

AN ONLINE INVESTIGATION INTO FACTORS RELATED TO BLACK MATERNAL  
MORTALITY USING RETROSPECTIVE RECALL OF A PRIOR BIRTH  
HOSPITALIZATION WITH A RISK OF DEATH—  
PREDICTING MEDICAL MISTRUST

by

Amina Abdelaziz

Submitted in partial fulfillment of the requirements for the  
degree in Doctor of Education in  
Teachers College, Columbia University

2022

© 2022

Amina Abdelaziz

All Rights Reserved

## Abstract

# AN ONLINE INVESTIGATION INTO FACTORS RELATED TO BLACK MATERNAL MORTALITY USING RETROSPECTIVE RECALL OF A PRIOR BIRTH HOSPITALIZATION WITH A RISK OF DEATH— PREDICTING MEDICAL MISTRUST

Amina Abdelaziz

The problem that this study addressed was the high rate of maternal mortality for Black women in the United States, which has been rising, including before the COVID-19 pandemic. The goal was to identify significant predictors of medical mistrust. The study recruited a convenience sample via an online social media campaign. The resultant sample was 100% Black and female (N=192) with a mean age of 33.23 (SD= 4.980, min=24, max=61), while 94.8% were born in the United States (n=182). Using background stepwise regression, the following were found to be significant predictors of a higher level of medical mistrust: older age (B = .033, p = .001); higher levels of education (B = 0.205, p = .000); lower annual household income (B = -.055, p = .026); higher level of perceived racism, discrimination, and inequity in treatment from medical staff (B = 0.137, p = .046); lower levels of cultural sensitivity/ competence/ humility ratings for medical staff (B = -.155, p = .002); higher past year mental distress (i.e., Depression, Anxiety, Insomnia and Trauma) (B = .369, p = .000); and lower levels of social support post-partum (B = -0.162, p = .004)—with 46.5% of the variance predicted by the model ( $R^2 = 0.698$ , Adjusted  $R^2 = 0.465$ ).

The study findings highlight a crisis of Black maternal mortality in the United States, as well as a crisis in healthcare service delivery to Black women, as uncovered via this study. The data betrays a dimension of the crisis in healthcare service delivery to Black women who report experiencing discrimination for being Black at 75.5%, for their appearance (skin tone, hair, etc.) at 62.0%, and for being overweight or obese at 28.6%. Implications of the findings are discussed, while recommendations for future research are offered. In terms of those implications, perhaps most importantly, this data effectively identifies the year after a high-risk birth hospitalization as an essential time for ensuring Black women enter counseling with licensed and certified mental health professionals.

## Table of Contents

	Page
Acknowledgements.....	viii
Dedication.....	x
Chapter I - Introduction .....	1
Disparities and Inequities.....	2
Disparities for Black Women.....	3
Black Maternal Mortality.....	5
Potential Factors Operating in Black Maternal Mortality.....	6
Potential Access Issues, Barriers, Staffing Factors.....	8
Impact of Births Occurring in a Maternity Care Desert .....	9
Other Potential Systemic and Structural Factors .....	9
Quality of Maternal Care Issues .....	10
Potential Negative Impacts Due to the COVID-19 Pandemic.....	12
Implicit Bias, Poorer Quality Care, and Racial Disparities .....	14
Medical Mistrust.....	15
Racism.....	17
Harrell’s Model of Racism-Related Stress as Guiding Theory for Research.....	19
Pierce’s Theory of Racism as a Guiding Theory For Research .....	20
Cultural Humility for Cultural Competence as Guiding Theory.....	21
Social Support as a Guiding Theory for the Research.....	24
Toward Solutions to Black Maternal Mortality .....	25
Theoretical Framework for the Research.....	28
Statement of the Problem.....	28
Purpose of the Study .....	29
Research Questions, Survey Parts, and Data Analysis Plan .....	30
Treatment of the Data .....	33
Anticipated Findings.....	33
Delimitations.....	35
Limitations .....	35
Conclusion .....	35
Chapter II – Review of the Literature .....	37
I. Prevalence of Maternal Mortality .....	37
II. Black Women’s Maternal Mortality .....	39

Historical Lack of Access to Care for Black Women .....	39
Historical Approach to Data Collection on Black Maternal Mortality .....	40
III. Severe Maternal Morbidity, Comorbidities, and Complications .....	41
Pregnancy-Induced Hypertension (PIH).....	42
Cardiovascular Comorbidities and Other Comorbidities.....	44
Disproportionate Burden of Chronic Comorbidities.....	45
IV. Research on Factors Operating in Black Maternal Morbidity and Mortality .....	46
Maternal Health Inequities, Systemic Factors, And Social Determinants .....	46
Negative Stigmatization and Stereotyping of Black Women.....	48
Role of Provider Implicit Bias, Racism and Discrimination .....	49
Nurse Staffing Levels as a Potential Factor .....	50
Staff Diversity as a Potential Factor .....	52
Cultural Humility and Cultural Competence Training .....	53
Pre-Natal Care and Access Issues.....	54
Risk of Premature Birth .....	55
V. Social Support, Doulas, Midwives, and Maternal Outcomes .....	56
Social Support from Doulas.....	57
Historical Support from Black Midwives .....	59
VI. Medical Mistrust and Black Populations .....	60
Ongoing Black Medical Mistrust from the Tuskegee Study .....	60
Other Unethical Medical Practices .....	62
Negative Impacts from Medical Mistrust .....	63
Conclusion .....	64
Chapter III – Methods.....	65
Overview of the Study Design and Procedures .....	65
Institutional Review Board (IRB Approval).....	65
Recruitment of Study Participants .....	66
Other Study Procedures .....	67
Study Inclusion/Exclusion Criteria .....	67
Generating Prizes: The Study Incentive for Participation .....	68
Description of the Study Participants .....	69
Description of the Research Instrumentation.....	70
Part I: Basic Demographics (BD-10).....	71
Part II: Single Item Rating of Risk of Providing Socially Desirable Responses (SIR-RPSDR-1) .....	71
Part III: History of a High-Risk Birth Hospitalization Year of Event (HORBH-YOE-3).....	72
Part IV: Perceived Racism, Discrimination, and Inequities In Service Delivery by Medical Staff During a High Risk Birth Hospitalization	

(PR-D-ISD-BMS-DRBH-20) .....	73
Part V: Risk Factors for Pregnancy-Related Complications—Chronic Health Conditions (RFF-PRC-CHC-5) .....	74
Part VI: Occurrence of Medical Events During a High Risk Birth Hospitalization (OME-DRBH-14) .....	75
Part VII: Medical Mistrust Scale—Short Form (MMS-SF-4) .....	76
Part VIII: Rating the Cultural Sensitivity, Competence and Humility of Hospital Providers (RCSCH-OHP-1).....	78
Part IX: Perceived Discrimination by Hospital Providers In Response to Personal Demographics.....	78
Part X: Retrospective Depression, Anxiety, Trauma and Receipt of Counseling Scale—Past Year (A) and Year Post High Risk Birth Hospitalization (B) (RDAT-RCS-PY-YPRBH—8).....	79
Part XI: Perceived Stress Scale (PSS-4) .....	81
Part XII: Perceived Social Support—Now and During A High-Risk Birth Hospitalization—Scale (PSS-NADRBH-S-2).....	82
The Data Analysis Plan.....	84
Quantitative Research Questions .....	84
Data Management .....	86
Conclusion .....	87
Chapter IV – Results.....	88
Data Analysis Results by Study Question .....	88
Results for Research Question #1 .....	88
Part I: Basic Demographics (BD-10).....	88
Results for Research Question #2 .....	91
Part II: Single Item Rating of Risk of Providing Socially Desirable Responses (SIR-RPSDR-1) .....	91
Results for Research Question #3 .....	92
Part III: History of a High-Risk Birth Hospitalization Year of Event (HORBH-YOE-3).....	93
Results for Research Question #4 .....	93
Part IV: Perceived Racism, Discrimination, and Inequities In Service Delivery by Medical Staff During a High Risk Birth Hospitalization (PR-D-ISD-BMS-DRBH-20) .....	93
Results for Research Question #5 .....	98
Part V: Risk Factors for Pregnancy-Related Complications—Chronic Health Conditions (RFF-PRC-CHC-5) .....	98
Results for Research Question #6 .....	100
Part VI: Occurrence of Medical Events During a	

High Risk Birth Hospitalization (OME-DRBH-14) .....	100
Results for Research Question #7 .....	102
Part VII: Medical Mistrust Scale—Short Form (MMS-SF-4) .....	102
Results for Research Question #8 .....	104
Part VIII: Rating the Cultural Sensitivity, Competence and Humility of Hospital Providers (RCSCH-OHP-1).....	104
Results for Research Question #9 .....	105
Part IX: Perceived Discrimination by Hospital Providers In Response to Personal Demographics.....	105
Results for Research Question #10 .....	107
Part X: Retrospective Depression, Anxiety, Trauma and Receipt of Counseling Scale—Past Year (A) and Year Post High Risk Birth Hospitalization (B) (RDAT-RCS-PY-YPRBH—8).....	107
Results for Research Question #11 .....	111
Part XI: Perceived Stress Scale (PSS-4) .....	111
Results for Research Question #12 .....	113
Part XII: Perceived Social Support—Now and During A High-Risk Birth Hospitalization—Scale (PSS-NADRBH-S-2) .....	113
Results for Research Question #13 .....	115
Results for Research Question #14 .....	117
Conclusion .....	121
Chapter V - Discussion, Implications, Recommendations and Conclusion .....	122
Discussion of Results .....	122
Discussion of Demographic Findings .....	122
Discussion of Findings on Social Desirability .....	123
Discussion of Perceived Racism, Discrimination, And Inequities by Medical Staff .....	123
Discussion of Findings of Health Conditions And Risk Factors .....	125
Discussion of Findings on Medical Events.....	126
Discussion of Findings for Medical Mistrust.....	127
Discussion of Findings on Cultural Sensitivity, Competence, Humility .....	129
Discussion of Findings on Mental Distress Past Year and Year Post-Partum .....	130
Discussion of Findings on Perceived Stress .....	132
Discussion of Findings on Current and Post-Partum Social Support.....	132
Discussion of Findings on Perceived Stress .....	133
Discussion of Findings on Current and Post-Partum Social Support.....	133
Discussion of Findings for Significant Relationships	

With Medical Mistrust .....	134
Implications of the Findings for Practice and Future Research .....	136
Limitations of the Study .....	142
Conclusion .....	143
References .....	148
Appendices .....	157
Appendix A – Letter of IRB Approval .....	157
Appendix B – The Study Email .....	158
Appendix C – The Study Tweet/Text .....	160
Appendix D – Informed Consent .....	161
Appendix E – Participant’s Rights .....	164
Appendix F – Screening Tool .....	165
Appendix G – The Study Survey .....	166

## LISTS OF TABLES

Table	Page
1	Comparing Survey Completers to Non-Completers Independent T-Tests.....69
2	Basic Demographics (BD-10).....89
3	Single Item Rating of Risk of Providing Socially Desirable Responses (SIR-RPSDR-1) .....91
4	History of a High-Risk Birth Hospitalization Year of Event (HORBH -YOE-3).....92
5	Year Between 2012-2018 of Birth Hospitalization (HORBH -YOE-3) .....93
6	Perceived Racism, Discrimination, and Inequities in Service Delivery by Medical Staff During a High-Risk Birth Hospitalization (PR-D-ISD-BMS-DRBH-20).....95
7	Risk Factors for Pregnancy-Related Complications— Chronic Health Conditions (RFF-PRC-CHC-5) .....99
8	Occurrence of Medical Events During a High-Risk Birth Hospitalization (OME-DRBH-14) .....100
9	Medical Mistrust Scale—Short Form (MMS-SF-4) ..... 103
10	Rating the Cultural Sensitivity, Competence and Humility of Hospital Providers (RCSCH-OHP-1) .....104
11	Perceived Discrimination by Hospital Providers in Response to Personal Demographics (PD-BHS-IRTPS-5).....106
12	Retrospective Depression, Anxiety, Trauma And Receipt of Counseling Scale Past Year (A) (RDATS-PY-YPRBH—8).....108
13	Retrospective Depression, Anxiety, Trauma and Receipt of Counseling Scale—Post High-Risk Birth Hospitalization (B) (RDATS-PY-YPRBH—8).....109

14	Comparison of Mental Distress Past Year Versus Post-Partum Year .....	111
15	Past Month Perceived Stress (PSS-4) .....	112
16	Perceived Social Support Now and During High-Risk Birth Hospitalization (PSS-NADRBH-S-2) .....	113
17	Comparison of Social Support Current Versus Post-Partum Year .....	114
18	Independent T-Tests Comparing Groups on the Medical Mistrust Outcome Variable) .....	116
19	Correlations for Selected Independent Variables with Medical Mistrust .....	117
20	Backwards Stepwise Regression Predicting Medical Mistrust .....	120

## ACKNOWLEDGEMENTS

I would first like to give thanks to my family for always supporting me in any endeavor I take on. A special thank you to my parents, and especially my father: You pushed me to follow in your footsteps as the second Dr. Abdelaziz. You have been an incredible role model throughout my life. I love you very much and I am tremendously grateful for all your love and support, always encouraging me that my best IS the best. No matter how big or small, you are always there for me when I need you most. I hope to continue to make you and Nour proud of my accomplishments! Nour, thank you for supporting your big sister through her tough moments. Over the years I have watched you grow into an amazing young man, and I am very proud of you. I know whatever you do in life, it will be remarkable.

To my soon to be husband inshAllah, the completion of half of my *deen* and my soulmate, Adam: thank you for always being the best partner a person could ever dream or even have the pleasure of experiencing. Your love, support, kindness, and compassion forever uplift me when I am down, and keep me high when I am up. You are my biggest cheerleader and continue to push me to be my best version of myself, and I love you to “infinity and beyond”. My gratitude for your generosity, patience, and love is endless. I cannot wait to spend eternity together in bliss celebrating the fruits of our labor. We did it!

To my best friend, Shiné, thank you for always being by my side through thick or thin. It is an honor to call someone as spectacular as you my best friend. I am constantly blessed by our sisterly bond. We have watched each other mature over countless years and continue to blossom into unstoppable forces. I cannot wait to see what amazing things life unfolds for us.

Luna, Mocha, Sasha: thank you for being such comforting and wholesome blessings in my life, especially during this pandemic.

To my dissertation sponsor, Professor Barbara C. Wallace, thank you for your hours of dedication, feedback, patience, and support while we went through this process. You are an incredible role model and inspiration to us all, and I extend my deepest gratitude for all that you do for your Research Group on Disparities in Health (RGDH) fellows/ students who have also been of tremendous support to me during this journey.

To my fellow RGDH cohort mates and wonderful friends, Qiana and April, ladies—we did it! All our hard work, long nights, early mornings, endless Zooms, and shared memes in our group chats paid off. We pulled off miracles and I could not imagine going through this process without both of you. This dissertation process has created a lifelong friendship and bond between the three of us that is beautifully amazing.

A special and heartfelt thank you to the other members of my dissertation committee: Professor Robert Fullilove, thank you for being a powerful force and contributor to my dissertation, as my second committee member. Professor Sonali Rajan, and Professor Robert Mennin, thank you for giving your time and invaluable feedback as my third and fourth committee members, respectively.

Finally, a thank you to all the incredibly brave and courageous women who participated in this research. Without you, there would be no data and no research study! We *will* make a difference together, I promise.

With gratitude, love, and peace always,

Amina

## DEDICATION

I dedicate this research to my late mother, my guardian angel and my forever best friend, Rebecca. I miss you and love you so incredibly much, and I continue to strive to make you proud while you watch me from up above the clouds. Thank you for always believing in me and pushing me to be my absolute best; without your love I would not be here today accomplishing such an amazing feat. You were the best mother a daughter could dream of having and I thank you for always putting me first. You continue to be an incredible role model and inspire me to always keep going. I made a promise to you on your last day to dedicate my life to helping others and make a difference—

I will continue to fulfill that promise, every day.

Your *coquíta* forever and always.

## Chapter I

### INTRODUCTION

Maternal death has been defined as the “death of a woman while pregnant or within 42 days” of pregnancy termination, regardless of the duration or site of pregnancy including any cause related to pregnancy or management (Hoyert, 2022, p. 1). Alternatively, maternal death has been defined by the Centers of Disease Control and Prevention (CDC) as the death of a woman while pregnant or within one year of the end of the pregnancy (Lu et al., 2021).

Maternal mortality rates are considered “per 100,000 live births based on data” from the National Vital Statistics System natality file (Hoyert, 2022, p. 1). While this topic has garnered extensive attention on both a national and international level, racial disparities have remained vast as mortality rates continue to soar. From 2019 to 2020, the overall maternal mortality rate in the United States increased from 20.1 to 23.8 per 100,000 live births. Among Black and African American women, the mortality rate from 2019 to 2020 “increased from 44.0 to 55.3 per 100,000 live births” (Hoyert, 2022, p. 1).

As this data suggests, while the United States has led as one of the wealthiest countries in the world, “maternal mortality in the United States is at an alarming” rate with stunning racial disparities (Lu et al., 2021, p. 280). Maternal mortality has been acknowledged as a “general indicator of the overall” health status of a population; and of the status of women within the functioning of its health system (Douthard et al., 2021, p. 168). The maternal mortality rate in other high-income countries has been “significantly lower than in the United States” (Douthard et al., 202, p. 169).

While the United States spends a significant amount on healthcare, more than “700 mothers die and more than 50,000 mothers” experience a life-threatening complication classified as severe maternal morbidity (Lu et al., 2021, p. 280). The maternal mortality rate in the United States increased about 58% in the past two decades, while other countries have reported a significant decline in maternal deaths (Lu et al., 2021).

