthermore, they have lower operating margins (1.0% vs 4.1% compared to hospitals that do not meet the criteria), which indicates financial constraints impacting quality of care (Himmelstein et al, 2022). Black women were more than twice as likely to die during delivery hospitalization compared to white women, with mortality rates of 11.5 per 100,000 live births for NHB women compared to 4.8 per 100,000 for white women (Burris et al., 2021). Further, among non-teaching hospitals, maternal mortality was 47% higher in Black-serving hospitals compared to non-Black-serving hospitals (Burris et al., 2021). During inpatient stays, Black women also had the highest maternal mortality rates across all pregnancy stages: antepartum mortality rate (47 per 100,000), intrapartum mortality rate (17 per 100,000),

postpartum mortality rate (379 per 100,000) (Mogos et al., 2020). During the postpartum period, in particular, the rate was nearly three times higher than for white women, despite being the period during which surveillance of patients is least intensive (Mogos et al., 2020). However, it was also observed that systemic weakness is hospital and healthcare data collection is present (Joseph et al., 2024). For instance, Joseph et al. (2024) found that maternal mortality appeared to increase by 144% from 1999-2002 (9.65 per 100,000 live births) to 2018-2021 (23.6 per 100,000 live births). However, when using an alternative methodology that required explicit mention of pregnancy, maternal mortality rates were recalculated to be 10.2 to 10.4 per 100,000 live births (Joseph et al., 2024). This phenomenon was noted as a possible consequence of Black-serving hospitals facing tougher financial operating margins compared to hospitals not falling in this category (Himmelstein et al., 2023).

In addition to having the highest maternal mortality rates, NHB women and women in rural and low-income areas faced an additional 50% risk of a negative pregnancy outcome compared to those in urban areas (Singh, 2021). These rural and low-income areas are often found in certain geographic areas, such as the Southern states, which have the highest maternal mortality ratios for NHB women compared to the other regions of the country (Fleszar et al., 2023). Further, majority-black communities have fewer hospitals or have facilities that are lower quality compared to non-majority black communities (Burris et al., 2021). Many NHB women are uninsured, and while Medicaid expansion under the Affordable Care Act was associated with a 7.01 per 100,000 reduction in maternal mortality compared to non-expansion states, many of the Southern states elected not to participate in the expansion (Eliason, 2020). Structural barriers and various forms of marginalization further limit NHB women's access to quality healthcare services, a point which is exemplified by research showing that NHB women were less likely to

have consistent prenatal care providers compared to other racial/ethnic groups (Elkafrawi et al., 2020). One area that exemplifies this is sudden infant death syndrome (SIDS) statistics. From 2014 to 2018, NHB infants died from SIDS at a rate of 72.7 per 100,000 live births compared to 36.7 per 100,000 live births among non-Hispanic white infants (Hauck & Blackstone, 2022). Often, mortality from SIDS can be avoided by providing consistent monitoring and medical care to mothers (Hauck & Blackstone, 2022).

Further, NHB women are more likely to face greater financial barriers to care, be uninsured, and are less likely to have access to prenatal care compared to white women (Huang et al., 2024). Their financial burden is often greater than their white counterparts as well (Brown et al., 2023). NHB mothers were found to have higher rates of extended hospital stays (approximately four days for NHB women compared to approximately three days for non-Hispanic white women), which led to increased hospital bills at the end of their stays (Brown et al., 2023).

Higher Prevalence of Preexisting Conditions and Comorbidities

Preexisting conditions and comorbidities consistently emerged as risk factors for this population regarding poor maternal health outcomes. The impact of these chronic conditions can be seen in the considerably elevated rate of hypertension-related maternal mortality found in Black women (5.4 per 100,000) compared to white women (1.4 per 100,000) (Ananth et al., 2021). The risk of death from this complication was also roughly five times greater for NHB women compared to non-Hispanic white women (MMR = 5.06) (MacDorman et al., 2021). Death from other complications is also higher in this population: mortality rates from obstetric embolism and obstetric hemorrhage are 2.3 to 2.6 times greater among NHB women than those for non-Hispanic white women (MacDorman et al., 2021). Further, NHB women were found to

have higher risks of stroke (17.1 per 10,000), pulmonary edema/heart failure (56.2), renal failure (136.4), eclampsia (171.1) and overall maternal mortality (48.9) compared to white women (6.5 per 100,000; 32.7, 60.4, 133.6, 14.8) (Gyamfi-Bannerman et al., 2019). Even after adjusting for comorbidities, NHB women continued to experience worse outcomes (Ananth et al., 2021). Additionally, Black women face increased risk of severe blood loss (OR =1.39) (postpartum hemorrhage) following childbirth compared to white women, which is a leading cause of maternal mortality (Erickson et al., 2020). Furthermore, Black women, at time of delivery, have higher rates of chronic conditions (+4.4 per 1000 for chronic hypertension, +9.4 per 1000 for substance use disorders) compared to non-Hispanic white women (Admon, 2017). Overall, the burden of conditions such as these disproportionately and progressively fall on NHB women in low-income communities (Leonard et al., 2019).

