Title of Thesis: EXAMINING CONTRIBUTORS TO BLACK MATERNAL HEALTH EXPERIENCES IN PRINCE GEORGE'S COUNTY, MARYLAND

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Abstract

Black women in the United States face a maternal mortality rate three times that of white women, a disparity mirrored in Prince George's County, Maryland (Hoyert, 2023; Maryland Department of Health, 2022). In 2019, the Prince George's County Health Department reported that between 2008 and 2017, Black, non-Hispanic mothers experienced the highest pregnancy-related maternal mortality rate (37.4 deaths per 100,000 live births) in the county ("Maternal Infant and Health Report," 2019). This study explores how maternal access to healthcare and provider cultural competency training influence maternal health disparities in Prince George's County. Using a mixed-methods approach, the research team surveyed and interviewed two key populations: Black mothers ages 18-34, residing in Prince George's County, Maryland, and maternal health providers practicing in the District of Columbia, Maryland, and Virginia (DMV) region. By examining patient-provider interactions and gaps in medical education, this research aims to inform policy and curricular reforms to improve Black maternal health outcomes.

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by

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List of Abbreviations

DMV: District of Columbia, Maryland, and Virginia

OB/GYN: Obstetrician/Gynecologist

MUP: Medically Underserved Population

NICU: Neonatal Intensive Care Unit

BIPOC: Black, Indigenous, and People of Color

URM: Underrepresented Minorities

MCAT: Medical College Admission Test

CVD: Cardiovascular Disease

IRB: Institutional Review Board

PA: Physician Assistant/Associate

NP: Nurse Practitioner

Chapter 1: Introduction

The maternal mortality rate for Black women living in the United States (U.S.) is two to three times higher than that of white women (Hoyert, 2023; Maryland Department of Health, 2022). While other factors may contribute to this disparity, research has shown the main cause is due to the systematic and interpersonal prejudice ingrained in the U.S. society (Shaya et al., 2023). In most instances, women who have attained higher education levels are proven to have better birthing outcomes; however, this does not hold true when examining across racial demographics (Anthony Jr. et al., 2024). The rate of maternal mortality for Black women with a college degree is 1.6 times higher than white women with less than a high school diploma (Shaya et al., 2023). This trend continues for Black women, regardless of high socioeconomic status and access to healthcare (Shaya et al., 2023). There have been dangerous hypotheses surrounding the disproportionate rates of maternal mortality, suspecting that perhaps the genetic composition of Black women may be the root cause of this discrepancy (Stafford, 2023), however, this has been refuted on several occasions (Duello et al., 2021). Recent studies have also found that compared to Black women born in the U.S., the maternal mortality rate for immigrant Black women was found to be 33% lower (Peredy et al., 2024).

A centuries-long history of systemic inequality and discrimination against Black women is a fundamental factor in this disparate outcome (Stafford, 2023). Research finds the myth that Black people have higher pain tolerance has contributed to the mistreatment of Black Americans by healthcare providers who undertreat or dismiss Black patients' pain symptoms (Hoffman et al., 2016). These myths and

stereotypes are especially dangerous considering that due to experiences with racism in social interactions or social institutions, Black women experience higher stress levels, which, in turn, elevates their risks of comorbidities and birth-related complications (Jha et al., 2004; Bond et al., 2021). Structural factors not only adversely impact the health of Black women, but also makes it more difficult for them to gain access to health and health information (Muvuka et al., 2020). According to a recent study, a disproportionate number of women from minoritized racial and ethnic backgrounds live in maternal care deserts, defined as counties with no hospital offering obstetric care and no Obstetrician/Gynecologist (OB/GYN) or certified nurse-midwife providers (March of Dimes, 2020). Previous efforts to increase healthcare accessibility have included universal coverage health insurance programs, such as Medicaid and Medicare; however, without health insurance literacy, these are ineffective at increasing accessibility (Vardell, 2019). Overall, the systemic challenges that Black women face in the healthcare system impact their ability to access quality prenatal and postnatal care that monitors potential risk factors and improves the safety of the childbirth experience.

Black physicians have been underrepresented in the healthcare system due to the presence of processes and health professions school admissions criteria that disadvantage Black Americans (Adelman, et al, 2019). In 2021, only 11% of physicians making up the OB/GYNs specialty were Black (Tiako et al., 2021). Standards of "professional" behaviors and appearances, such as those surrounding hairstyles, dress, and speech, are biased toward Eurocentric values and practices (Tiako et al., 2021). Black Americans who do not conform to said Eurocentric

standards may be considered less “professional” relative to their white counterparts (Tiako et al., 2021). Medical school curricula has also frequently inappropriately portrayed race as a biological determinant of health rather than as a social construct, which exacerbates provider internalized racism (Amutah et al., 2021). As a result of this literature, there has been a demand for providers to undergo cultural competency and implicit bias training to reduce biases (Mendizabal et al., 2021). Yet, only half of healthcare providers reported undergoing such cultural competency and/or implicit bias training in medical schools in recent studies (Mendizabal et al., 2021). Thus, medical schools perpetuate not only the underrepresentation of Black physicians, – which hinders Black patients’ abilities to feel seen in the healthcare system – but also the continued existence of biases that contribute to the mistreatment of Black patients, such as the dismissal of Black patients’ pain symptoms (Greenwood et al., 2020).

As discussed in our literature review, many scholars have documented how physicians’ biases and a lack of accessibility to healthcare providers contribute to racial disparities in maternal health outcomes. There is a lack of research surrounding the impact of cultural competency training on patient-provider interactions. This research is innovative and focuses on hearing from both maternal care providers and Black mothers in Prince George’s County, Maryland. Through an in-depth analysis of the participant surveys and expert interviews with maternal care providers, we explored the healthcare attitudes and patient-provider relationships of Black mothers in Prince George’s County. Our findings also show the impact of cultural competency training on quality of maternal healthcare by provider. Our data sheds light on the needs, concerns, and needed resources for Black women in this area. Results will be

made available to the County Council Board of Health and the Prince George's County Health Department. It is our belief that the recommendations deduced from this data, if implemented, can also ensure that significant strides are made to ensure that Black women are supported before, during, and after pregnancy.

Chapter 2: Literature Review

A Historical Overview of Obstetrics and Gynecology in the United States

The history of maternal health in the United States is rooted in violence and the exploitation of Black bodies as unwilling participants for the advancement of medicine (Holland, 2025; Owens & Fett, 2019). From the forced transportation of enslaved Africans through the Middle Passage to the buying and selling of slaves in the antebellum South, white medical physicians were often present, not to ensure the well-being of enslaved, but to protect the financial well-being of slave owners (Owens & Fett, 2019). When Black enslaved individuals died, their bodies were often used as teaching material in white medical schools or displayed in medical museums (Owens & Fett, 2019). Following the ban of the Transatlantic Slave Trade in 1807-1808, slave owners began to focus on enslaved Black women as a way to increase the enslaved population for economic gain (Owens & Fett, 2019). During this time, midwives played a significant role in Black communities, ensuring that enslaved women could give birth as safely as possible under brutal conditions (National Museum of African American History and Culture, n.d.). White physicians were only summoned for difficult births but even with their involvement, maternal and infant mortality rates remained disproportionately high due to systemic medical neglect (Owens & Fett, 2019). Tragically, these physicians frequently blamed the mothers for these deaths, ignoring the structural conditions that contributed to these outcomes (Owens & Fett, 2019).

Enslaved Black women were not only exploited for their reproductive labor but were also subjected to invasive medical experimentation. Their bodies served as the site for the development of procedures still in practice today (Owens & Fett, 2019). For instance, François Marie Prevost, a slaveholding surgeon, pioneered cesarean section surgeries through repeated operations on enslaved Black women (Owens & Fett, 2019). Similarly, James Marion Sims, known as the "Father of Modern Gynecology," developed obstetric fistula repair techniques by experimenting on enslaved Black women (Holland, 2025; Owens & Fett, 2019). These surgeries were performed without anesthesia, as physicians operated under the racist belief that Black people did not feel pain the same way as white people, a myth that continues to influence medical bias today (Holland, 2025). The early 20th century saw a shift toward institutionalised obstetrics, but this shift often worsened maternal health outcomes. Between 1900 and 1920, the United States experienced the highest maternal mortality rates of the 20th century (Centers for Disease Control and Prevention, 1999). Substandard, unhygienic obstetric practices, combined with the fact that obstetrics was viewed as a lesser field within medicine, were responsible for the deaths of many women (Centers for Disease Control and Prevention, 1999).

To fully understand the current Black maternal mortality crisis in the United States, it is crucial to acknowledge the deep and painful connection between American gynecology and slavery.

The State of Maternal Health in the United States

Each year, 700 U.S. women die due to pregnancy complications (Petersen et

al., 2019). This number is likely underestimated due to differences in data collection and reporting across regions (Pham et al., 2020). In comparison to other developed nations, the United States has the highest maternal mortality rate, with a 2018 maternal mortality rate of 17.4 deaths per 100,000 live births. This rate is at least double the rate as compared to other developed countries (Tikkanen et al., 2020) and has only been increasing. According to the National Center for Health Statistics, "the maternal mortality rate for 2020 was 23.8 deaths per 100,000 live births compared with a rate of 20.1 in 2019" (Hoyert, 2023). Additionally, in comparison to other high income countries, the U.S. has one of the lowest supplies of maternal healthcare providers per 1000 live births (Tikkanen et al., 2020). While the maternal mortality rate around the world has decreased by 43%, the U.S. is the only country with a rate that has increased (Korbatov, 2015). The leading cause of maternal mortality in the US are cardiovascular disorders/diseases such as pulmonary embolism (blood clots in the lung) and hypertension (high blood pressure) or a huge loss of blood (Korbatov, 2015). Maternal mortality rates also vary depending on race. For instance, in 2020, the Center for Disease Control and Prevention (CDC) found that "the maternal mortality rate for non-Hispanic Black women was 55.3 deaths per 100,000 live births," which is an extremely shocking statistic given that this rate is "2.9 times the rate for non-Hispanic White women (19.1)" (Hoyert, 2021). There are many possible reasons for this disparity such as lack of health literacy, accessibility, and/or mistrust in the healthcare system due to potential racial bias as a result of improper medical school curricula (Center for Disease Control and Prevention, 2020).

Maternal mortality rates among Black women in the U.S. measure three times

higher than maternal mortality rates found among white women, with 44.0 deaths per 100,000 live births compared to 17.9 deaths for 100,000 live births in 2019 (Hoyert, 2021). Causes of this disparity are varied. Black women are more likely to be uninsured and face financial barriers to healthcare (National Partnership for Women & Families, 2018; Biennial Health Insurance Survey, 2017). Black women are less likely to access prenatal care (U.S. Department of Health & Human Services, 2011). Additionally, research shows that Black women are more likely to live in areas that are more segregated by race/ethnicity and/or income levels (Thoma et al., 2019). Residents of neighborhoods that are deprived of resources are less likely to have access to environmental benefits, healthy foods, high-quality and affordable hospitals, and other health-promoting resources (Pirtle, 2020). Regardless of educational attainment, high maternal mortality rates among Black women in comparison to white women persist. For example, among all women with college degrees or higher, Black women have a maternal mortality rate over five times higher than that of white women (*Racial/Ethnic Disparities in Pregnancy-Related Deaths* , 2023). Additionally, Black mothers with a completed college education or higher have a 1.6 time higher mortality rate than white women with less than a high school diploma (Hill et al., 2024).

There are differences in maternal mortality rates for Black women of different socioeconomic statuses, with research finding low-income Black women faring worse due to unemployment or underemployment, low and stagnant wages, lack of health insurance, and insufficient funding for government social services (Wynn, 2019). One study found that “almost 7 percent of non-Hispanic Black women in 2018 did not

start prenatal care until their third trimester, and an additional 3 percent report no prenatal care at all." (Declercq, 2020). Compared to white women, "non-Hispanic Black women were more likely to report: being treated unfairly and with disrespect by providers because of their race, not having decision autonomy during labor and delivery, feeling pressured to have a cesarean section, [and/or] not exclusively breastfeeding at one week and six months" (Declercq, 2020).

Maternal Health in Prince George's County, Maryland

The United States Census Bureau reported the state of Maryland's racial and ethnic makeup in 2024 and the majority of Maryland residents are in the white alone racial category (57.2%). Black alone makes up 31.6% of the state population (U.S Census Bureau, 2024). In 2018, the overall maternal mortality rate for Maryland mothers was 53.5 deaths per 100,000 live births (Maryland Department of Health, 2021). Between 2014 and 2018, among non-Hispanic Black women, the maternal mortality rate was four times as high as the rate for non-Hispanic white women in Maryland (Maryland Department of Health, 2021). This gap has grown larger since 2009 to 2013, when the maternal mortality rate for non-Hispanic Black women was twice that of non-Hispanic white women (Maryland Department of Health, 2021).

According to the 2021 Primary Care Needs Assessment, there were 42 Medically Underserved Areas throughout the state of Maryland, which encompasses around 17% of the entire state population. There are a total of 15 Medically Underserved Populations (MUP) in the state, and 11 of Maryland's 24 jurisdictions have the MUP designation (Maryland Department of Health, 2021). Despite being

one of the wealthiest Black counties in the nation, Prince George's County, Maryland has three of these MUP designations. Within the county, there is a high rate of cardiometabolic syndrome and hypertension, both diseases that disproportionately affect Black people, as discussed previously (Bond et al., 2021).

Prince George's County is Maryland's second most populous county, with 966, 629 residents (U.S Census Bureau, 2024). The majority of county residents are part of the 'Black alone' category (62.98%) (U.S Census Bureau, 2024), the highest percentage for this demographic compared to any other Maryland county (U.S Census Bureau, 2024). Much of the county's demographics depends on its history. In the nineteenth century, the development of a station for the B&O Railroad, now the MARC Camden Line, as well as a Washington, Berwyn, and Laurel streetcar spurred development and population density (Rowlands, 2018). Today, the beltway dividing the county separates densely populated areas within the beltway from more sparsely populated areas outside of it (Rowlands, 2018). Zip codes within the beltways like 20740 have some of the highest percentages of families living in poverty for the county (between 14.6% to 18.2%) ("Maternal Infant and Health Report," 2019).

The county's infant mortality rate is approximately 8.9 per 1000 live births, higher than both Maryland's rate (6.3) and the national average rate (5.9) (Lucero, 2018). Notably, the overall mortality rates in Prince George's County are almost twice as high as the rates of neighboring counties such as Montgomery County (4.6) ("Maternal Infant and Health Report," 2019). In Prince George's County, infant mortality rates are the highest among Black infants, with the Maternal and Infant Health Report performed by Prince George's County Health Department reporting

12.0 per 1,000 is the death rate for Black, non-Hispanic infants in 2019 (“Maternal Infant and Health Report,” 2019).. In comparison, the infant mortality rate for Hispanic infants in the county was 5.0 per 1,000 (“Maternal Infant and Health Report,” 2019). Among mothers in Prince George’s County, Black, non-Hispanic mothers had the highest rate of pregnancy-associated mortality with 37.4 deaths per 100,000 births, compared with the county average of 28.6 deaths per 100,000 births (“Maternal Infant and Health Report,” 2019). These findings emphasize maternal and child health disparities, particularly for Black moms and babies in the county.

Access to medical care in Prince George’s County remains an issue. It is estimated that eight out of ten expecting mothers leave the county to deliver their babies due to the lack of obstetric services (Alsobrooks, 2023). This statistic is particularly shocking as Prince George’s County is reported to have the second highest birth rate in the state of Maryland. The limited access to maternal healthcare services in the county has resulted in the dependence on neighboring counties and territories further overwhelming the overall healthcare system. In addition to the shortage of maternal healthcare providers in Prince George’s county, there are only two main hospitals that offer birthing services: University of Maryland (UM) Capital Region Medical Center and MedStar Southern Maryland Hospital Center. Notably, the UM Capital Region Medical Center remains the only Level III neonatal intensive care unit (NICU) available in Prince George’s County, a vital resource for high-risk pregnancies and critically ill newborns. The shortage of obstetric services in the county has been linked to the shortage of licensed obstetric beds, lack of financial resources, and low obstetrician-to-patient ratios. These barriers surely magnify the

underlying presence of health disparities, particularly for low-income and communities of color who are disproportionately impacted by the limited access to healthcare.

Furthermore, the inadequacy of medical care for particularly Black mothers is quite prominent, with research finding only 28.6% of Black mothers experienced adequate care in comparison to the 36.8% of white mothers. 22.2% of Black mothers reported that they experienced inadequate care, while only 12.6% of white mothers reported as such ("Maternal Infant and Health Report," 2019). This significant difference in statistics raises the question of whether there are biases or racial disparities in maternal healthcare that alters the experiences mothers of different races hold.

Contributing Factors to Black Maternal Mortality

Comorbidities

Pre-existing health conditions significantly contribute to maternal health disparities, particular in Black women. Compared to women with other racial identities, Black women experience the greatest risk of severe maternal health morbidity and comorbidity (Brown et al., 2018). Conditions include hypertension, diabetes, obesity, diabetes, and heart disease, which are more prevalent and underdiagnosed among Black women compared to white women (Britton et al., 2018; Centers for Disease Control and Prevention (CDC), 2021; Thoma et al., 2019).

Hypertension correlates with higher risk of preeclampsia, which is more prevalent among African American parents (CDC, 2022; MedlinePlus, 2018). Preeclampsia is defined as hypertension that occurs after the twentieth week of pregnancy, and it may involve organ damage in mothers and can be life-threatening to mothers and infants (MedlinePlus, 2018). Hypertension is also linked with decreased blood flow to the placenta, slowed/decreased growth of the baby, maternal organ damage, and future risk of maternal heart disease ("Maternal Infant and Health Report," 2019). These adverse effects result in higher risks of gestational diabetes, preterm delivery, and infant death, among other pregnancy complications (CDC, 2022). Another common pre-existing health condition is diabetes, which is a disease that affects how blood sugar is regulated in the body and during pregnancy it can cause complications to both the woman and the developing embryo ("Maternal Infant and Health Report," 2019). Both type one and two diabetes in mothers increase the risks of birth defects, stillbirth, preterm birth, obesity, and type two diabetes in children (CDC, 2018). Obesity is also a major risk factor that disproportionately affects Black women more than other racial identities. Research shows that 33.7% of Black mothers are more likely to be obese prior to pregnancy, which can result in detrimental outcomes such as gestational diabetes, hypertension, preeclampsia, cesarean delivery, preterm delivery, large size for gestational age, and infant death. (Driscoll & Gregory, 2020). Another main cause of maternal mortality is heart disease, which can be defined as a health condition that has a profound effect on the function of the heart. Some of the leading causes of maternal mortality include cardiomyopathy and cardiovascular conditions such as coronary artery disease,

pulmonary hypertension, acquired and congenital valvular heart disease, vascular aneurysm, hypertensive cardiovascular disease (CVD), Marfan syndrome, conduction defects, and vascular malformations (Bond et al., 2021). These heart-related diseases disproportionately affect Black women, which may be attributed to the fact that Black women face more environmental barriers that lead to higher risk factors yet have less access to preventive care services and timely treatment referrals (Jha et al., 2004).

Black women in Prince George's County face a disproportionate amount of maternal comorbidities. This significantly increases their risks of maternal mortality and other negative birthing outcomes. In 2017, approximately 7% of women in the county experienced diabetes during pregnancy. These rates were shown to increase with age affecting over 10% of women ages 35 and older (Prince George's County Health Department, 2019). Additionally, nearly 30% of all women were obese before pregnancy and like diabetes these rates also increased with age, affecting one-third of mothers ages 35 and older (Prince George's County Health Department, 2019). Additionally, 5.9% of Black Non-Hispanic mothers experienced preeclampsia while almost 6% of Black Non-Hispanic mothers experienced pregnancy related hypertension, both of which are associated with severe complications during childbirth (Prince George's County Health Department, 2019). Between 2008 and 2017, half of pregnancy-related deaths in Prince George's County were linked to circulatory system diseases and other pregnancy-related conditions (Prince George's County Health Department, 2019).

These findings illustrate that many factors, including provider bias and lack of access to preventive care, contribute to disparities in pre-existing health conditions

that shape maternal health inequalities. Hypertension, diabetes, obesity, and heart diseases are only a few pre-existing conditions that play a role in the high maternal mortalities that plaque Black women. Examining their effects on maternal and infant health reveals the role of maternal health morbidities in shaping maternal health disparities.

Provider Mistrust, Limited Health Literacy, and Barriers to Seeking Health Information

In a study done by Christine Abbyad (2011), the majority of Black women interviewed said their mothers or grandmothers are who they referred to for advice during pregnancy. One woman stated, “And the information I got from my mom when I was pregnant, you know, how to breastfeed, you know, changing diapers, taking care of the circumcision. Things like that I got from my mom” (Abbyad, 2011). Why these women entrust their family members with medical advice rather than a maternal care provider likely stems from mistrust of the system. Another woman interviewed recounted an interaction with her doctor – she had asked her doctor if she was having twins due to her husband being a twin. The doctor dismissed her question, but a few days later, the woman ended up giving birth to twins (Abbyad, 2011). Additionally, many of the participants agreed that the physicians would only provide more information about their pregnancy if they thought their patients were highly educated:“If they feel like you’re not intelligent, if you’re not going to ask questions, they’re not going to tell you a whole lot,” said one woman (Abbyad, 2011). These examples directly correlate to two aspects of this project: access to care and health literacy. Black women should not have to rely on families and friends for

health information because it is easier to understand than if it were to come from a professional; instead, professionals should be an accessible resource for Black mothers.

Health insurance literacy is a key tenet of healthcare accessibility (Vardell, 2019). Health insurance literacy can be described "as 'the extent to which customers can make informed purchase and use decisions'" (Vardell, 2019). Healthcare is made accessible in large part by health insurance, which reduces out-of-pocket healthcare costs by providing financial assistance to policyholders (Vardell, 2019). Consumer-directed health plans are different from other health insurance plans: they "have the lowest premium cost" and "a much higher deductible and out-of-pocket limit" (University of Washington Human Resources, n.d.). These low-premium cost options are beneficial, as those without health insurance coverage were seven times more likely to "forgo needed healthcare due to cost" as compared to the insured (Chou et al., 2013). However, a low level of health insurance literacy creates barriers for individuals who cannot evaluate the best healthcare plan from different Consumer Directed Health Plans (CDHPs) (Vardell, 2019). This can result in individuals saving less, and, thus, spending more on healthcare costs (Vardell, 2019).

Access to healthcare refers to the availability of services at an affordable cost or no cost at all. In this context, healthcare accessibility refers to "why and how women come to the decision to participate in prenatal care or what women value and prioritize in prenatal care" (Edmonds et al., 2015). There is a strong, positive association between race/ethnicity and healthcare services utilization (Chou et al., 2013). In a study researching why women choose to utilize or not utilize prenatal care

services, low-income African-American women were divided into focus groups, where they discussed the impact of having or not having prenatal care, barriers to prenatal care, and others (Edmonds et al., 2015). Aside from health insurance literacy, other barriers to prenatal care cited included "parking costs and ride availability" and "ambivalence and lack of motivation due to unintended and undesired pregnancies" (Edmonds et al., 2015). In another study conducted, researching prenatal care utilization among low-income African American women, 27 of the 126 women had planned pregnancies, while the other 99 did not (Mikhail, 2000). However, the difference between the percentage of women who adequately utilized prenatal care services among those with planned pregnancies and those with unplanned pregnancies was not statistically significant, despite women in the other study citing having an unplanned pregnancy as a reason for not utilizing prenatal care (Edmonds et al., 2015; Mikhail, 2000). These findings illustrate that social structures and personal circumstances interact to shape accessibility to maternal health services.

However, race/ethnicity is not separate from all of these factors. For example, educational success is very much influenced by race/ethnicity (Walters, 2001). Since the creation of the common schools in the United States, achievement gaps between Black and white students and between poor and rich students continue to exist (Walters, 2001). Studies on these achievement gaps have found that "the characteristics of schools accounted for little variation in students' achievement" (Walters, 2001). However, race and income status do play a role in this variation, just as educational achievement does in the odds of having an unintended pregnancy (Kim et al., 2016; Walters, 2001). When adjusting for odds, having a bachelor of art or

bachelor of science degree accounted for 11.52% of the difference in the likelihood of having an unintended pregnancy for Black versus white women (Kim et al., 2016). Thus, adjusting for odds resulted in the elimination of some of the influence of race/ethnicity on the likelihood of having an unintended pregnancy, as educational attainment is influenced by race/ethnicity (Kim et al., 2016; Walters, 2001). Looking at the unadjusted odds, which are statistically significant in their difference in the likelihood of having an unintended pregnancy between Black and white women, may provide a more accurate representation of the role race/ethnicity plays in the likelihood of having an unintended pregnancy, as all factors of life are susceptible to be influenced by race, not just educational attainment (Kim et al., 2016).

Lack of Cultural Competency Training in Maternal Care Provider Training

Medical school affects the healthcare system by shaping not only the demographics but also the cultural competency of healthcare providers. The State of Maryland defines cultural competency as the ability to identify how culture, race, and ethnicity affect medical care; understand how patients' and providers' attitudes, values, and beliefs impact patient-provider relations; and integrate cultural knowledge and skills into medical care ("Implicit Bias Training," 2021). Cultural competency is essential to providing high-quality medical care and reducing health disparities (Mendizabal et al., 2021; Purnell et al., 2018; Guzman et al., 2021). Despite evidence in support of physicians cultural competency training, a survey of 1,220 providers in the 10 largest departments at Johns Hopkins University School of Medicine – one of the major healthcare providers in the State of Maryland – found that only 49% of the providers had undergone cultural competency training prior to the survey (Purnell et

al., 2018). This finding is corroborated by another study of residents at the University of Pennsylvania's Department of Neurology, which found that only 56% of residents had received training in cultural competency (Mendizabal et al., 2021). This may help explain findings that healthcare providers ranked "lack of knowledge about a culture or minority group" as one of the greatest barriers to providing culturally competent care and "culture-specific knowledge" as the most desired topic in their training (Rule et al., 2018).

Moreover, there is currently no standardized cultural competency training program. This means that even among providers with cultural competency training, there is significant variation in the length and depth of training (Mendizabal et al., 2021). Most providers' training, if it occurred, took place during medical school (Mendizabal et al., 2021). A survey of 257 residents and faculty members at a large teaching pediatric hospital found that 52% of the respondents had a maximum of 5 hours of training in cultural competency at their medical schools, while 21% reported more than 5 hours of training, and 26% reported uncertainty (Rule et al., 2018). Only 22% of these providers indicated that their medical schools had a cultural competency component in their curricula, suggesting that even within medical schools, there may be no standardized cultural competency curriculum (Rule et al., 2018). Similarly, a study of 15 medical schools in the U.S. found that only 2 schools had courses with "cultural competence" in their names, while other schools promoted cultural competency through coursework not explicitly labeled "cultural competence" or through community-based projects (Guzman et al., 2021). Notably, there is a perception among some medical students that cultural competency is not directly tied

to medical care. A medical faculty member stated, “When you label it ‘cultural competence,’ [the students] sort of cross their arms and roll their eyes…but if you say now we’re looking at interventional cardiology, oh by the way… if you have this [patient population] here’s what they get, students, in my experience, are much more interested” (Guzman et al., 2021, p. 896). This may deter medical schools and instructors from using the term “cultural competency” in their education; at the same time, it is important to help students recognize the value of cultural competency in clinical care.