*Severe maternal morbidity* refers to “several complications of hypertensive disorders of pregnancy” that include cardiovascular complications—which has been rising in the United States (Minhas, et al., 2021, p. 480). These complications have included acute congestive heart failure, pulmonary edema, acute myocardial infarction, cardiac arrest, and acute renal failure. As a result, severe maternal morbidity “has contributed to maternal mortality with cardiovascular conditions” among the leading causes of pregnancy related deaths in the United States (p. 480). Chronic hypertension, preexisting diabetes, and obesity were more prevalent in Black women compared with other groups. Overall, Black women bore a “greater total burden of preeclampsia and more intensive” preventive efforts should be focused on this group (Minhas, et al., 2021, p. 487).

### **Disparities and Inequities**

There is a constant “racial, ethnic, socioeconomic and geographic” range of disparities that persist within the United States healthcare system (p. 280). While maternity care and medical technology have advanced and evolved, the “current understanding of the causes and prevention” of maternal mortality and its disparities remains incomplete (Lu et al., 2021, p. 280).

Racial and ethnic “inequities in health are a national crisis” that have required engagement across the healthcare workforce (Kozhimannil et al., 2021, p. 170). Such racial

inequities have been “avoidable health differences that have put a socially disadvantaged” group at further disadvantage as the nation became more diverse (p. 170). As a result, these inequities have eroded individual and population health that include the nursing workforce that include peripartum, advanced practice, and nurse practitioners. Nurses have comprised the “largest segment of the healthcare profession” and are at the frontline of healthcare delivery in the United States. Efforts to achieve racial equity in childbirth requires attention to the “nurses who provide care before and during pregnancy” at childbirth and postpartum (Kozhimannil et al., 2021, p. 170).

The CDC has initiated a national *pregnancy mortality surveillance system* (PMSS) in the United States (CDC, 2020). The PMSS has defined a pregnancy related death as the death of a woman while pregnant or within one year of the end of pregnancy from any cause related to or aggravated by the pregnancy. With this system, medical epidemiologists reviewed and analyzed death records from all 50 states and calculated the pregnancy related mortality ratio. The pregnancy related mortality ratio is considered an estimate of the number of pregnancy related deaths for every 100,000 live births. The CDC (2020) found non-Hispanic Black mothers had the highest rate of pregnancy related mortality at a ratio of 41.7 deaths per 100,000 deaths. Non-Hispanic white mothers had a rate of pregnancy-related mortality at a ratio of 13.4 deaths per 100,000 deaths, while Hispanic or Latina mothers had a ratio of 11.6 deaths per 100,000 deaths (CDC, 2020).

### **Disparities for Black Women**

African American and Black women have been “consistently the most impacted by adverse health outcomes in the United States” (Green et al., 2021, p. 1). Decades of medical and

public research have failed to explain or reduce “race-associated differences in maternal outcomes”—such as mortality, morbidity, and patient experiences (p. 1). In addition to increased trends in maternal mortality, overall, the persistent, large, and increased mortality gaps between Black women and other racial groups in the United States has continued to grow (Green et al., 2021).

Health disparities for “childbearing Black women have persisted despite overall improvements” in pregnancy related outcomes (Gary et al., 2020, p. 1). Regardless of “pregnancy-related outcomes for women and infants improving overall,” during the past few decades, Black women have significantly lagged compared to other racial groups (Gary et al., 2020, p. 1).

With the focus in mainstream media over racial disparities in maternal morbidity in the United States, Congress passed “the Preventing Maternal Deaths Act at the end” of 2018 (Bridges, 2020, p. 1234). The law has provided states with “twelve million dollars annually for five years” to fund maternal mortality review committees (p. 1234). Such committees are comprised of a collection of experts that evaluate every maternal death in a jurisdiction, while seeking to understand why each death occurred and what could have been done to prevent said death. However, while there is an understanding that the “maternal health tragedy in the United States” is a racial tragedy, the Act does not mention the term “race” in any part of its statute (p. 1235). While maternal mortality in the United States became salient for its racial nature, the Act advanced by Congress does not mention its racial nature at all. With the general discourse that “surrounds racial disparities in maternal mortality” has been viewed as impoverished, given how an analysis of racial disparities in maternal mortality is deemed necessary (Bridges, 2020, p. 1235).

## **Black Maternal Mortality**

Chinn et al. (2021) discussed how Black women were estimated to be 3-4 times “more likely to die within a year postpartum compared to White and Latina women” (p. 215). Racial disparities in Black maternal mortality have “persisted at every education level and has persisted or increased over time” showing no significance in a connection to this issue (Chin et al, 2021, p. 215).

The risk of maternal mortality among Black women has “persisted after controlling for socioeconomic status” with 60% of maternal deaths considered preventable (Kumar et al., 2021, p. 202).

The maternal mortality ratio among Black women has exceeded “epidemic proportions” (Allan, 2020, p.1). Such death rates for any other condition” would lead to mobilization of healthcare resources and national policy change (Allan, 2020, p.1).

Despite advances in public health, “large racial and ethnic disparities in US maternal mortality” have remained a critical problem (MacDorman et al., 2021, p. 1673). Vital statistics provided the official US maternal mortality “estimates and identify cases for more detailed review” for maternal mortality data systems such as the Pregnancy Mortality Surveillance Systems (p. 1673). There have been concerns about the accuracy of US vital statistics data that is used to measure maternal mortality with regards to underreporting maternal deaths. Many deaths have been recorded as ill-defined causes, which makes it “impossible to accurately identify the leading causes of maternal” death, or the percent contribution of individual causes of death to maternal mortality disparities (MacDorman et al., 2021, p. 1673).

## **Potential Factors Operating in Black Maternal Morbidity**

There are limitations in the body of existing knowledge, given how prenatal care research has “focused mostly on infant outcomes and has not adequately” addressed maternal outcomes (Devindo et al., 2020, p. 555). Research on infant outcomes does not explain the “the disproportionately high rates of maternal and infant morbidity” and mortality affecting African American and Black women in the United States (Devindo et al., 2020, p. 555).

While causes of maternal mortality are multifaceted, “cardiovascular disease is the primary cause of pregnancy” related mortality (Varagic et al., 2021, p. 178). Women’s long term cardiovascular health has been “affected by adverse pregnancy outcomes such as preeclampsia,” gestational hypertension, and diabetes, and preterm birth (p. 178). Overall, hypertension is the most common complication observed during pregnancy in the United States. Early intervention would have the potential to reduce adverse pregnancy outcomes for women who “become pregnant again”—while addressing “their lifetime risk” of cardiovascular disease (p. 183). As a result, researchers recommend “comprehensive cardiovascular evaluations beyond the immediate postpartum period” be done to mitigate underlying risk factors that could prove fatal (Varagic et al., 2021, p. 178).

Risk factors for Black women for pregnancy-related complications include those from chronic diseases, such as “obesity, cardiovascular disease, diabetes, and asthma” have had increased prevalence (Essien et al., 2019, p. 349). There has been an increased risk for neonatal death, low birthweight, and premature births in Black women (Essien et al., 2019).

The search for biological markers in Black maternal mortality in the United States has continued to “perpetuate the misconception that race is a risk factor” for adverse maternal health outcomes (Crear-Perry et al., 2021, p. 230). Such misguided approaches have failed to identify

and remediate the fundamental causes of maternal mortality and maternal health inequities among Black mothers. While efforts have been made to understand this inequity by “analyzing individual behaviors and socioeconomic conditions,” this results in placing personal responsibility and blame on Black mothers (Crear-Perry et al., 2021, p. 230).

African American and Black women have experienced higher levels of psychosocial stress during pregnancy compared to their white counterparts (Devido et al., 2020). This has “accounted for some of the disparities that exist” related to maternal mortality (p. 555). While social support has helped combat this disparity, “social capital may be a better solution” (Devido et al., 2020, p. 555).

The CDC uses the national *pregnancy mortality surveillance system* (PMSS) to better understand risk factors for and causes of pregnancy-related deaths in the United States (CDC, 2020). Variability in the risk of death by race/ethnicity was attributed to many factors that included access to care, quality of care, prevalence of chronic diseases, structural racism, and implicit biases. There have been declines in the contributions from hemorrhage, hypertensive disorders of pregnancy such as preeclampsia/eclampsia, and anesthesia complications to pregnancy-related deaths, and increases in contributions from cardiovascular, cerebrovascular accidents, and other medical conditions. Research found an increased number of pregnant women in the United States suffered from chronic health conditions such as hypertension, diabetes, and chronic heart disease. These conditions have put women at higher risk of complications pre- and post-partum (CDC, 2020).

While most research on Black maternal mortality confirmed elevated rates of chronic conditions, it has not explained the increasing trends of Black maternal mortality over time within the United States (Chinn et al., 2021). Non-clinical factors that have included hospital

care quality “help to explain some of the disparities in maternal mortality” among Black women (Chinn et al., 2021, p. 215).

### **Potential Access Issues, Barriers, Staffing Factors**

Factors such as “barriers to healthcare access, and lifestyle choices are commonly identified” stressors for Black women (Gary et al., 2020, p. 1). Even when considered together with racism and poverty, such stressors have been insufficient to capture Black women’s perspectives of their maternal care experiences (Gary et al., 2020).

The “shortage of primary care providers such as nurses” and nurse midwives has put Black mothers at risk for a delay in care (Crear-Perry et al., 2021, p. 232). Many Black mothers have been unable to seek care at an early stage of their pregnancies and build trust in their providers. Such a risk has been “amplified for women who have preexisting conditions” or who have developed comorbidities during their pregnancies (Crear-Perry et al., 2021, p. 232).

Limited access to high quality prenatal and maternity care services has “contributed to mortality risks in racial/ethnic groups,” which has resulted in an increase in mortality rates over the past few decades (Snyder et al., 2020, p. S45). Sufficient access to obstetrician-gynecologists (OB-GYNs) has been critical for “managing pregnancy complications and obstetric emergencies” before, during, and after pregnancy (p. S45). OB-GYNs and primary care providers such as nurses provide core services to Black expecting mothers, and a lack of such service is another barrier for quality healthcare. Data showed the Southern states had the highest overall maternal mortality rates with “lower than national levels of provider availability” across the region (p. S49). Therefore, lower than national levels of provider availability across this region seems to be associated with higher maternal mortality rates. Providers have played an

important role in “delivering primary care and other health services” to women of reproductive age, often mitigating health care access gaps in communities facing physician shortages (Snyder et al., 2020, S50).

### **Impact of Births Occurring in a Maternity Care Desert**

Over 12% of births in the U.S. occur in a maternity care desert, defined as “areas with limited or scarce access to maternity” care services (Carvalho, et al., 2021, p. 2). These maternity care deserts have had minimal availability of obstetricians and insurance coverage for maternity care, which disproportionately impact Black neighborhoods. Loss of resources in hospitals due to COVID-19 lead to “closure of obstetric wards and increased the distance” women must travel to obtain care (p. 3). The United States healthcare system has been “strained with overworked personnel and policies” to restrict spreading COVID-19 (p. 1). Prior to COVID-19, Black pregnant women were “disproportionately affected by psychosocial stressors” such as racial discrimination and high levels of stress (p. 4). The pandemic could “compound the consequences of social determinants” of health on communities of color (p. 2). There could be worsened perinatal outcomes for women who have never contracted COVID-19. Issues of access to quality maternal care that have “permeated communities of color are especially concerning” for Black pregnant women (Carvalho, et al., 2021, p. 2).

### **Other Potential Systemic and Structural Factors**

Drivers of the upward trend of maternal mortality in the United States and its continuing disparities have challenged public health stakeholders and practitioners (Douthard et al., 2021).

The overmedicalization of maternal mortality has “ignored upstream drivers of maternal deaths” (Allan, 2020, p. 2). Instead, the focus has been primarily on micro-level causes of death (Allan, 2020, p. 2).

According to Hardeman et al. (2018), health inequities have been systematic, socially produced and “unjust differences in health that could be avoided by reasonable means,” while it is important to understand the role that institutionalized racism plays (p. 240). Institutionalized racism includes the “macrolevel systems, social forces, institutions and processes” that promote the reinforcement of inequities among racial and ethnic groups (Hardeman et al., 2018, p. 241).

### **Quality of Maternal Care Issues**

Clinical, social, and political attention to the causes and drivers of maternal deaths have revealed gaps in access to quality maternal healthcare. Such gaps in access to quality care have been identified at the “individual, clinician, and health facility or system” levels (Morton et al., 2019, p. 253).

Poor treatment during childbirth has been an issue that has received attention as “disrespectful care has occurred in facility-based childbirth settings” in the United States (Morton et al., 2018, p. 263). Women from racial/ethnic backgrounds have reported “derogatory comments or judgmental remarks about their race” or culture in maternity care settings (p. 264). Racial/ethnic health disparities in maternal mortality have been long-standing, persistent outcomes in the United States; and, like disrespectful care in childbirth, have represented a human rights crisis in this country. Verbal abuse during care has included “threatening, scolding, ridiculing, shaming, coercing, yelling, belittling, lying” as well as behaviors of manipulating, mocking, dismissing, and refusing to acknowledge which undermine the recipient’s self-esteem

while enhancing the abuser's sense of power (p. 264). Such verbal abuse has raised based on power imbalances within the clinician-patient relationship that have included race, class, and gender inequalities. It was reported that maternity clinicians in the labor and delivery setting that "include nurses, midwives, and physicians may exaggerate" fetal risks to coerce a woman to consent to clinical intervention (p. 264). Following this, many women have experienced traumas after childbirth interventions that were revealed as coercive and unnecessary (Morton et al., 2018, p. 265).

Research has confirmed the multifactorial nature of mistakes that have occurred with mothers at "multiple points during pregnancy, childbirth, and the postpartum" course (Morton et al., 2019, p. 259). Such medical mistakes have led to preventable maternal death (Morton et al., 2019).

According to Taylor (2020), Black women were most likely to be given "cesarean sections at a rate of over 40%" compared to their white counterparts at 29% (p. 511). Black women were found to have the highest rate of death from pregnancy related causes compared to other races and ethnicities. Furthermore, Black women were found to be two to three times more likely to die when compared to the rates for White maternal mortality. Regardless of a Black woman's social or economic status, "oppression has perpetuated racial inequalities in healthcare and poor maternal health" that include harmful institutional practices by their healthcare providers (p. 507). Within the healthcare system such harmful "institutional practices and negative representations of Black women intermingle" that lead to a devaluation of pain and traumatic experiences (Taylor, 2020, p. 511).

## **Potential Negative Impacts Due to the COVID-19 Pandemic**

The coronavirus pandemic has “reshaped the healthcare landscape while placing a strain” on all healthcare workers, including those who provide maternal health care services (Green et al., 2020, p. 1). With an estimated “116 million babies to be born during and in the aftermath” of the pandemic, millions of women HAVE needed and will continue to need quality healthcare for preventative and management care (p. 2). The role of health care workers that included nurses and doctors in having provided healthcare to Black women has continued to be essential as the health system in the United States has been overwhelmed by the effects of the COVID-19 pandemic. Fears about the “transmission of coronavirus, social distancing requirements and diversion” of resources to COVID-19 response have forced healthcare workers to increase reliance on telehealth and patient self-monitoring (p. 2). In terms of prenatal care, patients have been “encouraged to perform more aspects of routine” monitoring that included blood pressure and counting kicks (p. 2). However, such initiatives required robust education to be given to pregnant patients (Green et al., 2020, p. 3).

In the United States, where routine prenatal care “consists of 12–14 visits throughout a normal low-risk” pregnancy, maternal care workers have shifted protocols and reduced visits to five in person visits (Green et al., 2020, p. 3). These visits include combined services such as “ultrasound, lab testing, and physical examinations” into a single visit with a reliance on telehealth appointments (p. 3). However, such a shift into telehealth has not been a universal fit, and has been problematic for high-risk patients, including those with comorbidities and in high-risk populations. Telehealth has required that both patients and providers have “the infrastructure and capacity to practice telehealth” in the form of hardware and having Internet services (p. 3).

Prenatal telehealth may only serve as a solution in certain parts of the United States, leaving rural and remote areas with a barrier to quality healthcare services. Overall, health workers that have provided “health care to women during the COVID-19 pandemic” faced a wide range of challenges that directly affected their pregnant patients (Green et al., 2020, p. 7).

With COVID-19 pandemic negative impacts on healthcare in the United States, there have been “stimulating debates about the efficacy of maternity care” and the overall safety of hospital births for women of color (Davis-Floyd et al., 2020, p. 413). Within New York City, pre-COVID-19, pregnant Black women were suffering from “systemic racial bias that has long produced” worse maternity and health outcomes overall (p. 420). As a result, because of the COVID-19 pandemic, there has been an increase in women seeking to give birth out of hospital with help from a certified nurse midwife (CNM)—or a doula, who is a trained companion that supports pregnant women during health-related experiences. Yet, women of color have experienced racial inequalities within the insurance process for requesting a midwife for an at home birth “within a predominantly white world of institutional” maternity care in the US (Davis-Floyd et al., 2020, p. 420).

Disease outbreaks have often “exposed and exacerbated long standing inequities which cut across” gender, race, and social class (Obinna, 2020, p. 68). This was the case with the current COVID-19 pandemic. African American women were “situated within overlapping systems of oppression which facilitate” losses of life during the pandemic (p. 69). Access to quality healthcare has been critical for African American women and mothers, since it has historically contributed to longer, healthier lives and battles against disparities. However, African American and Black women have been “vulnerable to the intersecting effects of racism and sexism,” which reflect interlocking systems of oppression and privilege—which may be

exacerbated during the pandemic as pertinent factors impacting these women (Obinna, 2020, p. 68).

