PROMOTING ACCEPTANCE OF A COMMUNITY DOULA PROGRAM FOR BLACK WOMEN AMONG LABOR AND DELIVERY NURSES: AN EDUCATIONAL INTERVENTION

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Abstract

A trend of increased maternal mortality, both locally and nationally, among Black women has become a significant public health and social justice issue with a notable increase documented in recent years. Doula support programs have been demonstrated as an innovative method of improving maternal child health outcomes for this population. This quality improvement proposal project uses the Social Ecological Model, including individual, interpersonal, community, and societal factors, to design an educational intervention for labor and delivery nurses at an acute care women's hospital. The education will be developed with the aim of increasing labor and delivery nurses' knowledge of the issue of increased maternal mortality among African American women. In addition, the role of doulas in improving maternal outcomes will be highlighted with an emphasis on communication and interprofessional collaboration skills. This quality improvement project will propose that if we educate labor and delivery nurses and the healthcare delivery team about the importance of doula support, there are possibilities of decreased maternal death rate among black women.

The search keywords used were: "maternal mortality," "pregnancy related deaths," "birth outcomes," "interpersonal factors in maternal mortality," "demographics of maternal mortality," "global maternal mortality," "doula services," "doula programs," "racial disparities," "health disparities," "substance use," "birth outcome," "adverse childhood experiences," "social determinants of health."

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Promoting Acceptance of a Community Doula Program for Black Women Among Labor and Delivery Nurses: An Educational Intervention

Background/Statement of the Problem

A trend of increased maternal mortality, both locally and nationally, among Black women has become a significant issue with a notable increase in recent years. One of the major goals of Healthy People 2030 is to achieve health equity and eliminate health disparities. Prevention of maternal mortality through access to prenatal care, education, and support services has been shown to contribute to improved perinatal outcomes for disadvantaged moms and their babies. Innovative strategies and interventions are required to reduce maternal mortality, particularly among Black women. The role of nurses in doula program initiative is interrelated, nurses and midwives need reorientation to show dosages of empathy, compassion, fairness and treatment equity during antenatal healthcare delivery services - particularly to Black women.

In other words, nurses have to create room for a kind of dual skill set exchange and mutual relationship between themselves and doulas when attending to birthing mothers and members of their families. It is important that doula and nurse accept and respect each other's unique roles.

The rationale for these collaborative efforts is simply because doula support programs have been demonstrated as innovative method of improving maternal child health outcomes. Full implementation of doulas in labor and delivery settings locally is critical to positive maternal health outcomes, especially for Black women. An educational intervention for labor and delivery nurses on successful implementation of doula support programs for Black women will assist to reduce barriers, promote optimal program implementation, and may contribute to reduced maternal mortality.

Maternal mortality is defined by the World Health Organization (WHO) 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, irrespective of the duration and site of the pregnancy" (WHO, 2017). A related concept, pregnancy related deaths, is defined as "the death of a woman during pregnancy or within one year within the end of pregnancy from a pregnancy complication, a chain of events initiated by pregnancy, or the aggravation of the unrelated condition by the physiologic effects of pregnancy" (CDC, 2019). In the United States (US), the maternal mortality rate for non-Hispanic Black women in 2020 was 55.3 deaths per 100,000 live births, 2.9 times the rate for non-Hispanic White women (CDC, 2019). The rates for non-Hispanic Black women were significantly higher than rates for non-Hispanic White women.

Trends

In the US, the maternal mortality rate is much higher than in other developed countries (Commonwealth Fund, 2022). In 1990, in the US, the maternal mortality rate had improved over previous decades and was reported to be 8.0 deaths per 100,000 live births (CDC, 1990). From 2000-2014, it has increased consistently in 48 states and Washington DC (MacDorman et al., 2016). Maternal mortality was worsened even further for all women, but especially for Black women, during Covid-19. Pre-Covid in 2019, maternal mortality rates for Black women were 44.0 per 100,000 live births, increasing in 2020 to 55.3 per 100,000 and to 68.9 per 100,000 in 2021. In contrast, White (not Hispanic or Latina) women had death rates of 17.9, 19.1, and 26.1, respectively in 2019, 2020, and 2021.

Maternal Mortality Contributing Factors

Hemorrhage and hypertensive disorders are major contributors to maternal deaths, especially in Blacks. African American women have higher incidence of hypertensive disorders in pregnancies with much greater risks for severe complications. According to the CDC, most maternal deaths in the US are the result of underlying heart disease and stroke (CDC, 2019).

The Healthy People 2030 Leading Health Indicator MICH-04 was developed with the aim of "reducing maternal deaths from 2020 rates of 23.8/100,000 to the goal of 15.7/100,000". Instead of decreasing, however, rates went up from 2018 to 2020 from 17.4 to 23.8, indicating that immediate interventions are required. The impact of COVID-19 has not yet been captured by data surveillance and data findings are expected to be worse due to the pandemic.

Innovative Interventions to Reduce Maternal Mortality: Doula Support

Maternal mortality rates in Black women are significantly higher than in White women. Doula support programs have been demonstrated to improve maternal and child health outcomes for some populations. Doula support is defined by American Pregnancy Association as "non-clinical supports, who provide physical, informational, and emotional support" to birthing persons during labor and delivery. The implementation of doula support programs in Rhode Island has been less than optimal as reported by community doulas despite recent legislation that reimburses them for services. The RI Doula Reimbursement Act was passed in 2021 and continues to provide reimbursement for doula services. Comprehensive education of labor and delivery nurses is required to systematically improve implementation and improve maternal health outcomes.

Literature Review

Rhode Island College Adams Library databases were accessed to conduct the literature review. The database for the review included: Pub Med, Medline, Google Scholar, and the Cumulative Index to Nursing and Heath Literature (CINAHL). In addition, the following public web sites were searched including the World Health Organization (WHO); the United Nations (UN); and the Center for Disease Control & Prevention (CDC). The search keywords used were: **"**maternal mortality," "pregnancy related deaths," "birth outcomes," "interpersonal factors in maternal mortality," "demographics of maternal mortality," "global maternal mortality," "doula services," "doula programs," "racial disparities," "social determinants of health." The search was limited to peer reviewed journal articles, research articles, and systematic reviews published in English from 2015-2023.

Scope of the Problem

An estimated 4 million women give birth each year in the United States (US) (MacDorman, 2016). Maternal mortality rates have been increasing in the US for the past two decades with women dying at rates much higher than other countries of similar wealth. The US maternal mortality rate was 23.8 deaths per 100,000 live births in 2020, triple the rate in other high-income nations (Commonwealth Fund, 2022).

The table below (Table 1) demonstrates maternal mortality rates of other countries of equivalent resources and the rates of racial and ethnic groups in the US:

Table 1.

High Income Country	Deaths per 100,000
NETH	1.2
AUS	2.0
JPN	2.7
GER	3.6
NOR	3.7
UK	6.5
SWE	7.0
SWIZ	7.0
FRA	7.6
CAN	8.4
KOR	11.8
NZ	13.6
US–Hispanic	18.2
US–White	19.1
US	23.8
US–Black	55.3

Maternal Mortality Rate Comparison Globally and by Race/Ethnicity in the US(Commonwealth Fund, 2022)

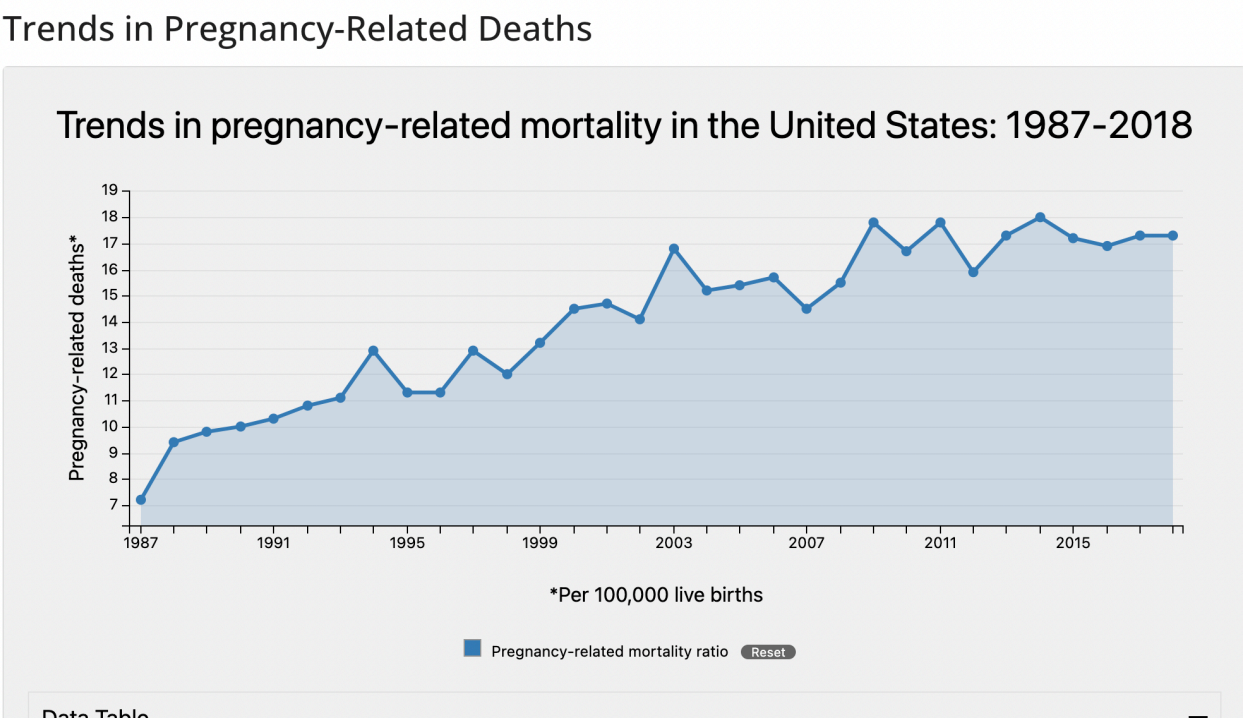
The literature indicates that these excess maternal deaths in the US are related to predictable risk factors and are preventable.