Understanding the hidden curriculum — which Cucchiara (2021) defined as the “unofficial messages” reinforced and conveyed in the classroom through rules, routines, and interactions — of medical schools is important in understanding the differences in treatment and health outcomes for Black women in the U.S. A study published in The New England Journal of Medicine identified five domains in which medical school educators misrepresented race in the classroom: semantics, prevalence without context, race-based diagnostic bias, pathologizing race, and race-based clinical guidelines (Amutah et al., 2021). Race was frequently used instead of origin to discuss ancestry, and disease development was discussed without providing background, wrongly depicting race as a risk factor for disease rather than social and environmental factors (Amutah et al., 2021). The study examined over 880 lectures from 21 different courses in one institution’s 18-month preclinical medical curriculum (Amutah et al., 2021). Another study, surveying one semester of first and second-year preclinical lectures, found similar results: of the 102 lecture slides mentioning race, 96% suggested race as a biological risk for disease, 39% noted biological differences

between races, and 58% implied biological differences (Tsai et al., 2016). The issue here is that, as a whole, the lecture slides suggest that race is genetic when research suggests that race is not genetic, rather race is a social construct that society has formulated and is commonly misused in biomedical settings (Duello et al., 2021). This misuse of terminology opens room for misdiagnosis, misinformation, and confuses the relationship between health and identity (Duello et al., 2021).

Further, darker skin tones are underrepresented in medical school textbooks, and the underrepresentation of racial and skin tone groups in curriculum and media was found to contribute to racial inequality (Louie & Wilkes, 2018; Martin et al., 2016). This underrepresentation can result in misdiagnosis in fields like dermatology, which heavily specializes in skin conditions and diseases. When there is a lack of knowledge, representation, and familiarity in regards to darker skin tones, healthcare providers may face difficulties when making a diagnosis because they are only accustomed to the physical symptoms of those who have lighter skin tones. Underrepresentation of groups in the curriculum sends a message about norms regarding who a medical student may encounter as a patient in the future, informing associations between race and risk for disease (Louie & Wilkes, 2018). Previous research has offered solutions to combat the harmful hidden curriculum embedded in medical schools. One study emphasizes the value of not "oversimplifying" the conversation regarding disease and prevalence (Amutah et al., 2021). While human biological variation exists, smaller categories than race and ethnicity should be used to discuss it and diagnose disease (Amutah et al., 2021). The study recommended standardizing language used to describe race and ethnicity, understanding health in

the context of social structure, and employing the most up-to-date research regarding race in the medical school curriculum (Amutah et al., 2021).

Lack of Representation in Doctors

Hiring doctors from similar backgrounds to those of their patients is crucial in improving healthcare outcomes and experiences for black women. In 2018, it was reported that just 5% of practicing physicians in the United States identified as Black or African American (Association of American Medical Colleges [AAMC], 2019). Additionally, just 9.6% of OB/GYNs identified as Black or African American (AAMC, 2019). Shared racial identities between newborns and their physicians have been associated with a significant reduction in Black infants' mortality rates (Greenwood et al., 2020). Despite the importance of having a diverse healthcare workforce, Black or African American physicians continue to be underrepresented in both the U.S. healthcare system and medical schools.

A survey of 56 OB-GYN residency program directors listed the lack of departmental and institutional diversity as the most commonly reported barriers to recruiting underrepresented minorities (URM) to OB-GYN residency programs (Mendiola, Modest, & Huang, 2021). Black physicians are also underrepresented in medical school leadership, with only 8.6% of medical school deans identifying as Black in a sample of 151 deans (Choubey et al., 2022). When deciding where to apply, Black applicants may perceive a lack of institutional diversity as a lack of commitment to inclusion and tolerance. Diversity in hospitals is crucial as residency applicants increasingly rank institutional diversity as a consideration when deciding

where to apply. Researchers studying a sample population of 3,756 medical students pursuing residency found that 81% have seen physicians discriminate against African American patients, and 94% have witnessed physicians talk about their African American patients in an inappropriate manner (Nguemeni Tiako et al., 2021). During clinical rotations, URM students have reported feeling unequal treatment in comparison to their white counterparts (Nguemeni Tiako et al., 2021). The normalization of racism in the learning space opens room for URM to feel no sense of belonging and takes a toll on their motivation to continue when the learning environment does not support their needs.

Chapter 3: Methodology

Research Questions

The two primary research questions of our study were: (1) What are the primary barriers Black mothers in Prince George's County face when seeking maternal healthcare? and (2) How does implicit bias and cultural competency training shape patient-provider interactions? These research questions were addressed using quantitative and qualitative data collected from surveys and interviews of Black mothers, medical students, and maternal healthcare providers.

Study Design

We followed a mixed method study design through conducting surveys and interviews. Our team created a quantitative survey and qualitative interview questions using the Qualtrics platform. Questions included were based on existing measures and demographics from the Department of Health and Human Services ("Health Care Access and Quality," n.d.), the March of Dimes ("Prenatal Care Checkup," 2017), the National Institutes of Health Healthcare Access & Utilization survey examples ("Healthcare Access & Utilization," 2016), and the National Partnership for Women and Families ("Listening to Mothers III," 2013). Adjustments were made to fit our survey's purpose and demographic better. The survey questions for mothers were crafted to explore access to healthcare, patient-provider relationships, satisfaction with care, and birth experiences. In contrast, survey questions for providers were constructed to focus on their professional backgrounds, patient interactions, cultural competency and their approaches to maternal healthcare. We designed the interview

questions to deepen our understanding of the survey responses and explore key themes in both groups' experiences with maternal care. The survey and interview questions (See Appendix D) were developed in Fall 2023, with input from relevant experts in the field to ensure cultural relevance and clarity (See Appendix G). After submitting our proposal to the Institutional Review Board (IRB) (See Appendix H), we received approval in January of 2024. The surveys opened on February 14, 2024 and closed on January 27, 2025. Our interviews were conducted from September 2024 to January 2025.

Sample and Recruitment

Sample Criteria

The eligibility criteria for both the interviews and surveys of Black mothers were: (1) being between the ages of 18 and 34, (2) identify as a Black cisgendered woman, (3) be a resident within an eligible zip code of Prince George's County, Maryland, (4) be currently pregnant or postpartum, and (5) be proficient (both reading and speaking) in the English language.

The final survey and interview eligibility criteria for healthcare providers were: (1) being at least 18 years of age, (2) either a medical student or a healthcare provider currently practicing care for mothers during the prenatal, perinatal, or postpartum periods, and (3) currently studying or practicing in Washington, D.C, Maryland, or Virginia. Specific healthcare professionals eligible to participate in the study included physicians (preferably OB/GYNS), physician assistants/associates (PA), nurse practitioners (NP), certified nurse midwives, or doulas.

Recruitment

To recruit participants for our study, our surveys were advertised in flyers (see Appendix C) in local libraries, churches, community centers, and medical schools (see Appendix B). We developed a database of over 300 organizations that serve community members in Prince George's County and surrounding areas, including churches, hospitals, doctors, daycares, libraries, grocery stores, student organizations, and community centers. We also purchased Meta advertisements (Facebook and Instagram) to target a broad audience (See Appendix F), using demographic filtering to reach individuals who met the study's criteria. Additionally, we attended local events around Prince George's County such as community baby showers, numerous local library events, WIC farmers markets, and lactation support groups (See Appendix E). At each in-person event that we tabled in the community, we provided one or more of the following as incentives and promotional items for our study: stickers, Gemstone Honors Program merchandise, candy, posters and pamphlets describing our research, and flyers with QR codes to recruit community members. We also included a list of relevant resources for mothers and other community members to access and use as needed. At each in-person community event, we interacted with approximately 20 community members, though some events resulted in a larger turnout than others.

In addition to tabling events, we also built strong relationships with community partners such as local food banks, WIC offices, and the College Park Aviation Museum. These organizations also partnered with us to help recruit participants, either by sharing our flyers or mentioning our study to potential eligible

participants. We also joined the Prince George's County Health Action Coalition and attended meetings between December 2023 to March 2025 to connect with various community members about our study and our recruitment aspirations.

Study Procedure

Upon completion of the survey, participants were offered the choice to be entered into a raffle to win money and/or the opportunity to participate in a follow-up qualitative interview to share more about their experiences. For both the mother and provider surveys, participants were asked at the end to select either "I am interested…" or "I am not interested in the raffle, interview, and/or study results…". If they selected that they were interested, they were redirected to a separate survey to share their email address. To avoid confusion and protect the privacy of the participant's information, we made sure to mention in the survey that their email address would be collected and stored separately from their survey responses. Additionally, we emphasized that a follow-up was optional and that the participant could opt-out of the follow-up by choosing to not share their email.

Survey compensation for mothers and providers were initially determined to be that survey participants interested in the raffle would have the chance to win $25 and we established that there would be a total of 20 winners. On October 10, 2024, we submitted an amendment application to the IRB proposing to compensate all mother participants who completed our survey with a $25 Tango digital gift card. The decision was made to help address lack of survey participation and encourage a higher response rate. By expanding the compensation, we aimed to increase

engagement, so we can ensure that the survey accurately reflects our target population. The compensation description for the medical provider survey remained a raffle of 20 randomly selected winners to earn $25 in Tango digital gift cards.

Measures

Demographic Variables – Mothers

Age. Participants self-reported their age in years.

ZIP Code. Participants self-reported their five-digit zip code.

Income. Participants selected the response that best described their income from the following options: Under $24,999, $25,000 - $49,999, $50,000 - $74,999, $75,000 - $99,999, $100,000 - $124, 999, $125,000 - $149,999, $150,000 - $199,999, $200,000+, Prefer not to say.

Household Composition. Participants identified the response that best describes the makeup of their household from the following options: Single parent, Couple in the first pregnancy, Couple in the second/third/subsequent pregnancy, Extended family, Prefer not to say, Other.

Gender Identity. Participants self-identified their gender identity by selecting cisgender male, cisgender female, non-binary, transgender male, transgender female, prefer not to say, or other.

Sexual Orientation. Participants reported their LGBTQ+ identity, selecting from the following options: Yes, No, Prefer not to say.

Education. Participants self-identified their highest level of education by selecting from the following options: No high school diploma/GED, High school

diploma/GED, Some college/trade school/Associate Degree, Bachelor's Degree, Master's Degree, Doctoral Degree, Prefer not to say.

Immigration Status. Participants reported their immigration status by selecting U.S. Citizen, permanent resident, undocumented status, prefer not to say, or other.

Insurance. Participants identified their current insurance coverage by selecting one (or more) of the following options: Not covered/Insured, Medicaid, Other private coverage (e.g., through the Maryland Health Connection exchange), Coverage through an employer (e.g., my employer, my spouse's employer, my parents' employer), Covered by spouse's plan, Medicare, Prefer not to say.

Pregnancy History. Participants reported if they were in their first pregnancy by selecting yes, no, or prefer not to say.

Pregnancy/Postpartum Status. Participants reported their pregnancy outcome or postpartum status by selecting the response that applied to them at the time of survey submission. The response options included: My pregnancy did not result in a live birth, First trimester (0-13 weeks), Second trimester (14-27 weeks), Postpartum (less than 3 months after my baby was born), Postpartum (more than 3 months after my baby was born), Prefer not to say.

Dependent Variables – Mothers

Maternal Health Care Satisfaction

Maternal health care satisfaction was assessed using a 0-100 scale where participants rated their comprehensive maternal health care experience, with higher scores indicating greater satisfaction. Sample questions included: "How would you

rate your overall prenatal care experience?" and "How satisfied are you with the number of prenatal visits that you have had?"

Patient Provider Similarities

Patient-provider similarities were evaluated based on common racial/ethnic identification, gender identity, and religious or spiritual affiliation. In addition to reporting how these commonalities affect their healthcare experiences (Positively, Negatively, No Impact, or Other), participants indicated if they shared these traits with their primary maternal health provider.

Perceived Quality of Care

The perceived quality of care was evaluated using Likert-scale items (Strongly Agree, Agree, Neutral, Disagree, or Strongly Disagree) that reflect clinician attention, communication efficiency, cultural sensitivity, and the degree to which providers address patient concerns. A set of questions modified from Purnell et al. (2018) focused on certain provider behaviors during maternal healthcare sessions in order to further evaluate provider interactions. Participants indicated if their practitioner routinely (80-100%) takes steps like gathering personal information and background, appropriately addresses them, involves them in treatment planning, and takes cultural considerations into account while having conversations. Statements evaluating participants' access to healthcare resources and services were used to gauge perceived barriers to care. Participants rated their level of agreement with statements, such as "There are personal barriers preventing me from obtaining healthcare services and/or information" and "My maternal health care provider(s) offers me access to useful

resources when I need it", using the 5-level Likert scale (Strongly Disagree to Strongly Agree).

Attitudes Towards Maternal Health Clinic/Provider

Attitudes toward maternal health clinics and providers were assessed to evaluate patient perceptions of trust, comfort, and emotional responses to care. Participants indicated their level of agreement using a 5-point Likert scale (Strongly Disagree to Strongly Agree). Feelings of emotional safety in clinical settings were evaluated through statements such as “I feel comfortable interacting with my maternal healthcare provider(s),” and “I trust my maternal healthcare provider(s).” To assess anxiety associated with maternal healthcare experiences, participants responded to the statement “I feel stressed and anxious when I visit my maternal healthcare provider(s).”

Perceived Discrimination or Bias in Care

Perceived discrimination or bias in maternal healthcare was assessed to understand the extent to which patients feel they are treated differently due to aspects of their identity, such as race, gender, socioeconomic status, or other personal characteristics. For example, participants used a 5-point Likert scale (strongly disagree-strongly agree) to score their level of agreement with the statement “I feel that I am treated differently due to an aspect of my identity by my maternal healthcare provider(s).” To further assess the impact of perceived bias on patient-provider interactions, participants responded to the question “How often, if ever, do/did you feel that you were treated differently due to any aspect of your identity by your

maternal healthcare provider(s)?" with response options ranging from "Never" to "Always".

Health Beliefs

The Health Beliefs section was designed to assess participants' attitudes toward maternal health services and their perceived importance and perceived outcomes for both the parent and child. Participants used a 5-point Likert scale (strongly disagree-strongly agree) to score their level of agreement with the statements "Going to a maternal healthcare provider when one is pregnant is beneficial for the mother," and "Going to a maternal healthcare provider when one is pregnant is beneficial for the fetus," using a 5-point Likert scale (Strongly Disagree to Strongly Agree). These items measured the level in which individuals perceived maternal healthcare as essential to a healthy pregnancy. Additionally, to examine beliefs about the role of cultural and familial values in maternal health decisions, participants responded to statements such as "Family and cultural values should be accounted for in health decisions," and "Maternal healthcare providers should have a strong grasp of a variety of sensitive cultural issues."

Demographic Variables – Providers

Provider Profession. Participants reported their role/profession in the maternal healthcare setting from, selecting from the following options: Obstetrician/Gynecologist (OB/GYN), Family Medicine Physician, Nurse Practitioner, Certified Nurse Midwife (CNM), Doula, and Other (Please specify).

Dependent Variables – Providers

Patient-Provider Communication

Patient-provider communication was assessed by measuring the frequency and quality of interactions between healthcare providers and their patients. Participants were asked about the average duration of patient interactions, their time spent checking patients' understanding of health information, and their confidence in working with culturally diverse patients. For example, participants were asked "How long does a typical patient or client interaction last for you?" Responses were recorded using categorical time intervals (e.g., "10-15 minutes," "More than 30 minutes") or a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree), with higher scores indicating more thorough communication and confidence in diverse settings.

Cultural Competency and Implicit Bias Awareness

Cultural competency and implicit bias awareness were measured by assessing healthcare providers' perceived knowledge and confidence in addressing cultural issues in patient care. Participants responded to statements such as "I have a strong grasp on a wide array of sensitive cultural issues" and "I have cultural biases that may affect the way I interact with patients or clients." Additionally, some questions assessed participant's previous participation in cultural competency training including the duration and recency of such training. Responses were recorded on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree), with higher scores indicating greater cultural awareness and self-perceived competency. Implicit biases

were further examined using true/false questions designed to assess awareness of racial misconceptions in healthcare. Participants were asked to indicate whether they believed statements such as "Black people age more slowly than white people," "Black people's nerve endings are less sensitive than white people's," and ""Black people's blood coagulates more quickly than white people's." were True or False. The correct answer for all three statements is False.

Patient-Provider Similarities

Provider demographic factors and perceptions of patient similarity were assessed through questions about the provider's racial, gender, and religious identity compared to the patients they typically serve. Providers were asked "Do you share the same racial identity as most of the patients or clients you see or work with?" and "How do you think your response to the question above affects your patients' or clients' interactions with you?" Response options included "Yes," "No," "Not sure," and "Prefer not to answer," with follow-up questions evaluating whether perceived similarity or difference impacts provider-patient relationships.

Chapter 4: Results

The aim of this study was to investigate the maternal care experiences of Black mothers in Prince George's County. We examined this from the experiences of both Black mothers in Prince George's County and maternal care providers in the Washington D.C., Virginia, and Maryland (DMV) area. We conducted a mixed-methods study where respondents filled out a survey and then had the option to opt in for an interview to examine their experiences further. The survey for mothers aimed to explore their experiences receiving care from their providers and how they felt in healthcare settings. The survey for providers aimed to investigate how they perceived their patient visits went and their experiences with cultural competency training. The interviews were aimed to further explore these experiences.

Description of the Sample

A total of 253 survey responses were collected from both mothers (n=133) and providers (n=120), but 176 survey responses met the inclusion criteria. Of the 133 mothers surveyed, 69 mothers met the inclusion criteria since they had a Prince George's County zip code and were under the age of 35. The Qualtrics survey form accepted any five digit zip code and did not discriminate between Prince George's County zip codes and other zip codes which resulted in the difference between respondents and eligible respondents. Many respondents provided zip codes from outside of Prince George's County and were thus ineligible. Out of the 120 providers who completed the survey, 107 met the inclusion criteria. In total, we conducted five interviews with providers. Unfortunately, despite several attempts, there were no follow up interviews conducted with mothers.

Table 1

Demographics of Surveyed Mothers

Demographics of Mothers (N= 69)			
Variable	**Characteristics**	**Frequency (n)**	**Percentage**
Age	20-22	9	13%
	23-25	14	20.3%
	26-28	17	24.6%
	29-31	16	23.2%
	32-34	13	18.8%
Income	Under $24,999	2	2.9%
	$25,000-$49,999	15	21.7%
	$50,000-$74,999	18	26.1%
	$75,000-$99,999	21	30.4%
	$100,000-$124,999	11	15.9%
	$125,000-$149,999	0	0%
	$150,000-$199,999	1	1.4%
	Over $200,000	1	1.4%
Household Makeup	Couple in First Pregnancy	29	42%
	Couple in Subsequent Pregnancy	28	40.6%
	Extended Family	9	13%
	Single Parent	3	4.3%
Highest Level of Education	No High School Diploma/GED	0	0%
	High School Diploma/GED	6	8.7%
	Some College/Trade School/Associate Degree	29	42%

Demographics of Mothers (N= 69)			
	Bachelor's Degree	30	43.5%
	Master's Degree	4	5.8%
	Doctoral Degree	0	0%
Type of Insurance Coverage	Coverage through an Employer	22	31.9%
	Medicare	20	29%
	Medicaid	17	24.6%
	Other Private Coverage	6	8.7%
	Covered by Spouse's Plan	4	5.8%
	Not Covered/Uninsured	0	0%
First Pregnancy	Yes	31	44.9%
	No	38	55.1%
Pregnancy Status	First Trimester (0-13 weeks)	2	2.9%
	Second Trimester (14-27 weeks)	18	26.1%
	Third Trimester (28 weeks and later)	12	17.4%
	Postpartum	36	52.2%
	My pregnancy did not result in a live birth	0	0%
	Prefer Not to Say	1	1.4%

Note. Age was measured as a continuous variable that respondents typed in. Income was measured by ranges of $25,000 increments.

The range of income for mothers surveyed spanned from under $24,999 to over $200,000. The largest proportions of surveyed mothers were between the ages of 26-28 (24.6%) or 29-31 (23.2%). The majority of mothers had an income level between $75,000 and $99,999 (30.4%). Over 70% of mother's income ranged between $25,000 and $99,000. At the time of survey completion, 44.9% of respondents were in their first pregnancy and 52.2% were postpartum. The majority of mothers had a highest education level of a Bachelor's degree (43.5%).

Table 2

Demographics of Surveyed Providers

Demographics of Providers (N= 107)			
Variable	**Characteristics**	**Frequency (n)**	**Percentage**
Profession	Obstetrician/Gynecologist (OB/GYN)	50	46.7%
	Family Medicine Physician	4	3.7%
	Nurse Practitioner	8	7.5%
	Certified Nurse Midwife	10	9.3%
	Doula	21	19.6%
	Medical Student	11	10.3%
	Registered Nurse	1	0.9%
	Perinatal Mental Health Clinician	1	0.9%
	Certified Professional Midwife	1	0.9%

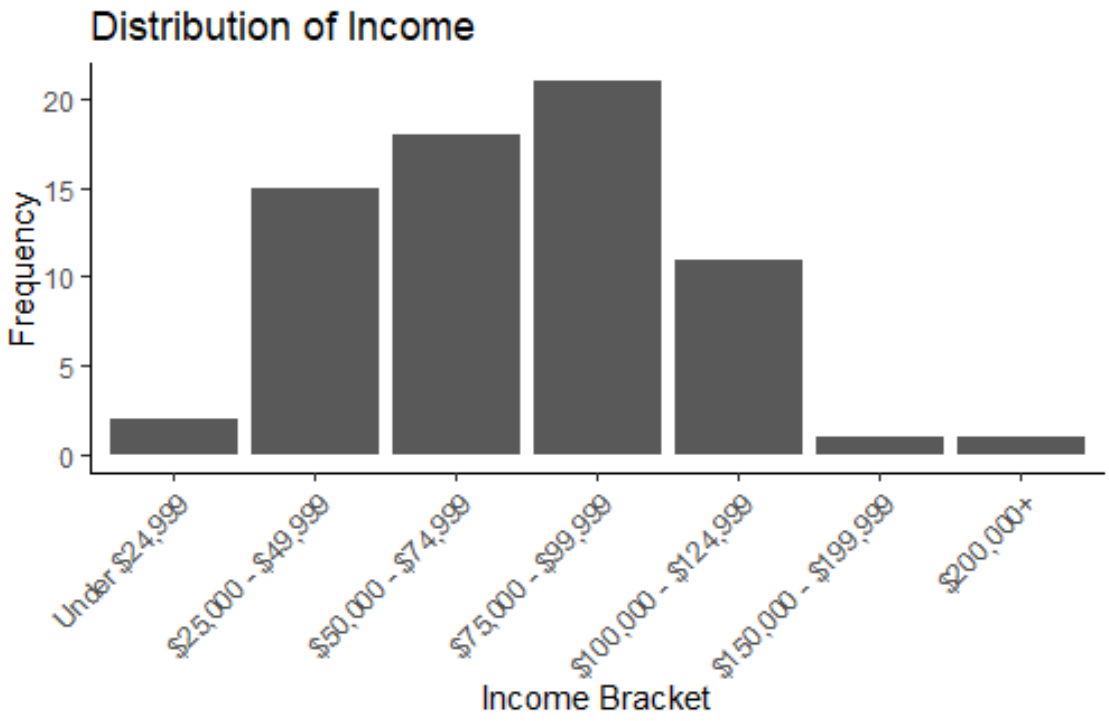
The only demographic information collected for providers surveyed was profession within maternal care. The surveyed provider population was largely OB/GYNs (46.7%), followed by doulas (19.6%) and medical students (10.3%). 16 respondents selected the "Other" option, including 11 medical students, a registered nurse, a perinatal mental health clinician, and a certified professional midwife. Two doulas also selected the "Other" category– one was also a lactation consultant, while the other was a lactation educator, placenta practitioner, and a certified professional midwife student. Additionally, only two medical students specified their year in medical school: one was an MS1 and the other was an MS4 applying to be an OB/GYN.

Descriptive Statistics for Mothers

Mothers responded to questions about their income, education, and the race of their provider. Respondents were asked to type in their age and zip code, all other questions were multiple choice- some questions allowed respondents to select all that applied while others restricted respondents to only one answer.

Figure 1

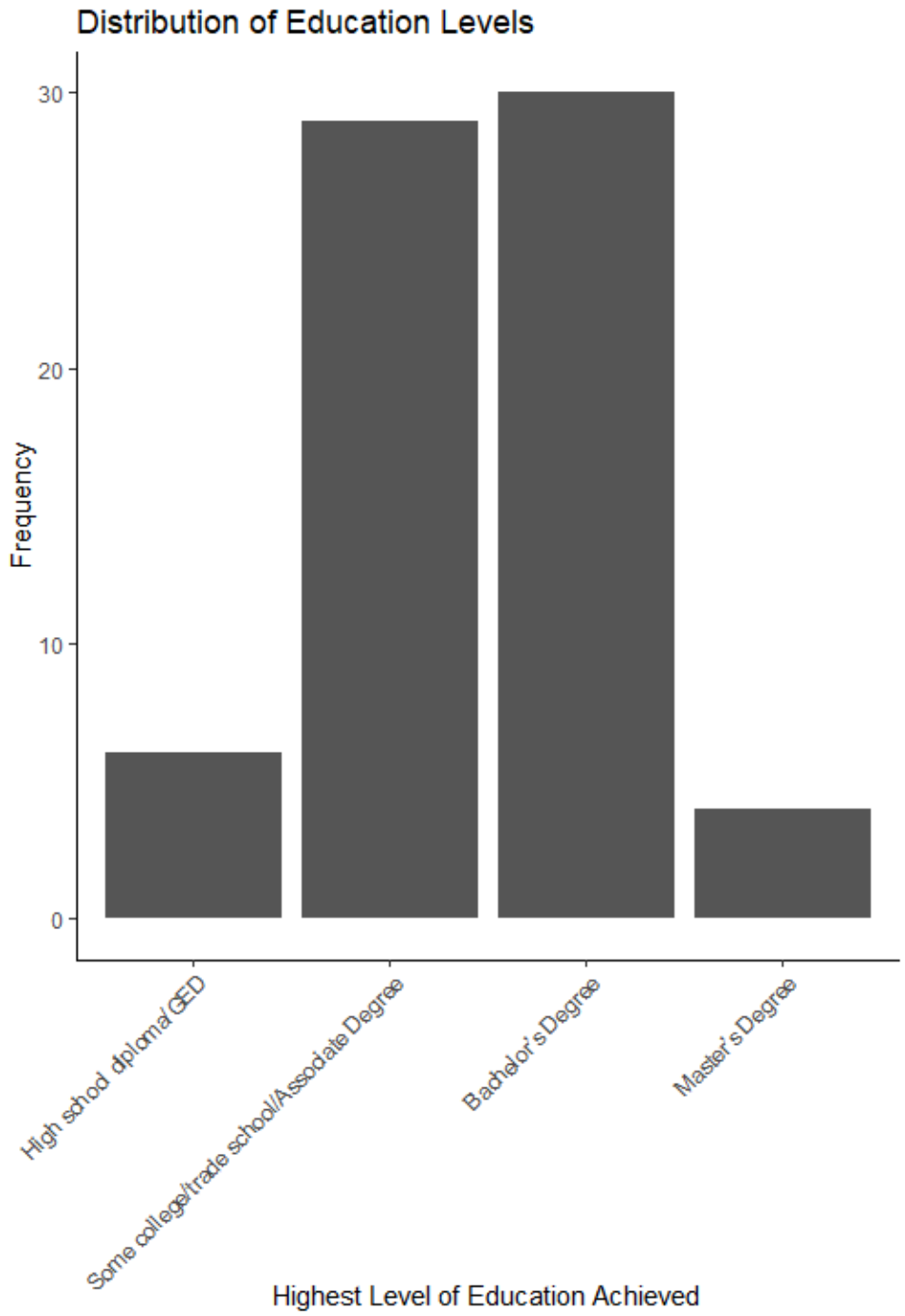
Distribution of Mother Income



The distribution of respondents' income followed a roughly normal distribution with a minor skew towards lower income. Most respondents had an income between $75,000 and $99,999, followed by between $50,000 to $74,999. Three respondents reported an income under $24,999 and one reported an income over $200,000.