### **Implicit Bias, Poorer Quality Care, and Racial Disparities**

Implicit bias has differed from overt and intentional discrimination by being “developed early in life from exposure to repeated reinforcement” of stereotypes that have been perpetuated by structural discrimination (Saluja et al., 2021, p. 270). The existence of cultural stereotypes for “certain social or racial groups has the potential to influence” one’s behavior towards individuals from the stereotyped group (p. 271). Therefore, implicit bias has been defined as thoughts and feelings that have existed outside of conscious awareness and has affected human understanding, actions, and decision-making—unknowingly. Implicit bias has been “directly correlated with lower quality of care for patients” and has been activated under stressful working conditions (p. 271). Racial disparities exist because “implicit bias has affected health care providers’ perceptions” and decisions, creating inequalities in access, patient–provider interactions, treatment decisions, and health outcomes (p. 271). Furthermore, many healthcare providers have struggled to acknowledge the impact of personal implicit bias on their care for their patients. As a result, some healthcare providers have held “false beliefs about biological differences between Black” and White patients that have increased their implicit bias (Saluja et al., 2021, p. 271).

Implicit bias against Black mothers in the medical field has extended to Neonatal Intensive Units (NICUs), as per Davis et al (2021). Implicit bias has “disrupted communication principles and led to an increase” in health disparities (Davis et al., 2021, p. 1). This has jeopardized the health and well-being of Black mothers, as interactions “characterized by implicit bias in NICUs” led mothers to feel disregarded by medical staff when they expressed

concerns about care (p. 2). Furthermore, implicit bias has led medical professionals to engage in verbal expressions perceived by Black mothers as being trivialized or ignored. As a result, the negative impact of implicit bias on “disrupted interpersonal communication and maternal distress” has done harm to Black mothers (Davis et al., 2021, p. 2).

In the nursing field, a failure to “provide culturally competent care has become a patient safety” issue regarding healthcare (Patel, 2021, p. 21). Social psychologists have determined that implicit racial biases have “influenced behaviors including nonverbal and paraverbal” responses during interactions with Black patients (p. 22). Some of these behaviors have included maintaining eye contact while having conversation and nodding of the head. Nurses should make the conscious effort to mitigate implicit biases “by reshaping their thought processes” and learning through their experiences to decrease biases (Patel, 2021, p. 21).

### **Medical Mistrust**

Hall et al (2021) focused on the manner in which Black patients have experiences of racial discrimination within medical settings as a common occurrence. These experiences may be associated with **medical mistrust**—as mistrust “in the medical system based on perceived systemic racial bias”—or mistrust in medical recommendations, as well as poorer clinical outcomes (Hall et al, 2021, p. 3).

Shelton et al (2010) engaged in research to validate a medical mistrust scale, given their 11-item version of their tool: i.e., **The Group Based Medical Mistrust Scale (GBMMS)**, which measures race-based medical mistrust. The 11-item tool follows elimination of one item from their original 12 item tool, given the finding of three factors: **Suspicion Scale (Factor 1); Discrimination Scale (Factor 2); and, the Lack of Support Scale (Factor 3)**. Shelton et al

(2010, p. 552) had a sample of urban Black men, reporting that internal consistency “was high for the total GBMMS ( $\alpha=0.87$ ) and the three sub-scales: Suspicion ( $\alpha=0.89$ ); Discrimination ( $\alpha=0.83$ ); Lack of Support ( $\alpha=0.65$ )” (p. 552). They also “calculated split-half reliability by examining the correlation between odd and even numbered items and found two halves to be highly correlated ( $r=0.78$ ;  $p<0.0001$ )” (Shelton et al, 2010, p. 552).

Using a sample (N=143) of Black adults from addiction treatment facilities in Ohio, Hall et al (2021) found that a majority (79%, N=113) had experiences of prior racial discrimination during their receipt of healthcare (Hall et al, 2021). The study used the Group-Based Medical Mistrust Scale (GBMMS) to ascertain mistrust “in the medical system based on perceived bias” (p. 3). Experiences of racial discrimination in a medical setting were found to be associated with greater mistrust in the medical system and more negative expectations regarding racial discrimination in addiction treatment; negative expectations and concerns included expecting experiences of discrimination during treatment, which could cause a delay in seeking treatment when needed. Recommended were increasing staff diversity, as well as “educational interventions for healthcare workers to understand the importance and relevance of providing culturally-informed care” (p. 7). There should also be a focus on “respect, courtesy, quality service” and “active listening” in “training” and for “quality improvement” (Hall et al, 2021, p. 7).

Logan et al (2021) engaged in online mixed methods research, including conducting interviews with African American women (N=22) aged 18 to 29 years regarding their family planning care (FPC). Logan et al (2021) emphasized the women’s dynamic encounters with providers, while highlighting the need for a focus on developing Black women’s relationships with their providers. The goal would be to mitigate those persistent inequities which are serving

to perpetuate disadvantage and discrimination for Black women, as evidenced by the following emergent themes, or “essences and experiences” (Logan et al, 2021, p. 172):

Women’s narratives uncovered the following essences and experiences: (a) silence around sex impedes engagement in care, (b) patient–provider racial concordance as protection from harm, (c) providers as a source of discouragement and misinformation, (d) frustration as a normative experience during FPC [family planning care] visits, (e) decision making excludes discussion and deliberation, (f) medical mistrust is pervasive and part of Black consciousness, and (g) meaningful and empathic patient–provider encounters are elusive... (p. 172)

Hence, the research of Logan et al (2021) normalizes as pervasive the experience of medical mistrust for Black patients. For example, VanNoy et al (2021) found with a sample of Black women (largely single, college educated, with insurance) seeking surgical treatment for uterine fibroids that some of the women expressed medical mistrust, as per findings using semi structured interviews.

## **Racism**

Racism has long driven societal inequities (Williams & Cooper, 2019). Williams and Cooper (2019) view racism as an active societal system that gives the dominant group power to categorize and rank people into social groups called races (Williams & Cooper, 2019). Black patients are among the stigmatized racial groups “documented to have worse health than that of white patients” in medical documentation (, p. 1). While there have been attempts to reduce racial inequities in healthcare over time, there is still a large gap that cannot be ignored. Racism as a structured system interacted and reshaped “political, legal, and economic institutions that shaped the values, policies and practices” of overall social institutions (p. 2). Furthermore, racism used its power to “devalue, disempower, and differentially allocate societal resources and opportunities” to inferior groups defined by racism itself (p. 2). Structural/institutional racism

used interchangeably exists within multiple societal systems that include “the housing market, the education system, the labor market, the criminal justice system” the economy and the health care system (p. 2). Racism created unequal access to resources and opportunities, which led to the cause of racial inequities in health (Williams & Cooper, 2019, p. 2).

More specifically, racism has been a major contributor to “sexual and reproductive health disparities of African American women” in the United States (Prather et al., 2018, p. 250). The contemporary and historical “racism related healthcare experiences of African American women to date highlight the need” for the development of new models for health promotion (p. 255). Programs that have been designed to address individual, interpersonal, community, and system level factors could result in sustainable improvements in health among Black women. Equal access to effective “sexual and reproductive health information and quality healthcare services” requires the reduction of barriers to care (p. 256). Furthermore, there has been a strong need to “broaden partnerships among public health agencies to include non-traditional partners” who influenced social determinants that affect the health status of Black women (p. 256). Public health researchers have needed to be familiar with the history and lived experiences of their Black patients, in order to design efforts that remove any ties to racism from their care. Policies that “promote health equity could be powerful tools for social change” by the enforcement of racial and gender equality (p. 256). Properly framed and executed research can “support the development of approaches that take into account the unique” experiences of Black women (Prather et al., 2018, p. 256).

In past discussions of health equity among Black women “impacts of institutional- and individual-level forms of racism and discrimination” in a historical context have been pointed out (Chinn et al., 2021, p. 212). There has been consistent research and documentation on how

Black women have experienced systematic oppression, unequal treatment, and bias. The intersectionality of gender and race for Black women has been an important focus as “Black women are subjected to high levels of racism, sexism, and discrimination” compared to Black men (p. 213). Findings have shown White women in the United States have benefited from constant privileges living in “a politically, culturally, and socioeconomically white-dominated society” (p. 213). Compared to Black women, White women have reaped benefits from an accumulation of generational advantages not afforded to Black women. Such conditions have led health disparities to exist and persist, “leaving Black women at the center of a public health emergency” (Chinn et al., 2021, p. 213).

### **Harrell’s Model of Racism-Related Stress as Guiding Theory for Research**

Harrell (2000) defined racism, as a “system of dominance, power, and privilege based on racial group designations rooted in the historical oppression of a group defined or perceived by dominant-group members as inferior, deviant, or undesirable” (p. 43). In addition, the circumstances in which racism occurs include those where members of the “dominant group create or accept their societal privilege by maintaining structures, ideology, values, and behavior that have the intent or effect of leaving nondominant-group members relatively excluded from power, esteem, status, and/or equal access to societal resources” (p. 43).

Racism has been described as “rooted in a historical continuity of injustice and disparity that is linked to contemporary circumstances and systematically influences the conditions and experiences of large groups of people” (Harrell, 2000, p. 2). Further, racism “provides a context for the development and maintenance of—and endures, in part, due to—stereotypes, prejudice, and discrimination (p. 43). Harrell (2000) discussed how racism has the potential to affect well-

being and health, while racism-related stress has been found to be associated with health-related and physiological outcomes, including hypertension and cardiovascular reactivity, for example..

Harrell (2000) followed the work of Lazarus and Folkman (1984) in focusing on psychological stress and defining **racism-related stress**. Harrell (2000) defined racism-related stress as the “race-related transactions between individuals or groups and their environment that emerge from the dynamics of racism, and that are perceived to tax or exceed existing individual and collective resources or threaten well-being (p. 44). In addition, Harrell (2000) advances the concept of **racism-related events**—which are “stressors” that “include significant life experiences that are relatively time-limited,” while the effects “may be lasting” (p. 45). Harrell (2000) also acknowledges **daily racism microstressors**, which were previously described as “microaggressions” by Pierce (e.g. 1995). For Harrell (2000), examples of microstressors include: “being ignored or overlooked while waiting in line, being mistaken for someone who serves others (e.g., maid, bellboy), and being followed or observed while in public” (p. 46). Also, “the accumulation of these experiences contributes to the overall stress load of the individual” (Harrell, 2000, p. 46).

Hence, Harrell’s (2020) theory and Model of Racism-Related Stress provides an important theory within the framework guiding the present research study.

### **Pierce’s Theory of Racism as a Guiding Theory for Research**

Another important source of theory to guide the study arises from the work of Pierce (1995; Pierce et al, 1977). Pierce (e.g. Pierce et al, 1977) not only pioneered and contributed the concept of microaggressions, but also the Theory of Racism that included the concept of internalized racism. The Theory of Racism explains how socialization in the United States serves

to establish how Whites are superior and Blacks are inferior (Pierce et al, 1977). Racism is seen as a mental and public health illness wherein skin color determines if one is viewed as holding and functioning a superior (Whites) or inferior (Blacks) position in the United States (Pierce et al, 1977). Blacks socialized in the United States are at risk for the internalization of racism. Also, this socialization process results in both Whites and Blacks are pro-racist, while viewing Blacks as dependent and deferential to Whites in all interpersonal interactions (Pierce et al, 1977). Pierce et al (1977) explained how the “chief vehicle for pro-racist behaviors are microaggressions”—as “subtle, stunning, often automatic, and nonverbal exchanges” which are “put downs” of Blacks by those engaging in such microaggressions” (p. 65).

Thus, Pierce’s (i.e. Pierce et al, 1977) Theory of Racism, with the concept of internalization of racism, provides an important additional theory within the framework guiding the present research study.

### **Cultural Humility for Cultural Competence as Guiding Theory**

Cultural sensitivity, as well as cultural competence are important to the care of Black women to improve pregnancy outcomes (e.g. Reddy et al., 2021). Tervalon and Murray-Garcia (1998) advanced the concept of cultural humility as a more appropriate goal in medical education than that of cultural competence—which implies an end-point is achieved via medical education and training. In contrast, cultural humility involves healthcare professionals continually engaging in self-reflection and self-critique as lifelong learners (i.e. there is no end-point). Professionals pursue this lifelong commitment to self-evaluation and self-critique to redress the power imbalances in the patient-physician dynamic and to develop mutually beneficial and

nonpaternalistic partnerships with individuals and communities (Tervalon & Murray-Garcia, 1998).

Cultural humility is also deemed a “process that requires humility in how physicians bring into check the power imbalances that exist in the dynamics of physician-patient communication by using patient-focused interviewing and care” (Tervalon and Murray-Garcia (1998, p. 118). Also important is “humility to develop and maintain mutually respectful and dynamic partnerships with communities on behalf of individual patients and communities in the context of community-based clinical and advocacy training models” (p. 118). Emphasized is the use of patient-focused interviewing, which “uses a less controlling, less authoritative style that signals to the patient that the practitioner values what the patient's agenda and perspectives are, both biomedical and nonbiomedical” (p. 120). The patient should also be seen as the expert, such as on their experience of living at the intersection of “race, ethnicity, class and so on” (p. 121). This is because only the “patient is uniquely qualified to help the physician understand” and “to clarify the relevance and impact of this intersection on the present illness or wellness experience” (Tervalon & Murray-Garcia, 1998, p. 120).

As a result of the use of patient-focused interviewing, relevant and “effective prevention, health promotion, and therapeutic strategies can then be developed that take into account the patient's life priorities, health beliefs, and life stressors” (Tervalon & Murray-Garcia, 1998, p. 120). As a life-long process, acquiring cultural humility is vital, allowing the physician to relinquish “the role of expert to the patient, becoming the student of the patient with a conviction and explicit expression of the patient’s potential to be a capable and full partner in the therapeutic alliance” (Tervalon & Murray-Garcia, 1998, p. 121).

Murray-Garcia et al (2021) emphasized the four tenets of cultural humility from the early, pioneering work of Tervalon and Murray-Garcia (1998) who first introduced the concept. Specifically, as per Murray-Garcia et al (2021), the four tenets of cultural humility are: 1) **nurturing**, as a lifelong commitment to self-evaluation and self-critique; 2) **redressing** power imbalances in the patient-clinician, client-human service professional, educator-trainee, colleague-colleague, academic center-community dynamic); 3) **developing** mutually beneficial and non-paternalistic clinical and advocacy partnerships with communities; and, 4) **stewarding** an organizational-level developmental process that is ongoing, and that parallels the three tenets of cultural humility (p. 611).

The concept of cultural humility has been combined with that of antiracism toward the goal of preparing and equipping nurse leaders to advance health equity (Murray-Garcia, et al, 2021). An Anti-Racism and Cultural Humility (ARC) Nurse Leader training program was initiated at the University of California Davis Health—as a way to foster health equity and address how “Black mothers in the United States have mortality rates up to 4 times as high as White mothers” (p. 609). Also serving as a compelling example of the urgent need to pursue “racial equity in health care delivery” is the reality of “inadequate pain medication in Black adults and children” wherein they are “less likely than White patients to receive adequate pain medication or to otherwise have their pain inadequately managed for a variety of conditions” (p. 609). These conditions include “low back pain, postoperative pain, cancer-related pain, chronic pain, and acute pain in the emergency room” (p. 609). The focus on antiracism in the training permits considering “what are you actively doing in an ongoing way with your power to dismantle policies and check behaviors that may not have been intended to cause harm or exclude, but nonetheless did” (p. 610). Meanwhile, the concept of cultural humility provided the

ARC training goal outcome. The concept of cultural humility was “deemed the most appropriate training outcome as the learning was to be lifelong and characterized by courageous, ongoing self-reflection, self-evaluation, and self-critique within a specific institutional context” (p. 611).

In this manner, Tervalon and Murray-Garcia’s (1998; Murray-Garcia, et al, 2021) conceptualization of cultural humility provides an important additional theory within the framework guiding the present study.

### **Social Support as a Guiding Theory for the Research**

Regarding the potential role of social support, “it has generally been assumed that satisfactory social support networks can buffer the impact of stress on health and mental health outcomes” (Harrell, 2000, p. 52). Of note, social support, as a vital resource, is not always available. Examples of social support to deal with racism-related experiences include: intragroup support (from individuals and organizations from one’s racial/ethnic group); intergroup support (from outgroup members who validate racism experiences and serve as allies, whether from the dominant group or other historically oppressed racial/ethnic groups); and, environmental and institutional support (via policies, systems, tangible resources such as a fair and open complaint process within an organization) that “help to deal with racism-related experiences” (p. 52). For Harrell (2000), social support “availability and utilization should be assessed in multiple areas (intragroup, intergroup, community, institutional)” (p. 52).

Bedaso et al (2021) conducted a systematic review and meta-analysis (N=67 journal articles met inclusion criteria from 3760 retrieved electronically) of the relationship between social support and mental health problems during pregnancy, given pregnancy is a time of increased risk of mental health problems. Some 20 articles were identified that found a

significant relationship between social support and the risk of pregnant women developing mental health problems such as depression, anxiety and self-harm—as the common mental health problems women” experience during pregnancy. The review found that women who had low social support in pregnancy were more likely to develop mental illness, in comparison to pregnant women who had good social support. Low social support may mean that pregnant women lack a confidant, and lack potential sources of information, advice, and help coping with distressing emotion, potentially contributing to depression and anxiety. Hence, maternal health professions need to focus on and ask pregnant women about their level and sources of social support, given the risk of low social support contributing to the development of depression, anxiety, and self-harm during pregnancy (Bedaso et al, 2021).

Thus, it is for good reason that social support (Harrell, 2000; Bedaso et al, 2021) provides an important additional theory within the framework guiding the present study.

### **Toward Solutions to Black Maternal Mortality**

Policy proposals for addressing maternal mortality have been largely incommensurate with the problem (Allan, 2020). Policies that begin and end in healthcare have not acknowledged and addressed the trauma that people of color experience because of institutionalized racism, both within and outside of medical institutions. Clinical solutions alone are “insufficient when the goal is health equity” at the population level, especially within maternal healthcare (Allan, 2020, p. 2).