Preexisting conditions also affected women's attitudes towards maternity care. Black female patients indicated that they felt their visits with providers were cut too short, especially those who suffered from diabetes (Attanasio & Kozhimannil, 2015). In fact, NHB women with the condition reported 3.16 times higher odds of reluctance to ask questions during prenatal care, 6.10 times higher odds of experiencing barriers to open discussion, 4.85 times higher odds of reporting discrimination due to race/language/culture, 8.02 times higher odds of reporting discrimination due to insurance status, and 10.34 times higher odds of reporting discrimination due to differences in opinion about care compared to non-Hispanic white women (Attanasio & Kozhimannil, 2015). Black women with diabetes are not only at higher medical risk but also experience disproportionately worse communication with healthcare providers, potentially delaying effective care (Attanasio & Kozhimannil, 2015).

DISCUSSION

This literature review examined the key risk factors contributing to higher maternal mortality rates among African American women in the United States. The findings highlight three primary contributors: structural and systematic healthcare disparities and racism, hospital quality and access to care, and the higher prevalence of preexisting conditions and comorbidities

Maternal mortality remains a critical public health issue in the United States, disproportionately affecting NHB women. Despite medical advances, NHB women continue to experience significantly higher rates of maternal death compared to their white counterparts, driven in part by structural racism, inadequate healthcare access, and a higher burden of preexisting conditions. Research indicates that systematic barriers within the healthcare system, including differences in hospital quality, contribute to these disparities. Additionally, chronic health conditions such as hypertension, diabetes, and preeclampsia are more prevalent among the target population, increasing their risk of severe maternal complications. These findings highlight the need for targeted interventions to address the risk factors contributing to disproportionate maternal mortality among Black women.

Implications

One of the most significant drivers of racial disparities in maternal mortality is structural and systematic racism in healthcare. NHB women are more likely to experience discrimination during prenatal care and birth hospitalization, which can lead to delays in diagnosis, inadequate treatment, and reduced patient trust in medical providers. Discrimination and poor communication contribute to poorer health outcomes, particularly among highly educated Black women, who experience significantly higher odds of reporting racial discrimination compared to white women with similar education levels (Stewart, 2024). Misclassification of maternal death

worsens these disparities and makes the true numbers harder to obtain. The pregnancy checkbox on death certificates has led to an overestimation of maternal mortality in some cases while underreporting in others (Ahmed et al., 2023).

To combat this, hospitals can mandate bias and cultural competency training for all healthcare providers. This is aimed to improve communication and reduce discriminatory practices. This training has been shown to reduce implicit biases, leading to improved maternal health outcomes for NHB women (J, W.S., 2024). These outcomes, detailed qualitatively in the literature, included decreased maternal deaths, fewer misdiagnoses and underdiagnoses, increased patient trust, satisfaction, and adherence to care plans, and decreased prolonged hospitalizations (J, W.S., 2024). Additionally, implementing accountability measures, such as routine audits for racial disparities in maternal care outcomes at the hospital level could lead to state governments holding hospitals accountable with penalties. Systems such as the Birth Equity Accountability through Measurement Initiative help monitor and address disparities in maternal health outcomes (NCQA, 2025). Further, adopting standardized protocols, such as maternal safety bundles, can minimize bias from providers and reduce racial disparities in maternal care; these ensure that every woman receives the same care under the same set of medical circumstances (American Heart Association, 2024). These safety bundles have been shown to reduce severe childbirth-related complications by 17%, including reducing the rate of eclampsia by 42% (American Heart Association, 2024). Additionally, the use of a postpartum hemorrhage bundle in a group of 99 hospitals in California reduced severe childbirth-related complications by 21% compared to a 1% reduction in comparison hospitals (American Heart Association, 2024). Their use increased after 2020 when the Joint Commission, which is the organization

responsible for hospital accreditations, included prenatal and postpartum care bundles in its certification checklist (American Heart Association, 2024).