Figure 2

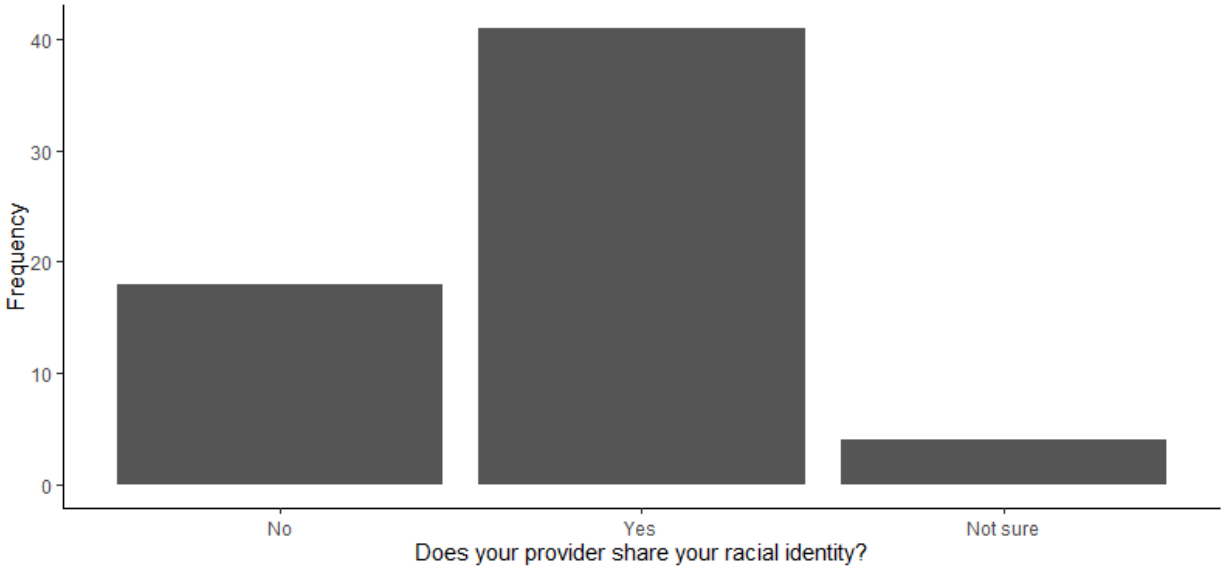
Distribution of Mother Education



The education brackets on the survey ranged from “Did not finish high school/No GED” to “Doctoral Degree”. Similar to the income distribution graph, the education distribution followed a roughly normal distribution. There were no mothers on either extreme of education– the majority had a Bachelor’s degree, followed by some college/trade school/Associate’s degree. The respondents with the lowest amount of education had a high school diploma or GED while the respondents with the highest amount of education had a Master’s degree.

Figure 3

Frequency of Mothers Who Share a Racial Identity with Provider

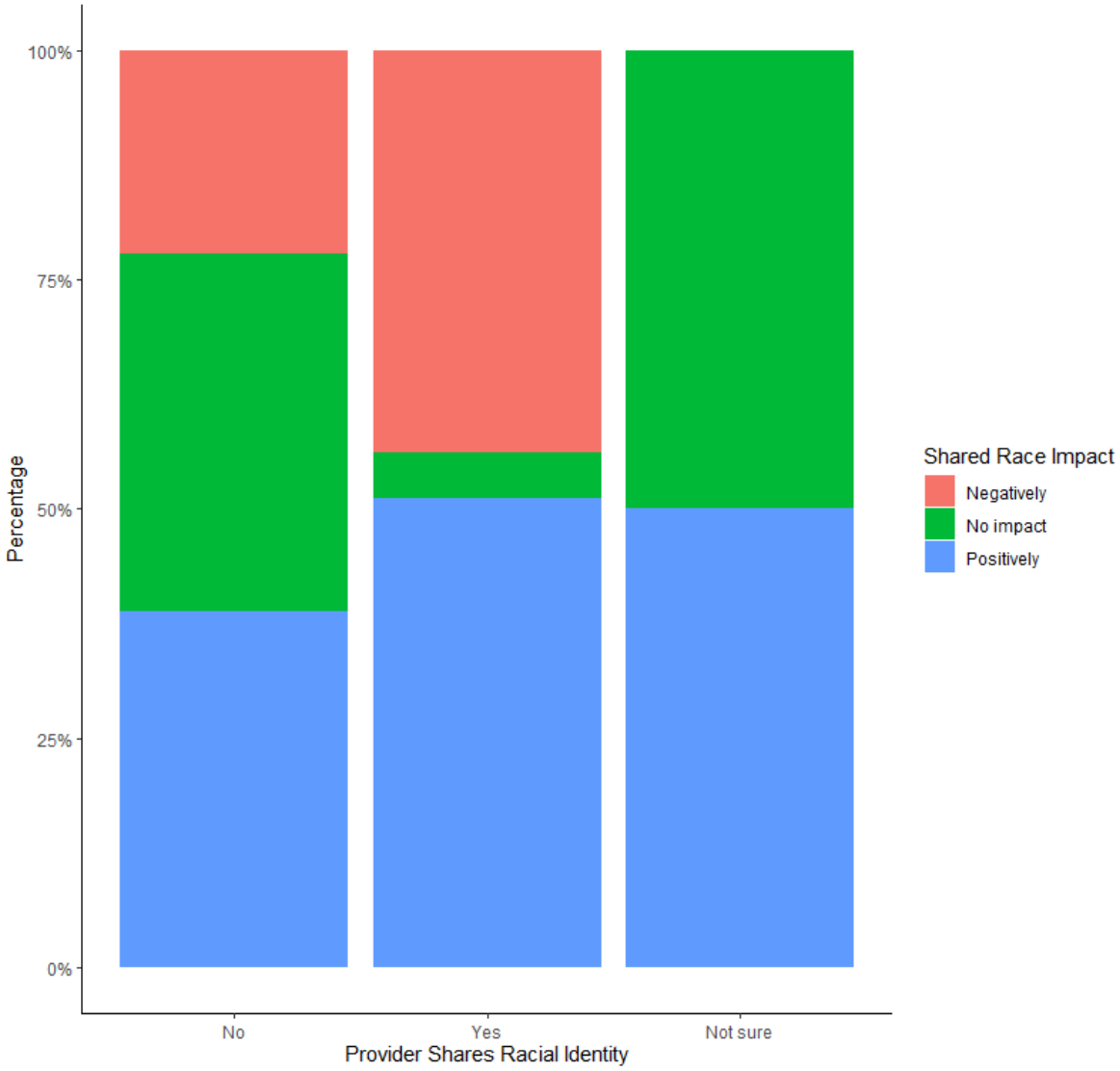


Note. Mothers were asked the following survey question: "Do you share the same racial identity as your main/current maternal health care provider?"

This survey question was asked with the intent of learning how sharing or not sharing the same race as your provider influences patient-provider actions. Of the 69 respondents, the majority shared the same racial identity as their provider (41 mothers). 18 mothers did not share the same race as their provider, six mothers had no response, and four selected "Not sure."

Figure 4

Impact of Shared Race on Patient-Provider Interactions



Note. Mothers were asked the following survey question: "How does your response to the question above affect your interactions with your provider?" "The question above" referred to the question in Figure 4.

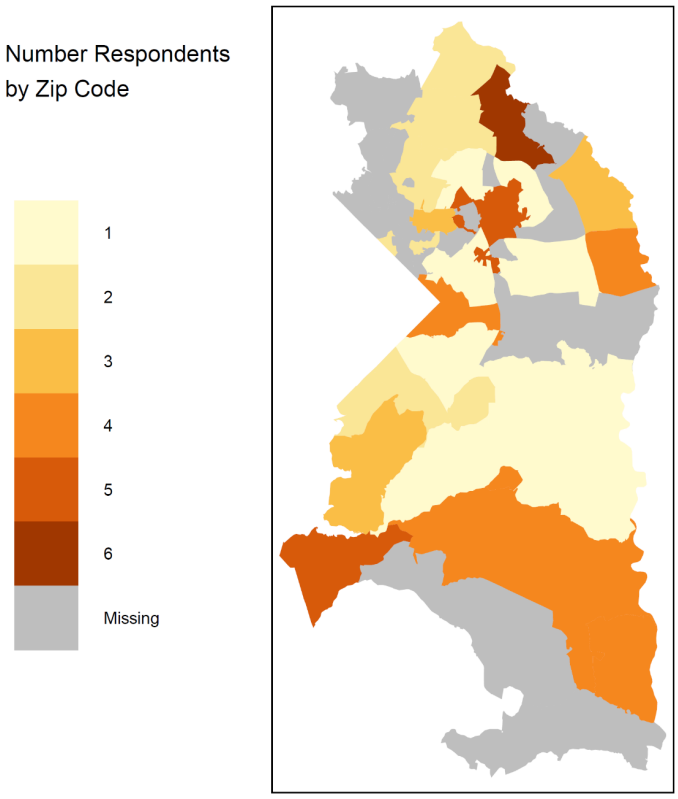
Of the respondents who do not share the same racial identity as their provider, 38.9% said this positively impacted their interactions, 38.9% said it had no impact on their interactions, and 22.2% said this negatively impacted their interactions with their provider. Of the respondents who did share the same racial identity as their provider, 52.2% said this positively impacted their interactions, 4.9% said it had no impact, and 43.9% said it negatively impacted their interactions with their provider. Of the four people who were unsure of their provider's race, half reported this positively impacted their interactions and the other half reported no impact. Mothers who shared the same race as their provider were most likely to indicate this similarity positively impacted their interactions. These mothers were also most likely to indicate their provider's racial identity negatively impacted their interactions. They were least likely to say their provider's race had no impact on their interactions. In contrast, respondents who did not share the same race as their provider were the least likely to report a positive impact on their interactions.

Disparities by Zip Code

In order to qualify for the study, the respondents had to reside in a valid Prince George's County zip code, as listed in Appendix A. The 2020 5-year American Community Survey data (U.S. Census Bureau, 2020) and the Prince George's County Maternal Infant and Health Report ("Maternal Infant and Health Report," 2019) were used to see if results on the state of maternal care for Black moms in the county aligned with existing data, as well as to identify areas in the county where maternal care may be below the standard.

Figure 5

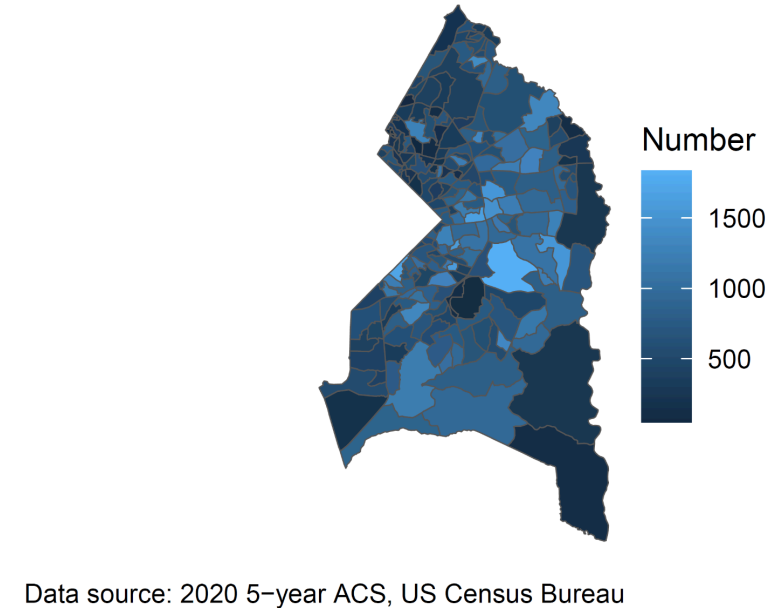
Number of Mother Respondents by Zip Code



In each zip code of Prince George's County, the number of responses from mothers ranged between zero to six. We aimed to get responses from any of the 41 zip codes in Prince George's county. We received respondents from 27 unique zip codes listed in Appendix A, and covered 65.6% of zip codes. The zip codes where most mothers responded were: 20708 (Laurel, MD) with 6 respondents, 20706 (Lanham, MD) and 20607 (Accokeek, MD) with 5 respondents each respectively. In general, survey respondents were from all over the county.

Figure 6

Number of Black Women Between 15-50 Years of Age Who Gave Birth in the Past Year



Note. Adapted from the U.S. Census Bureau (2020, 5-Year American Communities Survey).

We can compare this to 2020 U.S. Census data which has the number of Black women in Prince George's between the ages of 15-50 who gave birth in the last 12 months by census tract (U.S. Census Bureau, 2020). Census tract and zip code are not the same but the U.S. Census does not have data by zip code, furthermore our data only includes mothers between the ages of 18-34 and the data is from 2020 while our data collection primarily took place in 2024, so there is a difference in populations. In general, we have an overrepresentation of mothers in areas where there was a low number of births in 2020, the southern part of the county which saw low birth

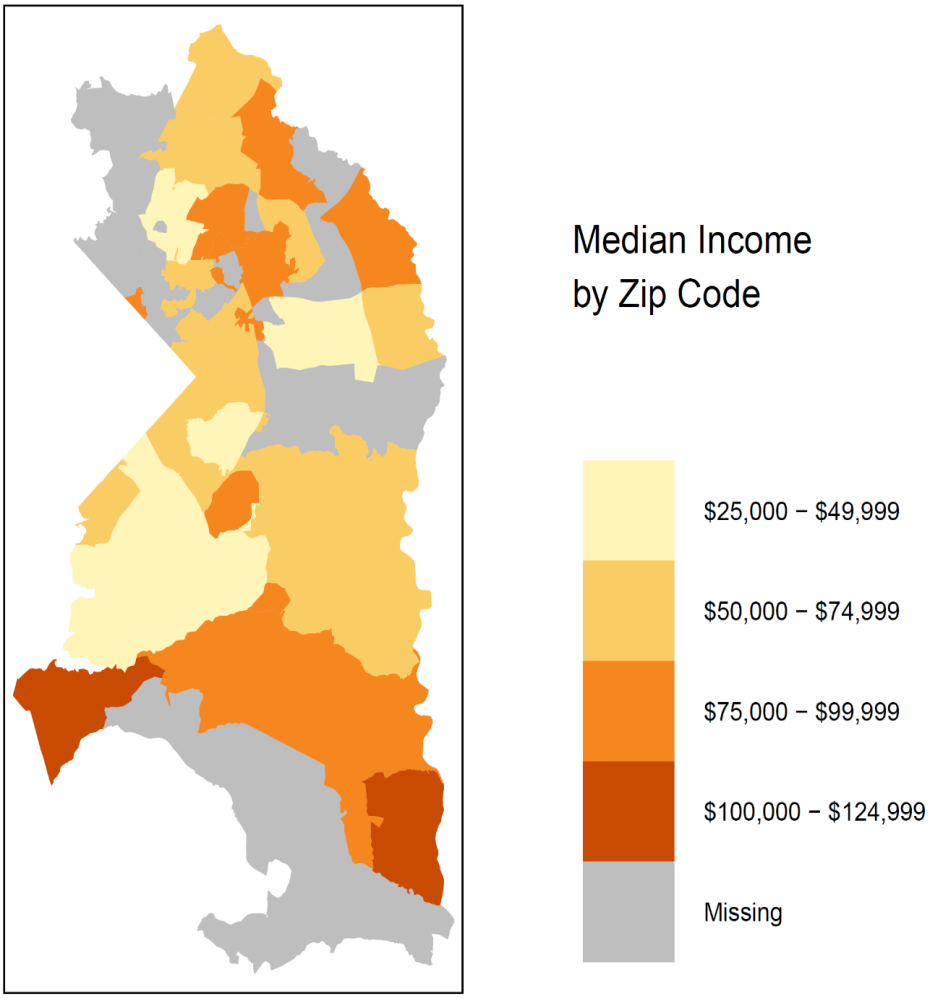
numbers in 2020 is where a lot of our respondents came from, the same is true for the northern part of the county. Meanwhile, the central part of the county had the highest number of births in the county in the 2020 Census data but is where minimal numbers of our respondents came from.

Income Disparities

Along with the number of births we measured income disparities across the county and within surveyed participants.

Figure 7

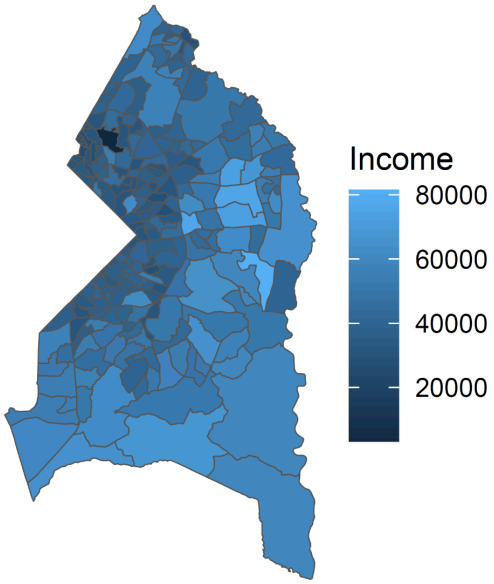
Median Mother Income by Zip Code



Note. To find the income of our respondents by zip code, we took the median income from each zip code. We measured income as an ordinal variable where respondents were allowed to select a bracket within which their income falls instead of as a numerical variable, to account for cases with an even number of respondents in a zip code, we found the lower median.

Figure 8

Median Mother Income by Zip Code



Data source: 2020 5−year ACS, US Census Bureau

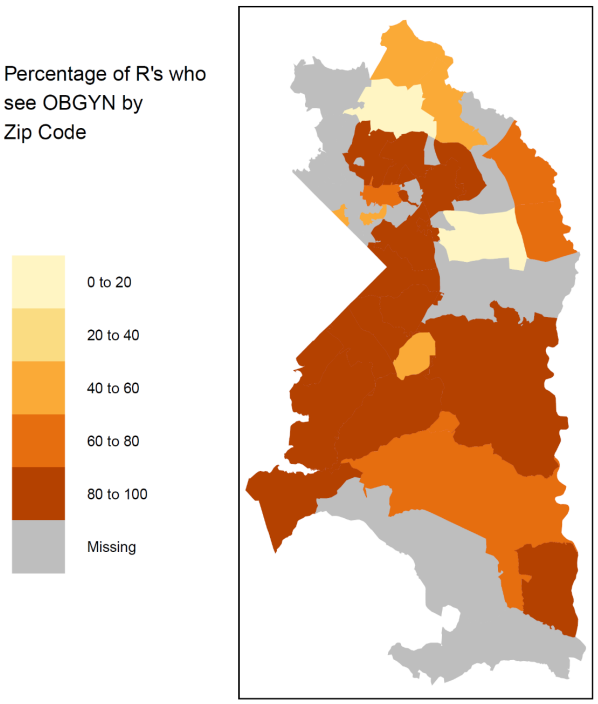
In general, survey respondents had a median income that aligned with the 2020 5-year American Community Survey median income by Census tract in Prince George's County (U.S. Census Bureau, 2020). The southern part of the county was the richest in both the Census data and our data. Additionally, parts of the county that border the District of Columbia were the poorest in both the Census data and our data (U.S. Census Bureau, 2020). The outer edge of the county, bordering other parts of Maryland, were in the middle of the income distribution, aligned with the Census data and our data (U.S. Census Bureau, 2020).

Relationship between Housing Location and Choice of Provider

We examined the relationship between the location of where respondents were located and whether that changed how many of them sought care from an OB/GYN. There are only two birthing hospitals in Prince George's County, one in Clinton, MD which is in the southern part of the county and one in Largo, MD which is in the central part of the county (*A Landmark Victory for Obstetric Healthcare Access in Prince George's County*, 2023).

Figure 9

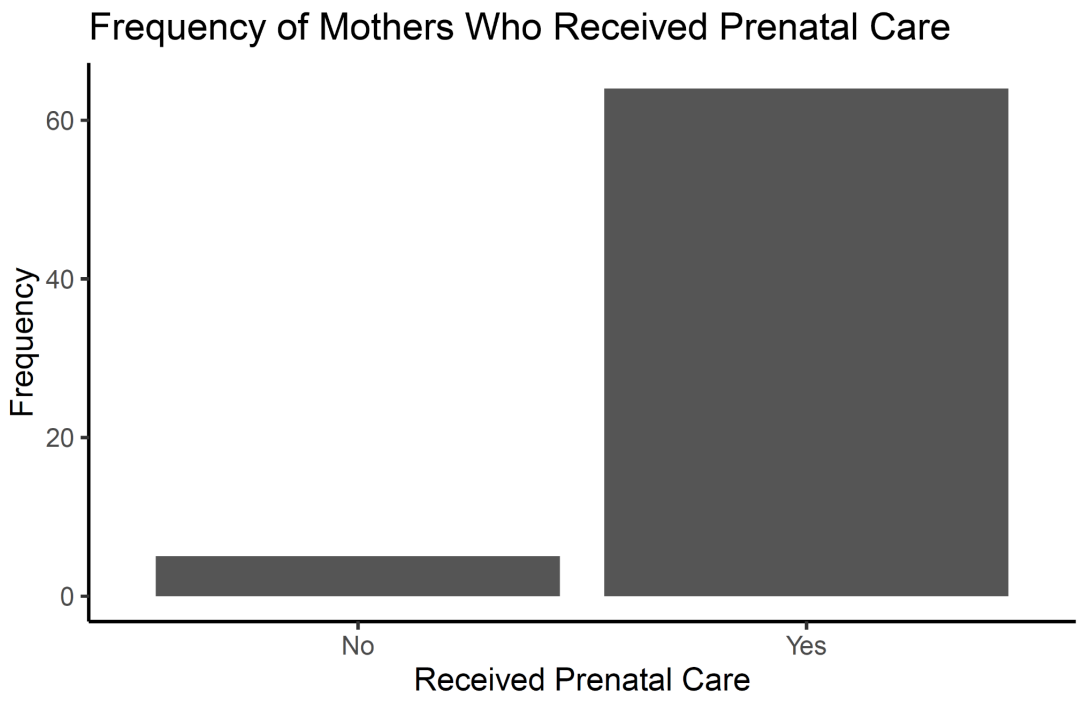
Percentage of Mothers Surveyed Who See an OB/GYN by Zip Code



For each zip code, we calculated the percentage of respondents in that zip code that saw an OB/GYN. Nearly every zip code had somewhere between 80-100% of respondents who saw an OB/GYN as their provider during their pregnancy. There were minimal zip codes with fewer respondents who did not see an OB/GYN, primarily concentrated in the northern part of the county, though they generally spread throughout the county. However, not seeing an OB/GYN during pregnancy does not necessarily mean the respondent did not receive any care– they might have received care from a doula, midwife, physician's assistant/associate, or another healthcare professional.

Figure 10

Distribution of Mothers Surveyed Who Received Prenatal Care

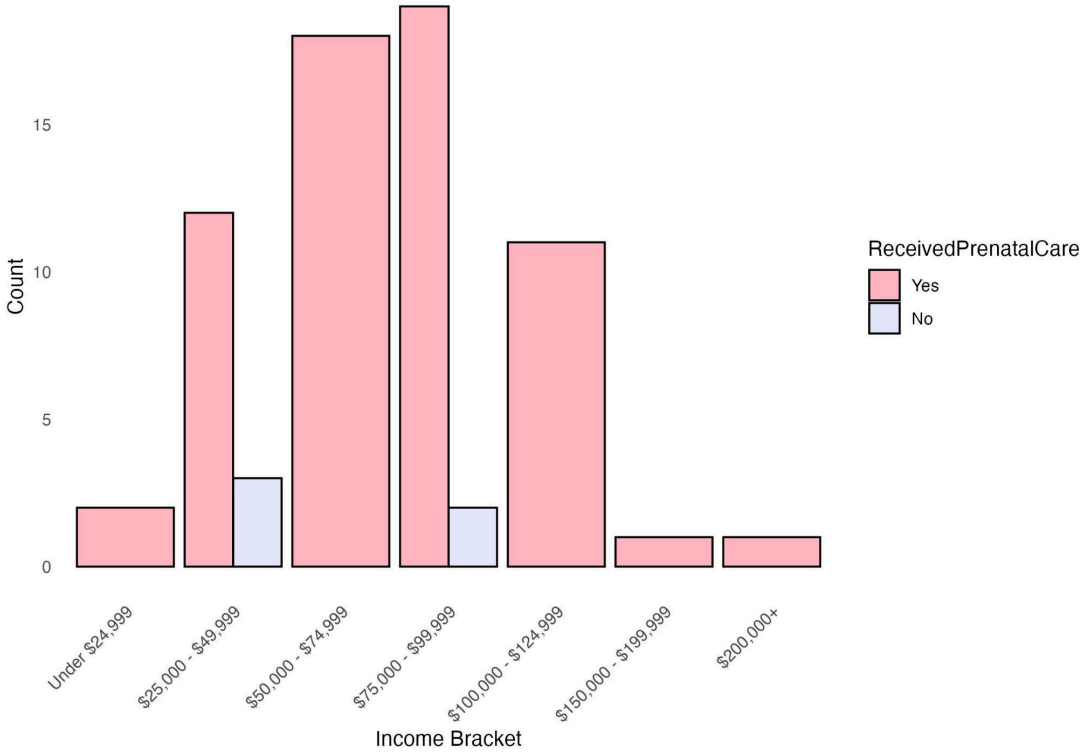


Note. Mothers were asked the following survey question: "Have you received prenatal care services for your current or most recent pregnancy (e.g., doctors' visits to check on the baby or you)?"

The vast majority of mothers sought prenatal care during their pregnancy. Only five respondents did not receive prenatal care during pregnancy while 64 did receive prenatal care during their pregnancy. All respondents who did not receive prenatal care were in their first pregnancy.