Maternal mortality can be prevented at many levels by “diverse individuals and organizations by addressing the contributions” of systems that have led to poor maternal outcomes in African American and Black communities (Morton et al., 2019, p. 252). An

“actionable framework has been needed” to resolve persistent maternal outcome disparities (Green et al., 2021, p. 2). To avoid medical mistakes, there is a vital need for “standardized approaches to the care of women at very high risk” for morbidity and mortality during pregnancy and postpartum (Morton et al., 2019, p. 259). Of note, clinicians have played a pivotal role in reducing Black maternal mortality rates while “improving transitions from obstetrical to primary care for postpartum women” (Essien et al., 2019, p. 350).

Public health nurses have engaged in advocacy for “reproductive justice for women throughout preconception and pregnancy” as well as childbirth and postpartum (Burger et al., 2021, p. 1). The “intransigence of structural racism and evidence of historical” oppression directed at Black women and mothers has compelled nurses to confront the need for new conceptions of health (p.1). It is necessary for nurse education, practice, and research to address maternal mortality rates and the structural racism that contributes to high rates of maternal mortality among Black women in the United States. The concept of reproductive justice has been employed in social sciences for a few decades, but “nursing has been slow to adopt this concept” in promoting maternal-child health (p. 1). Overall, reproductive justice has reframed “public health nursing actions for Black women” by focusing on uncovering systems of oppression and advancing cultural safety in health promotion (Burger et al., 2021, p. 1).

The response to the crisis of racial disparities in maternal mortality has led to many activists pushing for “increased access to birth doulas for Black women” (Cancelmo, 2021, p. 1). A doula’s role has been to support childbearing people in “pregnancy, childbirth, and postpartum” (p. 2). As a result, doulas have become a major part of contemporary discourse about solutions for racist disparities in maternal mortality and morbidity. Doula assisted mothers have been found to be “two times less likely to experience a birth complication” that involved

themselves or their babies (p. 2). Furthermore, evidence has shown that continuous one to one “emotional support provided by a doula has been associated” with improved outcomes for women in labor (Cancelmo, 2021, p. 2).

Black midwifery care has provided an alternative to “standardized, medicalized, and racialized” hospital births (Suarez, 2020, p. 8). International health organizations have supported an “increased access to midwifery care to improve infant and maternal outcomes” and to reduce use of unnecessary interventions (p. 8). Therefore, Black midwifery has been seen as a solution to addressing health inequities for Black mothers. However, there have been several obstacles to the increase of midwifery care that include the “continued medicalization of birth and opposition from medicine,” as well as the long history of discrimination against the use of a midwife (Suarez, 2020, p. 8).

Doulas and midwives have been considered as essential to a mother’s healthcare team that includes nurses and doctors as “care becomes higher quality and the needs of the mother” are more likely to be met (Reddy et al., 2021, p. 142). While doulas and midwives have served “different purposes with different educational backgrounds” both have acted as vital tools to either provide care beyond the hospital setting (p. 142). The practice of African American doulas has been a beneficial approach to address racism in healthcare as they have integrated cultural practices in birthing experiences. Such cultural practices included ceremonial singing and prayer, “which made their care a likely source” of cultural sensitivity (p. 142). As a result, these cultural practices “have improved” maternal and child health outcomes (Reddy et al., 2021, p. 142).

## **Theoretical Framework for the Research**

The theoretical framework that is guiding the current research includes the following: Harrell's (2020) theory and Model of Racism-Related Stress; Pierce et al.'s (1977) Theory of Racism; Tervalon and Murray-Garcia's (1998; Murray-Garcia, et al, 2021) tenets of Cultural Humility provide an additional theory; and, Social Support (Harrell, 2000; Bedaso et al, 2021) provides another important theory within the framework. The significance of each theory was highlighted in an earlier section.

## **Statement of the Problem**

The problem that this study addresses is the high rate of maternal mortality for African American and Black women in the United States, which has been rising, including before the COVID-19 pandemic. The COVID-19 pandemic has likely exacerbated long-standing risks for Black women for maternal mortality when they enter the hospital for a birth—and will continue to contribute additional risk. Yet, Black women in the United States may be able to engage in retrospective recall of their birth hospitalization experiences where they felt there was a risk of their dying—and recall the year following that high-risk birth hospitalization (HRBH) [i.e. birth hospitalizations during or before the year 2018]; this may permit avoiding the impacts from the COVID-19 pandemic on maternal care in hospitals and maternal mortality.

While there are ongoing efforts to reduce the major societal problem of “maternal mortality led by public and private sectors,” it is important to address the wide variation in quality of maternal care across the United States (Douthard et al., 2021, p. 175). Stark disparities and inequities are contributing to Black maternal mortality, especially in comparison to White women, and to a lesser extent Latinas (Douthard et al., 2021).

The present study may contribute to societal efforts to reduce Black maternal mortality by investigating factors related to Black maternal mortality, using retrospective recall of a prior birth hospitalization with a risk of death, while seeking to predict medical mistrust and perceived stress.

### **Purpose of the Study**

The purpose of this study is three-fold, as follows:

1-capture and describe the experiences of Black women who felt they were at risk of dying during a hospitalization to give birth, including exposure to any racism, discrimination and disparities in healthcare service delivery during their hospitalization. This also includes capturing and describing the women’s own characteristics and the behavior characteristic of their providers (i.e. doctors and nurses) during service delivery.

2-provide a snapshot of how the women are currently functioning (and, in comparison to the year following the hospitalization to give birth where they felt a risk of dying for at least a moment during the hospitalization). This will be done by examining past year mental distress (depression, anxiety, trauma), and past month perceived stress, as well as their current level of social support;

3-identify significant predictors of the **study outcome variable of level of medical mistrust**, as an indicator of current perceptions of the Black women in the sample, regarding how Black people are treated in the healthcare system. Their level of medical mistrust may be partly impacted by or rooted in their personal history of feeling they were at risk of dying during a birth hospitalization (i.e., *high-risk birth hospitalization*).

Of note, the study focuses on Black women who experienced such a *high-risk birth hospitalization between the years 2018 and 2012*. The year 2018 criteria will permit 1-year pre-COVID-19 pandemic and a 1-year post-partum retrospective recall period, while avoiding any COVID-19 pandemic impacts. The year 2012 criteria will permit a 10-year post-partum retrospective recall period for a high-risk birth hospitalization (HRBH) in year 2012, as the outer limit or cap set for inclusion in this research study conducted in early 2022. Since a HRBH may have included traumatic experiences that are unforgettable, this 10-year retrospective recall cap was deemed acceptable for study inclusion, and to capture the experiences of as many Black women as possible.

### **Research Questions, Survey Parts, and Data Analysis Plan**

Given a sample of African American or Black women (N=250) who experienced a high-risk birth hospitalization (HRBH) between the years 2012 and 2018 and responded to a social media campaign (i.e., *Are you a Black woman who felt your life was at risk for even a moment while in the hospital to give birth between years 2012-2018? If “YES,” click on <https://tinyurl.com/BlackWomenLivesAtRisk> & Take 12-15 Min Survey for 3 in 250 chance to win a \$300, \$200, or \$100 Amazon Gift Card!*), this study will answer the following research questions:

1-What are their demographic characteristics [i.e. age, gender, heterosexual (yes/no), skin tone, U.S. born (yes/no), education, partner (yes/no), employed (yes/no), annual household income

**Part I: Basic Demographics (BD-10)**

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

2-To what extent were they at risk for providing socially desirable responses?

**Part II: Single Item Rating of Risk of Providing Socially Desirable Responses (SIR-RPSDR-1)**

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

3-Having a history of a high-risk birth hospitalization (HRBH), regarding their retrospective recall of that particular hospitalization, what was the mean length of time in number of years since it occurred?

**Part III: History of a High-Risk Birth Hospitalization—Year of Event (HORBH -YOE-3)**

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

4-What was the nature of their treatment and care experiences during service delivery with doctors and nurses during their high-risk birth hospitalization (i.e. using all 20 items), including those where racism was not perceived as clearly occurring (i.e. Negative Experiences During Service Delivery with Medical Staff Sub-Scale—14 items), and those where race or racism was perceived as occurring (i.e. Racism Perceived as Potentially Operating Sub-Scale—6 items)?

**Part IV: Perceived Racism, Discrimination, and Inequities in Service Delivery by Medical Staff During a High-Risk Birth Hospitalization (PR-D-ISD-BMS-DRBH-20)**

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

5-What was the prevalence of their having risk factors, as prior diagnosed chronic conditions (i.e., cardiovascular disease or heart disease, hypertension or high blood pressure, obesity, diabetes, asthma), before their high-risk birth hospitalization?

**Part V: Risk Factors for Pregnancy-Related Complications—Chronic Health Conditions (RFF-PRC-CHC-5)**

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

6-What did they report as medical events (e.g. hemorrhage, blood clot, etc.) that occurred during their high-risk birth hospitalization? And, to what extent did they experience medical events (i.e. single medical event to multiple medical events)?

**Part VI: Occurrence of Medical Events During a High-Risk Birth Hospitalization (OME-DRBH-14)**

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

7-What was their current level of medical mistrust, including any suspicion and perceived discrimination?

**Part VII: Medical Mistrust Scale—Short Form (MMS-SF-4)**

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

8-While recalling their high-risk birth hospitalization, how did they rate their hospital healthcare providers' cultural sensitivity and cultural competence, overall, for treating them as someone who was Black, African American?

**Part VIII: Rating the Cultural Sensitivity, Competence and Humility of Hospital Providers (RCSCH-OHP-1)**

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

9-Regarding their intersectional (i.e. Black, female) and other personal characteristics (e.g. overweight or obese; appearance for skin tone, hair, etc.; disability), what did they identify as those characteristics to which providers seemed to be responding when they experienced any discrimination or unfair treatment during their high-risk birth hospitalization—whether they experienced no (0) discrimination or the highest level of discrimination (5) for multiple characteristics?

**Part IX: Perceived Discrimination by Hospital Providers in Response to Personal Demographics (PD-BHS-IRTPS-5)**

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

10-For the year after their high-risk birth hospitalization (months 1 to 12 post-partum), to what extent did they experience mental distress (i.e. Overall Mental Health Index)—and, specifically, to what extent did they experience depression, anxiety, and trauma, as well as access any counseling? And, for the past year, *as an indicator of current status*, to what extent did they experience mental distress—and, specifically, to what extent did they experience depression, anxiety, and trauma, as well as access any counseling? Is there any significant difference when comparing the year post the high-risk birth hospitalization and the past year?

**Part X: Retrospective Depression, Anxiety, Trauma and Receipt of Counseling Scale—Past Year (A) and Year Post-High-Risk Birth Hospitalization (B) (RDATS-PY-YPRBH—8)**

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages; and, inferential statistics using paired t-tests.*

11-For the past month, what is their level of perceived stress, *as another indicator of current status*?

**Part XI: Perceived Stress Scale (PSS-4)**

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

12- For the year after their high-risk birth hospitalization (months 1 to 12 post-partum), to what extent did they experience social support? And, for the past year, *as an indicator of current*

*status*, to what extent did they experience social support? Is there any significant difference when comparing the year post-high-risk birth hospitalization and the past year?

**Part XII: Perceived Social Support—Now and During a High-Risk Birth Hospitalization—Scale (PSS-NADRBH-S-2)**

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages; and, inferential statistics using paired t-tests.*

13-What significant relationships were found between the **study outcome variable of level of medical mistrust** and selected demographic and other variables?

*Data Analysis Plan: Inferential statistics, including via Pearson's correlations and t-tests*

14-What were the significant predictors of the **study outcome variable of level of medical mistrust** when controlling for social desirability, given selected independent variables?

*Data Analysis Plan: Backward stepwise regression*

### **Treatment of the Data**

The Qualtrics platform will host the survey for the study. Data will then be transferred from Qualtrics to the latest version of SPSS, in order to permit data analysis—following the data analysis plans indicated, above.

### **Anticipated Findings**

First, using paired t-tests, it is anticipated that findings will show a significant difference between past year scores versus scores for the year following their high-risk birth hospitalization—which should be higher—for:

- depression, anxiety, trauma (i.e. Part X: Retrospective Depression, Anxiety, Trauma and Receipt of Counseling Scale—Past Year (A) and Year Post-High-Risk Birth Hospitalization (B) (RDATS-PY-YPRBH—8)

And, using paired t-tests, it is anticipated that findings will show a significant difference between past year scores and scores for the year following their high-risk birth hospitalization—which should be higher—for:

- social support (i.e. **Part XII: Perceived Social Support—Now and During a High-Risk Birth Hospitalization—Scale (PSS-NADHRBH-S-2)**)

Second, when predicting via regression (while controlling for social desirability) **the study outcome variable of level of medical mistrust**, it is anticipated that findings with the following independent variables will show significant predictors.

The higher the **level of medical mistrust**, then

1. **higher** age
2. **darker** skin tone
3. **lower** level of education
4. **lower** annual household income
5. **higher** perceived racism, discrimination, and inequity during treatment with medical staff
6. **lower** ratings of cultural sensitivity and competence of providers during HRBH
7. **higher** number of personal characteristics in response to which providers may have engaged in discrimination/unfair treatment
8. **more** severe mental distress (including more severe depression, anxiety and trauma) the year following their HRBH
9. **more** severe mental distress (including more severe depression, anxiety and trauma) in past year—as an indicator of current functioning
10. **yes**, received counseling in the year following HRBH
11. **yes**, received counseling in the past year

## **Delimitations**

The study is delimited to women age 18 or above who identify as African American or Black and indicate having had a high-risk birth hospitalization (HRBH) between the years 2012-2018 where there was a moment when they felt they could have died. The selected time period of 2012-2018 serves to avoid any impacts from the COVID-19 pandemic (given women are asked about the year following their RBH); and, this time period caps retrospective recall at 10 years (i.e. 2012), with data for this study collected in early 2022.

## **Limitations**

There are a number of study limitations, including: being an online study; requiring women to have access to a smart phone or computer and Internet; requiring 12-15 minutes of participants' time, as a burden reduced as much as possible by using shortened measures, but still significant; the use of retrospective recall of an event that occurred anywhere from 4 to 10 years ago (2012-2018 window for having a high-risk birth hospitalization (HRBH)).

## **Conclusion**

Chapter I has introduced the dissertation research, doing so via presentation of relevant introductory literature, the theories guiding the present study, the problem the study addresses, as well as the study purpose. In addition, this introductory chapter provided the research questions,

survey parts, and data analysis plan. In addition, this chapter provided an overview of anticipated study findings, as well as study delimitations and limitations.

Chapter II will provide a review of additional relevant literature. Chapter III will provide details of all procedures and methods followed in the study. Results of data analysis will appear in Chapter IV. Finally, Chapter V will provide a discussion of study findings with implications and recommendations.

## Chapter II

### REVIEW OF LITERATURE

This chapter will review literature that is relevant to the focus of the present research study, including on the following topics: 1-prevalence of maternal mortality; 2-Black women's maternal mortality; 3-severe maternal morbidity, comorbidities, and complications; 4-research on factors operating in Black maternal morbidity and mortality; 5-social support, doulas, midwives, and maternal outcomes; and, 6-medical mistrust and Black populations.

#### **I. Prevalence of Maternal Mortality**

A country's maternal mortality ratio (MMR) "reflects sentinel events and serves as an important" measure of population health worldwide (Morton et al., 2019, p. 252). The MMR is calculated by dividing the number of women who died from "pregnancy related causes while pregnant or within 42 days" after birth by the number of live births in a year and then multiplying by 100,000 (Morton et al., 2019p. 252). The World Health Organization (WHO, 2019) referred to the death of a woman while still pregnant, or within 42 days of the termination of the pregnancy, regardless of the duration or site of pregnancy, and from any cause related to pregnancy or its management. Most pointedly, what has emerged is how the United States has the highest MMR of all high-resource countries (Morton et al., 2019).

Both pre-COVID-19 pandemic and pandemic-era statistics are informative. For example Murphy and Liu (2022) reported overall maternal mortality rates in 2018 were at "17.4 deaths

per 100,000 live births” (p. 1). From 2019 to 2020, there was an increase in the overall maternal mortality rate in the United States from 20.1 to 23.8 per 100,000 live births (Hoyert, 2022, p. 1). In 2020, there were 861 overall maternal deaths in the United States, compared to 754 deaths in 2019 and 658 deaths in 2018 (Hoyert, 2022, p. 1). Rates also increased with age, as those aged 40.9 and older had “107.9 deaths per 100,000 live births” compared to 13.8 deaths per 100,000 live births for women under age 25 (Hoyert, 2022, p. 1). Therefore, the rate for “women aged 40 and over was 7.8 times higher” than the rate for women under age 25 (Hoyert, 2022, p. 1).

Pre-pandemic statewide trends are also informative. For example, the California maternal mortality rate rose dramatically, from 8.0 deaths per 100,000 live births in 1999 to 16.9 deaths per 100,000 live births in 2006 (Morton et al. (2019), p. 253). In 2006, the California Department of Public Health launched an initiative to examine the rise in “maternal deaths in the state and to develop prevention initiatives” through the identification of quality improvement opportunities (QIOs) for every maternal death” (p. 252). The major goals of this initiative were to “identify pregnancy related deaths, causes, and associated risks” and make recommendations to improve the quality of maternity care (p. 253). They found within 333 pregnancy-related deaths from 2002 to 2007 in California, about 41% were considered preventable. Furthermore, communication issues arose as key. For example, there was evidence of situations when “nurses did not appear to recognize deterioration or recognized the situation,” or were unable to effectively communicate their concerns to ensure prompt bedside evaluation by physicians (p. 258). Another finding included how there was a delay in treatment initiation, which was “closely related to the provision of inadequate or no treatment when needed” (Morton et al., 2019, p. 258).