The trend of increasing US maternal mortality has been observed since 2000. Gingrey (2020) notes that US rates of maternal mortality in the 1970's and 1980's were reported at seven women for every 100,000 live births. Rates were reported by MacDorman et al. (2016) to have increased incrementally from 2000-2014, from 18.8 to 23.8 per 100,000 respectively.

The CDC (2022) demonstrates increasing trends in pregnancy related mortality from 1987- 2018 in Figure 1 below:

Figure 1.

Pregnancy Related Mortality 1987-2018



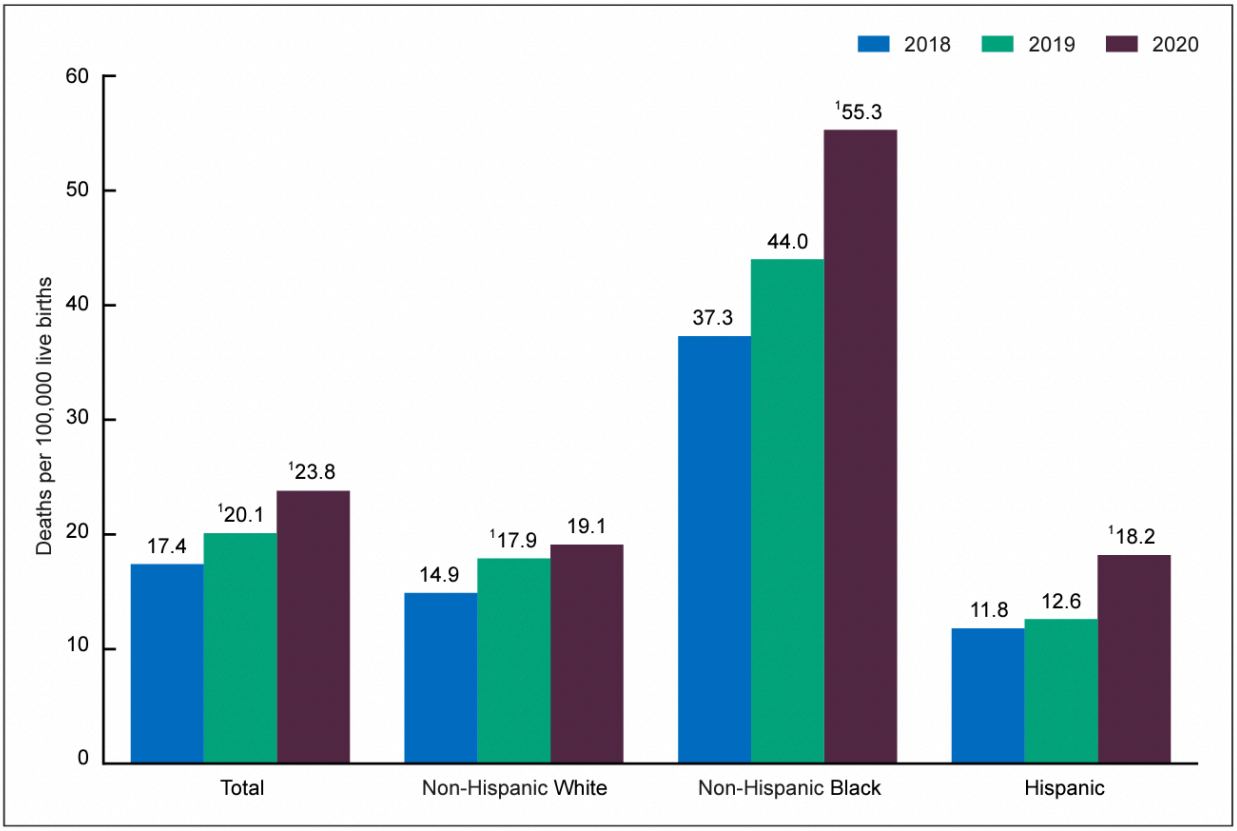
(CDC, 2022)

Hoyert (2022) notes that maternal mortality rates from 2018, 2019, and 2020 were 17.4, 20.1, and 23.8 respectively, demonstrating continued poor pregnancy related outcomes.

Health Disparities in Maternal Mortality

Poor maternal outcomes are not distributed equally throughout US society. Hoyert (2022) reports that in 2020, the maternal mortality rate for non-Hispanic Black women was 55.3 deaths per 100,000 live births, 2.9 times the rate for non-Hispanic White women (19.1). The National Center for Health Statistics (2022) demonstrated disparities in health outcomes for Black women, comparing them with White women and with women of Hispanic ethnicity in Figure 2.

Maternal Mortality Rates by Race and Ethnicity 2018-2020



[1]Statistically significant increase in rate from previous year ($p < 0.05$).
NOTE: Race groups are single race.
SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality.

(NCHS, 2022)

The Kaiser Family Foundation (KFF) describes these racial health inequities as being rooted in broader social and economic factors as well as systemic racism (2022). They state:

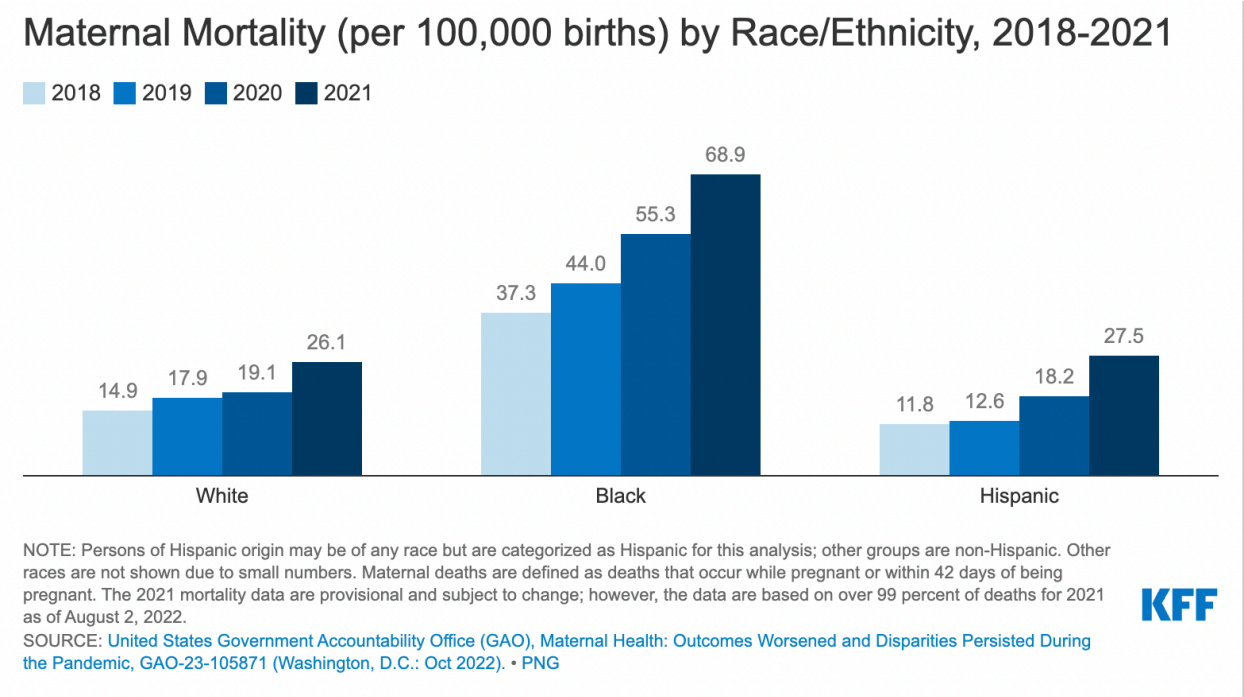
> *"Differences in health insurance coverage and access to care play a role in driving worse maternal and infant health outcomes for people of color. However, inequities in broader social and economic factors and structural and systemic racism and discrimination are primary drivers for maternal and infant health. Notably, disparities in maternal and infant health persist even when controlling for certain underlying social and economic factors,*

such as education and income, pointing to the roles racism and discrimination play in driving disparities."