Figure 11

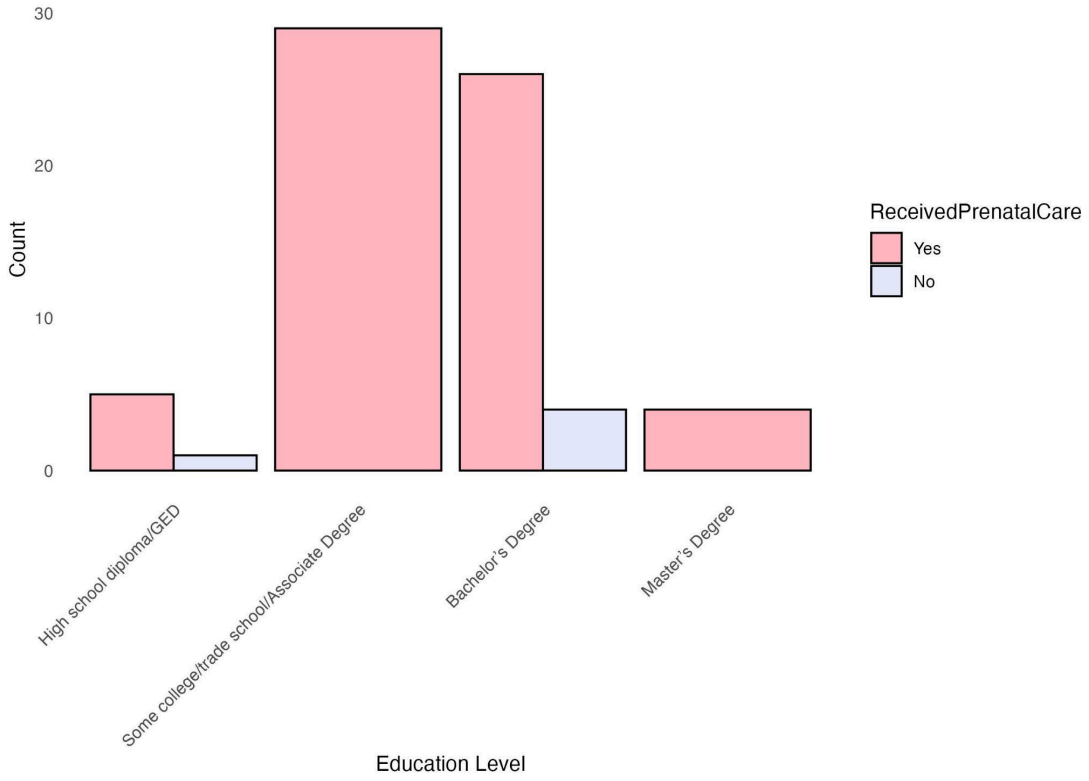
Distribution of Mothers Surveyed Who Received Prenatal Care by Income



To assess income related barriers impacting mothers who did not receive prenatal care, we sorted the responses indicating if mothers received prenatal care by income. We found that out of the five respondents who did not receive prenatal care, three respondents had an income between $25,000 and $49,000 and two respondents had an income between $75,000 and $99,000. In contrast, all 13 respondents with an income over $100,000 indicated that they received prenatal care. Similarly, the two respondents with an income under $24,999 also received prenatal care. This may indicate an economic barrier to receiving prenatal care.

Figure 12

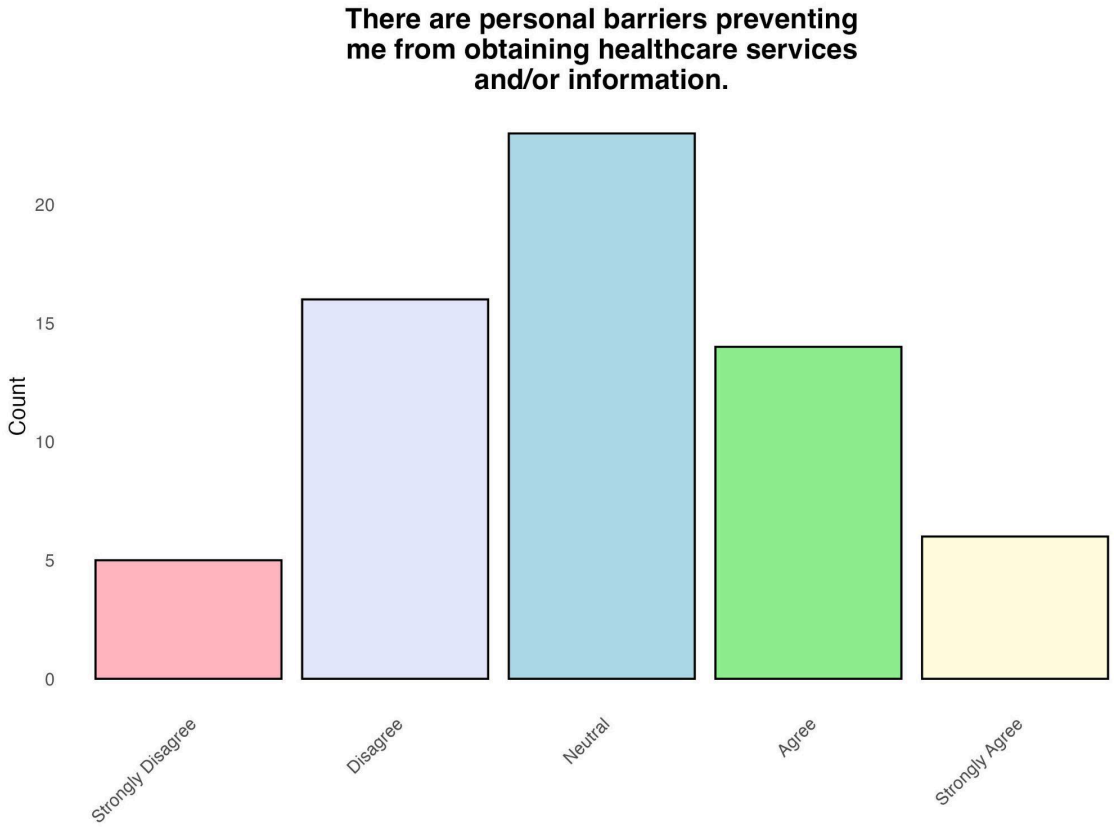
Distribution of Mothers Surveyed Who Received Prenatal Care by Education



We then evaluated the barriers impacting mothers who did not receive prenatal care by education level. Out of the five respondents who did not receive prenatal care, four respondents had a Bachelor's degree and one respondent had a high school diploma or GED. All four respondents with a Master's degree and all 29 respondents with some college, trade school, or Associate's degree reported receiving prenatal care. Interestingly, the majority of respondents who did not receive prenatal care were those who earned a Bachelor's degree.

Figure 13

Extent to Which Mothers Agree/Disagree with having Personal Barriers Preventing them from Obtaining Healthcare Services/Information



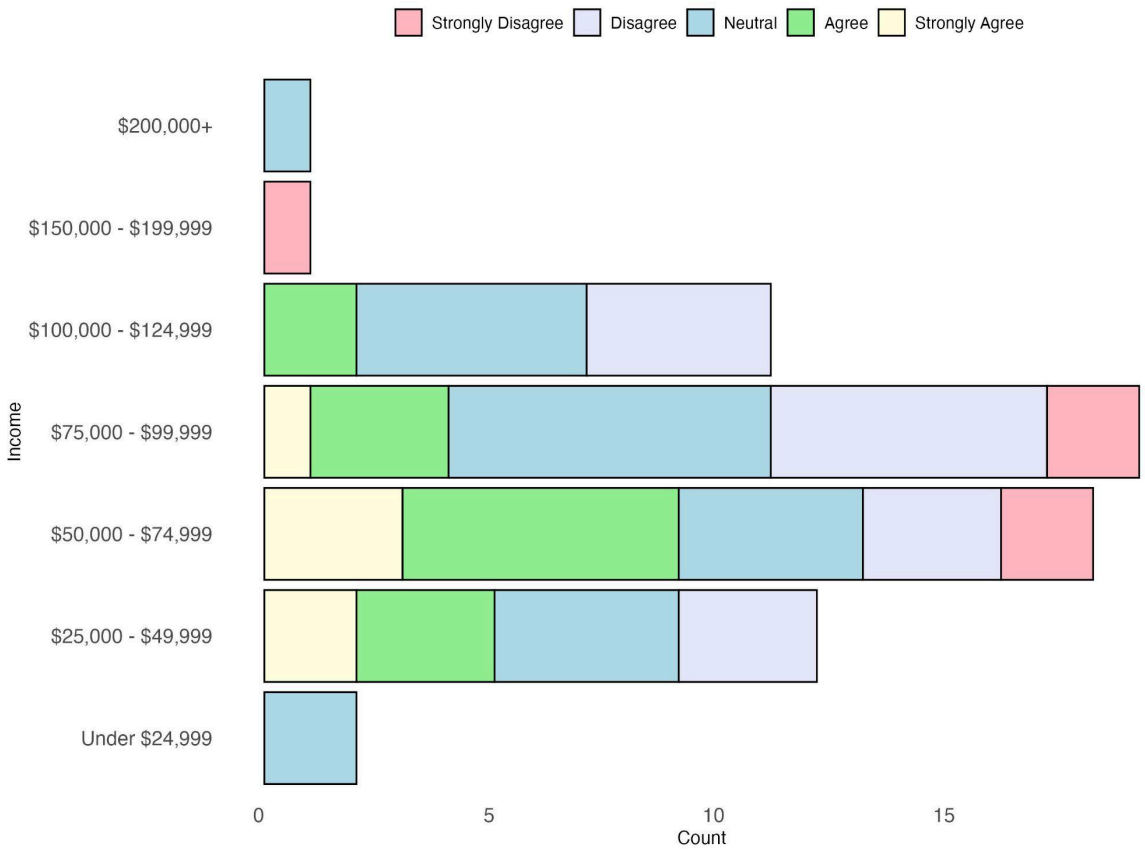
Note. Mothers were asked to express the extent to which they agree/disagree with the following statement: "There are personal barriers preventing me from obtaining healthcare services and/or information."

We then analyzed barriers preventing mothers from obtaining healthcare services. We acquired data for respondents with a high school diploma or GED, some college or trade school or Associate degree, Bachelor's degree, and Master's degree.

We had no respondents with education lower than a high school diploma or GED and higher than a Master's degree. A total of 64 respondents answered the question, and five non-responses. 23 respondents (35.9%) were neutral, showing that most respondents did not strongly feel impacted by barriers to accessing care. Additionally, 14 respondents agreed and six respondents strongly agreed that there were barriers preventing them from obtaining healthcare services, reflecting 31.3% of the total responses. In contrast, 16 respondents disagreed and five respondents strongly disagreed, indicating 32.8% of respondents not experiencing barriers that prevent them from obtaining healthcare services. This reflects a diverse distribution of responses, with respondents being evenly divided among those who experienced barriers to obtaining care, those who did not, and those who felt indifferent about the presence of barriers.

Figure 14

Extent to Which Mothers Agree/Disagree with having Personal Barriers Preventing them from Obtaining Healthcare Services/Information by Income



To further our analysis, we sorted responses by income levels to examine potential barriers preventing mothers from obtaining healthcare services. Out of the two respondents earning under $24,999, both respondents indicated feeling neutral to facing barriers to healthcare services. Among the 12 respondents earning between $25,000 to $49,999 who answered this question, three disagreed, four were neutral,

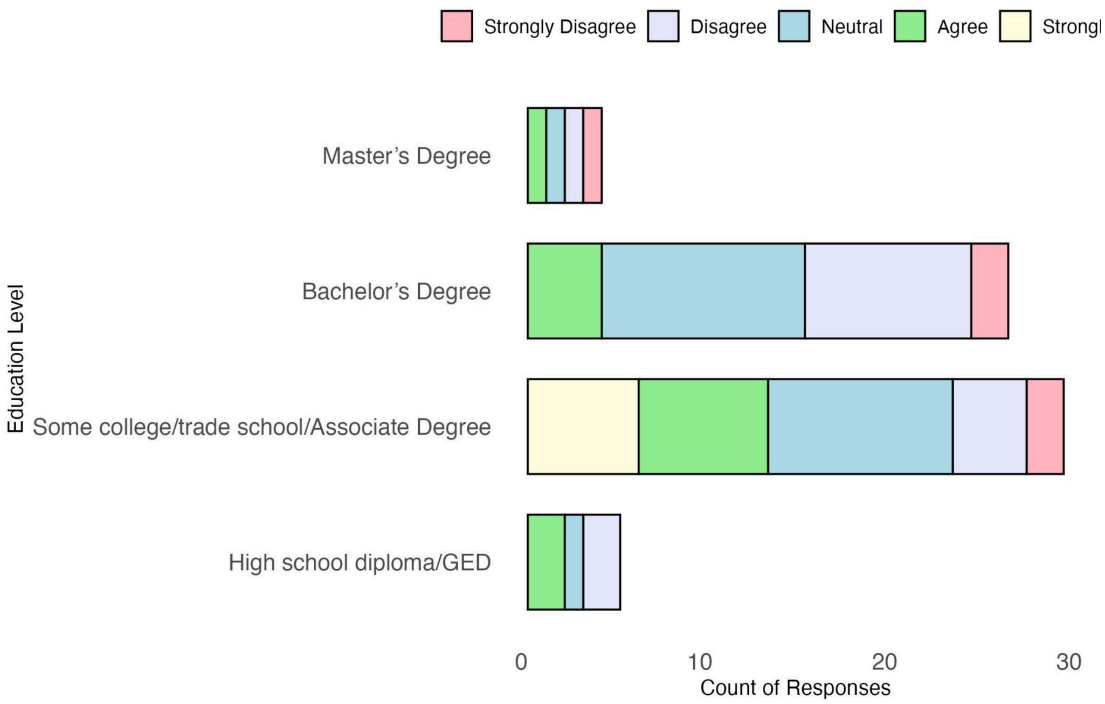
three agreed, and two strongly agreed. Out of the 18 respondents earning between $50,000 to $74,999, two strongly disagreed, three disagreed, four were neutral, six agreed, and two strongly agreed. Among the 17 respondents earning between $75,000 to $99,999 that replied to this question, two strongly disagreed, six disagreed, seven were neutral, three agreed, and one strongly agreed. Out of the 11 respondents earning between $100,000 to $124,999, four disagreed, five were neutral, and two agreed. The one respondent earning between $150,000 to $199,999 strongly disagreed and the one respondent earning $200,000+ was neutral.

This analysis shows variability in perceptions of barriers preventing respondents from obtaining healthcare services. We can see that respondents falling into the middle income brackets, specifically respondents in the $25,000 to $49,999 bracket and $50,000 to $74,999 bracket, reflected the highest levels of agreeing to barriers preventing them from obtaining health care services. When looking at the respondents earning between $25,000 to $49,999, 41.7% of respondents agreed or strongly agreed to facing barriers while only 25% of respondents disagreed or strongly disagreed to facing barriers. Similarly, in the $50,000 to $74,999 bracket, 44.4% respondents agreed or strongly agreed to facing barriers while only 27.8% of respondents disagreed or strongly disagreed to facing barriers. In contrast, only 23.5% of respondents in the $75,000 to $99,999 bracket and 18.1% of the $100,000 to $124,999 bracket agreed or strongly agreed to facing barriers. Additionally, no one earning under $24,999, between $150,000 to $199,999, and $200,000+ agreed or strongly agreed to facing barriers. Ultimately, the barrier appears to lie within the middle income range–specifically the $25,000 to $49,999 and $50,000 to $74,999

brackets– as these groups show the highest levels of agreement regarding personal barriers that prevent their access to healthcare services and/or information.

Figure 15

Extent to Which Mothers Agree/Disagree with having Personal Barriers Preventing them from Obtaining Healthcare Services/Information by Education



We then sorted responses by education level to similarly examine barriers preventing mothers from obtaining healthcare services, as done prior. Again, we acquired data for respondents with a high school diploma or GED, some college or trade school or Associate degree, Bachelor's degree, and Master's degree. We had no respondents with education lower than a high school diploma or GED and higher than

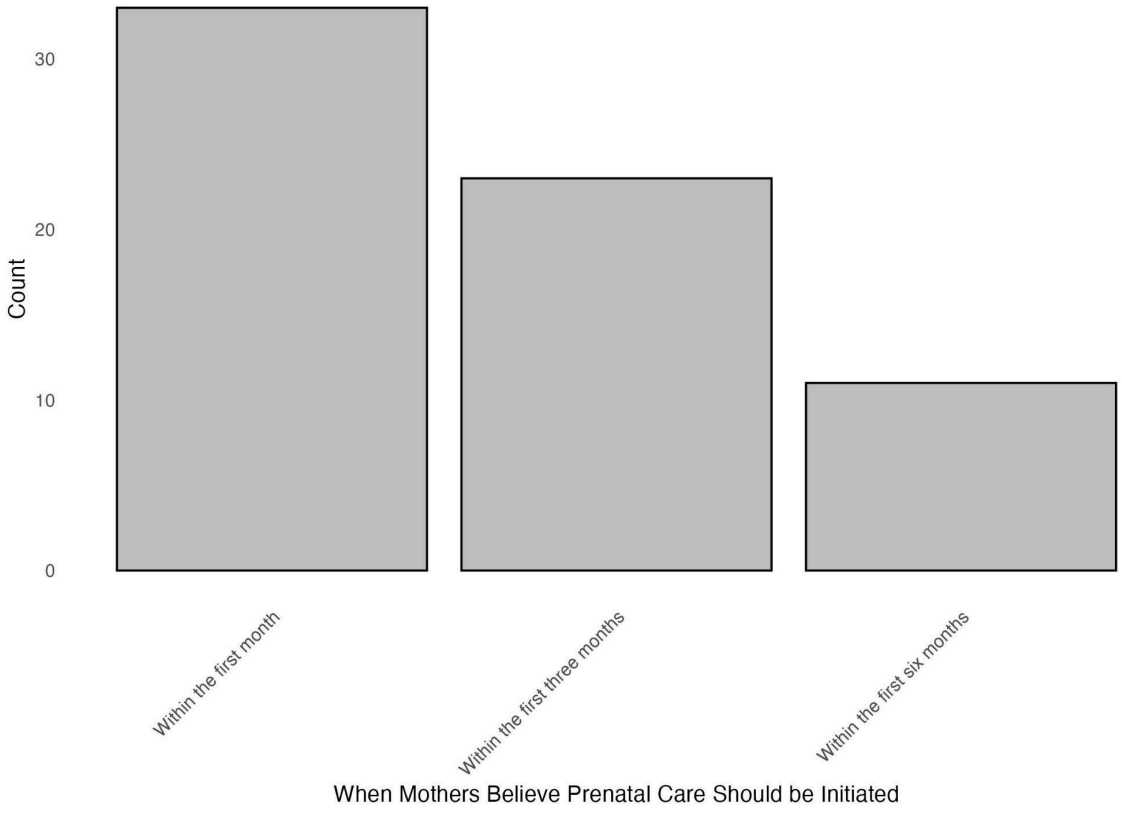
a Master's degree. Out of the five respondents with a high school diploma or GED who answered this question, two disagreed, one was neutral, and two agreed to experiencing barriers to access healthcare services. Among the 29 respondents with some college or trade school or Associate degree, two strongly disagreed, four disagreed, 10 were neutral, seven agreed, six strongly agreed. Out of the 26 respondents with a Bachelor's degree that answered this question, two strongly disagreed, nine disagreed, 11 were neutral, and four agreed. Among the four respondents with a Master's degree one strongly disagreed, one disagreed, one was neutral, and one agreed.

These results show slight variability amongst all education levels. There is an evident concentration of agreement to facing barriers for respondents with lower levels of education. We can very clearly see this in respondents with some college or trade school or Associate degree where 44.8% of respondents agreed or strongly agreed to experiencing barriers while only 20.6% of respondents disagreed or strongly disagreed to facing barriers. Interestingly, respondents with a high school diploma or GED the distribution was even, where 40% of respondents agreed or strongly agreed to experiencing barriers and 40% of respondents disagreed or strongly disagreed to facing barriers. For those who earned a Bachelor's degree only 15.4% of respondents agreed or strongly agreed to experiencing barriers while a larger 42.3% disagreed or strongly disagreed. For those who pursued more education to earn a Master's degree only 25% agreed or strongly agreed to experiencing barriers while a larger 50% disagreed or strongly disagreed. Ultimately this analysis shows that barriers to obtaining healthcare services are most prevalent within respondents

with lower education–specifically the high school diploma or GED and some college or trade school or Associate degree education levels. These groups reported the highest levels of agreement when experiencing personal barriers that prevent them from accessing healthcare services and/or information.

Figure 16

Mothers' Beliefs of when Prenatal Care Should be Initiated after Pregnancy

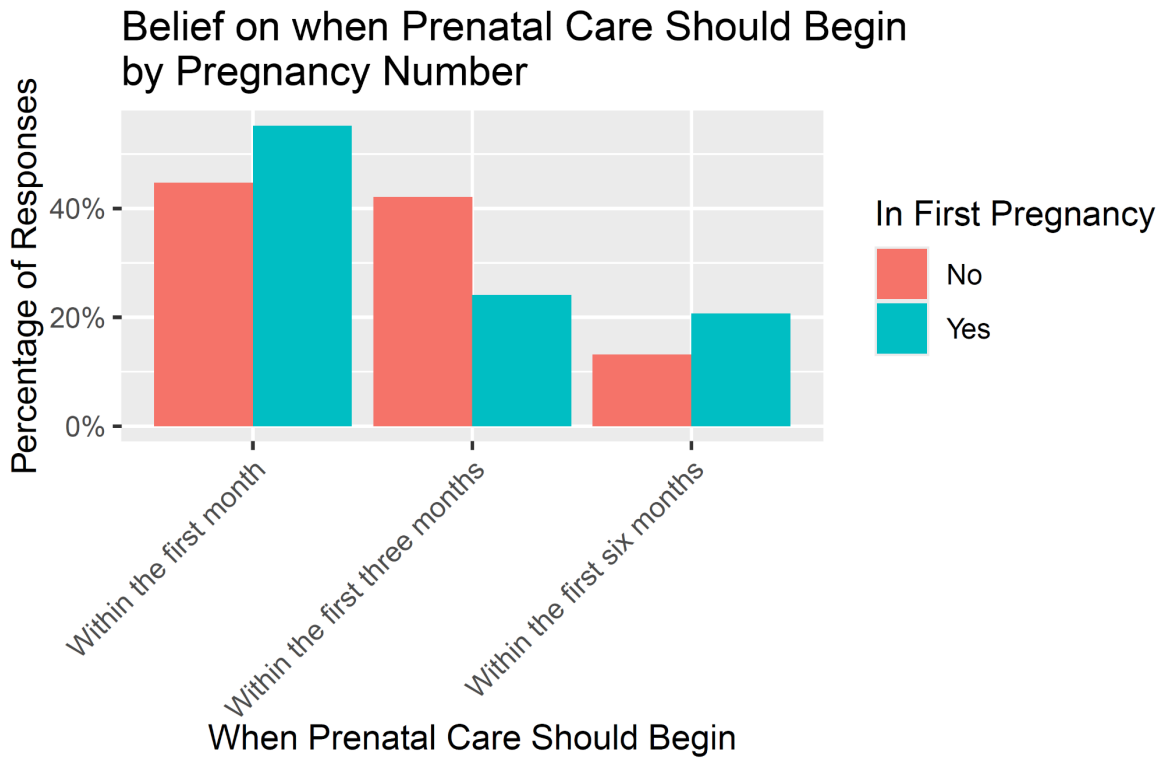


Note. Mothers were asked the following question: "When do you believe someone should schedule their first prenatal visit after learning about their pregnancy?" Options mothers could select from included: "I don't believe visiting a medical provider during pregnancy is helpful", "Within the first month," "Within the first three months," "Within the first six months.", "Only during delivery", and "Not Sure".

Next, we looked into mother's beliefs initiating prenatal care. The overwhelming majority who received prenatal care during their pregnancy is also reflected in the respondents' answer to the question on when they believe prenatal care should begin. 67 respondents answered this question, so there were two nonresponses. Not a single respondent selected that prenatal care should begin during delivery nor that visiting a medical provider during pregnancy is not helpful. This means even respondents who did not receive prenatal care during their pregnancy do think it is helpful and important to receive prenatal care. 47.8% of respondents believe that prenatal care should be initiated within the first month of pregnancy, while 23.3% of respondents believe prenatal care should be initiated within the first trimester, and 15.9% of respondents think it should be initiated within the first six months of pregnancy. Generally, the respondents of our survey are inclined to seek prenatal care fairly early on in pregnancy.

Figure 17

Mothers' Beliefs of when Prenatal Care Should be Initiated after Learning of Pregnancy Aggregated by First Pregnancy or Not

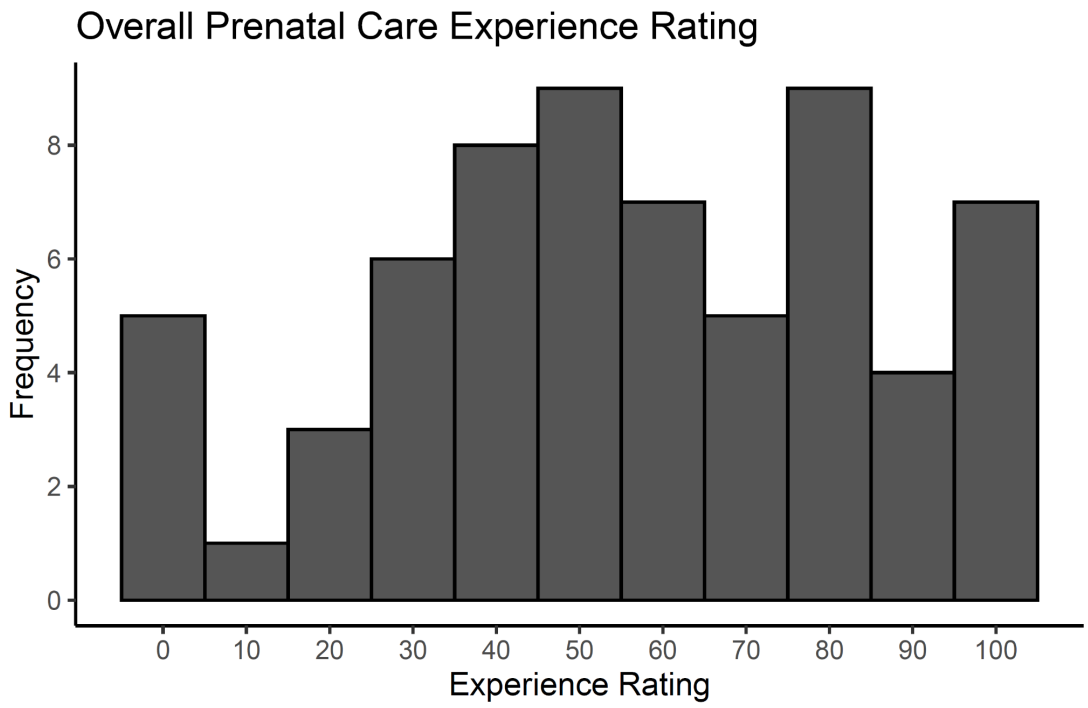


We looked to see a difference in the beliefs of when prenatal care should be initiated between respondents in their first pregnancy compared to respondents in subsequent pregnancies. There were two nonresponses to the question about when prenatal care should be initiated and both respondents were in their first pregnancy. In general, mothers in their first pregnancy and subsequent pregnancies believe that prenatal care should be initiated within the first month of pregnancy. 51.6% of respondents in their first pregnancy and 44.7% of respondents in subsequent pregnancies believe that prenatal care

should be initiated in the first month of pregnancy. Respondents in their first pregnancy differed from respondents in subsequent pregnancies on whether prenatal care should be initiated within three months or six months. 42.6% of mothers in subsequent pregnancies believe prenatal care should be initiated within the first three months compared to 22.6% of mothers in their first pregnancy. Mothers in their first pregnancy are more likely to believe that prenatal care should be initiated within the first six months than mothers in subsequent pregnancies. 19.4% of mothers in their first pregnancy believe prenatal care should be initiated within the first six months compared to 13.2% of mothers in subsequent pregnancies. However, all respondents who believe prenatal care should be initiated within six months are in the minority and respondents who believe that prenatal care should be initiated within the first month are in the majority.