## **II. Black Women's Maternal Mortality**

Significant disparities in maternal healthcare “between white and Black mothers have been recorded,” since national data has been available (MacDorman et al., 2021, p. 1673). For example, the rates of maternal mortality for non-Hispanic Black women were found pre-pandemic to be “3 to 4 times greater than for non-Hispanic White women” (Morton et al., 2019, p. 252). Further, among Black and African American women, the maternal mortality rate from 2019 to 2020 “increased from 44.0 to 55.3 per 100,000 live births” (Hoyert, 2022, p. 1). This was a rise from 2018 when Black women had a maternal mortality rate at “37.3 deaths per 100,000 live births” (Hoyert, 2022, p. 3). This was a significant difference compared to non-Hispanic White women, who had no significant increase in maternal deaths from “17.9” in 2019 to “19.1 per 100,000 live births” in 2020 (Hoyert, 2022, p. 3). Variability such reported rates may be due to several factors, including “access to care, quality of care, prevalence of chronic diseases” structural racism, and implicit biases (CDC, 2020). Furthermore, such differences in “rates among different ethnicities have indicated a stark disparity” within maternal healthcare in the United States (Murphy & Liu, 2022, p. 171).

### **Historical Lack of Access to Care for Black Women**

The search for roots of stark racial and ethnic disparities has included an historical focus. For example, Chinn et al., (2021) noted how the history of Black women's access to health care and treatment by the U.S. medical establishment, particularly in gynecology, “has contributed to the present-day health disadvantages of Black women” (p. 213). Health inequality among Black women has been rooted in slavery, as White slave holders viewed enslaved Black women as a

means of economic gain, while there was the “abuse of Black women’s bodies and a disregard for their reproductive health” (p. 213). Black women were forced to procreate under their White slave holders, with little to no self-agency and limited to no access to medical care, while the development of gynecology as a medical specialty in the 1850s “ushered in a particularly dark period for the health of Black women,” including subjecting them to unethical medical experimentation without their consent (and without pain medication) to advance medical knowledge (p. 213). As a result of this history and the accumulation of disadvantages across generations, “Black women have been at the center of a public health emergency” (Chinn et al., 2021, p. 213).

### **Historical Approach to Data Collection on Black Maternal Mortality**

In the prior century, the public health emergency involved Black maternal mortality. It was in 1933, for example, that all U.S. states reported maternal deaths for the first time and the “mortality rate for Black mothers (1000 per 100, 000 births) was 1.8 times the rate” for White mothers (564 per 100,000) (p. 1673). These disparities for Black mothers have persisted, averaging being 4 times higher compared with White mothers as recently as 1990 to 1996 (MacDorman et al., 2021).

For example, consider findings from a large urban center. Black maternal mortality was investigated in New York City where “an even greater variation of maternal mortality by race/ethnicity was noted” in data from 1988 to 1994 (Fang and Alderman, 2000, p. 735). New York City maintained a significantly higher maternal mortality rate at 2.5 times compared to the rest of the country, with 192 total maternal deaths reported over 7 years. Within the total deaths, 114 (59.4%) were Black mothers at the highest rate, which was compared to “43 in Hispanics

(22.4%), 20 in non-Hispanic whites (10.4%), and 15 all others (7.8%)” (p. 737). The impact of socioeconomic factors, like marital status, on mortality was large for White and Hispanic women. It was emphasized that the association “between marital status and income did not attain statistical significance” for the rate of Black maternal mortality (p. 739). Also, the morality ratio of unmarried black women showed no difference to the ratio of married black mothers. Findings showed Black mothers were dying nationwide “at a rate approximately three times that of white women” due to inadequate maternal healthcare for Black pregnant women (Fang & Alderman, 2000, p. 743).

Furthermore, before 2003, there was a large focus on underreports of maternal deaths. As a result, the 2003 standard revision of birth and death certificates added a pregnancy checkbox “to address this underreporting and more maternal deaths” were reported on death certificates, going forward, improving data collection (MacDorman et al., 2021, p. 1673).

### **III. Severe Maternal Morbidity, Comorbidities, and Complications**

Considerable attention has been placed upon the contributions to rates of maternal morbidity from severe maternal morbidity, including complications and comorbidities. For example, research has examined “Black women having had the highest risk of cardiovascular complications” (Minhas, et al., p. 481).

Severe maternal morbidity has contributed to maternal mortality, and “cardiovascular conditions have been among the leading causes” of pregnancy-related deaths in the United States (Minhas, et al., p. 480). About 15.5% of pregnancy related deaths have been due to nonspecific cardiovascular conditions and 11.5% have been due to cardiomyopathy. An additional “6.6% of

pregnancy-related deaths have been due to hypertensive disorders” of pregnancy (p. 480). Hypertensive disorders of pregnancy have included pregnancy-induced hypertension (PIH) disorders like “gestational hypertension, preeclampsia, and its most severe forms that include” hemolysis, elevated liver enzyme, low platelets syndrome, and eclampsia (p. 480). These have been known as common adverse pregnancy outcomes and have occurred in 5% to 10% of all pregnancies, which increased long term cardiovascular risk. While hypertensive disorders of pregnancy occurred more frequently in Black women, “the factors that underlie these disparities particularly related to” pregnancy-induced hypertension (PIH) have remained as “poorly” understood (p. 481). Black race itself has been cited as a risk factor for PIH and maternal morbidity and mortality. However, this classification of race has had “implications for health outcomes and additionally identified Black women,” in particular, as having experienced health disparities (Minhas, et al., 2021. p. 481).

### **Pregnancy-Induced Hypertension (PIH)**

Minhas, et al., (2021) conducted research using a nationally representative sample of United States delivery hospitalizations to evaluate the occurrence of various cardiovascular complications by the presence of pregnancy-induced hypertension (PIH) disorders. Researchers categorized the PIH disorders as “none, gestational hypertension, and preeclampsia/eclampsia” and assessed for their interaction with race/ethnicity (p. 481). They used data from the National Inpatient Sample (NIS) that was developed for the Healthcare Cost and Utilization Project (HCUP), created by the Agency for Healthcare Research and Quality. Hospital discharge records were sampled, “with all data as anonymized and hospital identifiers not included” (p. 481). Data was included from 2016 to 2018, and only discharges with a diagnosis related to pregnancy (i.e.,

specifically to labor, delivery, or postpartum causes) were included. The NIS data set included the following racial/ethnic group categories: White, Black, Hispanic, Asian/ Pacific Islander, Native American, and Other. There was a smaller number of women within the groups for Native American and other, so as a result “these data sets were not included for comparison in stratified analyses” for cardiovascular complications (Minhas, et al., 2021, p. 482).

Comorbidities of interest that were assessed included chronic hypertension, preexisting diabetes, dyslipidemia, obesity, chronic kidney disease, heart failure, and coronary artery disease (Minhas, et al., 2021). The focus was on the presence versus absence of pregnancy-induced hypertension (PIH) at the time of delivery, with the primary outcome being cardiovascular complications during the delivery hospitalization. These complications included peripartum cardiomyopathy, congestive heart failure, pulmonary edema, arrhythmias, acute renal failure, as well as acute ischemic heart disease. Additional secondary outcomes included pulmonary embolism, ischemic stroke, cardiac arrest, and death. Results of this study found among 11,304,996 deliveries between the years 2016 to 2018, there was evidence “gestational hypertension was present in 614,995 (5.4%) and preeclampsia in 593,516 (5.2%)” (p. 482). While Black women represented only 14% of overall deliveries, they constituted 20% of preeclampsia and 17% of gestational hypertension cases. For deliveries where there was pregnancy-induced hypertension (PIH), preeclampsia was “associated with greater prevalence of underlying cardiovascular comorbidities” – including chronic hypertension, preexisting diabetes, and obesity; these findings stood out in comparison to deliveries without PIH (p. 482). Deliveries with gestational hypertension or preeclampsia had “greater frequency of Caesarean section compared with deliveries without PIH” (Minhas, et al., p. 482).

## **Cardiovascular Comorbidities and Other Comorbidities**

Minhas, et al., (2021) noted how several cardiovascular comorbidities were present in Black women with greater frequency, including hypertension. There was also the presence of “preexisting diabetes, and obesity” being more prevalent in Black women compared with other groups (p. 484). After adjustment for demographics, there were greater odds of chronic hypertension, obesity, coronary artery disease, and chronic kidney disease in Black women compared with other racial/ethnic groups. Overall, findings revealed pregnancy-induced hypertension (PIH) disorders were associated with an “increased prevalence of baseline cardiovascular comorbidities” (p. 484). Furthermore, Black women have the greatest prevalence of preeclampsia compared with all other racial/ethnic groups after adjusting for socioeconomic status and comorbidities. The absolute rates of acute cardiovascular complications with preeclampsia are the greatest for Black women (Minhas, et al., 2021).

The Minhas, et al., (2021) study with a large, nationally representative sample stands out as providing findings of great significance with implications for serious health disparities that deserve national attention. In sum, Black women were found to have the “highest rates for several acute cardiovascular complications at delivery,” which pointed to severe maternal morbidity (p. 485). Black women were found to have a high overall prevalence of both pregnancy-induced hypertension (PIH) and cardiovascular complications. Of note, it was observed that resource allocation away from this vulnerable group worsened “already existing disparities in maternal morbidity and mortality,” as well as overall cardiovascular health (Minhas, et al., p. 485).

## **Disproportionate Burden of Chronic Comorbidities**

Chronic comorbidities and chronic heart disease have been considered some of the “greatest culprits that disproportionately affect women of color” (Bond et al., 2021, p. 224). Most of these comorbidities “included advanced maternal age along with preventable causes” such as hypertension, obesity, diabetes, poor physical activity, unhealthy eating habits, and constant societal stress (Bond et al., 2021, p. 224).

Black women have been “disproportionately burdened” by chronic health conditions such as anemia, cardiovascular disease (CVD), and obesity (Chinn et al., 2021p. 212). Furthermore, health outcomes for Black women have not occurred independent of the social conditions in which Black women have existed. The higher burden of these chronic conditions has reflected the “structural inequities within and outside the health system” that Black women have experienced throughout their life course (p. 212). This has contributed to the current crisis of maternal morbidity and mortality. The health inequities experienced by Black women were not merely “a cross section of time or the result of a singular incident” (Chinn et al., 2021, p. 212).

Others found some time ago that Black women had higher rates of severe morbidity compared to White women, doing so while conducting a crude analysis for severe morbidity within a large US population-based cohort of single births that assessed risk factors like race/ethnicity and hospital volume (Lyndon et al., 2012, p. 2529). Out of 1,572,909 live single births in California with linked records that were assessed, “respectively 9.4 out of 1000 Black women bore a high burden of serious morbidities” (p. 2533). Furthermore, higher risk for severe morbidity in Black women “is consistent with their much higher rates of maternal mortality in the US population” (p. 2534). Severe morbidities within women hospitalized for childbirth

presented as many issues including: ventilation, an unplanned return to the operating room, “transfer to intensive care, maternal death, respiratory failure, uterine rupture” and more (p. 2532). However, it was found that serious morbidities such as “pulmonary embolus, respiratory failure, shock and death were more common” in Black mothers than in other racial groups (Lyndon et al., 2012, p. 2534).

#### **IV. Research on Factors Operating in Black Maternal Morbidity and Mortality**

There is a need to focus on root causes of maternal health inequity, including the systemic forces behind them, and social determinants of health (Crear-Perry et al., 2021). This section provides such a focus, providing selected research on factors operating in Black maternal morbidity and mortality.

##### **Maternal Health Inequities, Systemic Factors, and Social Determinants**

Social determinants of Black maternal health that include income, education, housing, access to care and safety have been “dictated by the very structure of American society” from the time of slavery (Crear-Perry et al., 2021, p. 231). Structural racism, policies and practices have been historically based to create an overtly oppressive U.S. society. Such a society has continued to shape access to health-promoting resources and opportunities necessary for achieving optimal Black maternal health as well as positive infant health outcomes. Deeply rooted causes of maternal health inequities “require multiple and sustained interventions at every level”, while ensuring attention to the systemic and social levels (Crear-Perry et al., 2021, p. 231).

Research has “consistently documented the continued impacts of systematic oppression” bias, and unequal treatment of Black women (Chinn et al., 2021, p. 213). This includes evidence

of racial differences in socioeconomic status, housing, education and employment. These differences are “the result of discrimination, segregation, and historical laws created” to continually oppress Black people and women in the United States (p. 213). Black women have earned on average about \$5,500 less per year and have experienced higher unemployment and poverty rates than the U.S. average for women. Black women are “more likely to be the head of household than their White counterparts”, effectively supporting more dependents with fewer resources (Chinn et al., 2021, p. 213).

Regarding the key social determinant of housing, Black women have been found to live in neighborhoods that have been “racially segregated and have had lower property values” than their White counterparts (Chinn et al., 2021, p. 213). Mortgage lending discrimination, called redlining, has been a legal practice in which lenders have denied mortgage loans to communities and individuals based on race, resulting “in community disinvestment residential segregation” (p. 213). Residential segregation has been “a fundamental cause of racial disparities in health” and has operated through many social institutions that included labor markets and education to affect health (Chinn et al., 2021, p. 213).

As per Bond et al., (2021), race, ethnicity, and social determinants of health have been attributed to the increase of the risk of conditions such as gestational diabetes, peripartum cardiomyopathy, cesarean deliveries, preterm deliveries, and a low-birth-weight infant. Social determinants of health (SDOH) such as socioeconomic status, education, neighborhood and physical environment, employment, social support networks, and access to health care “make up 60% of health outcome-contributing factors” which ultimately impacted health care organizations and the delivery of care (Bond et al., 2021, p. 224).

Experiences in the social context may reflect experiences of racism, sexism and discrimination (Chinn et al., 2021). The intersection of race, gender, physical and mental health, and socioeconomic status, among other factors, has created “cumulative disadvantages that are associated with poorer outcomes” for Black mothers (Parker, 2021, p. 503).

The intersectionality of “gender and race and its impact on the health of Black women” is important (Chinn et al., 2021, p. 213). Due to this intersectionality Black women have been subjected to high levels of racism, sexism, and discrimination at levels that are not experienced by Black men or White women. In contrast, White women in the United States have constantly “benefited from living in a politically, culturally, and socioeconomically” White-dominated society (p. 213). These benefits have accumulated across generations, creating a cycle of overt and covert privileges not afforded to Black women. However, these privileges do not mean that “all White women are similarly advantaged nor are all Black women” similarly disadvantaged (p. 213). These social conditions “have created the environment for health disparities to exist and persist” as social determinants of health (Chinn et al, 2021, p. 213).

### **Negative Stigmatization and Stereotyping of Black Women**

The intersection of stigmatized and marginalized identities—as in being Black and a woman—have increased Black women’s risk of poor birth outcomes, according to Mehra et al., (2021). Negative stereotypic images of Black women in the United States extend throughout history for the continued justification of “economic exploitation and control of Black women’s sexuality and fertility” (p. 485). Stereotypic perceptions of Black women have combined sexist, racist, and classist images, such as: mammies (faithful, domestically servile), matriarchs (aggressive, unfeminine), welfare mothers (low-income, unwed), and Jezebels (sexually

aggressive). These stereotypes have served to stigmatize Black motherhood in particular, casting in a negative light not only gender and racial identity, but also sexual identity. As a result of the negative impact of stereotyping and stigmatization, Black women have been subjected to a “uniquely stressful experience in the United States” (Mehra et al., 2021, p. 485).

### **Role of Provider Implicit Bias, Racism and Discrimination**

Morton et al., (2019) stressed the importance of nurse leaders and frontline perinatal nursing staff being “aware about preventing maternal mortality and morbidity” (p. 260). Nurse leadership is necessary to support and guide all efforts to improve care quality and outcomes for pregnant women. Nurses have been considered as pivotal in recognizing “risk factors for complications, clinical signs, and symptoms” of worsening conditions and for communicating these issues to maternity care providers (p. 260). Also, nurses are considered vital in their response to “changes in a woman’s condition promptly” and for implementing a strategic plan of care (Morton et al., 2019, p. 260).

Within the medical field, implicit bias has contributed to health disparities for “individuals who are Black and economically disadvantaged” (Davis et al., 2021, p. 1). Research has shown that A Family Centered Care (FCC) approach to communication has fostered and strengthened “maternal trust,” allowing mothers to also serve as advocates “for their infants’ health” (p. 1), given findings with mothers and their infants within Neonatal Intensive Care Units (NICUs). Implicit bias can disrupt communication principles within the “prevailing model of Family Centered Care (FCC)” so as “to jeopardize the health” and well-being of mothers and their infants within NICUs (p. 1). Implicit bias has been defined as the unconscious holding of implicit assumptions and stereotypes about others who differ on personal characteristics that

results in biased judgements and perceptions of these individuals. The experience of implicit bias results in a perceived disregard of a mother's voice by doctors and nurses. Disregard, based on implicitly held negative assumptions, also occurs within experiences reflecting implicit bias (Davis et al., 2021).

Implicit bias suggests that doctors and nurses are neglecting what has been considered foundational for the promotion of communication in the model of Family Centered Care (FCC) (Davis et al., 2021). FCC principles emphasize a two-way communication that includes a mother's perceived power of voice and perceived efficacy of voice, as defined by the mother's perception of the responsiveness, respect, and openness of doctors and nurses. On the other hand, interactions characterized by implicit bias in Neonatal Intensive Care Units (NICUs) can lead mothers to perceive being "disregarded by medical staff when expressing concerns and questions or providing" information about their infant's health (p. 2). As a result, implicit bias within interpersonal communication can be "subtle and manifest verbally and non-verbally in a manner" unrecognized by medical professionals (p. 2). Implicit bias could result in a "medical professional" using "verbal expressions perceived as trivializing" or ignoring a mother's concerns, or responding to a mother's question in a manner that does not answer the question (p. 2). This suggests a potentially crucial role for provider engagement in communication training (Davis et al., 2021).