(KFF, 2022, p.1).

The KFF emphasizes that these inequities have been significantly worsened by the COVID-19 pandemic (2022). Rates for all groups rose in 2021, but were significantly worse in Black women at 68.9 per 100,000 live births compared with 26.1 per 100,000 for White women as demonstrated in figure 3. (KFF, 2022).

Maternal Mortality by Race and Ethnicity 2018-2021



(GAO, 2022)

Racism and Maternal Mortality

Dr. Camara Phyllis Jones, former president of the American Public Health Association, defines racism as:

> "*a system of structuring opportunity and assigning value based on the social interpretation of how one looks (which is what we call 'race') that unfairly disadvantages some individuals and communities, and saps the strength of the whole society through the waste of human resources*" (Jones, 2000, p.1).

She added that "racism reinforces and perpetuates racial and ethnic inequity" (Jones, 2000, p.2). According to Government Accountability Office (GAO) (2022) report, barriers exist to accessing healthcare in the US with several contributing factors especially in Black women. This kind of discrimination against pregnant Black women was worsened by the COVID-19 pandemic. The report asserted that the stress of COVID and other stress impacts maternal deaths, stating "the physiological changes caused by chronic stress can increase the risk of maternal death" (GAO, 2022, p.1).

The author, Amore (2022) noted the rise in maternal morbidity and mortality in Black women. She concluded that while research into maternal morbidity and mortality is needed, ethical principles for research need to be reinforced to assure protections for Black research participants and to refocus the research using community driven research methods with a reproductive justice framework. Amore outlined the eight standards of the Black Mamas Matter Alliance (BMMA) which she advocates for using as a foundation for research guidelines for Black women. These include:

1. Recognize the historical experiences and expertise of Black women and families
2. Listen to Black women
3. Provide care through a reproductive justice framework

4. Disentangle care practices from the racist beliefs in modern medicine
5. Replace White supremacy and patriarchy with a new care model
6. Empower all patients with health literacy and autonomy
7. Empower and invest in paraprofessionals
8. Recognize that access does not equal equality.

(Amore, 2022, p. 132)

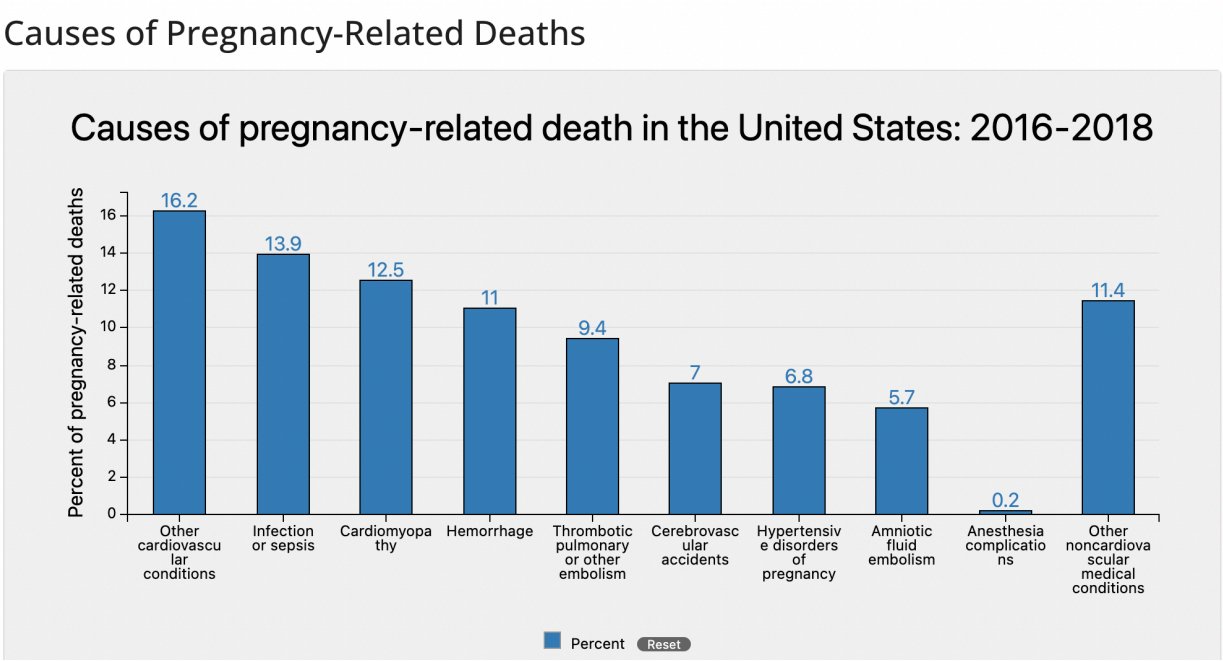
The CDC states that "Racial discrimination can contribute to worsened maternal health outcomes to such an extent that, pregnant Black women may be reluctant to ask questions about their condition when faced with discrimination from their healthcare provider" (2022). The healthcare system often at times fails to listen to the health concerns of Black women. In addition, racial disparities can result in anxiety, depression, complications of anesthesia, or chronic stress for these women. Other documented results of racial disparities are: anxiety, depression, complications of anesthesia, or chronic stress (CDC, 2022).

Accessing quality healthcare and racial inequality has increased maternal mortality disparities in Black women. The Affordable Care Act (ACA) has helped millions access the health care they need, but has not totally eliminated the disparities associated with maternal and infant mortality. According to Chalhoub et al., (2018), the ACA created historic advances in health insurance coverage, but millions still go without health insurance each year, many of them people of color. In many cases, those with insurance often still have trouble accessing high-quality, patient-centered care. Key steps in reducing such devastating disparities include increased access to health insurance, to quality health care, and to providers that practice patient-centered and culturally sensitive care. This in turn, will reduce racial and ethnic disparities and close the racial gap in maternity mortality.

Causes of Death and Underlying Factors Contributing to US Maternal Mortality

The CDC reported that the leading causes of pregnancy related deaths from 2016-2018 in order of prevalence were: other cardiovascular conditions; infection or sepsis; cardiomyopathy; hemorrhage; thrombi pulmonary or other embolism; cerebrovascular accidents; hypertensive disorders of pregnancy; amniotic fluid embolism; anesthesia complications; and other non-cardiovascular medical conditions. Figure 4 demonstrates the leading causes of pregnancy related death below:

Figure 4.



(CDC, 2022).

Increasing numbers of pregnant women living with chronic health conditions including diabetes, hypertension, and heart disease put women at risk for complications and subsequent death (CDC, 2022).

Contributing factors to maternal mortality, including social determinants of health (SDOH), are also important to explore. According to CDC (2021), the Social Determinants of

Health are "conditions in the environments in which people are born, live, work, play, worship, and age; for example, access to housing and healthy food, educational and job opportunities and exposure to pollution." These conditions affect a wide range of health outcomes and risks impacting maternal mortality. The SDOH are important contributors to disparities for women, particularly those from diverse racial backgrounds, those who live in rural geographic locations, and the population with less privileged socioeconomic status (CDC, 2021).

Women who have a history of adverse childhood experiences (ACE's) including abuse, neglect, and household dysfunction, have also been linked to poor maternal health outcomes. Thumm et al. (2022) conducted a record audit to review of 94 records obtained from the Colorado maternal mortality review committee. The records were reviewed for information related to social determinants of health or to adverse childhood experiences in the records identified medical pregnancy related deaths in Colorado between 2014-2016. The authors noted "a profound lack of information about ACEs and SDOHs in records traditionally used to review maternal deaths" (Thumm et al., 2022, p. 2176). Recommendations include the need to invest in alternate data sources to capture the environment in which pregnant women live and die to lead to more targeted recommendations that create structural change to reduce pregnancy related death (Thumm et al., 2022).