Figure 18

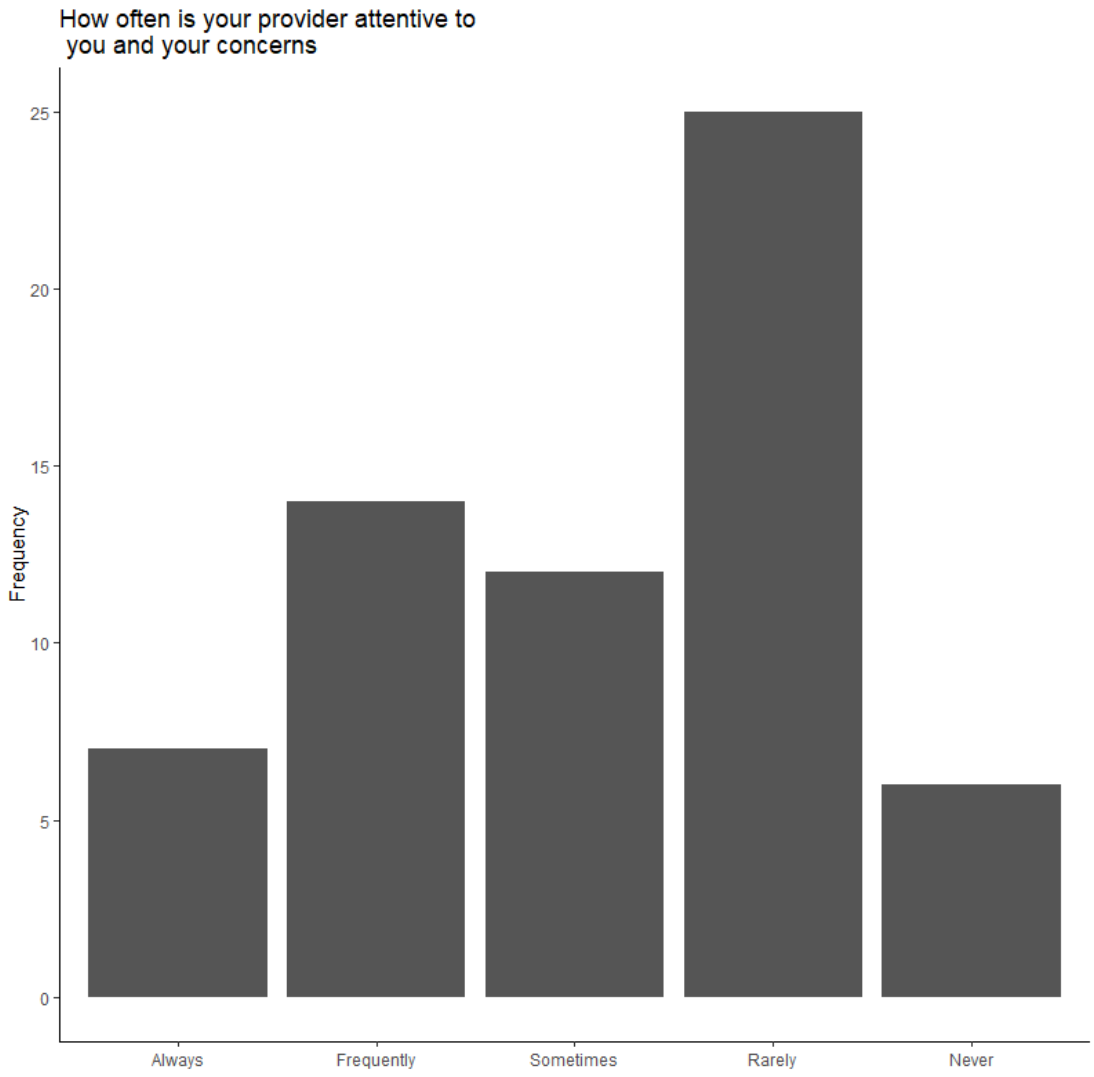
Mothers' Overall Prenatal Care Experience Rating



In order to explore our respondent's prenatal care experiences further, we asked them to rate their overall prenatal care experience on a scale of 0-100 with zero being considered unsatisfactory and 100 being considered outstanding. There were five nonresponses to this question. The rating that received the most responses was 100, with seven respondents saying their prenatal care was outstanding and rating their experience as 100. However, the median and mean rating were 55.5 and 56.6 respectively. In general, the respondents had a normal distribution of prenatal care experience rating with a mean and median around 50, but there is a skew towards a higher rating. The standard deviation of the ratings was 28.1.

Figure 19

Frequency of Provider Attention to Mothers and Their Concerns

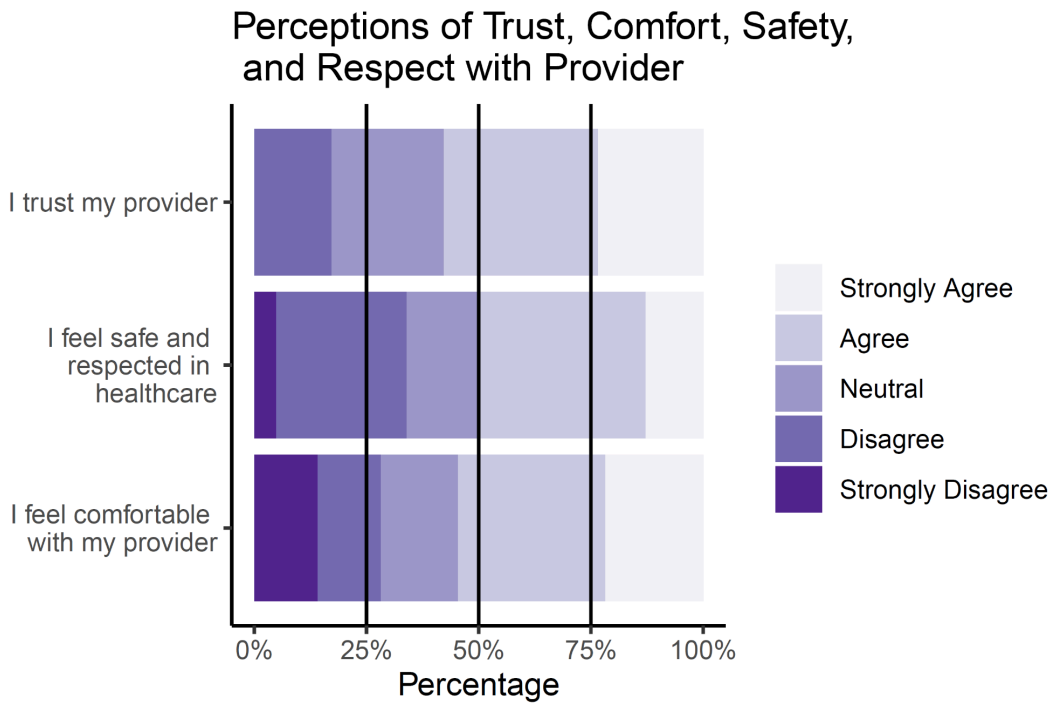


We asked the respondents a series of questions about their prenatal care experiences and relationship with their provider to gain a better understanding of patient-provider interactions. Responses were measured on a five-point likert scale. We asked respondents how often they felt their provider was attentive to them and their concerns, 36.2% of respondents said rarely which

was the majority answer. However, the next response that was answered most frequently with 20.3% of respondents was frequently, followed by 17.4% of respondents who said sometimes. In general, respondents tended to avoid extreme answers like always or never which combined together only saw about 19% of respondents.

Figure 20

Mother Perceptions of Trust, Comfort, Safety, and Respect with Provider



Participants were then asked a series of questions about their feelings on their maternal care provider and respondents were then asked to answer on a five-point likert scale. Participants were first asked their agreement to the statement "I trust my maternal care provider(s)". Over 50% of respondents

either agreed or strongly agreed with this statement and less than 25% disagreed with the statement, furthermore this is the only question where none of the respondents strongly disagreed with the statement. A shift in responses takes place when the statement is changed to “I feel safe and respected in the healthcare setting”. There are three respondents who strongly disagree with the statement and people who disagree or strongly disagree make up about 30% of the respondents, and respondents who agree or strongly agree makeup about 45% of responses. Only 11.6% of respondents strongly agree that they feel safe and respected in healthcare. Less than half of respondents feel safe and respected in the healthcare setting. The last statement participants were asked was “I feel comfortable interacting with my maternal care provider(s)”. 50.7% of respondents strongly agree or agree with the statement about feeling comfortable interacting with their maternal care provider and little over 25% disagreed or strongly disagreed with the statement. In general, respondents reported feeling generally positive about their provider specifically but less so about healthcare as a whole.

Table 3

Mothers' Most Trusted Sources for Health Information

Most Trusted Sources for Health Information for Mothers (N= 69)			
Variable	**Characteristics**	**Frequency (n)**	**Percentage**
Trusted Source	Family Member	49	13.1%
	Obstetrician/Gynecologist (OB/GYN)	45	12.0%
	Primary Care Provider	36	9.6%
	Religious Leader	23	6.1%
	Friend	21	5.6%
	Physician Associate	20	5.3%
	Registered Nurse	20	5.3%
	Hospital Website	20	5.3%
	Certified Professional Midwife	20	5.3%
	Doula	20	5.3%
	Clinic Website	20	5.3%
	WebMD	17	4.5%
	MayoClinic	17	4.5%
	Local Health Department	17	4.5%
	Centers for Disease Control and Prevention (CDC)	17	4.5%
	Other Physician	12	3.2%
	Research Journal	1	0.3%

Note. Mothers were asked the following survey question: "When you have health-related questions, who do you feel comfortable getting the answer from? Select all that apply."

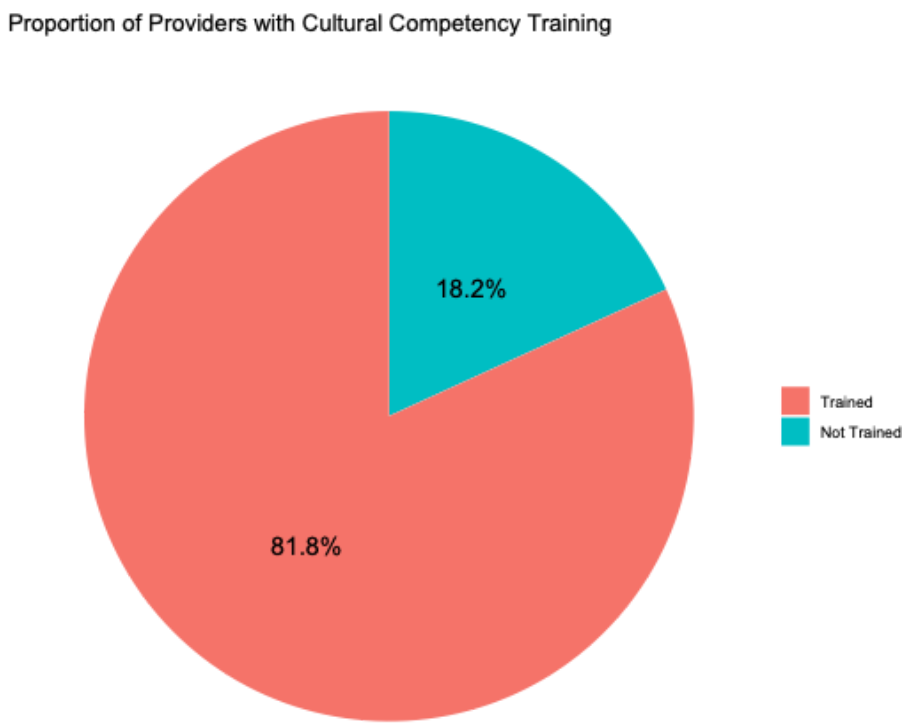
The majority of respondents selected a family member as their trusted source for health information followed by OB/GYN and primary care provider. Many respondents cited religious leaders, physician's associates, nurses, MayoClinic, WebMD, hospital websites, and the CDC's website. One mother wrote in "Research Journal."

Descriptive Statistics for Providers

Cultural Competency Training

Figure 21

Proportion of Providers with Cultural Competency Training



Of the providers surveyed, the majority completed cultural competency training: 81 providers or 81.8% completed this training, while 18 providers or 18.2% of the sample had not. Eight providers did not respond to this survey question.

Of the providers who completed cultural competency training,

OB/GYNs were most likely to have this training, followed by providers in the other category who were mostly medical students (11 respondents), two doulas, a registered nurse, a perinatal mental health clinician, and a certified professional midwife. Doulas and certified nurse midwives were least likely to have completed a cultural competency training, though the majority of these providers did complete this training.

Figure 22

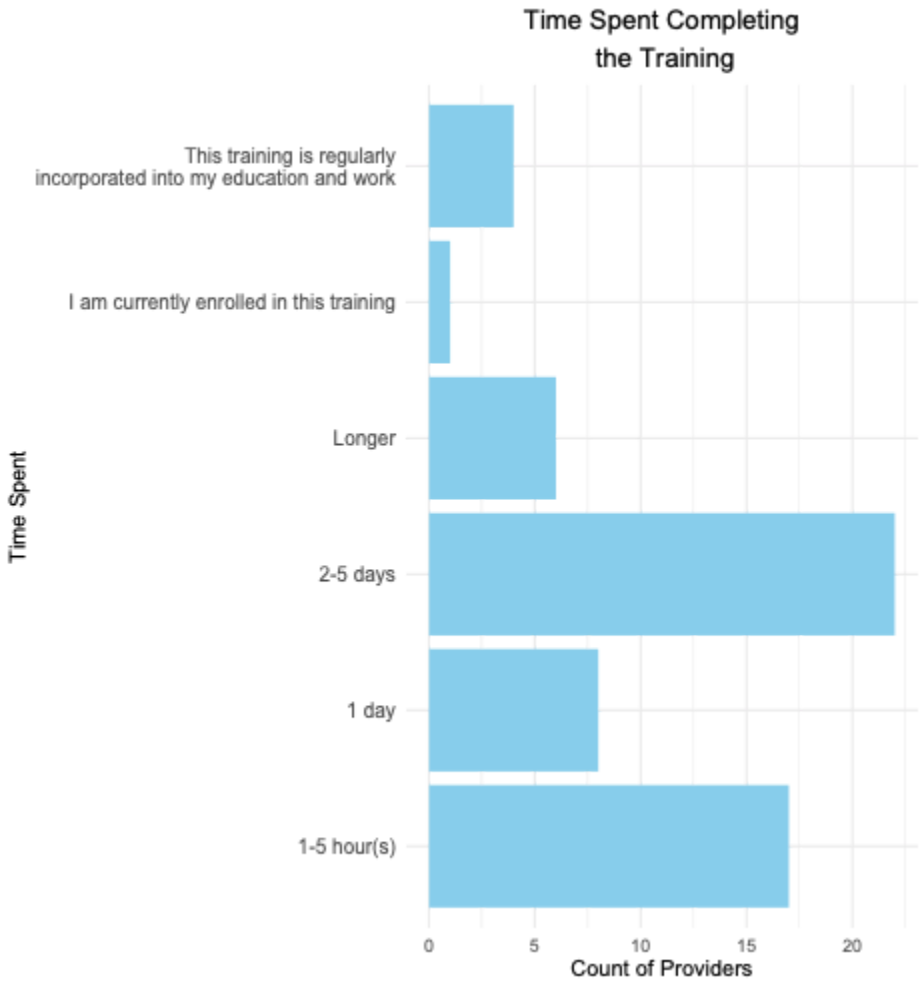
Providers with Cultural Competency Training By Provider Type

The majority of cultural competency trainings were short in length: 22

providers reported a two to five day training, 17 reported a one to five hour training, and eight reported a one day training. No provider reported their training was in the format of a semester-long course. The “Longer” answer option refers to a training longer than a semester-long course and six providers selected this. Four providers reported cultural competency is regularly incorporated into their education and work. One provider reported being currently enrolled in this training. 49 providers did not respond to this survey question.

Figure 23

Time Providers Recorded Spending to Complete Cultural Competency Training

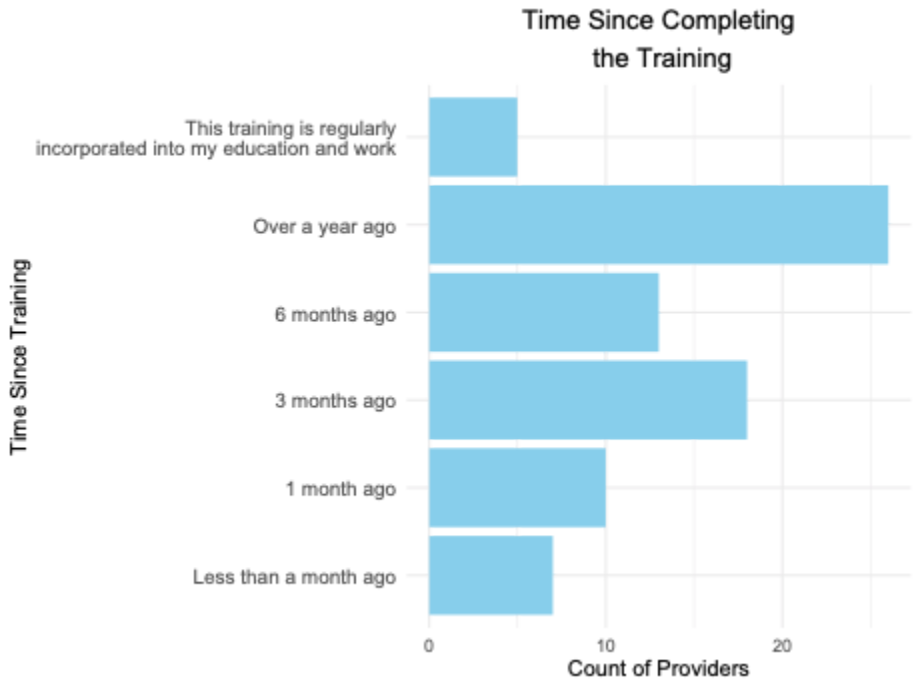


Only one provider was currently enrolled in a cultural competency training at the time of the survey, but did not respond to this survey question asking how much time it had been since completing the training. Overall, most providers reported their cultural competency training took place over a year ago (26 respondents). 18 providers reported their training was three months ago, 13 reported it being six months ago, 10 reported it being a month ago, and

seven reported it being less than a month ago. Five providers reported that cultural competency training is regularly incorporated into their education and work.

Figure 24

Provider Recorded Amount of Time Passed Since Completing Cultural Competency Training

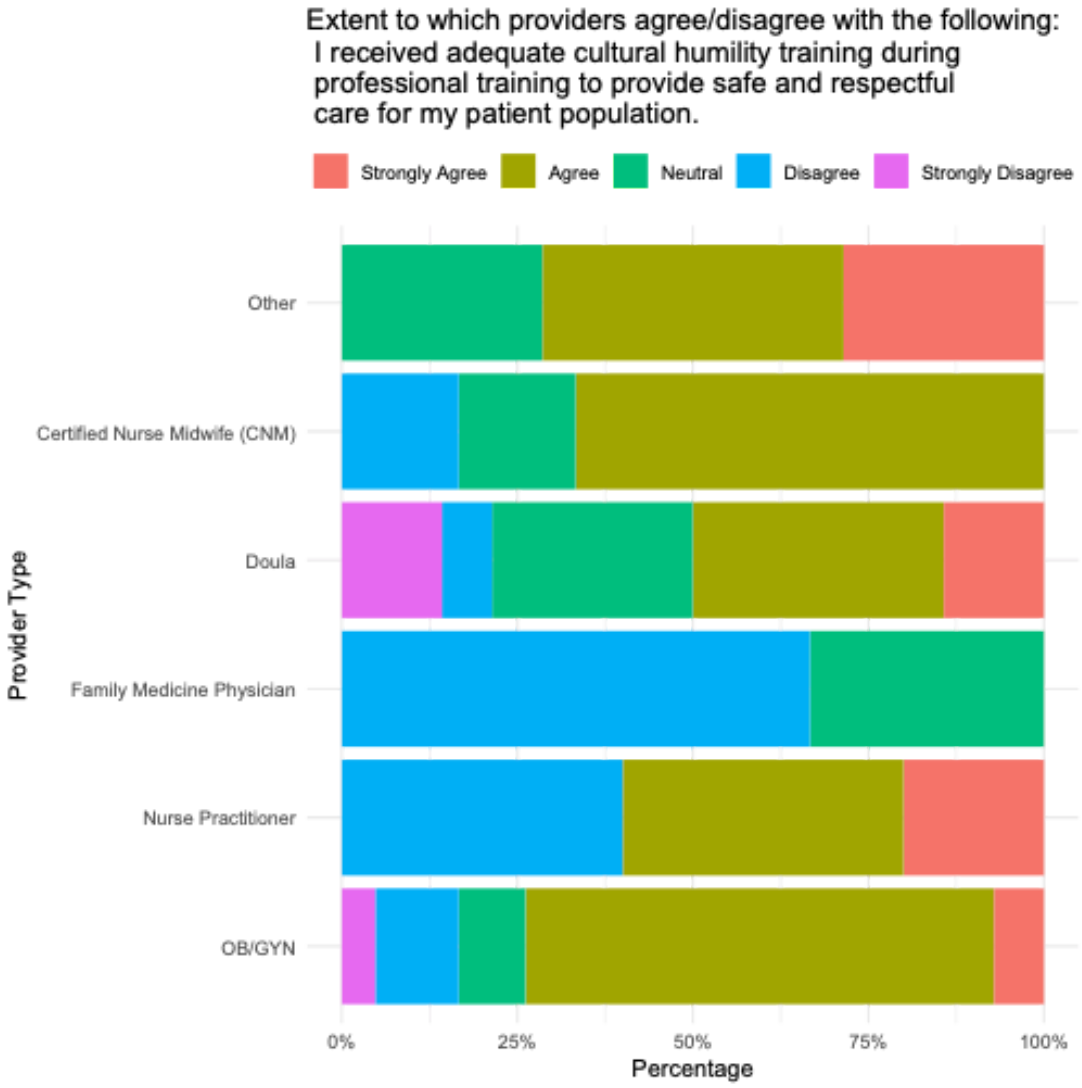


Providers who reported taking part in cultural competency training were asked the extent to which they agree or disagree with the following statement: "I received adequate cultural humility training during professional training to provide safe and respectful care for my patient population." Overall, the majority of providers agreed that their cultural humility training was adequate (42 respondents). Eight providers strongly agreed that their cultural

humility training was adequate, 12 providers were neutral, 11 disagreed, and four strongly disagreed. Of the provider groups, OB/GYNs were most confident in the adequacy of the cultural humility training, with the largest percentage of these providers reporting “Agree” or “Strongly Agree” to this statement. Providers part of the “Other” provider group were second most likely to report “Agree” or “Strongly Agree” to this statement. Certified nurse midwives were the third most likely to report “Agree to this statement.” Of the four providers who strongly disagreed with the statement that their cultural humility training was adequate, one was an OB/GYN and three were doulas. 30 providers did not respond to this survey question.

Figure 25

Extent to Which Providers Believed They Received Adequate Cultural Competency Training



Note. Providers answered one of the legend options for the following statement: "I received adequate cultural humility training during professional training to provide safe and respectful care for my patient population."

In the survey, providers were additionally asked to indicate whether the statements listed in the figure below were “True” or “False.” The correct answer to each of these statements is false. With the inclusion of these knowledge questions, we aimed to identify provider implicit and/or explicit bias. Across the three statements, the number of providers who selected “True” remains fairly stable, which raises concerns. 30 providers answered “True” for the following statement: “Black people’s blood coagulates more quickly than white people’s.” 38 providers answered “True” for the following statement: “Black people’s nerve endings are less sensitive than white people’s.” 36 providers answered “True” for the following statement: “Black people age more slowly than white people.” Eight providers did not respond to all three statements in the survey.

Figure 26

Providers' Identification of the Following Statements as True/False

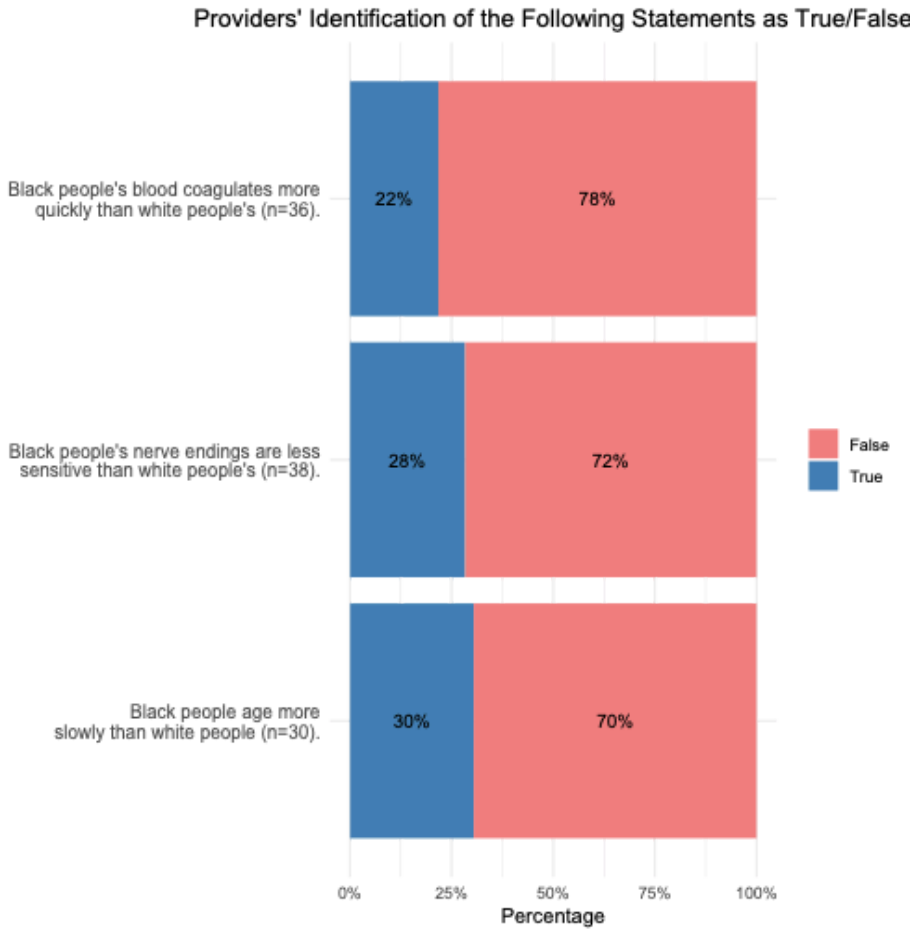


Table 4 provides a summary of responses to the statements by provider type. Bias 1 on the table refers to the following statement: "Black people age more slowly than white people." Bias 2 on the table refers to the following statement: "Black people's nerve endings are less sensitive than white people's." Bias 3 on the table refers to the following statement: "Black people's blood coagulates more quickly than white people's." The table also tests for reliability and validity using factor loadings and Cronbach's Alpha.