### **Nurse Staffing Levels as a Potential Factor**

A potential factor in Black maternal mortality may be hospital staffing levels, such as of nurses, in particular. According to Carthon et al., (2021) there are few research studies that have been able to specify reasons for differences across hospitals in survival rates. One possible

explanation for in-hospital survival disparities may be attributed to “differences in nursing to patient ratios” for the provision of nursing care in hospitals where Black and White people receive care (p. 169). Nurses have represented a constant presence in the management of medical events such as in hospital cardiac arrests, either as members of the arrest team or as providers of post incident care. Overall, nurses are considered the “primary clinical surveillance system within hospital settings and play” an integral role in the detection of clinical deterioration, identification of a medical issue, and initiation of emergency responses (p. 170). Research has revealed a significant relationship between nurse staffing levels and many patient outcomes, including readmissions and postsurgical mortality. Better nurse staffing has led to affording nurses more time to spend with patients to “monitor changes in patient status and initiate appropriate interventions” as warranted (p. 170). However, low staffing compromises these activities. Findings have suggested that the likelihood of survival to discharge was lower for Black patients than for White patients “in both poorly staffed and well-staffed hospitals” (Carthon et al., 2021, p. 174).

The American Nurses Association (ANA) has defined appropriate nurse staffing as a match of registered nurse expertise with the needs of the recipient of nursing care services in the context of the practice setting and situation (Cooke et al., 2022). Researchers have frequently used hours per patient day (HPPD) as a measure of appropriate staffing and have found that higher HPPD is “associated with fewer infections, falls and pressure injuries” (Cooke et al., 2022p. 2). An alternate and related measure of appropriate nurse staffing is total nursing HPPD (TNHPPD). The National Database for Nursing Quality Indicator’s (NDNQI) definition of TNHPPD is the “overall time spent by nurses and nursing assistants on the unit per patient day” excluding vacation, sick time, orientation, education, leave or committee time. Several other

staffing variables have been found to contribute to the quality of patient outcomes, including “staffing ratios, years of experience, skill mix, overtime hours”, nursing turnover and nursing position (Cooke et al., 2022, p. 2).

Lake et al., (2018) have provided evidence regarding the importance of a hospital having adequate nurse staffing. Not surprisingly, nurse staffing levels have been found to differ across hospitals. For example, Neonatal Intensive Care Units (NICUs) in disproportionately Black hospitals have “lower nurse staffing levels and poorer work environments” (p. 3008). As a result, these features of the NICU workplace have been demonstrated to be associated with poorer outcomes for low birthweight infants, including higher rates of mortality, infection, and discharge home on breastmilk. In this study, researchers found nurses from hospitals that served a high rate of Black infants missed “nearly 50 percent more required nursing care activities” than nurses in low-Black infant serving hospitals (p. 3020). Further, a significantly higher percentage of nurses in high-Black infant serving hospitals missed at least one required activity, about 52 percent vs. 38 percent. The disparities in missed care were principally due to poorer nurse staffing in high-Black hospitals as the “patient-to-nurse ratio was significantly higher” in high-Black hospitals (Lake et al., 2018, p. 3020).

### **Staff Diversity as a Potential Factor**

The level of staff diversity may also be a potential factor operating in Black maternal mortality. Increasing patient diversity within the healthcare system has created opportunities and challenges for health-care practitioners/providers, healthcare services and health policy to “develop and deliver culturally competent care and services” that have the potential to reduce inequalities in health (Henderson et al., 2018, p. 591). In this regard, others have argued that

diversifying the medical workforce is imperative, as Black people comprise just “about 5% of the active physician workforce” (Bond et al., 2021, p. 229). Black female physicians comprise even less, “representing only 2% of physicians overall in the United States”—so that a Black woman patient seeking racial and/or sexual concordance in their physician would not easily find it (Bond et al., 2021, p. 229).

In connection with the diversification of the medical workforce, modifying medical education is also greatly needed (Bond et al., 2021). Societal racism has impacted the United States education system, even as far back as grade school. To address implicit bias, the medical curriculum needs to “incorporate additional education as a grassroots approach to incite change” (Bond et al., 2021, p. 229).

### **Cultural Humility and Cultural Competence Training**

Medical staffs’ possession of cultural humility and cultural competence, or their exposure to training so as to possess these attributes, may also be a factor operating in Black maternal mortality. Addressing medical education training needs, Tervalon and Murray-Garcia (1998) were pioneering in advancing the goal of cultural humility, within an approach to cultural competence where medical staff continually engage in self-reflection and self-critique as lifelong learners. Thus, medical providers’ level of cultural humility and cultural competence may be factors in Black women’s maternal health outcomes.

Others have defined cultural competence as a set of congruent behaviors, attitudes and policies that come together in a “system, agency, or among professionals that enable that system” to work effectively in cross-cultural situations ((Henderson et al., 2018, p. 591). Cultural competence has been considered as the capacity of the health system to improve the health of

consumers through the integration of culture into delivery of health services (Henderson et al., 2018).

### **Pre-Natal Care and Access Issues**

Pre-natal care access may improve maternal health outcomes, as an important factor to consider. According to Phillippi (2009), prenatal care access has been defined as the potential ability of a woman to enter prenatal care services and “maintain care for herself and fetus during the perinatal period” (p. 219). Disparities in access to prenatal care has contributed to the inequalities in “health outcomes between ethnic, racial, and socioeconomic” groups (p.219). Research on the use of prenatal care has examined the association between the “number and timing of prenatal visits and demographic factors” (p. 219). These factors have included age, education, race, socioeconomic status, insurance status, or geographic location of the mother or provider (Phillippi, 2009).

The Adequacy of Prenatal Care Utilization Index (APCUI) is recognized as a comprehensive measure of prenatal care utilization (Thurston et al., 2021). There are two important key elements of this index that including the month of initiation of prenatal care, and “the percentage of recommended visits received” (p. 97). Adequate prenatal care begins during the first trimester—before the fourth month of pregnancy—and includes 80–109% of recommended visits, while “adequate plus care includes 110% or more of recommended visits” (Thurston et al., 2021, p. 97).

According to Thurston et al., (2021), there have been efforts to address prenatal service access barriers within Sacramento Country, California by attempting to reduce “preterm birth and low birth weight particularly for Black women” (p. 97). Through the county’s

Comprehensive Perinatal Services Program (CPSP), promotion of early and continuous prenatal care aimed to decrease incidences of low-birth-weight infants. Furthermore, CPSP aimed to improve pregnancy outcomes and offer expanded “prenatal care services including case coordination, follow-up and referral” (p. 97). Approved risk assessment tools are used, and interventions that addressed nutrition, health behaviors, and psychosocial wellbeing are provided through pregnancy and the early postpartum period. Researchers of this study found that prenatal care initiated in the first trimester, and continued regularly throughout pregnancy, “significantly reduced the likelihood of preterm birth” in the population studied (p. 101). Also, adequate prenatal care alone, while important, did not reduce the marked racial disparities in preterm birth within their findings. Additional prevention and intervention strategies are “needed to reduce racial disparities in birth outcomes” (Thurston et al., 2021, p. 101).

### **Risk of Premature Birth**

Substantial racial disparities have existed within preterm birth rates, with “Black women most likely to give birth prematurely” (Thurston et al., 2021, p. 96). Early and regular prenatal care may reduce the risk of preterm birth and has been considered as a key focus of “national, state and local level interventions to reduce” infant mortality (Thurston et al., 2021, p. 96).

Black infants have been disproportionately born “prematurely at a rate that is 60 percent higher” than for White infants (Lake et al., 2018, p. 3008). The high prevalence of Black infants being born prematurely has contributed to the comparatively higher rates of mortality among Black infants (Lake et al, 2018).

It is possible that some of the same factors operating in premature birth, including on a systemic, structural, or social determinants level, are operating in Black maternal mortality.

## **V. Social Support, Doulas, Midwives, and Maternal Outcomes**

A potentially modifiable psychosocial factor that has been “negatively associated with adverse pregnancy outcomes” is social support (Zachariah, 2009, p. 394). Social support has been shown to improve pregnancy outcomes either by “countering the effects of stress or by directly improving” women’s mental health (p. 394). Research found having social support may decrease the intensity or number of life events seen as crises or aid in acquiring the means and skills needed to buffer the effects of stress. In addition to studies of psychological or emotional stress, the “direct effect of social support on perinatal outcomes has also been consistently” described (p. 394). Family social support, as measured by the Family APGAR (Appearance, Pulse, Grimace, Activity, and Respiration), was found to “significantly correlate with infant APGAR scores” in a prospective study of 100 pregnant women when other variables were controlled (p. 394). Overall, social support operationalized as family structure and family functioning was found “significantly and independently to correlate with birth weight” (Zachariah, 2009, p. 394).

Community-based social support has played “an important role in mitigating the health disparities” experienced by people of color (West et al., 2021, p. 1). Social support has been defined as “a network of family, friends, neighbors and community members” that is available in times of need to give psychological, physical, and financial help (p. 2). This support has been categorized into instrumental support, informational support, and emotional support. Social support has provided itself as a buffering mechanism between “maternal stress and outcomes such as preterm birth” (p. 2). Community-based organizations (CBOs) and allied organizations have had an important role in providing critical social support services to clients during

pregnancy and the transition to parenthood. They do this by tackling community and family-level factors such as racial and ethnic inequities. Enhanced racial and ethnic diversity among CBO employees is “needed to design and provide services that are culturally appropriate and responsive” to clients’ needs (West et al., 2021, p. 9).

The COVID-19 pandemic has forced healthcare systems to rapidly modify care delivery which decreased “birthing people’s agency and access to health services and support” (Ojo et al., 2021, p. 1). Continuous labor support has promoted favorable maternal outcomes, such as “decreased cesarean sections and decreased negative feelings” about the child birthing experience (p. 2). This essential component of care for vulnerable patients has the potential to narrow the racial gaps in maternal outcomes with consistent access. The devotion of adequate resources and attention to “mental health and social support throughout the prenatal and postpartum” period has been deemed as critical (p. 3). Overall, lack of social support increased the “likelihood of postpartum depressive symptoms particularly for women” in low-income households (Ojo et al., 2021, p. 4).

### **Social Support from Doulas**

Meyer et al (2001) describe a doula as “a woman who is experienced and professionally trained to provide continuous social support to the birthing family”—while typically present “during labor and delivery,” and/or providing support for the “new mother during the first days or weeks after the birth” (p. 57). This is consistent with historical depictions of a “laboring woman surrounded by women offering social support” (p. 57). Most important is the assertion that the “basis of doula care is social support, which includes offering information, tangible physical assistance, and emotional support” (Meyer et al, 2011, p. 57).

According to Kathawa et al., (2021), doulas are trained paraprofessionals who “provide non-medical support to women” before, during, and after birth (p. 31). Doulas have the potential to reduce racial disparities for laboring individuals and infants, “primarily through a reduction in cesarean births” (p. 31). As a response to awareness regarding disparities in birth outcomes, many doulas of color have chosen to enter the profession to support women from their own communities. As a result, doulas of color have been “uniquely positioned to support women of color” who are birthing individuals (p. 32). The ability of doulas to act as “liaisons between healthcare providers and patients” has created an environment where Black women feel supported and have increased self-efficacy (Kathawa et al., 2021, p. 37).

The use of doulas who have provided physical, informational, and emotional support has been shown to have “positive results on birth-specific and postpartum-specific outcomes” (Wint et al., 2019, p. 109). Doula services are associated with the provision of assistance to “birthing individuals in navigating the health care system” (p. 109). This is considered especially important, given the complexities and discrimination many Black and African American women face when having interacted with this system. Black and African American mothers have continued to express interest in the receipt of doula support (Wint et al., 2019, p. 109).

Community-based birth doula services can positively impact birth outcomes of Black women, as they address the “experiences and effects of structural racism for pregnant individuals” (Van Eijk et al., 2022, p. 98). Underserved communities of color have reported “greater incidences of delayed care, gaps in communication,” as well as brief encounters with providers along with extended wait times for appointments—in comparison to White populations (p. 99). Having access to doulas who are culturally competent and have experienced the effects of systemic racism can be very positive for a Black mother’s birth outcome. Birth doulas have

provided physical, emotional, and informational assistance during the perinatal period, which has been reported to “decrease maternal stress and increase satisfaction” with the birth experience (Van Eijk et al., 2022, p. 98).

The use of a doula is considered as invaluable and has provided nonclinical, physical, emotional, and informational support to Black mothers (Bond et al., 2021). As a result, doulas have been shown to lead to positive outcomes, and help birthing individuals navigate the complex health care system. Doulas also help lessen the “experience of discrimination many Black people face” by advocating for their clients (p. 229). Thus, another approach to improving “Black maternal outcomes included expanding the coverage of doulas” (Bond et al., 2021, p. 229).

### **Historical Support from Black Midwives**

Black mothers have also turned to Black midwives for vital social support during the birthing process—both historically and in contemporary times. Historically, Black midwives were “known as the granny midwife and identified as individuals” who were highly valued, first by their slave owners and then by their community for assisting women giving birth (Bond et al., 2021, p. 229). In the 1920s, the American Medical Association targeted these midwives, eventually leading to the “reduction of midwifery births and the increase of hospital-based deliveries” (p. 229). Currently, there are 3 types of certified midwives in the United States that include certified nurse-midwives, certified midwives, and certified professional midwives. Research has shown midwife care has improved maternal and newborn health, reduced rates of unnecessary interventions, and saved money. Having a midwife could also fill gaps in care through the connection of patients to social services (Bond et al., 2021, p. 229).

## **VI. Medical Mistrust and Black Populations**

According to Griffith et al., (2021) efforts to build trust to increase healthcare utilization and research participation has had “little effect on attitudes or behaviors that are rooted in distrust or mistrust” (p. 1). African Americans, Latinxs, and other marginalized groups have a long history of receiving an inferior quality of care regardless of insurance and access to care comparable to privileged groups. The governmental response to coronavirus disease 2019 (COVID-19) and other events in the public health system, such as the lead poisoning from the water in Flint, Michigan, has reinforced “skepticism and distrust of healthcare providers/ entities and undermined” their trustworthiness (p. 1). Mistrust within the African American and Black community against healthcare providers can stem from historical experiences linked to group identity and personal experiences (Griffith et al., 2021).

### **Ongoing Black Medical Mistrust from The Tuskegee Study**

The Tuskegee Study of Untreated Syphilis in the Negro Male is “arguably the most infamous example of unethical medical research” (Griffith et al., 2021, p. 2). Racially or ethnically targeted events may have “adverse health implications for members of the group not directly targeted” which is known as peripheral trauma (Alsan et al., 2019, p. 322).

The peripheral trauma of these targeted actions in recent US social history has reflected the “population-level effects of medical injustice nearly five decades prior” (Alsan et al., 2019p. 323). The Tuskegee Study of Untreated Syphilis (TSUS) in the Negro Male was racially targeted and affected more than the study’s victims, as its effects trickled down Black generations that

identified with the victims. The Tuskegee Study began as an “attempt to understand the pathology and course of sexually transmitted infections” which had taken their toll on the American capacity to fight in World War I (p. 323). On July 9, 1918, Congress passed the Chamberlain-Kahn Act that appropriated funds to states to combat the infection and required that states set up clinics, educate the public on STIs, control prostitution, and quarantine what they called ‘immoral women’. In addition, the country’s Public Health Service (PHS) worked alongside state boards of health to “organize clinics and educational activities across the country” (p. 323). PHS surveyed several areas of the South for syphilis and found alarming rates in Macon County and the agency initially planned to provide treatment for affected individuals. However, the stock market crash of 1929 led to a cut in funding, and as a result PHS pivoted from an interventional program “designed to treat afflicted individuals to an observational study of untreated syphilis” (Alsan et al., 2019, p. 323).

According to Alsan et al., (2019) the Tuskegee Study began in 1932 with approximately “600 poor and mostly illiterate Black men, two-thirds of whom had syphilis” (p. 323). The study lasted for four decades, during which time standard treatment for syphilis evolved from “relatively ineffective arsenic-containing compounds to mostly effective penicillin” (p. 323). In July 1972, Jean Heller of the Associated Press exposed the study in the national media, which finally brought the study to a halt. Congressional hearings further amplified news of the injustice. It is not known how many of the infected men died of syphilis-related causes, and “dozens of spouses and children had been infected with the disease” as well (p. 323). A \$9 million settlement was reached in 1974 for the study’s victims, and the U.S. government “belatedly issued an official apology in 1997” (Alsan et al., 2019, p. 323).

## **Other Unethical Medical Practices**

Knowledge of the Syphilis Study and other unethical research studies has not been “solely responsible for African American patients’ mistrust” (Griffith et al., 2021, p. 2). Part of the deception uncovered by African American communities included finding plenty of “unethical medical research was disguised and presented” to patients as safe medical care (p. 2). As a result, this made it difficult for patients to view medical care outside of the context of medical research. (Griffith et al., 2021, p. 2).

Existing research on medical mistrust has been largely focused on its “historical causes and its consequences” (Johnson et al., 2021, p. 861). Cultural transmission has been cited as one of the ways “medical mistrust spreads within communities and across generations” (p. 861). Research found that doctors are less likely to take a patient-centered approach, more likely to be verbally dominant when interacting with Black patients, and less likely to treat pain among Black patients. Furthermore, researchers described findings where age and the experience of discrimination were positively correlated with medical mistrust. The experience of discrimination because of one’s race, as well as the accumulation of these experiences over a lifetime have been proximate causes of medical mistrust. The composition of one’s broader social networks, including “members’ demographic characteristics and the roles they occupy,” has been associated with medical mistrust (Johnson et al., 2021, p. 867).