Global Maternal Mortality

Understanding the global health context in terms of maternal health indicators and interventions provides context for understanding this critical health issue in the US. MacDorman et al. (2016) observed that "maternal mortality is an important indicator of the quality of healthcare both nationally and internationally." The Sustainable Development Goals (SDGs, 2020) direct the

international community to work together to accelerate progress to improve maternal health for all women, in all countries, under all circumstances; SDG targets for maternal health include 3.1, achieving an average global ratio of less than 70 deaths per 100 000 live births by 2030 and 3.8, achieving universal health coverage for all women (Gingrey, 2020). Addressing inequalities that affect health outcomes, especially sexual and reproductive health inequalities and rights and gender inequalities, is fundamental to ensuring that all women have access to respectful and high-quality maternity care.

In a global health systematic review of qualitative studies, Wilcox et al., (2022) systematically searched data bases in 2022 for qualitative studies related to maternal mortality in low and middle-income countries with a yield of fifty-nine studies meeting the criteria for inclusion. The studies surveyed had 1,891 participants from 30 low and middle-income countries such as South Africa and Burkina Faso, who represented all levels including community members, health workers, and national-level stakeholders. Using a thematic synthesis approach, the authors reviewed the articles. Successful outcomes of maternal and perinatal death surveillance and response included implementation of positive changes at the facility level including quality of care. Three mechanisms were found to lead to positive change: targeted actions implemented at individual facilities; learning from case discussions of maternal and perinatal deaths; and increased vigilance to avoid the scrutiny of maternal and perinatal deaths.

The research also revealed that inadequate review, worsened staff shortages, fear of negative consequences, disciplinary action or litigation, and poor quality of healthcare delivery led to many maternal complications and fatal outcomes. The authors added that obstacles included incomplete clinical information and poor hierarchical relationships between healthcare service providers across many countries. Wilcox et al. (2022) concluded that: 1) WHO should periodically review

its maternal mortality process across all member-countries; 2) Conscious efforts need to be made to separate maternal and perinatal death surveillance from litigation and disciplinary procedures; Comprehensive guidelines for the promotion and implementation of maternal and perinatal surveillance in (WHO) member-countries across the world need to be provided, particularly in low and middle-income nations.

Wilcox et al. concluded that the reviewed articles demonstrated a "dysfunctional vicious cycle" (2022, p. 8) with factors such as fear of blame, poor leadership, and lack of resources contributing to the cycle. They recommended implementation of improved surveillance engaging existing teams in countries and further research to achieve a blame free but accountable culture for those engaged in global maternal and child work. Finally, strong leadership and sufficient resources were also stated to be critical for positive outcomes (Wilcox et al., 2022).

Heitkam et al., (2021) also conducted a global systematic review of 62 articles from 69 studies across 26 middle-income countries over the period of 2009-2020 using a WHO maternal near miss tool. WHO defined a maternal near miss as "a woman who nearly died but survived a complication that occurred during pregnancy, childbirth, or within 42 days of the termination of pregnancy" (WHO, 2009). The authors found that 50,552 maternal near misses were reported out of the total of 10,450,482 births. The median number of cases of near misses was 15.9 per per 1000 live births in lower-middle and 7.8 per 1000 live births in was 15.9 upper-middle-income countries. These studies reported a total of 2917 maternal deaths. The systematic review also revealed that the most frequent causes of near miss were, obstetric hemorrhage found in 19 out of 40 studies in lower-middle-income countries. Upper-middle countries' most frequent cause of near miss was found to be hypertensive disorders, found in 15 of 29 studies. The article concludes that instead of adapting

the WHO maternal near miss tool, that aim should be to improve the quality of maternity care by doing audits of cases of maternal near misses (Heitkamp et al., 2021).

Maternal Mortality in US: Urban VS Rural Risk

One factor that has been examined in maternal mortality analysis is the differences in maternal morbidity and mortality in rural geographical areas as compared with urban areas in the United States. Harrington et al. (2016) performed an analysis of maternal admission to ICU's and maternal mortality from 2016-2019 in rural versus urban areas. The analysis revealed that while no significant increase between rural versus urban areas for ICU admissions, maternal mortality rates were found to be almost double the risk in rural areas at 66.9-81.7 deaths per 1000 live births as compared with 38.1-42.3 per 100,000 in urban areas. The authors conclude that resources need to be intensified in real areas to increase health equity among rural maternal populations.

Substance Use Disorder and Maternal Mortality

Overdoses are a primary driver of maternal mortality rates in many states. Between 2007 and 2016, pregnancy-associated mortality resulting from overdose more than doubled in the US (Cleveland et al., 2020). Risk factors such as stress, lack of social support, interpersonal conflict, and mental illness contribute to substance use, relapse and overdose (Cleveland, 2020). Substance use during pregnancy can lead to poor maternal and child health outcomes including miscarriage, preterm birth, low birth weight, and maternal and fetal mortality (Cleveland, 2020). It can also cause withdrawal symptoms in infants after birth, developmental delays, and failure to thrive.

Cleveland et al. (2020) explored the situational aspects of maternal opioid related morbidity and mortality using a mixed methods design. The researchers conducted semi-structured, in depth, face to face interviews and focus groups with women who had relapsed with opioid use or women who had experienced a near miss overdose and families of women who had dies during the perinatal period from overdose in Texas over a two-year period.

A socio-demographic survey and *Stressful Life Events Screening Questionnaire* (SLESQ) were administered to 99 participants to assess demographics such as age, marital status, race and ethnicity as well as mental health history and work status. The SLESQ measured lifetime exposure to trauma. The findings were analyzed using a life-course theory which demonstrated that multiple stressors, traumas and losses were experienced by the women assessed and their families. Histories of abuse and loss of a loved one through homicide and suicide were frequent. The role of previous traumatic events was significant for the affected women. The authors concluded that women at risk for opioid use relapse and overdose have underlying conditions related to previous traumatic experiences that have been left untreated (Cleveland, 2020). Limitations include the need to add a question to the tool asking if their parental rights had been terminated and that the research was conducted only in English, potentially eliminating participants who did not speak English. The authors conclude that the assessment tool described may assist to identify women at risk for maternal overdose in order to intervene and positively impact the life-course of future generations.

Duska and Goodman (2022) designed and implemented a point-of-care naloxone distribution program for pregnant women at an OB/Gyn clinic in New Hampshire from 2020-2022 which was maintained despite COVID-19 challenges during this time. Seventy-three percent of

patients were screened for naloxone need, and fifty-one percent of patient-provider discussions related to naloxone occurred. Qualitative feedback from patients and providers indicated that the program was well received. The program distributed 12 doses of naloxone during the program initiation and the publication. The authors concluded that the implementation of a naloxone program in an obstetrical program offers a valuable way to promote positive outcomes for at risk women.

Preventing Maternal Deaths: Doula Services

Gingrey (2020) calls for action to make preventable maternal deaths "never events" which are "dangerous errors that are preventable and should never occur (p. 464). Multi-faceted innovative strategies and approaches are required to take dramatic action aimed at prevention of this complex sociocultural and economic issue. Doula support programs may be one promising innovative approach when combined with social and economic interventions to reduce maternal mortality for low-income Black women.

Ricklan, et al. (2021) performed a systematic review of literature published between 2000 and 2019 reporting interventions to reduce maternal mortality in New York. Nine articles described hospital-based initiatives, and one described a community-based initiative. The community-based initiative provided doulas to low-income women, resulting in a significant decrease in rates of babies born preterm with low birth weights, but no difference in cesarian deliveries compared to other women not using doula services. The study did not demonstrate if maternal mortality was impacted. The authors conclude that a combination of community-based interventions with hospital-based interventions may lead to better care coordination and reduction in maternal mortality.

An observational study was performed that compared a hospital-based initiative "Safe Motherhood Initiative (SMI)" with a community-based doula intervention. The techniques implemented to reduce morbidity and mortality from major hemorrhage in a single-hospital setting using the SMI involved instituting an obstetric rapid response team transfusion protocol, uterine balloon tamponade, and educational interventions aimed at changing the culture. The doula program implemented the use of doula resources before, during, and after childbirth for non-Hispanic Black women that lived in Brooklyn. The conclusion showed that a single community-based interventions, doula support, reduced adverse birth outcomes such as preterm birth and low birthweight. However, the current interventions were not demonstrated to reduce maternal mortality in New York. (Ricklan et al., 2021).

Gruber (2013) presented a comparative analysis of birth outcomes results of two groups of mothers, one group (one hundred and twenty-nine), of which was provided prebirth assistance from a certified doula and one group (ninety-seven) who did not have doula services. Both groups participated in prenatal health and childbirth education. The authors note that the doula group provided emotional and other support by maintaining a "constant presence" throughout labor, providing specific labor support techniques and strategies, encouraging laboring women and their families, and facilitating communication between mothers and medical caregivers (Gruber, 2013). The results of this study demonstrate that the mothers in the doula group were four times less likely to have a low-birth-weight baby, two times less likely to experience a birth complication involving themselves or their baby, and significantly more likely to initiate breastfeeding than the not doula group. Gruber et al. conclude that communication with and support from a doula throughout pregnancy may have increased self-efficacy in women, leading to more positive maternal and child outcomes (Gruber, 2013).