Cronbach's Alpha (0.52) for these three questions indicates poor reliability, meaning that these survey questions do not measure bias consistently as intended. Additionally, the statement for Bias 1 has a low factor loading (0.27), meaning that the bias statement is weakly associated with the overall bias factor. However, the statements for Bias 2 and Bias 3 have higher factor loadings, indicating a strong association between the bias statement and the bias factor overall. For Bias 1, the highest proportion of providers respective to their provider group answering "True" were family medicine physicians (75%), followed by nurse practitioners (63%), and doulas (61%). For Bias 2, the highest proportion of providers respective to their provider group who answered "True" were CMN (90%) and family medicine physician (75%). For Bias 3, overall, providers answered "True" at lower rates. Doulas had the highest proportion of providers respective to their provider group answer "True" (39%), followed by OB/GYNs (36%). Overall, certified nurse midwives answered each statement incorrectly 56.7% of the time, doulas answered each statement incorrectly 48% of the time, family medicine physicians answered each statement incorrectly 58.3% of the time, nurse practitioners answered each statement incorrectly 42% of the time, OB-GYNs answered each statement incorrectly 28.7% of the time, and other answered each statement incorrectly 4.6% of the time.

Table 4

Statements Testing Provider Bias by Profession

	Provider Responses by Profession						
Bias Statement	Certified Nurse Midwife (CNM) N = 10[1]	Doula N = 19[1]	Doula,Other (Please specify) N = 2[1]	Family Medicine Physician N = 4[1]	Nurse Practitioner N = 8[1]	Obstetrician/Gynecologist (OB/GYN) N = 50[1]	Other (Please specify) N = 14[1]
Bias1							
False	5 (50%)	7 (39%)	2 (100%)	1 (25%)	3 (38%)	39 (78%)	6 (86%)
True	5 (50%)	11 (61%)	0 (0%)	3 (75%)	5 (63%)	11 (22%)	1 (14%)
Bias2							
False	1 (10%)	10 (56%)	2 (100%)	1 (25%)	4 (50%)	36 (72%)	7 (100%)
True	9 (90%)	8 (44%)	0 (0%)	3 (75%)	4 (50%)	14 (28%)	0 (0%)
Bias3							
False	7 (70%)	11 (61%)	2 (100%)	3 (75%)	7 (88%)	32 (64%)	7 (100%)
True	3 (30%)	7 (39%)	0 (0%)	1 (25%)	1 (13%)	18 (36%)	0 (0%)

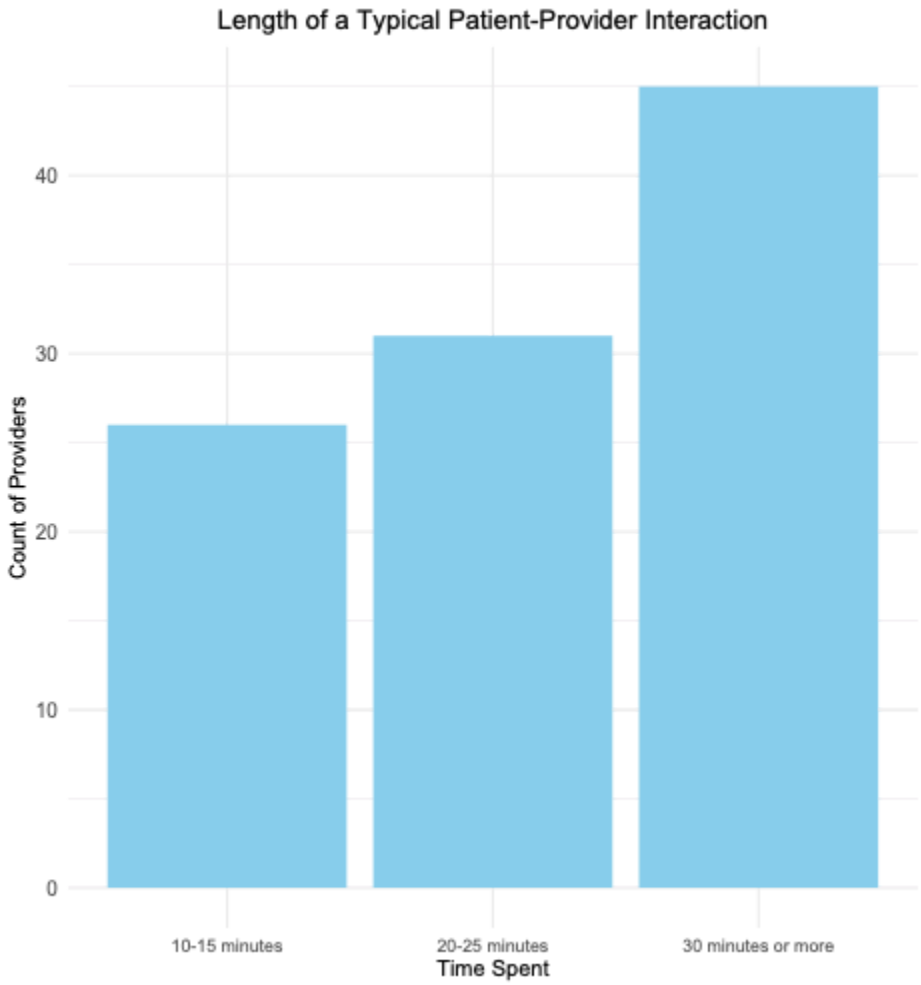
[1] Factor Loadings: Bias1 = 0.27 , Bias2 = 0.5 , Bias3 = 0.85 | Cronbach's Alpha = 0.52

Work Environment

Providers were asked to specify the typical length of time they spend with a patient. The majority of providers reported spending 30 minutes or more with a patient (45 respondents). 31 providers reported spending 20 to 25 minutes with patients and 26 providers reported spending 10 to 15 minutes with patients. Five providers did not respond to this survey question.

Figure 27

Providers' Estimate of the Length of a Typical Patient-Provider Interaction



The figure below displays the length of a typical patient-provider interaction by provider type. From the table, we find that Doulas were most likely to report spending 30 minutes or more with a patient. 50% of CNMs and nurse practitioners reported spending 20 to 25 minutes with a patient. Family medicine physicians were most likely to spend 10 to 15 minutes with a patient.

Figure 28

Proportion of Time Typically Spent with Patients by Provider Type

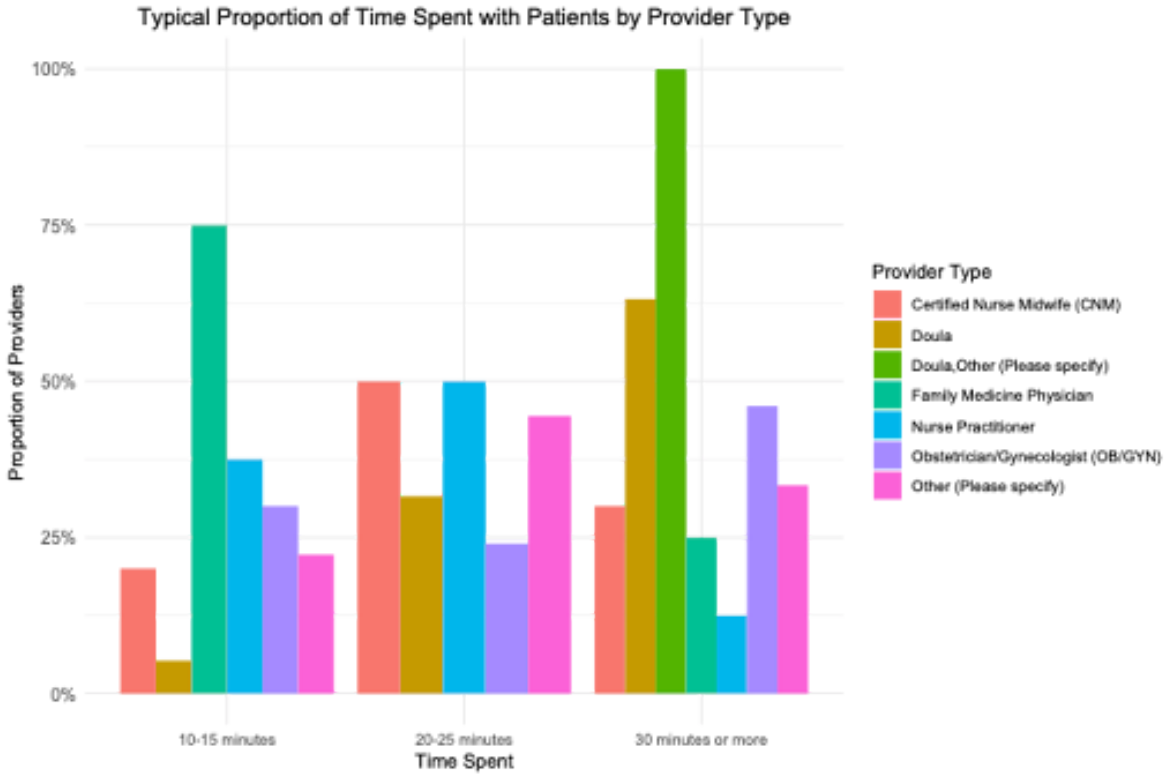
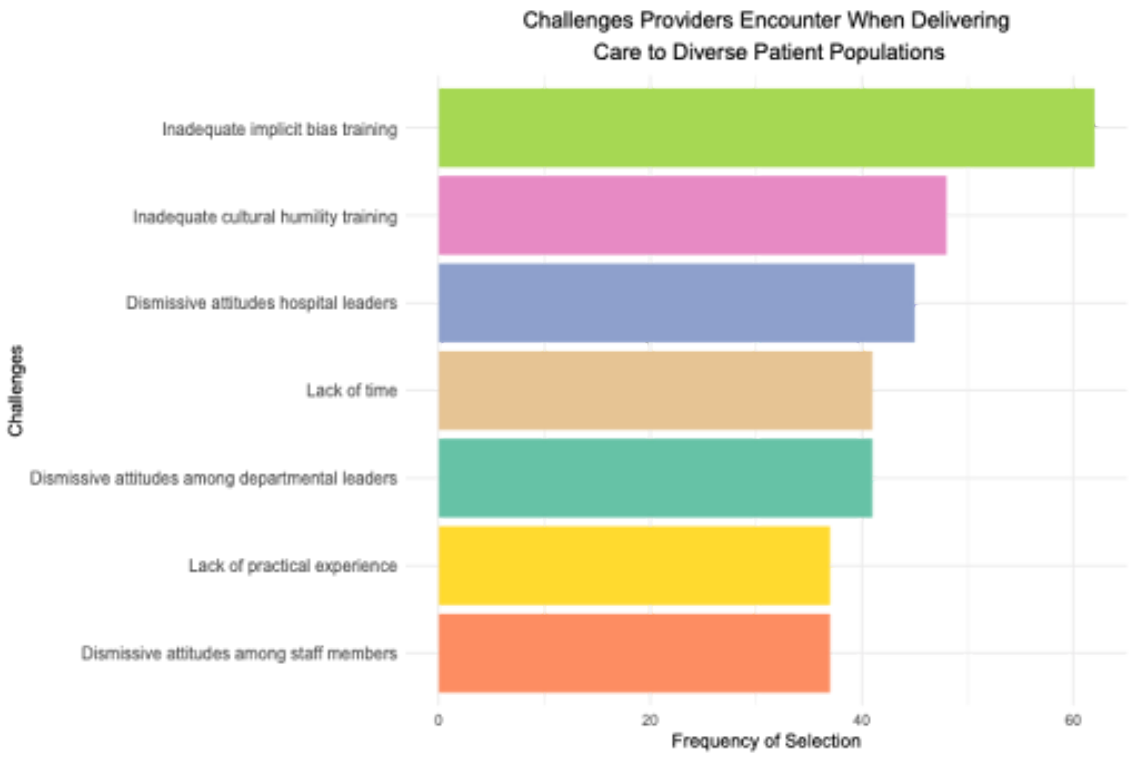


Figure 29 displays the aggregated time utilized by providers with their patients. As noted in the Provider Demographics table, the "Doula, Other (Please Specify)" category is made up of two providers. One provider was a lactation consultant in addition to a doula and the other was a doula, lactation educator, placenta practitioner, and a certified professional midwife student. The largest proportion of providers within both the doula and OB-GYN provider groups spend 30 minutes or more with their patients at a typical visit. The largest proportion of providers within the certified nurse midwife, nurse practitioner, and other provider groups spend 20 to 25 minutes with their

patients at a typical visit. The largest proportion of family medicine physicians within their provider group spend 10 to 15 minutes with their patients at a typical visit.

Figure 29

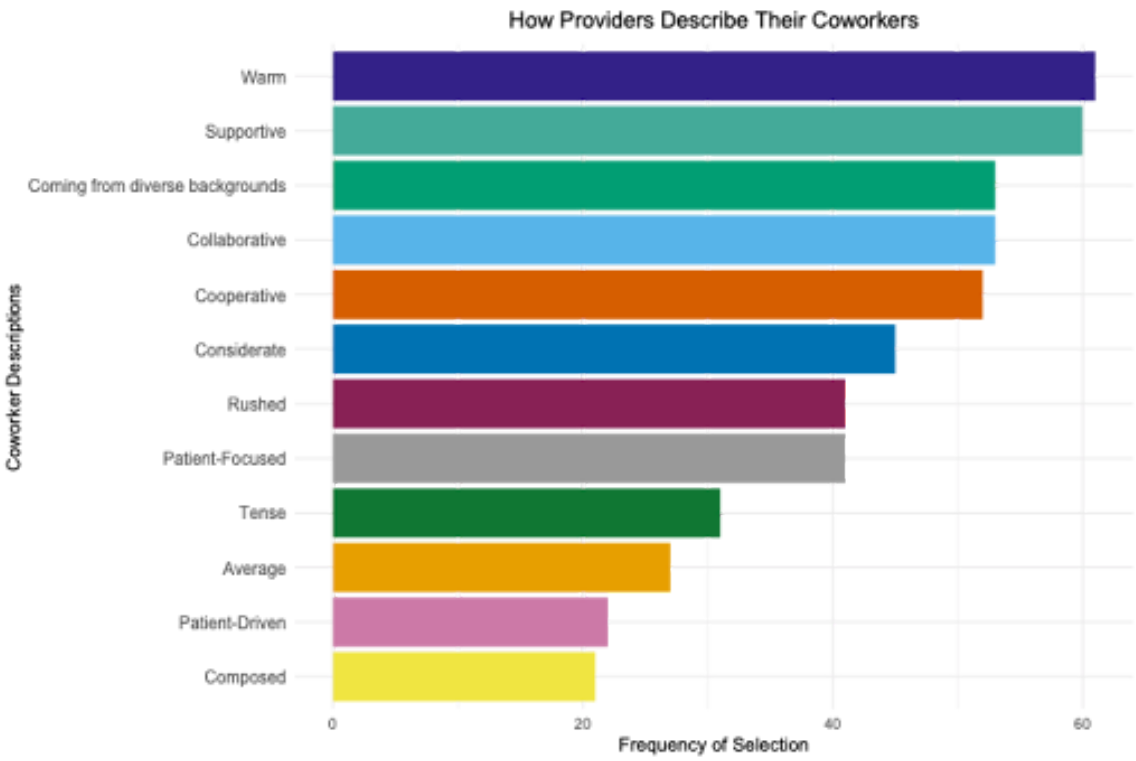
Challenges Providers Encounter When Delivering Care to Diverse Patient Populations



Providers were asked to select all options that apply for the figure below when asked the challenges they encounter when delivering care to diverse patient populations. The most frequent answer choice selected was inadequate implicit bias training, followed by inadequate cultural humility training, dismissive hospital leaders and department leaders, and lack of time.

Figure 30

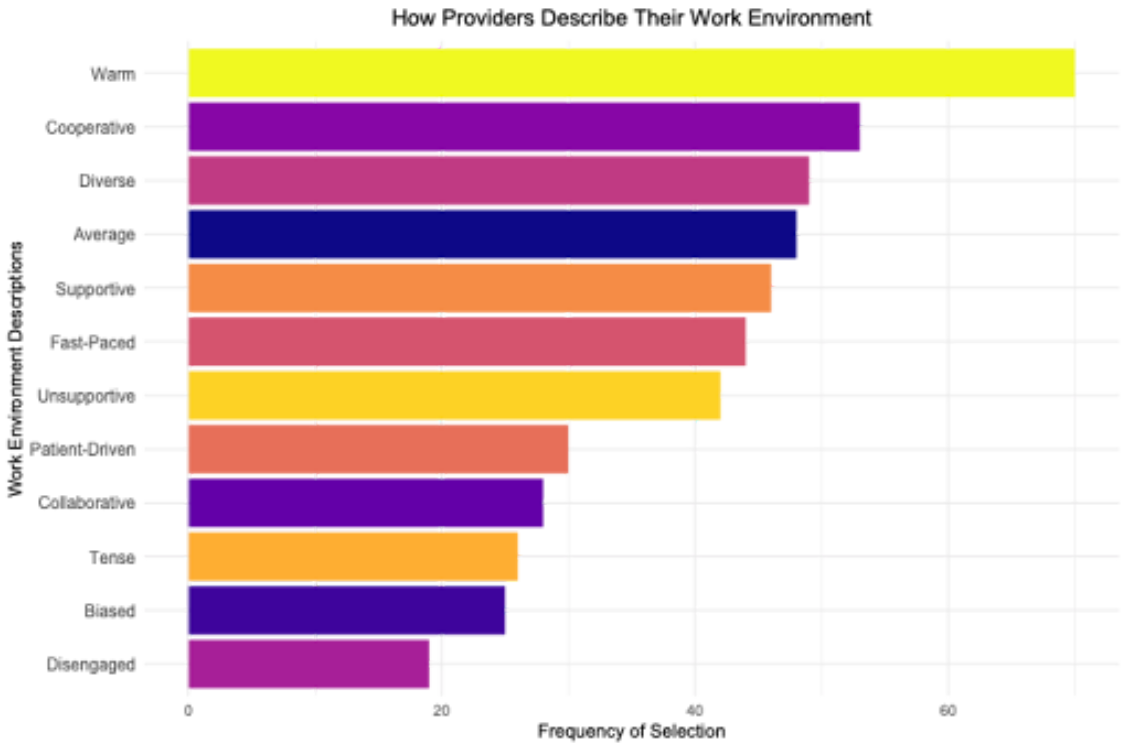
Providers' Description of their Coworkers



Providers were also asked to select all answer choices that apply to a survey question asking them to describe their coworkers. The following answer choices were selected most frequently: "Warm," "Supportive," "Coming from diverse backgrounds," "Collaborative," and "Cooperative." This aligns with answers selected in the previous figure by providers and the least picked answer choice being "Dismissive attitudes among staff members."

Figure 31

Providers' Description of their Work Environment



Providers were also asked to select all answer choices that apply to a survey question asking them to describe their work environment. The following answer choices were selected most frequently: *"Warm"* and *"Cooperative."* This aligns with the previous figure about providers' coworkers.

Qualitative Interview Findings

Five qualitative interviews were conducted with maternal care providers in a virtual environment (see Appendix I for transcripts), and all interviewees were Black and female.

Table 5

Self-Reported Interview Participant Experience Demographics	
Interview Number	**Description**
Interview 1	Perinatal mental health clinician, licensed social worker, founder of a therapy organization.
Interview 2	Maternal fetal medicine specialist (perinatologist), previously an OB/GYN, residency in the Bronx, NY, fellowship in Newark, NJ.
Interview 3	OB/GYN, medical school and residency in Philadelphia, PA.
Interview 4	Registered nurse and birth center manager, - experienced in ICU, labor and delivery, community health - currently pursuing Master's of Divinity.
Interview 5	Certified nurse midwife with formal training.

Across the interviews, when asked about adequacy of cultural competency training, providers pointed to the value of lived experience over this training. Interviewee 4 shared,

"I don't think that my training that I received made me feel comfortable providing care. I think my lived experience played a larger role," while Interviewee 5

similarly noted, “A lot of what I know now is from reading and talking with other Black providers. Not from school.” Interviewee 1 added,

“*I think that the trainings that are being taken really need to speak to the populations that we're serving. Because, you know, the experiences don't always align. They're not always the same.”*

With one of the interviewees being a perinatal mental health clinician and two being doulas, they contributed their perspectives to a mental health focus in the interviews that was not accounted for in the surveys. All interviewees had strong commitments to inclusive, respectful care and advocated for systemic improvements in provider cultural competency training, despite their personal inadequate experiences with this training.

A major theme across the interviews was the role of trust and patient-provider relationships in maternal healthcare. Many providers, particularly those in Interview 1, Interview 2, and Interview 5, described how Black patients actively sought out providers who shared their racial identity because they felt safer and more understood. The provider in Interview 1, a perinatal mental health clinician, noted that many of her clients expressed relief when they saw that she was Black. She explained the importance of adapting to patient needs, stating,

“We have to be mindful of how people are coming into the room, and we have to be the chameleon to change so that we can create the space for them, and not the other way around.”

Similarly, the maternal-fetal medicine specialist in Interview 2 described pleading with her Black patients to trust her medical advice because she understood the history of medical racism and wanted to protect them from adverse outcomes. She emphasized the emotional work this entails, sharing,

"Sometimes I have to, I hug people. I let them cry on my shoulder. I sit down and look into their eyes at eye level… not everybody needs the same thing."

She also noted the danger of stereotyping, saying,

"People aren't monolithic just because they look a certain way. Understanding differences in culture and how that might impact perceptions about healthcare"

is essential. While shared identity was frequently cited as a key factor in trust-building, providers across Interview 3, Interview 4, and Interview 5 also emphasized the importance of cultural humility when working with patients from different backgrounds. Several providers noted that being flexible in communication style and adapting care approaches based on patient needs was critical in providing effective care.

Another key finding was the importance of mental health in maternal care, though several providers noted that it is often overlooked or deprioritized in traditional medical settings. This was especially emphasized in Interview 1 and Interview 4, where providers specializing in perinatal mental health expressed frustration that mental health care remains siloed from broader maternal healthcare.

Interviewee 1 described how postpartum mental health issues often go unrecognized by non-mental health professionals, leading to delays in care. She stated,

"I firmly believe that you are postpartum until the day you close your eyes and are no longer breathing."

Similarly, the birth center manager in Interview 4 emphasized the need for trauma-informed care and reproductive justice training for all maternal health providers. Across multiple interviews, providers stressed that Black women were often hesitant to discuss mental health concerns due to stigma and medical mistrust, reinforcing the need for a more integrated approach to maternal mental health services.

Systemic barriers in maternal healthcare were widely discussed in Interview 2, Interview 3, and Interview 5, where providers highlighted issues such as medical discrimination, time constraints, and the lack of Black representation in healthcare. The provider in Interview 3, an OB/GYN, described time constraints as a significant challenge, explaining that her packed schedule makes it difficult to spend enough time addressing patient concerns. She added,

"You're just expected to do a lot of work when you're tired and they expect it to be perfect. But you're a sleep-deprived human... If you survive that, then you're a different person."

Similarly, the provider in Interview 2 noted that Black patients frequently report feeling unheard or dismissed by non-Black providers, which contributes to

medical mistrust. She also shared the emotional pressure she carries as a Black provider, saying,

"I always feel this sense of duty… I imagine the headline reading, 'Black woman dies at the hand of a Black woman doctor,' and that just makes me feel—I know it's terrible—but that's the way my brain works."

The midwife in Interview 5 added that representation matters not just among physicians, but also among birth workers, nurses, and mental health professionals, as a more diverse workforce could help Black birthing individuals feel more supported and understood.

Several providers, including those in Interview 4 and Interview 5, also called for policy changes that mandate stronger cultural competency, trauma-informed care, and reproductive justice education in medical and nursing schools. Another significant theme across the interviews was the emotional toll of working in maternal healthcare, particularly in high-risk settings. The maternal-fetal medicine specialist in Interview 2 described the stress of managing life-threatening pregnancies and the pressure she feels to prevent negative outcomes for Black patients. Her previous quote in regard to imagining a tragic headline illustrated how deeply personal these disparities are for Black providers. Similarly, the provider in Interview 3 acknowledged the emotional exhaustion of working long hours while striving to provide equitable care. The doula in Interview 5 highlighted the mental health toll on birth workers, stressing the importance of provider self-care and emotional resilience to prevent burnout.

While all interviewees shared the goal of providing safe, respectful care, their perspectives varied depending on their professional background. Medical providers, such as those in Interview 2 and Interview 3, focused more on gaps in medical training and systemic barriers in hospital-based care, whereas community-based providers, such as those in Interview 4 and Interview 5, emphasized holistic and culturally responsive care models. Some interviewees, particularly those in Interview 1 and Interview 4, integrated mental health into all aspects of care, while others acknowledged its importance but faced systemic barriers in addressing it.

Chapter 5: Discussion

Introduction

Our study aimed to investigate the experiences of Black mothers between the ages of 18-34 in Prince George's County, MD. We did so through an online survey exploring the maternal care experiences of Black mothers in the county. A separate online survey explored training of maternal care providers in the D.C., Maryland, and Virgina area and how training influences care for their patients. Specifically, our study aimed to answer two key questions: (1) How do Black mothers in Prince George's County feel about their maternal healthcare? (2) How does implicit bias and cultural competency training shape patient-provider interactions?

Trust Between Providers and Mothers

The literature and data consistently emphasizes the importance of trust in the patient-provider relationship in maternal care. Our respondents were primarily middle class, educated, and had a median age of 28. The vast majority sought prenatal care throughout their pregnancy and were postpartum at the time of completing the survey. In most cases, educated, middle class U.S. women would have improved chances of a positive birth outcome. However, the maternal mortality rate for U.S. Black women with a college degree is still 1.6 times higher than white women with less than a college degree (Shaya et al., 2023). This disparity is a reflection of the systemic issues that plague maternal healthcare, especially for Black women. There is a documented history of racial and gender bias in healthcare. Additionally, the lack of diversity in medicine is striking, which is evident in that Black

obstetrician-gynecologists make up only 11% of OB/GYNs and only 6.7% of midwives (Adelman, et al, 2019).

Our study finds these same national, disparate trends for Black women and lack of trust by Black mothers of the medical system hold true in the population we surveyed. All of the surveyed mothers were Black women, and 59.4% saw maternal care providers who shared the same racial identity as them. Of this 59,4%, 52% of these mothers said racial concordance of their provider positively impacted their interactions. The positive interactions are also emphasized by the interview data we collected. Interviewee 5, who is a certified nurse midwife revealed that, "I can't tell you how many patients literally exhale when they see me. It's like they know I'll get it." With a similar feeling, Interviewee 2, a maternal fetal medicine specialist discussed that,

"It definitely helps a lot that I come from a background that is similar to patients…I feel like there's a…personal level in which I can relate to patients…They remind me of my own family, and like just things that they would say in the way that I kind of would get like."

These findings help to explain why respondents tended to gravitate toward Black providers and also tend to view interactions with them more positively.

The common theme echoed throughout the interviews was that lived experience as Black women helped providers relate more to their patients and patients to feel more comfortable. Interviewee 5, a certified nurse midwife, said,

"a lot of what I know now is from reading and talking with other Black providers. Not from school."