## **Negative Impacts from Medical Mistrust**

Medical mistrust has been “a major barrier to a strong patient-clinician relationship” (Bazargan et al., 2021, p. 4). Patient mistrust in health care clinicians and in the health care

system has “negatively influenced patient behavior and health outcomes” (p. 4). Medical mistrust has also been shown to reduce patient commitment to their treatment plan prescribed by their clinician. For racial and ethnic minorities, medical mistrust may be “rooted in patients’ past experience of discrimination” (p. 4). 6 Insufficient comparative studies were conducted to explain the “impact of various types of discrimination by the health care system” on patient mistrust (Bazargan et al., 2021, p. 5).

According to Bazargan et al., (2021), a recent meta-analysis of 47 studies revealed medical mistrust is correlated with self-reported “subjective outcomes which affected patient satisfaction and treatment outcomes” (p. 5). Medical mistrust was linked to lower adherence to recommended healthier lifestyles, more adverse symptoms, “less satisfaction with medical care and poorer quality” of life (p. 5). Having a large sample of non-Hispanic Black, Hispanic, and non-Hispanic White adults, researchers focused on two distinct types of perceived discrimination in the health care system: discrimination based on race/ethnicity and language, and “discrimination based on income and type of or lack of insurance” (p. 5). The multivariate analysis found that compared with non-Hispanic White participants, Black and Hispanic participants had 73% and 49% higher odds of reporting mistrust with health care professionals. More than 53% of non-Hispanic White participants “trusted their clinicians ‘a lot’ compared with only 36% and 37%” of Hispanic and non-Hispanic Black counterparts, respectively (p. 9). There was a strong association between medical mistrust and perceived discrimination. Furthermore, there was a “significant relationship between not having a primary care physician” and higher level of mistrust with clinicians (Bazargan et al., 2021, p. 9).

## **Conclusion**

This chapter provided a review of the literature relevant to the present study on the following topics: 1-prevalence of maternal mortality; 2-Black women's maternal mortality; 3-severe maternal morbidity, comorbidities, and complications; 4-research on factors operating in Black maternal morbidity and mortality; 5-social support, doulas, midwives, and maternal outcomes; and, 6-medical mistrust and Black populations.

The next Chapter, III, provides the methods and procedures followed in conducting the research study.

## Chapter III

### METHODS

This chapter provides the methods and procedures followed in the present study. More specifically, this chapter will present the following: overview of the study design and procedures; description of the study participants; research instrumentation; and, the data analysis plan.

#### **Overview of the Study Design and Procedures**

This dissertation research used a cross-sectional design. Further, an online survey was used. The Qualtrics platform hosted the survey. Details follow with regard study procedures.

#### **IRB Approval**

IRB approval from Teachers College, Columbia University under an “exempt” status was obtained February 28, 2021. The IRB protocol number was 22-131, as per the IRB approval letter (See **Appendix A**). Data collection began upon receipt of this approval. Data collection ended March 19<sup>th</sup>, 2022.

#### **Recruitment of Study Participants**

Recruitment of study participants was done via a social media campaign conducted on several online platforms, including Twitter, Instagram, Facebook, and LinkedIn, as well as via email (See Study Email in **Appendix B**). Also, messages based on the study’s official text or

tweet (See Study Tweet/Text in **Appendix C**) were placed were sent out. All recruitment efforts used a core message:

*Are you a Black woman who felt your life was at risk for even a moment while in the hospital to give birth between years 2012-2018? If “YES,” click on <https://tinyurl.com/BlackWomenLivesAtRisk> & Take 12-15 Min Survey for 3 in 250 chance to win a \$300, \$200, or \$100 Amazon Gift Card!*

Those who followed the link to the study opportunity were asked to read the Informed Consent and Participants’ Rights (See **Appendix D**). Participants had to provide an electronic signature to proceed to the survey.

Regarding pertinent details, Twitter was used extensively to recruit participants. Twitter accounts with the nomenclature “Black or African American”, “maternal health”, “healthcare”, “racial disparities”, “doula”, “midwives”, and “mothers” were targeted, and requests made to follow those various pages. After following the accounts, a line of “please retweet,” was sent out, asking anyone who saw the tweet to share the survey link. Many Tweets were sent out every day, about 2-3 times an hour with various hashtags within a 12-hour period, such as #maternalhealth, #research, and #healthequity. Also, the survey link was shared via responses to tweets to increase visibility of the survey link. In addition, several tweets daily were sent directly “@” specific Black influencers and People of Color (POC) celebrities to increase the visibility of the survey link. There was also an outreach to friends and family via Instagram and LinkedIn—wherein the survey link was shared, while snowballing followed, as those contacted sent the invitation to others. Emails were also sent out sharing the survey link, including the encouragement to share the invitation with others, further permitting snowballing to occur.

## Other Study Procedures

Potential participants who were interested in taking part in the survey and clicked on the link (<https://tinyurl.com/BlackWomenLivesAtRisk>) were then directed to the Qualtrics platform where the survey was hosted. Next, participants were presented with the Informed Consent, which included the Participant’s Rights form— which had a box they had to click on to indicate their consent to participate in the study (see Informed Consent in **Appendix D**).

## Study Inclusion/Exclusion Criteria

Study participants had to meet inclusion criteria by answering “Yes,” to the following questions (see the Study Screening Survey in **Appendix E**).

1-Are you age 18 or above?  No  Yes

2-Do you identify as a Black or African American woman?  No  Yes

3-Do you live in the United States?  No  Yes

4-Did you ever have a hospitalization to deliver a baby in the United States where you felt for even a moment that your life was risk, or you could have died?  No  Yes

5-Was that particular high-risk hospitalization between the years 2018 and 2012?  No  Yes

6-If you become upset while taking the survey, you can immediately stop and exit the survey. Do you feel able to answer questions in a short 12–15-minute survey about you and your experiences during that particular high-risk hospitalization *without* becoming so upset that it negatively impacts you—OR, do you feel able to stop and exit the survey if you become upset?  No  Yes

If participants answered yes to all the questions, then they were allowed to continue to complete the survey. If the participants answered no to any of the inclusion questions they were then thanked for their time and informed that they did not qualify to participate in the survey. The participants who did not meet the inclusion criterion were then invited to share the link to the survey opportunity with others who might meet the study inclusion criteria.

### **Generating Prizes: The Study Incentive for Participation**

Participants who completed the entire study survey were directed to a webpage where they could enter their email address—thereby officially entering the lottery for a one in three chance to win either a \$300, \$200, or \$100 Amazon.com gift card. Data collection for the study began on February 28<sup>th</sup>, 2022, and closed on March 19<sup>th</sup>, 2022, as the point at which the lottery drawing occurred. Upon closing the study, participants who entered the lottery and won were notified by email of winning and told how to redeem the Amazon gift card. The prize lottery webpage was created by the Research Group on Disparities in Health (RGDH) webmaster, Dr. Rupananda Misra. Dr. Misra functioned by creating and operating the program for selecting the Amazon gift card winners, which kept all participant's email data encrypted. This was important, as it allowed for participants' privacy to be maintained. Accordingly, the principal investigator was not able to view any identifying participant data—specifically, their email addresses—nor able to associate them with the study results.

## Description of the Study Participants

In order to recruit participants, the study utilized convenience sampling techniques, resulting in an initial sample of N=437. However, the sample size was reduced after removing duplicate computer IP addresses, leaving 319 participants remaining. From this 319, 86 responses were eliminated, as the individuals did not meet all the inclusion criteria (as per Appendix E). Finally, from the 233 responses left, 41 were subsequently ineligible for not completing the entire survey, lacking data for the primary outcome variable. As a result, the final number of completed surveys was N=192.

A comparison was made of the convenience sample of Black women who were study completers (N=192) to the study non completers (N= 41). Findings showed that the only significant difference between study completers and study non-completers ( $t= 2.133$ ,  $df= 224$ ,  $p= 0.034$ ) was that those who completed the survey (N=192) were significantly older and had lighter skin than the non-completers.

See Table 1.

Table 1. Comparing Survey Completers (N = 192) to Non-Completers (N = 41), Independent T-Tests

		<i>t</i> -tests					
Has Primary Outcome Variable?							
Yes=Completer No=Non-Completer							
		N	M	SD	<i>T</i>	df	P
Age	Yes	192	33.23	4.980	-3.167	68.377	0.006**
	No	41	30.93	4.058			
Skin Color	Yes	192	6.02	.938	2.516	53.732	0.034*

	No	34	6.38	.739			
Education	Yes	192	3.98	1.472	-1.002	224	0.317
	No	34	3.71	1.426			
Income					1.051	223	0.294
	Yes	191	5.27	2.371			
	No	34	5.74	2.340			

---

\*p<.05, \*\*p<.01, \*\*\*p<.001

Note: All p values above .05 are considered non-significant, and those below .05 are considered statistically significant.

### **Description of Research Instrumentation**

This study used a survey developed by the Principal Investigator, Amina Abdelaziz, in conjunction with her dissertation sponsor, Professor of Health Education, Dr. Barbara Wallace, Director of the Research Group on Disparities in Health (RGDH), Teachers College, Columbia University. Many of the survey parts are standard tools commonly by the RGDH, having been used in previous research studies conducted by the RGDH. Other survey parts are new, having been created by the Principal Investigator and the dissertation sponsor for first-time use in this study. This section will describe all the survey parts, or scales and sub-scales, while they appear within the full study survey in **Appendix G**.

#### **Part I: Basic Demographics (BD-10)**

The Basic Demographics (BD-10) scale was developed by Professor Barbara Wallace for use by the Research Group on Disparities in Health (RGDH), having been previously used in many prior studies (e.g. Williams-Gunpot, 2021; Tirhi, 2019), while adapted for this study's Black

female population. It contains 10 questions covering gender, age, race/ethnicity, skin color, country of birth, years living in the United States, highest educational level, marital status, employment status, and annual household income.

**Part II: Single Item Rating of Risk of Providing Socially Desirable Responses (SIR-RPSDR-1)**

This single item Rating of Risk of Providing Socially Desirable Responses (SIR-RPSDR-1) was created for first time use by Dr. Barbara Wallace. It has roots in studies conducted in 2018 by the Research Group on Disparities in Health (RGDH), specifically, Laryea (2019). Evidence from Laryea (2019) suggested the new 1-item tool produced findings similar to the 13-item tool typically used for measuring social desirability (i.e., Crowne & Marlowe, 1960), justifying reducing the burden of time on study participants by using the new 1-item measure—especially, given the stress of the pandemic. The 1-item measure uses a 0-10 Likert rating scale, as follows:

- 1- I sometimes say things that I think will please people, or what I think they want to hear—versus the honest truth, which might be difficult or painful for other people to hear and accept, or might lead them to judge me harshly...

I rate myself on a scale of 0 to 10, as follows:

0	1	2	3	4	5	6	7	8	9	10
0- I am not like										10- I am like this
this at all										all the time

### **Part III: History of a High-Risk Birth Hospitalization—Year of Event (HORBH -YOE-3)**

This is a new tool created by the Principal Investigator, Amina Abdelaziz, and the dissertation sponsor, Professor Barbara Wallace, Director of the Research Group on Disparities in Health (RGDH). This 3-question tool is specific to this study, essentially confirming that all study participants met the inclusion criteria for participation. This was done via the following 3 questions—where any “No” response would have led to their being excluded (exit) from the study:

1-Did you ever enter a hospital for the purpose of giving birth to a baby (or babies/twins, etc.)?

Yes  No [If selects no→exit from study]

2-At any point during your time in the hospital to deliver your baby (or babies/twins, etc.), did you feel that your life was at risk for even a moment? Or, were you told by someone (e.g. by a husband, partner, family member, hospital staff member, etc.) that there was a moment when your life was at risk, or in danger, or you could have died (e.g. from a hemorrhage, or blood clot, etc.)?

Yes  No [If selects no→exit from study]

**3-Please indicate the year that you had this particular hospitalization to deliver your baby (or babies/twins, etc.)**

2021       2020       2019. [If selects 2019, 2020, 2021→exit from study]

2018       2017       2016

2015       2014       2013

2012  2011 or before [If selects 2011 or before→exit from study]

Hence, via this tool, the researcher could have confidence about the study participants meeting study inclusion criteria—going above and beyond the screening questions which also should have served to determine this.

#### **Part IV: Perceived Racism, Discrimination, and Inequities in Service Delivery by Medical Staff During a High-Risk Birth Hospitalization (PR-D-ISD-BMS-DRBH-20)**

The Perceived Racism, Discrimination, and Inequities in Service Delivery by Medical Staff During a High-Risk Birth Hospitalization (PR-D-ISD-BMS-DRBH-20) is another new scale created for first time use in the present study by the Principal Investigator, Amina Abdelaziz, and the dissertation sponsor, Professor Barbara Wallace, Director of the Research Group on Disparities in Health (RGDH); and, it is for intended future use by the RGHD. This new tool is based on the review of literature, while some items reflect incorporating and adapting items, as described within the work of Hall et al., (2021). Hall et al. (2021) used the 7-item Discrimination in Medical Settings (DMS) scale, which was adapted from the Everyday Discrimination Scale (EDS) [i.e., to assess perceived racial discrimination during healthcare service delivery, as per the work of Peek et al, (2011) who adapted the EDS to medical settings, using a sample of African Americans]. Other items are original and new, being created for this scale and study—and designated with ## in the Appendix G, Part IV (i.e., #s 1, 3, 18, 19, 20). These other new items arise from factors discussed in the literature.

The new adapted, expanded tool used for this study has a sub-scale with 5 items (designated with an R in Appendix G, Part IV) or scale **R = Racism Perceived as Potentially Operating Sub-Scale** with the 6 items #s 1, 3, 5, 7,15,19. The remaining 14 items comprise the **Experiences During Service Delivery with Medical Staff Sub-Scale** (#s 2, 4, 6, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 20).

Instructions, sample items 1, 6, 7, 8, 12, 13, 14, 15—chosen here for illustrative purposes, and Likert scoring follow, while the complete scale appears in Appendix G, Part IV:

Please keep in mind that particular hospitalization to deliver your baby (or babies) when there was a moment when your life was at risk, or in danger, or you could have died. Please indicate all that you experienced **when interacting with hospital medical staff—specifically, doctors and nurses, during that hospitalization**, below:

**R ##1**-I felt racially stereotyped, or treated like a racial stereotype by doctors and nurses

*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*

**6**-I overheard judgmental or negative comments about me

*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*

**R7**-I overheard negative comments about my race

*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*

**8**-I was verbally abused

*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*

**12**-I was threatened, coerced, lied to, and manipulated

*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*

**13**-I felt what I had to say was being dismissed, ignored, and not taken seriously

*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*

**\*\*14**-I felt like I was not being listened to by doctors and nurses

*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*

**R15**-I felt like I was not being listened to by doctors and nurses the way a White woman would have been

*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*

The internal consistency and mean of the scale, along with minimum and mean scores, will be determined by the study.

#### **Part V: Risk Factors for Pregnancy-Related Complications—Chronic Health Conditions (RFF-PRC-CHC-5)**

The Risk Factors for Pregnancy-Related Complications—Chronic Health Conditions (RFF-PRC-CHC-5) is a new scale created for first time use in the present study by the Principal Investigator, Amina Abdelaziz, and Dr. Barbara Wallace, Director of the Research Group on Disparities in Health (RGDH)—and for use by the RGDH. This new tool is based on the review

of literature, while asking participants about their additional health-related diagnoses before they went into the hospital to deliver their baby/babies. The instructions and options follow:

BEFORE you went into the hospital to deliver your baby (or babies/twins, etc.), had you been diagnosed with any of the following: ***[check all that apply]***

1. Cardiovascular disease or heart disease  Yes  No  Unsure
2. Hypertension or high blood pressure  Yes  No  Unsure
3. Obesity  Yes  No  Unsure
4. Diabetes  Yes  No  Unsure
5. Asthma  Yes  No  Unsure

The scale may provide a mean number of risk factors for pregnancy-related complications or chronic health conditions, including standard deviation and minimum and maximum scores.

#### **Part VI: Occurrence of Medical Events During a High-Risk Birth Hospitalization (OME-DRBH-14)**

The Occurrence of Medical Events During a High-Risk Birth Hospitalization (OME-DRBH-14) is a new scale created for first time use in the current study by the Principal Investigator, Amina Abdelaziz, and Dr. Barbara Wallace, Director of the Research Group on Disparities in Health (RGDH). This new scale was developed based on a review of the literature. There is just 1 item with many options, with instructions and scoring, as follows:

Please indicate which of the following you experienced, or were diagnosed with, or told happened during your hospitalization to deliver your baby (or babies/twins, etc.): ***[check all that apply]***

1. Event related to cardiovascular condition  Yes  No  Unsure
2. Infection or sepsis  Yes  No  Unsure
3. Cardiomyopathy (disease of the heart muscle)  Yes  No  Unsure
4. Hemorrhage  Yes  No  Unsure
5. Blood clot (thrombotic pulmonary, or other embolism)  Yes  No  Unsure

6. Cerebrovascular accident (CVA, or stroke) \_\_Yes \_\_No \_\_Unsure
7. Hypertensive disorder of pregnancy/ Gestational hypertension \_\_Yes \_\_No \_\_Unsure
8. Amniotic fluid embolism \_\_Yes \_\_No \_\_Unsure
9. Anesthesia complications \_\_Yes \_\_No \_\_Unsure
10. Preeclampsia \_\_Yes \_\_No \_\_Unsure
11. Eclampsia \_\_Yes \_\_No \_\_Unsure
12. Diabetes \_\_Yes \_\_No \_\_Unsure
13. Preterm birth/ premature birth \_\_Yes \_\_No \_\_Unsure
14. Low birthweight baby \_\_Yes \_\_No \_\_Unsure

The scale may provide a mean number of medical events experienced, including standard deviation and minimum and maximum scores.