Kozhimmannil et al. (2013) compared outcomes for mothers and infants who received childbirth education and support from trained doulas for cesarian section and preterm birth outcomes for similar mothers and infants who did not receive doula education and support. The authors conducted a quasi-experimental study in Minneapolis, Minnesota from 2010 to 2012. The Minnesota doula group, Everyday Miracles, had 22 doulas who had completed the Doula Organization of North America (DONA) training with a minimum of 28 hours of classroom instruction, passed a written exam, and apprenticed for at least 3 births. Cesarian rates for births supported by these doulas (n=1079) were compared with a sample of births for Medicaid beneficiaries (n=279,008) nationally. Using a t test method to evaluate rate differences and multivariate regression models to estimate doula support impact on whether the birth was a vaginal or cesarean, the authors found that doulas in this study were associated with reduced cesarian rates.

Cesarean rates were found to be 22.3% for the doula supported group while they were 31.5% for the control group of national Medicaid beneficiaries, which is a reduction of 40.9% risk for the doula supported women. Preterm birth rates were also lower for the doula supported births at 6.1% compared with 7.3% for the control group. The authors noted that women supported by doulas were more racially and ethnically diverse than the control group, indicating that the risk. Kozhimannil et al. noted significant findings in this study of the impact of accessibility of doula services for high-risk women:

> *"Among vulnerable subgroups, such as Black women, lower cesarian and preterm rates for doula-supported births are indicative of the role doulas could play in reducing persistent racial/ethnic disparities in these outcomes if high quality doula services were made financially and culturally accessible to women at highest risk of poor outcomes*" (Kozhimannil et al., 2013, p. 113-121).

In addition to health outcome benefits to the mother and newborn and the potential to decrease racial and ethnic disparities, the authors suggest that payers who provide access to doula care could increase cost savings associated with reduced cesarean births.

One limitation of this study is that the doulas and women in the study were taken from only one practice group in one state, making the findings possibly not be generalizable to all women and doulas from other regions. Another limitation noted by the authors was the potential for selection bias. The group of women who agreed to use doula services may have been different from other women who chose traditional services which may have impacted the results.

Gentry et al. (2010) used a grounded theory approach to explore the services doulas provided for 30 disadvantaged pregnant and parenting adolescents who received support from a doula program in a Georgia urban area during the May 2008 to September 2008. Seven doula strategies emerged including: asking questions using motivational interviewing; active listening; reassuring; affirming; advising; action taking; and advocating. In addition, recurring issues or situations that required the need for doula support included: self-esteem; school; health care; translation services; depression; transportation; intimate partner relationships; father involvement and child support; birth control; future goal setting. The authors concluded that doulas provide significant assistance to pregnant and parenting adolescents, particularly because of their perceived expanded role of addressing psychosocial issues and socioeconomic disparities, facilitating pregnant adolescents to navigate the social and health care systems (Gentry, 2010).

Ooijens et al. (2017) described a pilot study of continuous doula support in a high-risk obstetric unit in an academic hospital in the Netherlands. Eighty-one women were provided doula services on the unit from 2011-2013. Of these, seventy-two women who had worked with doulas on the unit were sent a questionnaire regarding their experience, sixty-seven of whom responded.

Of the responding women, 86.6% agreed with the statement, “every woman should have a doula with her during labor.” Care providers including nurses, physicians, and medical students were also surveyed for feedback on the doula services. Thirty of the fifty requested responses from the providers were returned stating that they were in general happy with the doula care. Some care providers, however, stated that they “found it bothersome when the doula was involved the medical care” (Ooijens, 2017, p. 248). The authors conclude that doula care is valuable to the birthing woman as well as those working in the stressful health care environment.

Summary of Literature

Unequal access to quality healthcare delivery due to race, and socioeconomic status are some of the disparities that affect expectant Black women in the US. To navigate this complex structure of disparities, doulas are in a better position to provide education about nutrition, exercise and breastfeeding methods as well as help birthing mothers and families stabilize their health status postpartum. In this area, nurses fall short of dealing with diverse populations; and need reorientation in this area of specialization. Doulas are conversant with handling postpartum healthcare delivery; which expectedly would promote better outcomes - particularly in Black women. There is no gainsaying that doula care involves continuous emotional and physical therapy, or engagements with birthing mothers.

The inclusion of doulas as part of the health care team has many advantages that will impact birth outcomes. According to Gruber (2013), women who are offered evidenced-based health information, support in improving their prenatal health behaviors, and the kinds of support provided by doulas are likely to make more informed choices throughout the pregnancy regarding their health and that of their baby. AWHONN, as a non-governmental organization, supports doulas as partners in progress in the course of maternal healthcare delivery to birthing mothers and newborns in the US. This paper wishes to reiterate that AWHONN opposes hospital policies that "restrict the presence of doula" in healthcare delivery across board in the US. In a nutshell, this is the summary of our submissions under this Literature Review.

Theoretical Framework

The Social-Ecological Model (SEM) (CDC, 2007) was chosen as the theoretical model to guide this project in exploring maternal mortality as a health equity issue. It defines the relevant variables in the literature review including internal individual variables as well as external variables that impact on the health of individuals and populations such as interpersonal relationships, community, and society. This model provides a tool to express ideas in a logical, concise, and accessible format. The Social Ecological Model will be used to guide this research and answer the question, "What are the educational interventions for promoting acceptance of a community doula program for black women among labor and delivery nurses?"

The Social Ecological Model was first conceptualized by Urie Bronfenbrenner in 1977 to respond to the identified need to go beyond individual variables in understanding the health of human beings. It defines health broadly as not just the absence of disease, but as an optimal state of physical, psychological, and social well-being. The author states that the theory:

> *…focuses on the progressive accommodation, throughout the life span, between the growing human organism and the changing environments in which it actually lives and grows. The latter include not only the immediate settings containing the developing person but also the larger social contexts, both formal and informal, in which these settings are embedded.* (Bronfenbrenner, 1977, p. 513).

The Centers for Disease Control (CDC) adapted Bronfenbrenner's Model (1977) and developed the schematic theoretical framework, The Social-Ecological Model: A Theory for Prevention (CDC, 2007), seen in Figure 5 below, to inform health education programs and provide a tool for prevention.