This aligns with literature recommending more Black maternal healthcare providers are present to disrupt disparities in treatment (Adelman, et al, 2019). In general, the surveyed mothers had fairly positive views of their maternal care provider. The majority of respondents either agreed or strongly agreed that they trusted their maternal care provider and felt comfortable with their maternal care provider. 50.7% of the respondents agreed or strongly agreed to feeling comfortable with their maternal care provider, while 13% strongly disagreed with this statement. When asked whether they trusted their maternal care provider 53.6% of respondents agreed or strongly agreed while none of the respondents strongly disagreed with the statement. These are generally positive attitudes towards their maternal care providers that could be explained by the shared racial identity many of the respondents have with their providers. One provider mentioned in Interview 2 that,

Despite reporting trusting and feeling comfortable with their providers, very few respondents felt that their providers were attentive to their concerns. Only 30.4% of respondents felt their provider was always or frequently attentive to their health concerns compared to the 46.4% who felt their provider was rarely or never attentive to their concerns. This suggests that while mothers may like their providers they do not feel that their providers take a lot of time with them during their appointments. This is also supported from the provider's perspective, 24.3% of providers who responded to our survey said a typical patient visit was around 10-15 minutes, which is not enough time to be truly attentive to patient concerns. This was also echoed in

Interview 3 with an OB/GYN who mentioned that her hours were long and she was almost always overbooked which impacts her ability to spend time with patients even though she tries to be as attentive as possible. Provider interviewee 3 described residency as a time when,

"You're just expected to do a lot of work when you're tired and they expect it to be perfect. But you're a sleep-deprived human... If you survive that, then you're a different person."

Despite most respondents having positive reviews of their interactions with their maternal care provider, we found that when respondents were asked who their most trusted source for health information was, the most selected answer choice was family member (13.1%). The next most frequently selected options were OB/GYN (12%) and Primary Care Provider (9.6%). This shows that the respondents trust family members more than they trust the physicians who provide their maternal care. This is not surprising, as we can see this exact trend backed by historical trends which show that Black mothers often refer to family members such as mothers and grandmothers for maternal care advice rather than OB/GYNs, due to the build up of generational mistrust toward the healthcare system (Abbyad, 2011).

More negative feelings arose when respondents were asked how they felt in healthcare settings. When respondents were asked whether they felt safe and respected in the healthcare setting, 44.9% of respondents agreed or strongly agreed to the statement, while 30.4% disagreed or strongly disagreed with the statement. While the people who agree and strongly agree are the most numerous respondents, they are

not the majority. The remaining 55% of respondents either did not answer the question, felt neutral, disagreed, or strongly disagreed with the statement that they felt safe and respected in the healthcare setting. The negative sentiment around healthcare from the respondents can again be attributed to historic maltreatment of Black bodies in the U.S. healthcare system (Abbyad, 2011).

Maternal Healthcare Access in Prince George's County

Mothers were asked about barriers to maternal healthcare in Prince George's County. When asked if they experience barriers in accessing healthcare, respondents were split: 35.9% of respondents remained neutral, 32.8% disagreed or strongly disagreed, and 31.3% agreed or strongly agreed. The remainder of this section analyzes mothers' perceptions of barriers to maternal healthcare by the following demographic groups: Income, education, and zip code.

By looking at the income data we found that respondents in low to middle income brackets– $25,000 to $49,999 and $50,000 to $74,999–were more likely to report facing barriers to access healthcare services and or information. More specifically, 41.7% of respondents in the $25,000 to $49,999 and 44.4% in the $50,000 to $74,999 income brackets reported agreeing or strongly agreeing to experiencing barriers. In contrast, only 23.5% of respondents in the $75,000 to $99,999 and 18.1% in the $100,000 to $124,999 income brackets agreed or strongly agreed to experiencing barriers. It's important to note that no respondents earning under $24,000, between $150,000 and $199,999, or over $200,000 reported facing barriers. Evidently, there is a general downward trend in rates of agreeing or strongly

agreeing to experiencing barriers as income levels increase. This inverse trend is illustrated as expected based on prior research which indicates that individuals with a higher income experience decreased rates of barriers to accessing healthcare, given the financial stability and security that comes with having a higher income (Wynn, 2019). Additionally, we can attribute the high rates of experiencing barriers amongst the respondents in the lower to middle income bracket –$25,000 to $49,999 and $50,000 to $74,999– to the financial gap. Individuals in this income bracket make too much to qualify for health assistance programs like Medicaid, but not enough to live comfortably to afford healthcare, which can increase the perception of barriers amongst these groups (Baten et al., 2024). Notably, we detected one caveat to this inverse trend where we expected respondents earning under $24,999 to also report high rates of experiencing barriers to care, given their low income earnings, but we were surprised to see that none of the respondents agreed or strongly agreed to facing barriers, rather they 100% remained neutral. One factor that can explain this is that the respondents in the under $24,999 bracket may have felt more comfortable selecting the neutral option to avoid reflecting on their status and expressing an opinion. Additionally, we confer that respondents in this income bracket did not report facing barriers possibly due to qualifying to have access to government assistance programs such as Medicaid and community health centers, which can reduce the perceived barriers to care (Baten et al., 2024). Additionally, another reason we could have seen low rates of experiencing barriers within respondents who earned under $24,999 can be attributed to limitations within sample size. Only 2 respondents

fell into the under $24,999 and income bracket which can make it difficult to draw to a definitive conclusion.

By looking at the education data, we found that respondents with lower levels of education– high school diploma or GED and some college, trade school, or associate's degree – were more likely to report facing barriers to access healthcare services and or information. In particular, 44.8% of respondents with some college or trade school or Associate degree agreed or strongly agreed to experiencing barriers while only 20.6% disagreed or strongly disagreed. Additionally, those with a high school diploma or GED showed an even distribution, with 40% agreeing or strongly agreeing to experiencing barriers and 40% disagreeing or strongly disagreeing, still showing a similarly high rate for agreeing and strongly agreeing as seen in the some college or trade school or Associate degree education group. In contrast, we found that respondents with higher levels of education –Bachelor's degree and Master's degree– were less likely to report facing barriers. Specifically, only 15.4% of respondents with a Bachelor's degree agreed or strongly agreed to facing barriers while 42.3% disagreed or strongly disagreed. Similarly, only 25% of respondents with a Master's degree agreed or strongly agreed to facing barriers while 50% disagreed or strongly disagreed. It's important to note that there were no respondents in our sample who had an education level lower than a high school diploma or GED or higher than a Master's degree. Within this data, we see a trend of higher rates of agreeing to experiencing barriers to obtaining healthcare in respondents with lower levels of education—high school diploma or GED and some college, trade school, or Associate degree– and lower rates of agreeing to experiencing barriers among the respondents

levels of education–Bachelor's degree and Master's degree. These findings align with existing literature which suggests trends in which individuals with higher education levels experience less barriers. This can be due to individuals with higher education being associated with having increased health literacy, better access to healthcare, and financial stability which can alleviate perceptions of experiencing barriers to care ("Maternal Infant and Health Report," 2019). Importantly, all respondents were insured, so it is likely that health insurance literacy plays a role in shaping their experiences. Individuals with higher education may be more able to navigate complex insurance systems and understanding plan benefits (Vardell, 2019). As a result, they may be better positioned to avoid barriers, even when insurance coverage is held constant across the sample. One minor unexpected finding important noting is the even distribution we found among respondents with a high school diploma or GED who agreed or strongly agreed (40%) and disagreed or strongly disagreed (40%) to facing barriers. Unlike other education groups where there was a clear trend, this category had an equal proportion of respondents agreeing and disagreeing about barriers. We believe that this could be attributed to our small sample size of respondents within this category, where there were only 5 respondents who reported having a high school diploma or GED.

Seeking Prenatal Care

We found various notable trends as we analyzed data regarding respondents seeking prenatal care. Overall, 64 respondents (92.7%) received prenatal care while only 5 respondents (7.3%) did not receive prenatal care services. Although our sample size for respondents who did not receive prenatal care consisted of only 5

individuals, we still wanted to detect factors that may have contributed to these individuals not receiving prenatal care. To further analyze potential factors that may have impacted the 5 respondents from not receiving prenatal care, we decided to sort these individuals by income and education level to look for the most common socioeconomic groups who did not receive prenatal care.

By looking at income we found that the 5 respondents who did not receive prenatal care were in low to middle income brackets– $25,000 to $49,999 and $75,000 to $99,999. Specifically, 3 respondents (60%) were in the $25,000 to $49,999 range and 2 respondents (40%) were in the $75,000 to $99,999 range. These findings suggest that financial constraints faced by respondents earning low to middle income– $25,000 to $49,999 and $75,000 to $99,999– has a significant impact on them not being able to receive prenatal care. As discussed previously, individuals in these low to middle income ranges are vulnerable due to making too much to qualify for government assistance programs, but oftentimes not making enough to afford to seek prenatal care which could be the case for the respondents here (Baten et al., 2024). Notably, the 13 respondents (100%) earning above $100,000 as well as the 2 respondents (100%) earning under $24,999 all reported receiving prenatal care. This is what we expected for respondents earning over $100,000 as literature shows that, with higher income there comes financial stability and security that enables individuals to have better access to healthcare allowing them to seek and receive prenatal care (Baten et al., 2024). We were surprised to see that all individuals earning under $24,999 had received prenatal care, given that 60% of our respondents in the low income bracket just one above it– $25,000 to $49,999– reported not receiving

prenatal care, we expected to see a similar trend of respondents in this category indicating that they did not receive prenatal care due to financial restraints. Similar to how we discussed this previously, respondents earning under $24,999 likely qualify for government assistance programs such as Medicaid and community health centers that facilitate prenatal care to those in this category (Baten et al., 2024). Additionally, there were only 2 respondents in this category which limits how definitive we can be about conclusions we make with this data.

By looking at education levels we found that our data was inconsistent with trends we were expecting, with 4 out of the 5 respondents who did not receive prenatal care coming from backgrounds with higher education –Bachelor's degree. In particular, 4 of the respondents (80%) having earned a Bachelor's degree and only 1 respondent (20%) who earned a high school diploma or GED did not receive prenatal care services. These findings were very surprising to us as we expected respondents with a college education to be more proactive about seeking prenatal care given that trends show that more educated individuals have increased health literacy, financial stability, and awareness when it comes to seeking healthcare (Hill et al., 2024). However, our results show that more educated individuals–Bachelor's degree– were more likely to not receive prenatal care than less educated individuals–high school GED or diploma. One recurring explanation for this is the limitation of our small sample size. We had only 5 respondents who reported not seeking prenatal care so the data is not representative enough to reflect the results we may have expected. Additionally, there could be various discrepancies regarding employment and insurance benefits among 4 the respondents who earned a Bachelor's degree that play

a factor in these respondents not being able to receive prenatal care. In the grand scheme, when looking at all 30 respondents who earned a Bachelor's degree who answered the question asking if they received prenatal care, the 4 respondents who did not receive prenatal care only make up 13.3% of that category while 86.7% still reported seeking prenatal care. Notably, among the 4 total respondents who earned a Master's degree 100% of these respondents reported seeking prenatal care. This follows the trend we expected as it reflects that individuals with higher education are more likely to seek and receive prenatal care given that more education is associated with increased health literacy and financial stability, allowing these respondents to seek prenatal care. It's important to note the trend in rates of prenatal care received by those who earned a Bachelor's degree versus those who earned a Master's degree. We can attribute seeing much higher rates of prenatal care among respondents who earned a Master's degree (100%) compared to those who earned a Bachelor's degree (86.7%) to those with Master's degrees being more likely to hold stable and higher paying jobs that may provide better health benefits, making prenatal care more accessible. It is important to note that all respondents that did not get prenatal care were experiencing their first pregnancy. This detail highlights the role that lack of experience-based knowledge plays in maternal healthcare.

Health Literacy

We looked into respondents' beliefs regarding when they should initiate prenatal care to measure potential gaps in health literacy. When analyzing mothers' beliefs about when prenatal care should be initiated, we found that most respondents, regardless of whether they were experiencing their first pregnancy or had been

pregnant before, understood the importance of seeking early care. Specifically, 51.7% of first-time mothers and 44.7% of mothers with subsequent pregnancies believed that prenatal care should begin within the first month. This is a promising trend that suggests a general awareness of the value of early prenatal care. However, our data also revealed interesting contrasts between the two groups. A notably higher proportion of mothers with subsequent pregnancies (42.6%) believed that prenatal care could begin in the third month, compared to only the 22.6% of first-time mothers. This trend may indicate that individuals who have previously experienced pregnancy feel more confident delaying care due to familiarity with the process and past experiences. On the other hand, when looking at later initiation timelines— specifically the sixth month—we found a higher proportion of first-time mothers (19.4%) selecting this option compared to mothers with prior pregnancies (13.2%). This pattern suggests that a lack of knowledge or uncertainty may be influencing first time mothers to delay care, potentially due to confusion about what prenatal care entails or when it is necessary to begin, and these findings highlight the need for improved prenatal education, particularly for first-time mothers. Notably, all respondents that did not receive prenatal care were experiencing their first pregnancy, which further emphasizes the role that inexperience and limited pregnancy-related health literacy may play. While it is encouraging that most respondents understood the importance of early care, the notable percentage of first-time mothers selecting late initiation of prenatal care underscores the necessity of targeted educational efforts and increased access to clear, accessible prenatal resources early in pregnancy. There are also geographical barriers to care in Prince George's County since the county only

has two hospitals with labor and delivery wards (*A Landmark Victory for Obstetric Healthcare Access in Prince George's County*, 2023). The lack of obstetric care options and the perceived quality of the hospitals drives 80% of residents to give birth outside of the county (*A Landmark Victory for Obstetric Healthcare Access in Prince George's County*, 2023). The county government has approved the development of a third labor and delivery ward at a new hospital to encourage mothers to give birth in the county (*A Landmark Victory for Obstetric Healthcare Access in Prince George's County*, 2023). This is an excellent first step in breaking down geographical barriers to care, but addressing the present perceptions of obstetric care in Prince George's County is a challenge for the county. Our survey is limited in that we do not have data on where respondents sought care, however through conversations with community members at our in person recruitment events and meetings with Prince George's County public health experts we learned that many Prince George's County residents have poor perceptions of the county hospitals and prefer to seek care neighboring counties like Montgomery County, MD or northern Virginia. One resident at a lactation support group meeting noted that she's been receiving care in northern Virginia since she was a kid growing up in the county, and that influenced her decision to continue seeking care in northern Virginia for her own pregnancy and birth. This sentiment has been echoed by numerous community members we have met throughout our research.

Cultural Competency Trainings for Providers

Cultural competency is increasingly recognized as a vital part of healthcare provider education, especially in maternal care. While cultural competency training is

often mandatory for licensing for providers, it often lacks depth and real-world applicability. While The American College of Obstetrics and Gynecology (ACOG), has recognized the importance of cultural competency, the training programs do not go far enough in preparing them to effectively navigate the diverse cultural contexts of populations they serve (Martin, et al, 2021). In Maryland, practices that wish to receive funding from the MLRP (Maryland Loan Repayment Program), are required to only complete six hours of cultural competency per year ("Maryland State Loan Repayment Programs," 2025). 5). Those six hours once a year amount to less than a single workday annually, which is an extremely limited timeframe given the complexity and importance of cultural competency in maternal health care. Despite this minimal requirement, the quality and depth of training remain highly variable.

Our findings highlight these concerns as the providers in our study noted that the cultural competency that they receive is often limited and brief. The survey revealed that 81 respondents (75%) had received cultural competency training, but the length of training varied significantly. While some respondents indicated short-duration training programs (1–5 hours, 17 respondents), others reported more extensive training (e.g., semester-long courses, 23 respondents). Notably, our study found that doulas and certified nurse midwives were less likely than OB-GYNS to have completed any form of cultural competency training. Doulas and midwives are generally viewed as birthing coaches that advocate for the mothers physical and emotional needs (The Historical Significance of Doulas and Midwives, n.d.). The findings that we gathered are concerning as they are supposed to offer culturally sensitive care and individualized care, but are not required to receive training that

would ensure this care is informed by cultural humility and bias awareness. Many providers, particularly OB/GYNs (50 respondents), have limited exposure to ongoing cultural competency development. This follows current literature that suggests that there is no standard cultural competency program for healthcare providers, and there is a variation of length and depth of training (Rule et al., 2018). Particularly, Interviewee 1 indicated a desire to have training that includes real experiences of diverse patient populations rather than surface-level discussions. The participant shared that,

"a lot of the trainings that I've been to have been very like surface. And I think that specifically with maternal care, I think it's important that we provide very real, honest, and raw examples of what clients and patients are experiencing."

This feedback emphasizes the common theme that many providers believe there should be more comprehensive and experiential cultural competency. These findings suggest that while cultural competency training is a vital first step, it needs to be integrated into ongoing professional development to truly impact patient care.

The survey findings revealed discrepancies in how providers perceived bias in healthcare and how these biases potentially influence patient interactions. In our quantitative survey results, the majority of providers indicated they received adequate cultural humility training to provide safe and respectful care, with approximately 29 providers (63%) agreeing or strongly agreeing that their training was adequate. However, this finding is contradictory to respondents' answers to the true and false questions on biological myths. Specifically, when asked about biological myths on

the survey, a number of providers incorrectly agreed with these statements. 14 providers agreed that "Black people age more slowly than white people," 13 providers agreed that “Black people’s nerve endings are less sensitive than white people’s,”and 10 providers agreed "Black people's blood coagulates more quickly than white people's.” Overall, of every provider type, at least one provider answered incorrectly. Certified nurse midwives, family medicine physicians and nurse practitioners each answered incorrectly the most or 50% of the time. However, the small sample size of these provider groups may have influenced these results. Still, doulas answered incorrectly 38.3% of the time and OB-GYNs answered incorrectly 26.3% of the time. These responses point to a critical gap in knowledge about racial differences and inherent biases that are often perpetuated through lack of cultural competency training and unchallenged stereotypes (Rule et al., 2018). The incorrect belief that Black people have a higher pain tolerance in comparison to White people has been proven to influence mistreatment of Black Americans by healthcare providers, with many providers of undertreating or dismissing Black patients’ pain symptoms (Hoffman et al., 2016). These myths and stereotypes are extremely concerning in maternal care, where such beliefs could adversely affect care delivery, undermining the quality of treatment for Black mothers.

However, despite these biases, a strong focus on clinical competency and personal reflection was evident in interviews with providers. Many mentioned that their approach to care was shaped by their personal experiences working with diverse populations, leading them to adjust their care strategies on each case. Interviewee 1 articulated that,

"I feel like I'm very prepared to provide respectful care, but I don't know that it has been because of the trainings…I don't know that I can say like this training really prepared me for this thing. I think, I just in other spaces in my life, and like reading more and understanding and being a Black woman and understanding sort of how we have to navigate systems."

This insight emphasizes formal education and lived experiences that often shape how providers interact with marginalized groups. While cultural competency training is essential, the role of lived experience remains pivotal in shaping empathetic, culturally sensitive care.

Limitations and Strengths

Despite meticulous efforts to plan and conduct the study, time and resource constraints limited certain elements of the research. One limitation of this study is the lack of demographic data collected from healthcare providers in the surveys. We did not not ask providers about their race, gender, age, years in practice, or medical school/residency history in an effort to keep the survey straightforward, with the intention of collecting this information during interviews. This limited our ability to identify trends and patterns in demographics that may have influenced provider perspectives and/or patient interactions. Gathering this information could have offered insight into how their education and experience molded their opinions and decision-making processes in a clinical setting. In contrast, we collected substantial demographic data from the surveyed mothers, which supplied us with richer contextual data to interpret their experiences. However, we did not inquire about

whether they sought care within or outside the county or their pre-existing medical conditions. This omission limited our ability to extensively explore how geographic access to healthcare and medical history influences healthcare experiences and maternal health outcomes.

Regardless of these limitations, our study had multiple strengths that notably contributed to the objectives of our research. A key strength was our focus on a specific geographical area: Prince George's County, Maryland. The concentration on this locality enabled us to thoroughly investigate the needs and barriers faced by the population we surveyed and interviewed. Furthermore, our decision to survey both maternal healthcare providers and mothers was incredibly contributory to guaranteeing a comprehensive examination of the issue. By collecting information from both ends of a patient-provider interaction, we succeeded in pinpointing discrepancies and similarities while simultaneously identifying various opportunities for improvement in the maternal health process and experiences. Considering both perspectives, we revealed intriguing and surprising findings, aiding us in unraveling answers to our main study research questions. Another notable strength were the partnerships we built and maintained with local community organizations and professionals from various healthcare institutions. These frequent collaborations not only allowed us to directly connect with individuals from the community, but it also increased participant engagement which improved the reliability of our results.

Through our research, we revealed trends in maternal health experiences in Prince George's County, Maryland. Our study not only has uncovered critical gaps in maternal healthcare, but also has provided a thorough basis for future research

initiatives centered around improving Black maternal healthcare experiences and outcomes.

Equity Impact Statement

Our team focused on current health disparities that exist for Black mothers in Prince George's County, to make informed recommendations to the county to produce better maternal health outcomes. Since the demographic makeup of our team does not identically match our target population (e.g., race, age, income, hometown), we acknowledge we can not wholly understand the experiences of our target population. Therefore, we took a community-centric approach to the study. We contacted community stakeholders to share information on our work and connect with residents. Through our consistent engagement with various members of the community, we gained incredibly useful insight on current pressing issues and the needs of Black mothers in Prince George's County, guiding our research direction.

Future Research

This research primarily aimed to analyze how patient-provider relationships and interactions contribute to poor maternal health outcomes, like maternal mortality, and why these issues persist in Black communities like Prince George's County, Maryland. Further research can address the studies limitations, strengthen current findings, and provide a more comprehensive understanding of the results. Future investigations should explore other key factors influencing Black maternal health like maternal mental health care, the impact of maternity care deserts, and the effectiveness of doula training protocols.

Given the growing awareness of maternal mental health in the United States, future research should examine the disparities in maternal mental healthcare, particularly among Black mothers. During the interview stage of research, many providers expressed significant mental health concern. Future research should investigate how factors such as chronic stress and Postpartum Depression (PPD) disproportionately impact maternal health outcomes in Black communities and identify strategies to mitigate these disparities. This could lead to the inclusion of survey questions that ask mothers more mental health-based questions, like if moms had a PPD screening, were counseled on stress management during and after pregnancy, or were provided with mental health resources by their healthcare providers.

This study also examined the history of maternal healthcare in Prince George's County and found that maternal healthcare institutes are severely lacking. During community outreach, many Black mothers reported seeking maternal healthcare outside of the county due to perceived inadequacies in local facilities. Future research should explore how maternity care deserts contribute to adverse maternal health outcomes and exacerbate distrust in local healthcare institutions. Investigating the geographic and systemic barriers that drive Black mothers to seek care elsewhere could help inform policy changes aimed at improving maternal healthcare access in Prince George's County.

Doulas are a member of a mother's birthing team whose goal is to advocate for their patient and support during pregnancy, birth, and post-partum (Jekel, 2024). During the data analysis stage of this study, it was observed that many doulas held

misconceptions about the anatomy and physiology of Black people. Doula training lacks standardization and there are different qualifications for becoming a doula in different states, in fact, even the definition of a doula is not standardized across states (Jekel, 2024). Future research should examine the training doulas receive and assess whether their cultural competency education is adequate to advocate effectively for Black mothers in medical settings. Investigating whether existing doula training programs incorporate evidence-based, anti-racist, and culturally sensitive practices could result in the development of improved training protocols to enhance maternal advocacy and care for Black women.

We learned by interviewing providers that lived experience was often more helpful than formal cultural competency training in contributing to safe patient-provider interactions. A future study could explore whether lived experience as a provider of color repeatedly is more effective for providing culturally competent care. It would also be interesting to explore the current medical school curriculum and its coverage of cultural competency in care.

By addressing these critical areas, future research can contribute to reducing disparities in Black maternal health and improving healthcare experiences for Black mothers in Prince George's County and beyond.

Conclusion

We conducted a mixed-method study and explored the experience of Black mothers in Prince George's County, MD. We gathered data by recruiting from within the community and conducting both surveys and interviews with Black mothers and

maternal healthcare providers. Our study helped us identify factors that increased maternal mortality rates that impact Black women such as provider bias and systematic barriers that disproportionately impact Black women in the healthcare system. Our research suggests that policy reforms such as increased provider diversity, improved cultural competency training, and patient-provider racial concordance in care are needed to address these disparities. Future directions should focus on maternal mental health disparities, the impact of maternity care deserts, the effectiveness of doula training protocols, and the impact of provider lived experience on culturally competent care. Our findings highlight the need for a more equitable healthcare system that emphasizes prioritizing cultural competency. The results of our study can be used to inform policy and curriculum changes that can drastically reduce the maternal mortality rate in Prince George's County, Maryland and beyond.

Appendices

Appendix A: Zip Codes in Prince George's County

Eligible Prince George's County Zip Codes: 20019, 20601, 20602, 20607, 20608, 20613, 20623, 20705, 20706, 20707, 20708, 20710, 20712, 20715, 20716, 20720, 20721, 20722, 20723, 20724, 20735, 20737, 20740, 20743, 20744, 20745, 20746, 20747, 20748, 20762, 20769, 20770, 20772, 20774, 20781, 20782, 20783, 20784, 20785, 20866, 20904

Respondents' Zip Codes: 20744, 20785, 20706, 20613, 20747, 20772, 20708, 20737, 20607, 20748, 20740, 20735, 20743, 20745, 20762, 20746, 20769, 20770, 20608, 20623, 20705, 20715, 20716, 20721, 20707, 20712, 20710

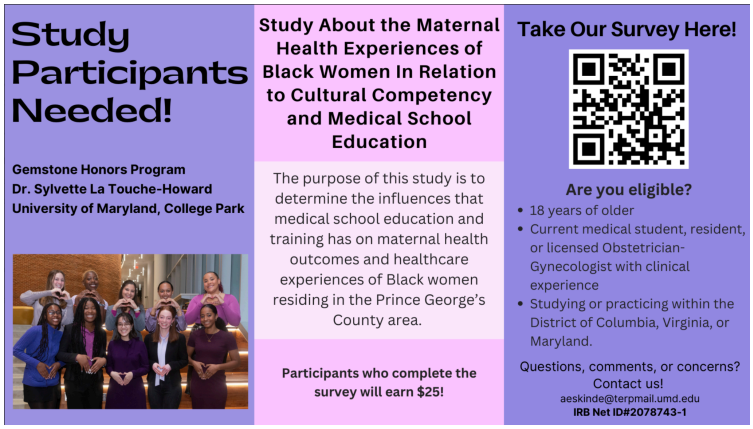
Appendix B: Masterlist for Survey Dissemination

This Google spreadsheet contains the list of organizations we identified, along with their contact information:

Masterlist for Survey Dissemination

Appendix C: Survey Advertisement Flyers

The following flyers were disseminated to potential participants and community organizations to advertise our survey.



Flyer for providers and medical students

Flyer for Mothers

Appendix D: Surveys

The links below lead to Google documents containing all of our survey questions.