Tied in with systemic racism, hospital quality and access to healthcare remain as significant factors in explaining the disparities in maternal mortality. Black women are disproportionately likely to receive maternity care in hospitals with higher maternal mortality rates. Furthermore, NHB women are three times more likely than white women to die from pregnancy-related complications, even when controlling for hospital type (Centers for Disease Control and Prevention, 2024).

To improve hospital quality and access, hospital systems can invest in underfunded institutions. Black-serving hospitals often face financial constraints, impacting care quality, and increasing funding can help relieve some of these strains (Garber, 2022). Additionally, expanding access to maternal care, as demonstrated by initiatives by the Centers for Medicare and Medicaid Services (CMS), can set safety standards and remove barriers to care in NHB women (Centers for Medicare and Medicaid Services, 2024). Furthermore, hospitals could be encouraged to attain better outcomes through the CMS' Premier Hospital Quality Incentive Demonstration, which provides incentives based on performance (Centers for Medicare and Medicaid Services, 2024)

Furthermore, many developed nations, such as Germany, Japan, and Canada, do not experience such drastic disparities in maternal mortality outcomes; unlike these countries, the U.S. does not guarantee universal postpartum home visits, which have been shown to improve maternal health outcomes (Horowitz et al., 2015).

Expanding Medicaid and pursuing universal healthcare are two potential strategies that could help reduce these disparities. Currently, Black women are more likely to be uninsured or rely on Medicaid (12.0% for Black women compared to 7.6% of non-Hispanic white women),

which usually ends 60 days after childbirth (National Women's Law Center, 2023). This leaves many women without access to care during the postpartum period, where complications often arise. Expanding Medicaid to provide 12 months of postpartum coverage could ensure that NHB mothers can receive follow-up care, manage related conditions, and access mental health services.

In addition, universal healthcare could address broader, systemic inequities that contribute to these phenomena. Unlike the aforementioned countries with universal healthcare, the U.S. healthcare system is often inaccessible to those without stable employment or a high income (Moore, 2024). A universal system would eliminate these barriers by insuring every American. This means NHB women could receive the maternal care they need regardless of income or location. It could also improve support for black-serving hospitals, as these hospitals, like all others, would be receiving payment from the government as opposed to relying on private insurance (Moore, 2024).

Preexisting conditions and comorbidities contribute to the risks faced by Black women during pregnancy and the postpartum period. Black women have four times higher rates of hypertension-related maternal mortality than white women (Hines et al., 2021). Additionally, they experience higher risks for a range of complications including stroke, renal failure, and eclampsia, even after adjusting for comorbidities (Centers for Disease Control and Prevention, 2024). These conditions are often underdiagnosed or undertreated due to communication barriers and perceived discrimination, which could be combatted with culturally competent care (S, R., 2024). Further, interventions to target the root causes of these conditions, especially those which are tailored to African American culture, have proven to be effective (Wadi et al., 2021).

Limitations

There are several limitations of this literature review. Importantly, only twenty articles were analyzed, which cannot encompass all information regarding maternal mortality risk factors in African American women. Many of the studies rely on national databases that may contain incomplete or missing data, potentially skewing results and underestimating true maternal mortality rates. Furthermore, the observational, cross-sectional, and retrospective cohort designs prevent causation from being established for many studies. Another limitation is the generalizability of findings due to small sample sizes in some studies, which may not fully represent the target population. Additionally, survey-based studies introduce biases such as recall bias and social desirability bias, particularly when self-reported answers are used. One study relied on an online-only survey, which excludes individuals without internet access and may have underrepresented certain populations. Several studies gathered data from hospital inpatient records, which does not report data on women who gave birth outside of hospitals. This limits the applicability. Furthermore, researchers in several studies noted that classification errors occur, particularly for American Indian/Alaska Native women; these individuals' deaths are sometimes misclassified on death certificates, which complicates the ability to correctly calculate mortality rates. Additionally, many studies relied on data that was collected on an annual basis, which means that outliers, such as the COVID-19 pandemic, may have affected maternal mortality rates for certain years.

Conclusion

This review contributes to the existing body of literature by synthesizing findings from multiple sources and highlighting the importance of three key risk factors. By bringing the issue and its contributing factors to light, government agencies, community leaders, and healthcare

professionals are encouraged to collaborate and address the disparities in maternal mortality in African American populations. Interventions focusing on increasing culturally competent care, equitable access to safe and effective maternal care, and measures to improve the health of the target population are important in combating the disparities experienced by African American mothers. However, further research is needed to grasp the complexity and other risk factors and their impact on maternal mortality in the African American population.

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