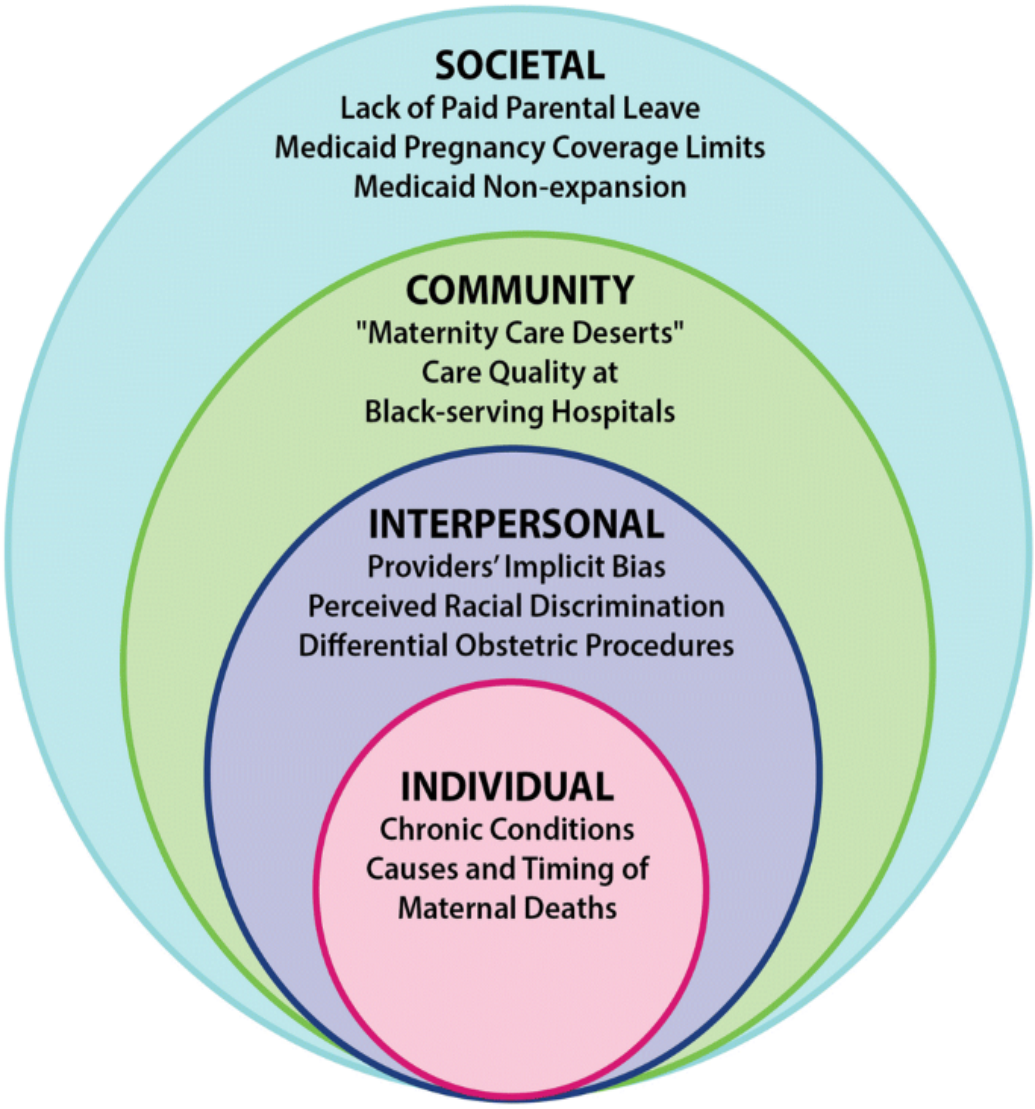


Fig. 5.

Social-Ecological Model With Selected Risk Factors Contributing to Disparities in MMR by Race

The framework is divided into four overlapping and interacting concentric circles which represent the variables impacting health outcomes: individual, interpersonal, community and societal. Other problems to which the SEM has been applied as a solution model include violence, intimate partner violence, and maternal health care in general around the world, not specifically MM (Noursi et al., 2020).

A combination of multiple events at different points of life affect an individual, or a group of individuals, particularly Black women, in their reactions to maternal mortality and morbidity. The Urie Bronfenbrenner's ecological systems theory helps to illuminate the interaction of the four levels and how it relates to MM at the individual (microsystem), interpersonal (mesosystem), community (exosystem), and societal (macrosystem) levels of influence. Noursi et al., (2020) described the root causes of racial disparities in MM using the ecological systems developed by Urie Bronfenbrenner. The author asserts that it is a public health issue with multiple risks factors that are interrelated at the four levels of influence, impacting the health outcomes of women, especially Black women.

Doula support services was an intervention program put forward for this Quality intervention project to tackle the issue of maternal mortality and healthcare disparities in the US, particularly in relation to Black pregnant women. Applying Bronfenbrenner's socio-ecological systems theory furthers our understanding on the selected risk factors at each of the four levels of influence.

On the individual level, it focuses more on the Black woman with regard to the pregnancy. it is important to note that there are certain risk factors for MM, such as existing health conditions, age, and stress. Existing health conditions such as cardiovascular disease, diabetes, high blood pressure can be harmful and pose risks to a pregnant woman. The lack of resources coupled with

inadequate prenatal and post-partum care increases the chances of maternal deaths and complications in Black women.

The Interpersonal risk factors discusses the attitudes or stereotypes of the health care professionals and the differential treatment of patients based on race, appearance, gender, age, or appearance. Noursi et al., states that Black women were three times as likely to perceive racial discrimination during maternity care. This can be stressful and can result in not getting needed pregnancy information or attending postnatal visits.

According to Noursi et al., "Pregnant black women often perceive racial discrimination during obstetric care" (2020, p. 661-669). This was emphasized in such examples as the perceived racial discrimination during maternity care such as taking away Black women's autonomy; shouting at, scolding, ignoring, refusing or threatening Black women; or giving no response to Black women's requests for help.

Risk factors in the community and society negatively affect MM. Factors such as poverty, neighborhood and community, as well as safety risks especially for those who reside in minority neighborhoods. Mothers who come from areas with higher rates of poverty tend to have worse health outcomes and are more likely to die from MM. For instance, black mothers living in rural counties and low-income areas lack access to resources due to economic constraints. Nouri et al., states "Urban Hospitals have a practicing obstetrician compared to rural hospitals, this shows that wherever the mother and family lives define their surroundings and community" (2020, p. 661-669). As a physical restriction, where you live determines your access to hospitals and clinics.

Risks at the societal level that affect MM and are considered a maternal health issue are the lack of paid parental leave and Medicaid non-expansion. Not being able to take time off from

work due to lack of supportive policies impacts the ability of Blacks to take care of their own and their baby's health. Black women living in states that had not expanded Medicaid under the Affordable Care Act are also affected negatively by these policies. According to Noursi et al., "Expanding eligibility in all states and extending pregnancy coverage from 60 days to 1 year postpartum is critical. Medicaid coverage allows recipients to access clinical, behavioral, and mental health care, and women who receive such care have better health across their life course – a key aspect of reducing MM" (2020, p. 661-669).

Identifying the disparities experienced by Black mothers continue to need more work, especially on the programs and policy developments to address maternal mortality.

Closing the gaps such as, access to quality health care coverage and care; low-quality communication and support during and after pregnancy; and implicit bias in the health care system, will improve maternal health outcomes and decrease maternal mortality amongst Black women in the US.

Methods

This is a quality improvement project designed to help offer solutions towards curbing the disparity of maternal mortality among pregnant Black women in the US. The doula program initiative proposed here is aimed at reducing maternal mortality. This project focuses on incorporating doula services into the mainstream healthcare system to decrease maternal mortality in an acute hospital facility. The goals of this program are:

Short-term

-Increased number of births for women of color supported by doula

-Women of color will have decreased rate of C-section and low-birth weight babies

-Doula training will become part of the annual professional competency

Long-term

-Decreased rates of maternal mortality among women of color

Recruitment of Participants

The goal is recruitment of a 20-30 clinical labor and delivery nurses to participate in the training. The participants will be drawn from a single acute care hospital which provides pre-natal and post-partum care. The staff who are attending this educational training would receive CEU credits. The mode of recruitment at the hospital would be through email messaging, colorful flyers in the nurses' break room, and word of mouth interactions. A sign-up form in the break room and at the nurse's station to join the training will be provided.

Ethical & Human Subject Considerations

This educational program will involve human subjects and would be submitted for review/approval from the hospital Institution Review Board (IRB) on an exempt status basis. The

personal information of the participants will not be collected to protect confidentiality. This project will constitute minimal risks to the participants because of the voluntary nature of the academic exercise. Also, no vulnerable members of the population will participate in the quality improvement project.

Setting/Procedures

Training sessions will be held face-to-face in a conference room throughout all three shifts at an acute birthing hospital. The participants will complete an online pre-test (via Qualtrics). The educational session will be followed by a post-test in one week.

The recruitment phase of the doula program initiative will be for two weeks. Once the required number of participants is recruited, the educational intervention will be scheduled. At the beginning of the training, participants will complete a pre-test to see how knowledgeable they are about the topic. There will be 1 in-person, interactive, 1-hour session per day in the hospital: Monday to Friday; excluding the two weekends. Participants will be paid their regular hourly rate while they are attending the training. One week after the training period, participants will complete their post-test and receive their completion certificate.

All participants will be de-identified through the use of an anonymous, online survey tool. The demographic information collected will include race, ethnicity, number of years in practice, gender, educational qualification, position title at hospital and age.

Training Intervention

During the educational initiative, doulas will be part of the training presentation and participants will receive the clinical practice update flyer (Appendix A). There will be a questions and answer format about ways to decrease maternal mortality in Black women, highlighting the role that doulas play an important role during and after pregnancy using an

interactive method. Participants will also be informed of the RI Doula Reimbursement Act that pays insurance coverage for doula services. Team-based communication and inter-professional collaborative skills would be highlighted to improve the synergy between nurses and doulas in the healthcare setting. At the end of the training, participants will be more informed on ways to collaborate with doulas to decrease risk factors and improve maternal health. The scope of this doula program initiative from the onset was to promote improved maternal outcomes in birthing mothers, particularly, Black women in the U.S.

Data Analysis

The doula initiative will be carried out using *a t- test* to evaluate participants change in knowledge after the training. In the doula initiative, the *t-Test* will give a comparison of the two sides of the training program. The *t-test* will compare individual perception/knowledge of doula care of each group, pre and post the educational intervention, using the questionnaire as a feedback mode of measuring the results.

Results

The results of the doula initiative will be reviewed to identify implications for practice. Doula service delivery methods need to be integrated into the healthcare system in the US. It is projected that policy changes within the organization will include making the training part of orientation and annual staff development for all labor and delivery nurses.