- This Google document contains the full set of survey questions designed for mothers participating in our study:

  Survey for Mothers

- This Google document contains the full set of survey questions designed for maternal care providers participating in our study:

  Survey for Providers

Appendix E: Images from Community Events

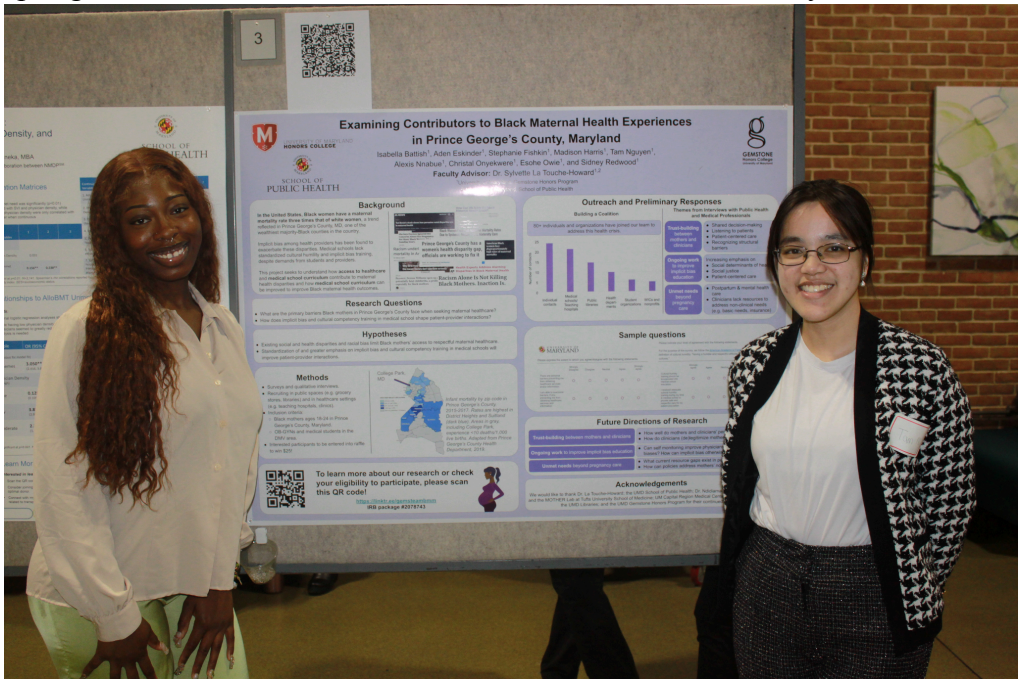
Fall 2024 Tabling at Quarterly Expungement Clinic and Holistic Wellness Fair hosted by Council member Martin Mictchell.

Fall 2024 Tabling at WIC Farmers Market.

Spring 2023 Fundraising Bake Sale.

Fall 2024 She Rises Inc. Community Event.

Spring 2024 School of Public Health Research and Practice Day.



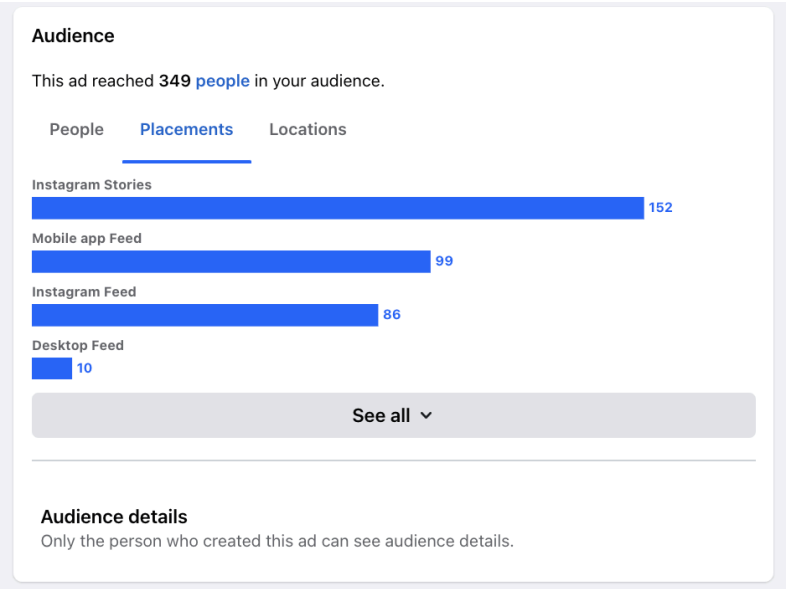
Spring 2024 Diaper Drive.

Spring 2024 Bowie Community Center Volunteer Event.

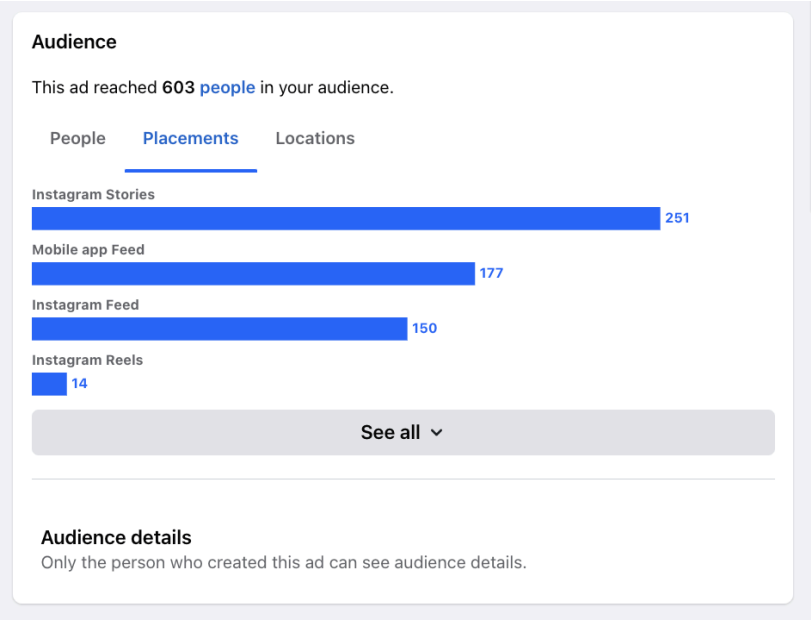
Spring 2024 Maryland Day Tabling.

Appendix F: Meta Engagement

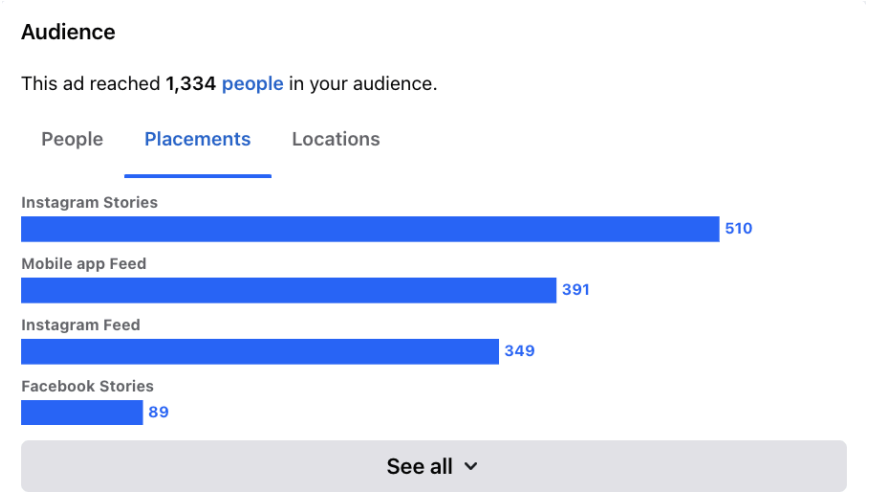
Meta Advertisement Engagement 11/11/2024.



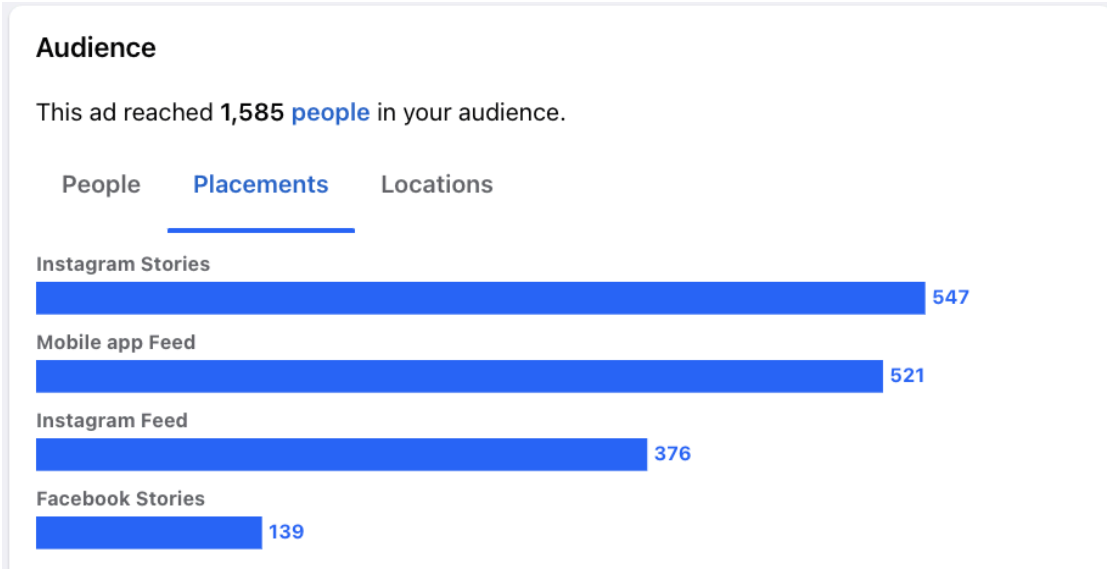
Meta Advertisement Engagement 11/18/2024.



Meta Advertisement Engagement 11/25/2024.



Meta Advertisement Engagement 11/30/2024.



Appendix G: Interviews

We have included the information about our interviews below. We have included the links to the interview questions as well as the transcripts of our completed interviews.

This is our interview guide for mothers.

1. How did you choose your OBGYN (i.e friends, family, primary care doctor, etc)?
    a. How long does it take for you to travel to each visit?
    b. Potential question to ask: how long was each visit with your OBGYN
2. Who do you usually go to with a health question?
    a. How long did it take to get in contact with your OB/GYN when you had concerns?
3. Who can you count on for help/support during this pregnancy?
4. At what point would you or did you reach out to a medical professional for help?
    a. When you think about going to the doctor/provider during your pregnancy, what concerns do you have?
    b. How comfortable would you feel reaching out to this provider again if needed?
5. During your pregnancy, how helpful/useful was your doctor regarding pregnancy and childbirth?
6. We're aiming to interview first-time mothers, so should we include these questions if most of our sample is expected to be first-time, currently pregnant mothers?

a. How did you feel about your postnatal care? (Follow up: How available was your doctor? How long did you receive this care for?)

b. Did you give birth vaginally or by a cesarean section (C-section)? (Follow up: Did your doctor provide you with the option of scheduling a cesarean or vaginal birth? Who made the decision?)

7. What are some of the things that have kept you or someone you know from seeing a doctor or some other health care provider when you found out you were pregnant?

8. What has your maternal health experience been like? (Or what was your maternal health experience like?)

    a. What are some things that your provider does/did that made you feel safe and comfortable?

    b. What are some things that your provider does/did that made you feel uncomfortable or unsafe?

    c. In what setting do/would you prefer to give birth? (e.g. hospital, home, birthing center, etc.).

        i. Can you tell me about that experience?

        ii. Have you discussed this with your provider? What was that discussion like?

9. Do you feel that your provider's perception of your identities impacts how they interact with you? If yes, in what ways?

10. What topics do you think should be incorporated into medical education to improve physicians' ability to provide safe and respectful care to patients?

11. What recommendations do you have for a website designed to provide maternal health, targeted toward Black mothers?

12. What topics would you like to see on a website designed to provide maternal health, targeted toward Black mothers?

This is our interview guide for providers.

1. Tell me about what a typical patient visit looks like for you.
2. What are some things that you prioritize doing at every patient visit?
    a. Are you able to meet these goals at every patient visit?
    b. If not, what do you think may be hindering you from doing so?
3. How do you navigate visits with a patient from a different racial, ethnic, or cultural background than yours?
4. In what ways do you incorporate patients' identities as well as personal and cultural preferences into the healthcare process?
5. How do you reconcile potential conflicts between patients' preferences and clinical recommendations?
6. As a medical student, what was/is your experience with cultural competency and implicit bias training like?
7. By the time you graduated from medical school, how prepared did you feel to provide safe and respectful care for patients from different backgrounds?
8. What topics do you think should be incorporated into medical education to improve physicians' ability to provide safe and respectful care to patients?
9. What recommendations do you have for a website designed to provide maternal health, targeted toward Black mothers?
10. What topics would you like to see on a website designed to provide maternal health, targeted toward Black mothers?

Appendix H: IRB Form

Institutional Review Board
1204 Marie Mount Hall ● 7814 Regents Drive ● College Park, MD 20742 ● 301-405-4212 ● irb@umd.edu

INITIAL APPLICATION PART 2

1. **Abstract:**

Our research is directed towards Black cisgender women (ages 25-34) who are currently pregnant or six months or less postpartum living in Prince George's County. Through conducting surveys and in-depth interviews, we aim to gather information and resources that mothers would have preferred to have available during their pregnancy. We also plan to survey and interview practicing physicians in Prince George's County and current medical students studying within the DMV area. Using insight from both groups, we aim to characterize Black mothers' maternal care experiences in Prince George's County, such as perceptions of providers, providers' cultural competency, and providers' respect for patients. With our findings, we can help close the gaps in current research literature and examine the role of medical education in the healthcare system and maternal health disparities that disproportionately affect Black women residents of Prince George's County.

2. **Subject Selection:**

   a. **Recruitment:**

The team will distribute two surveys – one for Black women residents in Prince George's County and one for medical students and obstetrician-gynecologists (OB-GYNs) studying or practicing in the District of Columbia, Virginia, or Maryland (the DMV area). Both surveys will inquire respondents about their experiences with maternal health care, whether as a patient (for mothers) or provider (for medical students and OB-GYNs). The survey for Black mothers will be distributed via a QR code to be shared at public spaces in Prince George's County, such as libraries, day cares, metro stations, and grocery stores ("Potential Flyer Posting Locations"). The team will obtain permission from all locations where the QR code will be posted. The survey for medical students and OB-GYNs will be distributed via email ("Recruitment Email Template (Medical Schools)") to medical schools, teaching hospitals, and other healthcare institutions with publicly available email addresses ("Recruitment Email Recipients").

b. Eligibility Criteria:

For the survey and interview for Black mothers:

- The participant must be between the ages of 25 and 34.
- The participant must identify as a Black cisgendered woman.
- The participant must have resided in Prince George's County for at least 9 months as of the time of the study. Eligible zip codes are 20019, 20601, 20602, 20607, 20608, 20613, 20623, 20705, 20706, 20707, 20708, 20710, 20712, 20715, 20716, 20720, 20721, 20722, 20723, 20724, 20735, 20737, 20740, 20742, 20743, 20744, 20745, 20746, 20747, 20748, 20762, 20769, 20770, 20771, 20772, 20774, 20781, 20782, 20783, 20784, 20785, 20866, and 20904.
- The participant must be currently pregnant or within 6 months postpartum.
- The participant must be English-speaking.

For the survey and interview for medical students and OB-GYNs:

- The participant must be at least 18 years old.
- The participant must be a licensed obstetrician-gynecologist OR a medical student and resident with some clinical experience acquired during or after medical school.
- The participant must be studying at an institution or practicing at a location in the District of Columbia, Virginia, or Maryland.

c. Rationale:

According to the 2019 Prince George's County Maternal Health Report, among Black residents, those between the ages of 25 and 34 experience the highest birth rates in Prince George's County, and most mothers in the County seek services within the DMV area (Prince George's County Health Department Office of Assessment and Planning, 2019). Therefore, the inclusion criteria of this project are (1) Black mothers ages 25 to 34 residing in Prince George's County who are currently pregnant or six months or less postpartum; (2) medical students in in the DMV area; and (3) OB-GYNs in the DMV area. Respondents must be at least 18 years old to participate in this study due to the potentially sensitive nature of the research topic.

d. Enrollment Numbers:

We expect to enroll a maximum of (1) 300-400 Black mothers and (2) a combined 200 medical students and OB-GYNs for the survey. Of these survey participants, we expect that (1) 30 Black mothers and (2) a combined 50 medical students and OB-GYNs will choose to enroll in the interview portion of our study.

e. Rationale for Enrollment Numbers:

Similar research has been conducted with similar enrollment numbers. For example, Rule and colleagues (2018) used surveys to evaluate 114 medical residents and 143 medical school faculty members on their cultural competencies, while Phommachanh and colleagues (2021) surveyed 384 mothers on their understanding of maternal health information. In terms of qualitative methods, studies utilizing qualitative interviews often enroll around 20 to 35 participants (Edmonds, Mogul, and Shea, 2015; Adebayo et al., 2021; Moore de Peralta et al., 2019).

3. Procedures:

Our project is broken down into two components: surveys and interviews. We plan to recruit survey participants from February 1, 2023 until March 31, 2024. One question in our survey will ask survey respondents about their interest in participating in a one-hour interview surrounding their experiences with maternal healthcare, whether as a mother or care provider, and gather contact information from interested respondents. Between April 1, 2024 and April 31, 2024, we will reach out to prospective interviewees to schedule interviews. We aim to conduct all interviews between May 2024 and August 2024. From September 2024 to May 2025, we hope to be analyzing our data and completing our thesis. Using the findings from our study with Black mothers and current and prospective maternal health professionals, we also hope to create and send recommendations for improving medical school curricula to medical schools in the DMV area by May 2025.

The survey for mothers will be broken down into three portions: (1) demographics; (2) maternal health care experiences; and (3) health beliefs. The entire survey should take 30-45 minutes to complete. The demographics section will ask about factors that impact eligibility – namely age, gestational age, and zip code, which will be used to determine residency in Prince George's County. Other factors that may impact access to maternal health care – namely household type and income, membership in the LGBTQ+ community, citizenship/immigration status, and insurance coverage – will also be surveyed using

multiple-choice questions. The section about maternal health care experiences asks participants to describe how often they receive maternal health care, what services are or were provided, and how safe, respected, and comfortable they felt while receiving care. Finally, the section about health beliefs asks participants about where they receive health information as well as their opinions on the healthcare system and how it can be improved.

The survey for medical students and OB-GYNS will likewise contain three portions: (1) demographics; (2) patient-provider interactions; and (3) cultural competency or implicit bias training background. Demographics questions ask about each respondent's year in medical school or since graduation, as well as the medical school they currently attend or, if they have graduated, the zip code in which their practice is located. In the section about patient-provider interactions, respondents will be asked about their levels of comfort providing care to patients with historically marginalized backgrounds and their beliefs surrounding health care for Black patients. Last but not least, the section about training background will ask respondents about the depth, engagingness, and comprehensiveness of their cultural competency and implicit bias training, if they had undergone any. A list of survey and interview questions that the team plans to include in the study has been submitted along with this application.

As an incentive to participate in the survey, an option to enter a raffle to win $25 in cash will be offered to all survey respondents. Upon completion of the survey, participants will see a screen inquiring about their interest in being entered into the raffle. There will be 40 winners for the raffle in total – 20 mothers and 20 OB-GYNs or medical students – each of whom will receive $25.

If a participant is interested in entering the raffle, they will see a link directing them to a different Qualtrics survey, which will collect their email addresses for the raffle. Having separate surveys prevents the research team from matching participants' responses with identifying information, namely email addresses. No identifying information will be collected from surveys of respondents who are not interested in the raffle or not willing to disclose their email addresses which therefore means they do not need to click on this link. Qualifying respondents are allowed to participate in both the survey for mothers and the survey for OB-GYNs or medical students, but they may only enter the raffle once. The team will select the "Prevent Multiple Submissions" feature on Qualtrics to prevent duplicate responses (Qualtrics, n.d.-b).

On the same survey page that asks about interest in participating in the raffle, there will be another question inquiring about respondents' interest in participating in a one-hour

interview with the research team. Interested respondents will be directed to the same survey above to provide their email addresses. Those who are interested in the raffle and/or interview will check the checkbox(es) for each option to indicate their interest. Once again, respondents who are not interested in the interview portion or not willing to disclose their email addresses do not need to click on this link, in which case no identifying information would be collected from their surveys.

Subsequently, the team will reach out to winners of the raffle and prospective interview participants to discuss the location where the raffle prize may be delivered or the interview may be hosted. Participants may select their location of choice within Prince George's County or choose to participate in the interview via Zoom. The team will note to participants that in-person locations must have a private room in which the interview will be conducted. Upon receiving a location suggestion from a participant, the team will confirm with the location that there will be a private room available and make room reservations as needed. if there is no private room available, the team will request that the participant suggest an alternative location.

During the interview, the team will utilize open-ended questions to ask participants to share more about their experiences with maternal health care as patients or providers and their thoughts on areas of improvement within the healthcare system. In-person interview responses will be transcribed as they occur using the "Voice Typing" feature on Google Docs. Zoom interviews will be recorded in video form and automatically transcribed by Zoom. The team member who conducts an interview will ensure that they are in a private space where nobody can see their screen and use headphones or earbuds to ensure the participant's responses are not audible to any third party. The aforementioned member will review the transcription for that interview immediately upon conclusion of the interview to ensure accuracy. All documents related to the interview will be created and stored in a secure Google Drive managed by and accessible only to the team, as described below.

Interested interview participants will be offered the choice to enter another raffle for another $25 in cash, even if they had entered the raffle for survey participants. As is the case for the raffle for survey participants, 20 mothers and 20 OB-GYNs or medical students will each receive $25.

4. Risks:

This project includes a risk of breach of confidentiality, and the mitigation techniques are described in Section 6. There are no known risks to the physical well-being of participants in

this study. However, participants may experience emotional distress during the study. For mothers who have had unpleasant experiences interacting with the healthcare system, thinking about these experiences may evoke emotions such as sadness, frustration, and anger. For medical professionals, participation in the study may lead to reflections on their own implicit biases or any areas of improvement in their bedside manners or clinical skills.

The investigators of this study are not qualified to provide counseling or medical advice. However, there are measures in place to minimize the risks of emotional distress for participants. First, participation in the study is entirely voluntary, meaning participants may refuse to answer any and all questions or stop the survey or interview at any time. Study participants who change their minds and would like their responses to not be included in the study may reach out to the investigators at the email address provided on the consent form (aeskinde@terpmail.umd.edu). Second, all participants will be provided with a list of potentially helpful resources upon completion of (1) their consent forms, (2) the survey portion of the study, and (3) the interview portion of the study. The list for mothers ("Resources for Mothers") will include resources relevant to maternal health, mental health, and maternal mental health. The list for medical students and professionals ("Resources for Providers and Students") will include mental health resources that are open to the public as well as those specific to medical professionals.

5. **Benefits:**

Participants will be entered in a raffle with the chance to win $25 in cash. No other direct benefits are anticipated. However, the findings of this study will be distributed to public health and medical education professionals to potentially guide the development of public policy, medical school curricula, and other initiatives to reduce maternal health disparities and improve the competencies of medical professionals in and beyond Prince George's County.

6. **Confidentiality:**

All surveys in this project will be conducted using Qualtrics. To ensure that the research survey is anonymous, an anonymous link to the survey will be distributed, meaning Qualtrics will not automatically collect identifying information aside from IP addresses (Qualtrics, n.d.-a). The "Anonymize responses" feature on Qualtrics will be utilized to remove IP addresses before saving survey responses, maintaining the anonymity of respondents (Qualtrics, n.d.-b).

During each in-person interview, participant responses will be transcribed as they occur using the "Voice Typing" feature on Google Docs, and team members will review the transcription during and immediately upon conclusion of the interview to ensure accurate transcription and record non-verbal information, such as pauses. No video or audio recording will occur aside from the recording needed for the "Voice Typing" feature.

All documents related to the research project, including interview transcripts, will be created and stored in a Google Drive folder set to "Restricted," with only the Principal Investigator, team members, and staff members of the Gemstone Honors College being able to access the folder. The staff members who will have access – for monitoring purposes – are (1) Dr. David Lovell, the Program Director; (2) Dr. Allison Lansverk, the Program Associate Director; (3) Ms. Leslie Lizama, the Program's Operations Specialist; and (4) Ms. Brianna Lucas, the Program Manager for Student Engagement. All survey data will be downloaded from Qualtrics and likewise stored in this folder. Upon completion of the project in May 2025, the folder will be deleted to permanently destroy all data.

7. **Consent Process:**

Prior to entering the survey, all participants will be presented with a screen showing a typed informed consent form ("Survey Consent Form - Mothers" for mothers and "Survey Consent Form - OB_GYNs and Students" for medical students and OB-GYNs), along with a recommendation to make sure they are in a quiet and private space for the duration of the survey. If participants plan to take breaks between questions, they are advised to switch to a different tab on their electronic device if they are to temporarily be away from the device.

Survey participants will then be asked to read and electronically sign the consent form by selecting "I agree with the terms described above and agree to participate in this study." They will also be advised that they can obtain a copy of the consent form by (1) emailing the team at aeskinde@terpmail.umd.edu; (2) printing a physical copy of the consent form through their browser; or (3) saving a PDF copy or screenshot of the screen if they are using their own electronic device.

All in-person interview participants will be provided with a paper copy of the interview consent form ("Survey Consent Form - Mothers" for mothers and "Survey Consent Form - OB_GYNs and Students" for medical students and OB-GYNs) at their interview. Participants who choose to be interviewed on Zoom will individually be emailed a view-only Google Docs copy. At the interview, they will be asked to orally state "I agree" after reading the form or

having it read to them to signify their consent to the interview. Participants can keep the consent forms if they indicate orally at their interviews that they wish to do so.

For this project, we are requesting a Waiver of Consent Documentation because the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context. This project does not involve any form of deception. Additionally, all survey questions are optional, and participants are able to withdraw from the survey at any point. Email addresses are collected only from participants who are interested in (1) participating in the interview portion of the project, (2) being entered into a raffle for $25 in cash, or (3) receiving a copy of the completed study results. Interested participants will be directed to a separate survey to collect their email addresses so that their personal information (i.e., email address) cannot be linked to their individual survey responses. No identifying information will be collected from respondents who are not willing to disclose their email addresses.

Request for Waiver of Consent Documentation for Interview Procedures

We are also requesting a Waiver of Consent Documentation for our interview procedures because the interviews present no more than minimal risk of harm to participants. For the surveys and interviews, there are risks of emotional distress and breach of confidentiality, and mitigation techniques have been described in Sections 4 and 6, respectively. The interviews also involve no procedures for which written consent is normally required outside of the research context. As is the case with our survey, the interviews are entirely optional and do not involve deception, and participants are free to withdraw from the interview portion at any time. Respondents will be directed to a survey to collect their email addresses ("Survey Draft 1 - Participant Contact") only if they would like to (1) be entered into a raffle for $25 in cash or (2) receive a copy of the completed study results. This is a separate survey, so their personal information (i.e., email addresses) cannot be linked to their individual interview responses. No identifying information will be collected from respondents who are not willing to disclose their email addresses.

8. Conflict of Interest:

There is no conflict of interest that we can foresee at this time.

9. HIPAA Compliance:

This project does not involve the collection of HIPAA-protected information.

10. Research Outside of the United States:

This project does not involve participants outside of the United States.

11. Research Involving Prisoners:

This project does not involve participants who are currently incarcerated.

12. SUPPORTING DOCUMENTS

Your Initial Application must include a **completed Initial Application Part 1 (On-Line Document),** the information required in items 1-11 above, and all relevant supporting documents including: consent forms, letters sent to recruit participants, questionnaires completed by participants, and any other material that will be presented, viewed or read to human subject participants.

The consent forms in your approved IRBNet PACKAGE must be used. When creating or editing your consent form, please provide the most recent IRBNet package number at the bottom, right corner of the consent form. This ensures you are using the most "up-to-date" version of the form.

To find your IRBNet package number, go to the MY PROJECTS tab and click on the title of your project. In the PROJECT OVERVIEW page, your IRBNet package number will be listed at the top, next to your project title.

Appendix I: Transcripts from Provider Interviews

The link below provides access to the full-length transcripts of the provider interviews conducted between October 21st 2024 and February 4th 2025.

https://umd.box.com/s/ndwekw3f8q3lv5kt4ezljvagaufwmx9n

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