The information in the training will be shared with local and regional hospitals and birthing centers to advocate for change in the way labor and delivery nurses perceives doula services and to improve interprofessional collaboration with the goal of promoting optimal maternal health.

Summary and Conclusion

A trend of increased maternal mortality, both locally and nationally, among Black women has become a significant issue with a notable increase in recent years. One of the major goals of Healthy People 2030 is to achieve health equity and eliminate health disparities. Prevention of maternal mortality through access to prenatal care, education, and support services has been shown to contribute to improved perinatal outcomes for disadvantaged moms and their babies. Innovative strategies and interventions are required to reduce maternal mortality, particularly among Black women.

Doula support programs have been demonstrated to improve maternal and child health outcomes for some populations. Doula support is defined by American Pregnancy Association as "non-clinical supports, who provide physical, informational, and emotional support" to birthing persons during labor and delivery. The implementation of doula support programs in Rhode Island has been less than optimal as reported by community doulas despite recent legislation that reimburses them for services. The RI Doula Reimbursement Act was passed in 2021 and continues to provide reimbursement for doula services. Comprehensive education of labor and delivery nurses is required to systematically improve implementation and improve maternal health outcomes.

A quality improvement proposal project for labor and delivery nurses was proposed for labor and delivery nurses in an acute care women's hospital that would provide an educational intervention to increase knowledge of maternal health issues among Black women and of the impact of doula services to improve outcomes. Communication and collaborative skills in interacting with doulas would be emphasized.

Creative interventions are needed to reduce maternal complications and disparities and to promote maternal health among Black women. This quality improvement project proposal is one step toward normalizing labor and delivery nurses working effectively with doulas.

Implications for Advanced Practice Nursing

This project proposal was designed to add value to the existing efforts in maternal healthcare delivery system in the US. One significant area to achieve this is to integrate doula services in that direction. Research has proven that hospital-based doula program is an excellent demonstration of an innovative program that fosters personal birth experiences. It enables birthing women to have lower cesarean rate and lower level of birth complications.
Such a doula program enhances a woman's confidence and overall birthing experience that is devoid of any form of discriminatory healthcare policies on the basis of complexion, race, or status. In the role of advanced practice nursing, the key four areas that are crucial to the implementation of the doula initiative training, policy, research, education and practice, are described below.

Policy

A professional healthcare advocacy body that has strengthened the nursing profession through the delivery of advocacy is the *Association of Women's Health Obstetric and Neonatal Nurses* (AWHONN). The organization's mission has widened its scope to improve, promote, accommodate, and enhance the health of women and newborns in the US.
(Mullen, 2020). The Doula Reimbursement Act 2021, is new at policy level. The implementation needs to be expedited with stakeholders and at legislative level in order to make doula service delivery system impactful and well-integrated into the mainstream healthcare system in the U.S. The proposed policy change will be inclusion of doula services in birthing hospitals.

Research

Further research on the implementation of doula programs is needed. Research should focus on the process of implementation including communication and collaboration between

nurses and labor and delivery nurses as well as outcomes such as percentage of doula assisted births and rates of maternal complications and mortality. Barriers to implementation and facilitators of doula integration into care should be further explored.

Practice

Incorporating doula services into nursing practice may decrease maternal mortality and improve maternal outcomes for birthing mothers and newborns. It will encourage more ethical considerations for promoting diverse health care delivery methods, and stimulate a continuous quality service delivery system in the US. According to Senator Quezada (D-Dist.2, Providence): "Women who use doulas often require fewer expensive medical interventions during childbirth."

Education

The importance of doula services needs to be integrated into the nursing academic and clinical settings within the curriculum of maternal child health core content. This educational training will allow students the opportunity to gain knowledge and get hands-on experience during pregnancy, labor, and post-partum. Additionally, the advanced practice nurse can support the ongoing training to ensure that doula care is well-integrated into the birthing hospital.

Advanced practice public health nurses can address the health disparities for the population of childbearing women of color and should be actively working toward this goal.

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Appendices

Appendix A

Evidence-Based Clinical Practice Update

Roadmap to Maternal Health for African American Women Using Doula Support

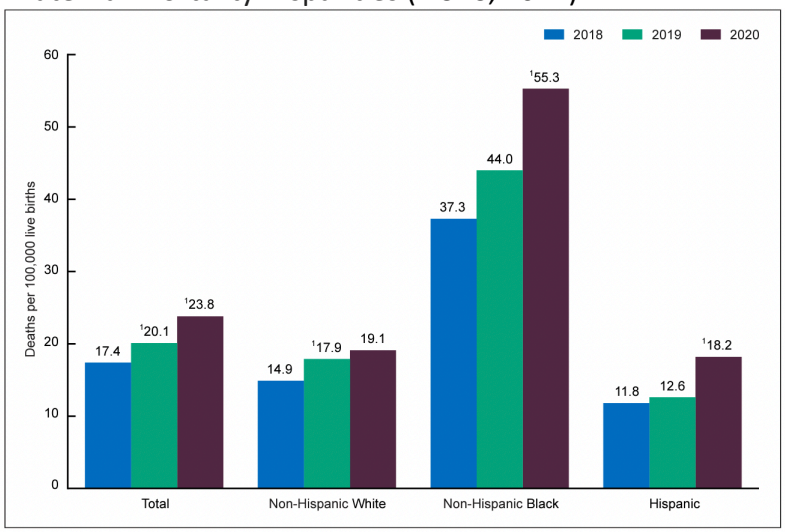
What is maternal mortality?

Maternal mortality (MM) is defined by the World Health Organization (WHO) 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, irrespective of the duration and site of the pregnancy" (WHO, 2017).

What are maternal mortality health trends in the US and RI?

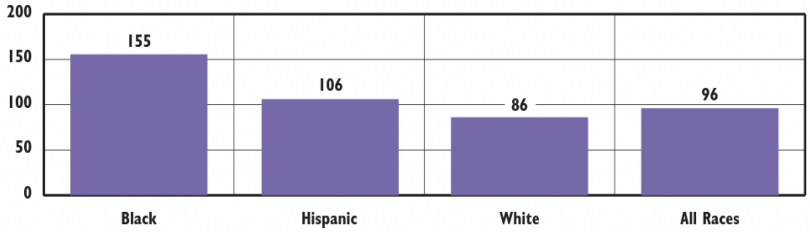
Non-Hispanic White (NHW) women in the US had death rates of 19.1 and 26.1 per 100,000 live births, in 2020 and 2021, respectively. The death rates for Black women in the US were 55.3 and 68.9 per 100,000 live births in 2020 and 2021, respectively; triple the rates for NHW women.

Maternal Mortality Disparities (NCHS, 2022)



- Rhode Island tracks severe maternal mortality due to lower numbers in the population. Disparities among races are seen in the graph below:

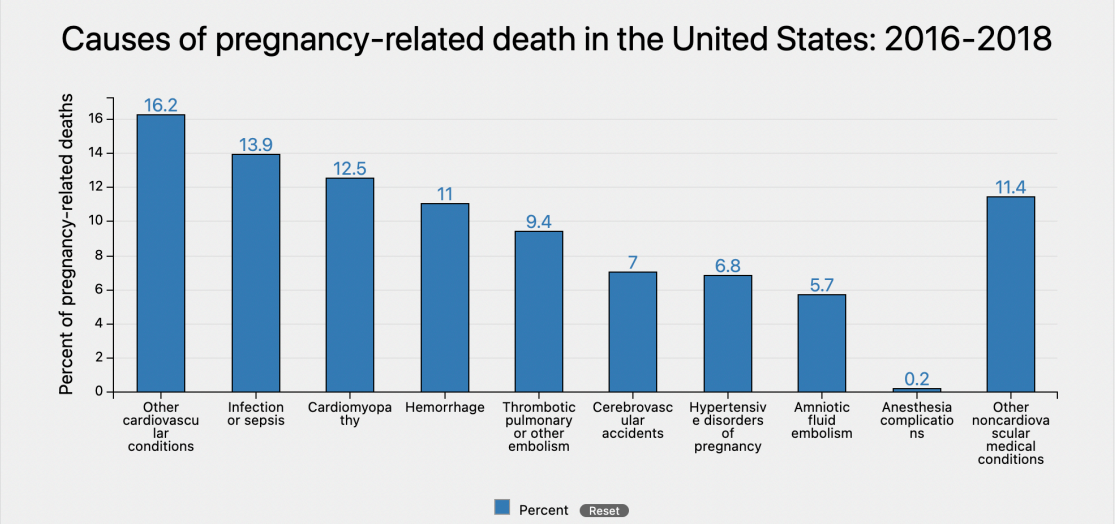
Severe Maternal Morbidity Rate per 10,000 deliveries by Race/Ethnicity, Rhode Island, 2016-2020



Source: Rhode Island Department of Health, Center for Data and Analysis, 2016-2020.

What are the causes of and risk factors that contribute to increased maternal mortality in Black women?

Increasing numbers of pregnant women with complex chronic conditions is believed to contribute to the elevated levels of maternal mortality.



(CDC, 2022)

- Women of African American race often are disproportionately adversely impacted by social determinants of health which may impact maternal health outcomes, such as:
    - Access to housing and healthy food, educational and job opportunities, and exposure to chronic stress and environmental toxins.
    - Increased risk of having been impacted by adverse childhood experiences such as poverty, abuse, neglect, and household dysfunction
    - Substance use
    - Lack of access to health care and discrimination
- Innovative approaches such as doula services have been demonstrated to improve outcomes in disadvantaged women.

What are doula services?

- Nonmedical assistants for mothers perinatally
- Have been historically present throughout history
- Can collaborate to provide physical, compassionate and emotional support for mothers during pregnancy, childbirth, and postpartum.

Research demonstrates that mothers who have used doula services as part of their labor and delivery experience demonstrated improved maternal outcomes. In RI, doulas are available at no cost to mothers because of the RI Doula Reimbursement Act that was passed in 2021 which provides reimbursement for doula services. (Ricklan et al., 2021; Goffman et al., 2021; Gruber, 2013; Kozhimmannil et al., 2013; Gentry et al., 2010).

What can labor and delivery nurses do to improve maternal health?

(Kidscount Issue Brief January 2023*)

- Reduce barriers to doula care and other community-based supports by facilitating insurance reimbursement, ensuring that hospital policies recognize the value of these supports, and implementing policies that help doulas work within their systems.
- Ensure access to health care for the treatment of chronic diseases, reproductive health, mental health, and preconception care within a comprehensive coordinated medical system.
- Ensure access to culturally and linguistically competent and respectful health care providers through quality improvement practices, standards of care, and accountability policies.
- Support and invest in maternal mental health programs such as MomsPRN
- Engage collaborators including community-engaged leadership to enhance the implementation of innovative strategies like SISTA Fire's Birth Justice Demands.

(Kidscount Issue Brief, January 2023)
https://www.rikidscount.org/Portals/0/Uploads/Documents/Issue%20Briefs/1.30.23%20Disparities%20Maternal%20Infant%20Child.pdf?ver=2023-01-30-093216-917

Clinical Practice Update

Roadmap to Maternal Health for African American Women Using Doula Support

The clinical practice update is the advocacy roadmap towards creating awareness concerning maternal health for African American women using doula support services. It is a teaching tool developed for this project incorporating educational interventions on ways that would improve maternal health outcome and decrease maternal mortality.

It is imperative to include doula support practices in maternal health and continue to educate the labor/delivery nurses and the healthcare team on ways to reduce the barriers, ensure access to the promotion of high-quality care for all women, especially Black women in the US.

The clinical resource flyer will be disseminated through placement in reception halls (pinned on notice or bulletin boards) of the hospital or birthing center; as inserts and enclosures in clinical newsletters, magazines and journals. This kind of insertion in such publications is, direct, cheaper and economical than direct placement. The flyer could also be attached to a covering memo tagged “important notice” and issued as a circular, or periodical, for the attention of all nursing staff and the health care team at the hospital or birthing center.

Appendix B

Logic Model

Inputs	Outputs		Outcomes -- Impact		
	Activities	*Participation*	Short	Medium	Long
Staff: • Physician Assistant • Nurse Practitioner • Clinical RN • Midwives • Administrative Assistant • Non-Clinical Administrative Staff • Educators/ Facilitators • Doulas • Recruiting Agencies **Supplies:** • Office/clinical space • Paper supplies • Brochures	• Develop an educational program • Develop training for staff • Obtain office space for education/ prep • Source funding for stipend, transportation, training materials and refreshments • Prep materials	• Health care workers will participate in the training for effectively working with doula support services. • Labor and delivery nurses at acute birthing hospital will participate in the	After participation in the educational program, health care team members (MD, NP, RN, Labor & Delivery nurses, Midwives, CNA) will: - demonstrate understanding of the Doula Services/support. - demonstrate the multi-faceted innovative strategies and approaches that are needed to prevent maternal mortality. - demonstrate Increased knowledge about the benefits and prevention of maternal mortality with an emphasis on doula support services.	In Years 1-3 following program participation, - Participants would continue to demonstrate and adhere to the tenets of the	In year 10 – due to this educational intervention, there would be a significant reduction in the maternal mortality in the acute birthing hospital, the US in general and amongst Black women specifically.

• Educational and training Material • Overhead projector • Handouts -Time spent in preparation of the program -Training materials -Computers with (Matrix) software system for electronic documentation Policies and Standing orders: -Policies/Procedures Handouts		educational program for 60 minutes per session: In the course of the training, participants would be made to ask one another questions about grey areas on what have been taught, in an interactive format. This method would make sessions more interesting as participants would be made to use	- describe 3 effective methods of preventing maternal mortality, through the supplemental materials. - When assessed after educational intervention, participant program evaluations will be greater than 3.5 on a scale of 1-5.	Doula Support - The facilitator will provide refresher courses at non-technical /non-clinical colleges. Doula services will be part of the course curriculum.	

		the information on the handouts and other teaching aids to demonstrate their understanding of how/why it is necessary, to improve maternal health in Black women under the doula program initiative. • The facilitator will encourage collaborative approach and			

		constructive communication to promote doula services in the birthing environment.			

Project: Promoting Acceptance of a Community Doula Program for Black Women Among Labor and Delivery Nurses: An Educational Intervention.

Goals: At the end of the program training, Labor & Delivery nurses at the acute birthing hospital will collaborate with trained doulas to provide physical & emotional support and advocacy for mothers during pregnancy, childbirth, and postpartum. L&D nurses, along with the healthcare team will become proficient at effectively working with doulas. There will be 25% reduction each year x3 of maternal mortality (MM) in Black women with improved maternal outcomes and 75% MM reduction demonstrated and sustained in 2032.

Background: Compared to other developed countries, United States America has a very high maternal mortality (Commonwealth Fund, 2022). Hemorrhage and hypertensive disorders are major contributors and black women are most impacted. Doula support has the potential to reduce maternal mortality. Doula support is defined as non-clinical support professionals who provide physical, compassionate, informational, and emotional support to birthing persons during labor and delivery.

Overview of ethical and human subject/IRB considerations:

It needs to be stated that this educational program from the onset involved human subjects; and hence, will be submitted for review/approval from the Rhode Island College Institution Review Board on an exempt status basis. Exempt review was sought as the study involved minimal risks to the participants in view of its voluntary nature. By and large, none of the participants (L&D nurses) were identified as being from a vulnerable segment of a larger population group. The proposed educational intervention will anticipate success and bring about a change in the overall perception of the healthcare team towards doula support services.

Appendix C

Likert Scale

5-point rating scale

Strongly disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	5

Appendix D

1. I am familiar with the role of a doula. 1. 2. 3. 4. 5

2. I am likely to have my pregnant relation to be handled by a midwife and a doula during and after a delivery session? 1. 2. 3. 4. 5
3. I agree that doula support services should be part of the mainstream in American hospitals and maternity homes. 1. 2. 3. 4. 5
4. I agree that that birthing mothers and their newborns to feel comfortable without any kind of delivery complications? 1. 2. 3. 4. 5

5. I feel at ease with doulas coming around to my home and check up on my pregnant or nursing mother relation? 1. 2. 3 .4 .5

6. I encourage my pregnant relation to seek the services of a doula in the course of attending antenatal sessions in hospitals and maternity homes? 1.2. 3. 4. 5

Pre and Post training test given to Control group and Study group

Level 1 and 2 Questionnaires	Control Group (20 people)	Study Group (20 people)
1. I am familiar with the role of a doula.	0% strongly disagree	98% Agree; 2% Disagree
2. I am likely to have my pregnant relation to be handled by a midwife and a doula during and after a delivery session?	75% strongly disagree 25% strongly agree; 75% strongly disagree	98% % strongly agree; 2% strongly disagree 75% strongly agree; 25% strongly disagree
3. I agree that doula support services should be part of the mainstream in American hospitals and maternity homes.	100% strongly agree	100% strongly agree
4. I agree that that birthing mothers and their newborns to feel comfortable without any kind of delivery complications?		

5. I feel at ease with doulas coming around to my home and check up on my pregnant or nursing mother relation? 6. I encourage my pregnant relation to seek the services of a doula in the course of attending antenatal sessions in hospitals and maternity homes?	50% strongly agree; 50% strongly disagree 50% strongly agree/; 50% strongly disagree	98% strongly agree; 2% strongly disagree 75% strongly agree; 25% strongly disagree