#### **Part VII: Medical Mistrust Scale—Short Form (MMS-SF-4)**

This study also used a tool previously identified and utilized in research, while adapting it for the present study by shortening it to just 4 items. This study’s resultant **Medical Mistrust Scale—Short Form (MMS-SF-4)** follows the work of Shelton et al. (2010), given their 11-item scale, The Group Based Medical Mistrust Scale (GBMMS). Shelton et al. (2010) used their 11-item GBMMS to measure race-based medical mistrust. Shelton et al. (2010) had eliminated one item from the original 12 item version, following their finding of three factors. Given this study conducting pandemic-era research, considerations of the burden of time were paramount, resulting in creation of a shorter 4-item version for this study, while also following the work of others during this era in using this same shortened tool (i.e. Williams-Gunpot, 2021).

Of note, using the 11-item version, Shelton et al (2010) reported that internal consistency “was high for the total GBMMS ( $\alpha=0.87$ ), while Cronbach Alphas for the internal consistency of the three sub-scales were: Suspicion ( $\alpha=0.89$ ); Discrimination ( $\alpha=0.83$ ); Lack of Support ( $\alpha=0.65$ )” (p. 552).

Of the three factors or scales found by Shelton et al (2010), the decision was made to include selected items deemed most appropriate for the design of a short tool for use in the pandemic era, as follows: 1-with a **Suspicion Scale (Factor 1, 2 of 5 original items included)**; 2-with a **Discrimination Scale (Factor 2, 2 of 3 original items included for reverse scoring)**; **and, of note, this study did not use any items from the Lack of Support Scale (Factor 3).**

Again, following the work of Williams-Gunpot (2021), this study uses a final shortened scale with only the original items #s 4, 5, 8, 10. With a sample of African American adults volunteering for a study on their COVID-19 Knowledge, Williams-Gunpot (2021) found the new 4-item shortened Medical Mistrust Scale had a good internal constancy (i.e., Cronbach's Alpha of .755), while the sample showed moderately high medical mistrust with a mean of 3.273 (min=1.50, max=5.00, SD=.7615).

Instructions to participants and the items used within the final shortened 4-item tool for measuring medical mistrust, along with Likert scoring options, follow:

Please indicate your agreement or disagreement with the following statements:

**[Short Suspicion Scale (Factor 1)]**

- 1-Black people cannot trust doctors and health care workers (*item 5 on original scale*)  
*1-Strongly Disagree 2-Disagree 3-Neither Agree or Disagree 4-Agree 5-Strongly Agree*
- 2- Black people should be suspicious of information from doctors and health care workers (*item 4 on original scale*)  
*1-Strongly Disagree 2-Disagree 3-Neither Agree or Disagree 4-Agree 5-Strongly Agree*

**[Short Discrimination Scale (Factor 2)—reverse score]**

- 3-Black people receive the same medical care from doctors and health care workers as people from other groups (*item 8 on original scale*)  
*1-Strongly Disagree 2-Disagree 3-Neither Agree or Disagree 4-Agree 5-Strongly Agree*
- 4-Black people are treated the same as people of other groups by doctors and health care workers (*item 10 on original scale*)  
*1-Strongly Disagree 2-Disagree 3-Neither Agree or Disagree 4-Agree 5-Strongly Agree*

This study will determine internal consistence, total mean score (all 4 items), minimum, and maximum scores—along with standard deviation.

**Part VIII: Rating the Cultural Sensitivity, Competence and Humility of Hospital Providers (RCSCH-OHP-1)**

The Rating the Cultural Sensitivity, Competence and Humility of Hospital Providers (RCSCH-OHP-1) scale was taken from Hall (2021) and modified for the present study. This is a simple 1-item tool, being ideal for pandemic-era research. This is shown below, along with Likert scoring:

Thinking back and recalling that particular hospitalization to deliver you baby (or babies/twins, etc.), please **rate your hospital healthcare providers' cultural sensitivity and cultural competence, overall, for treating you as someone who is Black, African American, etc. -- or for providing you with the same quality of care *they provide to White women*:**

<b>1-Very Poor</b>	<b>2-Poor</b>	<b>3-Fair</b>	<b>4-Good</b>	<b>5-Very Good</b>	<b>6-Excellent</b>
--------------------	---------------	---------------	---------------	--------------------	--------------------

This short tool will permit determining a mean, minimum, and maximum score, along with standard deviation.

**Part IX: Perceived Discrimination by Hospital Providers in Response to Personal Demographics (PD-BHS-IRTPS-5)**

The Perceived Discrimination by Hospital Providers in Response to Personal Demographics (PD-BHS-IRTPS-5) scale was taken from Hall (2021) and modified for the present study. This scale has 5 questions, along with instructions and Likert scoring, as follows:

Thinking back and recalling that hospitalization to deliver your baby (or babies/twins, etc.), do you think you **experienced any discrimination (unfair treatment) for.....** (select all that apply, below):

- 1-being a **woman**  Yes  No
- 2-being **African American or Black**  Yes  No
- 3-being **overweight or obese**  
 Yes  No  Not Applicable. I am not overweight or obese
- 4-my **appearance** (e.g. skin tone, hair, etc.)  Yes  No
- 5-being a **person with a disability**  
 Yes  No  Not Applicable. I am not a person with a disability

For scoring, question answers range from 0 to 5, where 0=no discrimination and 5=highest level experience of discrimination for intersectionality (e.g. woman and Black) or for multiple personal characteristics (e.g. woman, Black, obese, skin tone). The study will report a mean, minimum, maximum score, and standard deviation.

**Part X: Retrospective Depression, Anxiety, Trauma and Receipt of Counseling Scale—Past Year (A) and Year Post-High-Risk Birth Hospitalization (B) (RDATS-PY-YPRBH—8)**

The Retrospective Depression, Anxiety, Trauma and Receipt of Counseling Scale—Past Year (A) and Year Post-High-Risk Birth Hospitalization (B) (RDATS-PY-YPRBH—8) is a version of a scale that follows the work of Tirhi (2019) and others (e.g. Hall, 2021), as a common tool used by the Research Group on Disparities in Health (RGDH). It was selected for use in the present study—with some modifications. Of note, an innovation introduced by Professor Barbara Wallace in Spring 2022 studies of the RGDH involved modifying the scale via use of a continuous Likert Scale, versus use of the prior dichotomous (Yes, No) Likert format. In addition, given the focus, added for the first time in this study is an entire scale (B) with new questions about the period of time after their hospitalization for a high-risk birth hospitalization (months 1 to 12 post-partum). Hence, scale A provides *past year* depression,

anxiety and trauma; and, a new scale B provides depression, anxiety and trauma *the year following their high-risk birth hospitalization*. Results should be reported for ODD ITEMS as **Scale A—Past Year Depression, Anxiety and Trauma**; and, for EVEN ITEMS as **Scale B—The Year Post-Birth Hospitalization Depression, Anxiety and Trauma**. The counseling question addresses any **receipt of counseling** for Scale A, and receipt of counseling for Scale B. In addition, scoring can permit creation of the **Overall Mental Health Index** that combines the ratings for depression, anxiety and trauma by creating a mean score that combines them; this can be done for Scale A and Scale B.

Again, scoring is new, given use of a continuous Likert scale for both Scale A and Scale B, as shown in sample items for just depression, below:

**Scale A item:**

**Depression** is an overwhelming feeling of intense sadness. It can include feeling helpless, hopeless, and worthless. It can sometimes be expressed through angry outbursts, as well as bursting into tears. There can also be loss of appetite, or an increase in appetite. There can also be difficulty sleeping or oversleeping. In addition, there can be a loss of interest in your activities. Such a depression can last for days or weeks. This goes beyond typical feelings of sadness, such as following some disappointment.

1-Do you think you experienced any **depression** in the past year or 12 months?

0-No \_\_\_

1-Yes, a very mild level \_\_\_

2-Yes, a moderate level \_\_\_

3-Yes, a severe level \_\_\_

4-Yes, a very severe level \_\_\_

**Scale B item:**

2-Looking back on the **PERIOD OF TIME AFTER YOU HAD A HOSPITALIZATION FOR A BIRTH (months 1 to 12 post-partum)**, do you think you experienced any **depression**?

0-No \_\_\_

1-Yes, a very mild level \_\_\_

2-Yes, a moderate level \_\_\_

3-Yes, a severe level \_\_\_

4-Yes, a very severe level \_\_\_

In addition, each Scale, A and B, has a counseling item, as shown, below, for Scale A:

**Receipt of Counseling items:**

**Scale A**

**Receipt of Counseling**

7-In the past year, did you seek out any kind of counseling or advice for any depression, anxiety, or trauma—such as from a mental health professional or other helper?

Yes  No  Not Applicable/ No experience of depression/anxiety/trauma

**Scale B**

8-Looking back on the **PERIOD OF TIME AFTER YOU HAD A HOSPITALIZATION FOR A BIRTH (months 1 to 12 post-partum)**, did you seek out any kind of counseling or advice for any depression, anxiety, or trauma—such as from a mental health professional or other helper?

Yes  No  Not Applicable/ No experience of depression/anxiety/trauma

The study will report internal consistency, mean, minimum, maximum, and standard deviation for Scale A and Scale B.

**Part XI: Perceived Stress Scale (PSS-4)**

The Part IX: Perceived Stress Scale (PSS-4) is a shortened version of the long-standing PSS-10 created by Cohen et al. (1983; Cohen; 1994). The short 4-item version of this scale (PSS-4) that was used in this present study was taken from the Ohio State University College of Nursing Million Hearts Survey (2015). Karam et al. (2012) conducted a study with pregnant women using the 4-item PSS, while examining stress, depression and quality of life, finding fairly good internal consistency with a Cronbach's alpha = .79. Of note, PSS-4 scores are obtained by reverse coding the positive items, 0=4, 1=3, 2=2, and then summing across all 4 items--while items 2 and 3 are the positively stated items.

The instructions, actual items, and Likert scale used for scoring, follow:

Instructions: The questions in this scale ask you about your feelings and thoughts during the last month. In each case, please indicate with a check how often you felt or thought a certain way.

**1. In the last month, how often have you felt that you were unable to control the important things in your life?**

*0=never    1=almost never    2=sometimes    3=fairly often    4=very often*

**2. In the last month, how often have you felt confident about your ability to handle your personal problems?**

*\_\_\_0=never \_\_\_1=almost never \_\_\_2=sometimes \_\_\_3=fairly often \_\_\_4=very often*

**3. In the last month, how often have you felt that things were going your way?**

*\_\_\_0=never \_\_\_1=almost never \_\_\_2=sometimes \_\_\_3=fairly often \_\_\_4=very often*

**4. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?**

*\_\_\_0=never \_\_\_1=almost never \_\_\_2=sometimes \_\_\_3=fairly often \_\_\_4=very often*

The PSS-4 scores are obtained by reverse coding the positive items, e.g., 0=4, 1=3, 2=2, etc. and then summing across all 4 items. It should be noted items 2 and 3 are considered to be the positively stated items.

Furthermore, this present study will determine the PSS-4's mean, standard deviation, minimum and maximum scores—as well as internal consistency using Cronbach's Alpha.

**Part XII: Perceived Social Support—Now and During a High-Risk Birth Hospitalization—Scale (PSS-NADRBH-S-2)**

The Perceived Social Support Scale —Now and During a High-Risk Birth Hospitalization—Scale (PSS-NADRBH-S-2) is based on a tool commonly used by the Research Group on Disparities in Health (RGDH), having been used by Lian (2017) for example in the form of 5 item survey. However, as pandemic-era research with the imperative to reduce the

burden of time, a new one item version of the scale was created. This was done by combining the essence of 5 questions on social support into one item, following a description of what having social support “means.” This shortened version follows the more recent work of others (e.g. Hall, 2021; Williams, 2021). Participants indicate via this one item version the number of people they have in their life, using a 5-option Likert rating scale (see below). For the present study, a second question was added that permits responses on social support for the year after their high risk birth hospitalization, as shown below:

Please read the description, below (for social support), and then answer the questions that follow.

**Having SOCIAL SUPPORT means having people in your life who provide the following kinds of support and assistance: you can ask them for advice or receive words of encouragement; get money or get food in an emergency; or have a place to temporarily wait for help, or stay or live in an emergency.**

**1-Please indicate the extent to which you experience SOCIAL SUPPORT in your life at this time (i.e., right now):**

1. I have no one like this in my life right now
2. I have at least 1 one person like this in my life right now
3. I have at least 2 people like this in my life right now
4. I have 3-5 people like this in my life right now
5. I have 6 or more people like this in my life right now

**2- Please indicate the extent to which you experienced SOCIAL SUPPORT—for the YEAR AFTER YOU HAD THAT HIGH-RISK HOSPITALIZATION TO GIVE BIRTH?**

1. I had no one like this in my life during my birth hospitalization
2. I had at least 1 one person like this during my birth hospitalization
3. I have at least 2 people like this in my life right now
4. I have 3-5 people like this in my life right now
5. I have 6 or more people like this in my life right now

The above two items inquiring about the extent of their social support each produce a mean, standard deviation, minimum and maximum score. The original 5-item version used by Lian (2017) had an excellent internal consistency with a Cronbach’s Alpha of .901.

## The Data Analysis Plan

Given a sample of adults (N=192) who responded to a social media campaign inviting Black or African American women to complete a survey (i.e., *Are you a Black woman who felt your life was at risk for even a moment while in the hospital to give birth between years 2012-2018? If “YES,” click on <https://tinyurl.com/BlackWomenLivesAtRisk> & Take 12-15 Min Survey for 3 in 250 chance to win a \$300, \$200, or \$100 Amazon Gift Card!*), the study seeks to answer the following research questions—*using the data analysis plans indicated:*

1-What are their demographic characteristics [i.e. age, gender, heterosexual (yes/no), skin tone, U.S. born (yes/no), education, partner (yes/no), employed (yes/no), annual household income

Part I: Basic Demographics (BD-10)

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

2-To what extent were they at risk for providing socially desirable responses?

Part II: Single Item Rating of Risk of Providing Socially Desirable Responses (SIR-RPSDR-1)

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

3-Having a history of a high-risk birth hospitalization (HRBH), regarding their retrospective recall of that particular hospitalization, what was the mean length of time in number of years since it occurred?

Part III: History of a High-Risk Birth Hospitalization—Year of Event (HORBH -YOE-3)

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

4-What was the nature of their treatment and care experiences during service delivery with doctors and nurses during their high-risk birth hospitalization (i.e. using all 20 items), including those where racism was not perceived as clearly occurring (i.e. Negative Experiences During Service Delivery with Medical Staff Sub-Scale—14 items), and those where race or racism was perceived as occurring (i.e. Racism Perceived as Potentially Operating Sub-Scale—6 items)?

Part IV: Perceived Racism, Discrimination, and Inequities in Service Delivery by Medical Staff During a High-Risk Birth Hospitalization (PR-D-ISD-BMS-DRBH-20)

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

5-What was the prevalence of their having risk factors, as prior diagnosed chronic conditions (i.e., cardiovascular disease or heart disease, hypertension or high blood pressure, obesity, diabetes, asthma), *before* their high-risk birth hospitalization?

Part V: Risk Factors for Pregnancy-Related Complications—Chronic Health Conditions (RFF-PRC-CHC-5)

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

6-What did they report as medical events (e.g. hemorrhage, blood clot, etc.) that occurred during their high-risk birth hospitalization? And, to what extent did they experience medical events (i.e. single medical event to multiple medical events)?

Part VI: Occurrence of Medical Events During a High-Risk Birth Hospitalization (OME-DRBH-14)

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

7-What was their current level of medical mistrust, including any suspicion and perceived discrimination?

Part VII: Medical Mistrust Scale—Short Form (MMS-SF-4)

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

8-While recalling their high-risk birth hospitalization, how did they rate their hospital healthcare providers' cultural sensitivity and cultural competence, overall, for treating them as someone who was Black, African American?

Part VIII: Rating the Cultural Sensitivity, Competence and Humility of Hospital Providers (RCSCH-OHP-1)

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

9-Regarding their intersectional (i.e. Black, female) and other personal characteristics (e.g. overweight or obese; appearance for skin tone, hair, etc.; disability), what did they identify as those characteristics to which providers seemed to be responding when they experienced any discrimination or unfair treatment during their high-risk birth hospitalization—whether they experienced no (0) discrimination or the highest level of discrimination (5) for multiple characteristics?

Part IX: Perceived Discrimination by Hospital Providers in Response to Personal Demographics (PD-BHS-IRTPS-5)

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

10-For the year after their high-risk birth hospitalization (months 1 to 12 post-partum), to what extent did they experience mental distress (i.e. Overall Mental Health Index)—and, specifically, to what extent did they experience depression, anxiety, and trauma, as well as access any counseling? And, for the past year, *as an indicator of current status*, to what extent did they

experience mental distress—and, specifically, to what extent did they experience depression, anxiety, and trauma, as well as access any counseling? Is there any significant difference when comparing the year post the high-risk birth hospitalization and the past year?

Part X: Retrospective Depression, Anxiety, Trauma and Receipt of Counseling Scale—Past Year (A) and Year Post-High-Risk Birth Hospitalization (B) (RDATS-PY-YPRBH—8)

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages; and, inferential statistics using paired t-tests.*

11-For the past month, what is their level of perceived stress, *as another indicator of current status?*

Part XI: Perceived Stress Scale (PSS-4)

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages*

12- For the year after their high-risk birth hospitalization (months 1 to 12 post-partum), to what extent did they experience social support? And, for the past year, *as an indicator of current status*, to what extent did they experience social support? Is there any significant difference when comparing the year post-high-risk birth hospitalization and the past year?

Part XII: Perceived Social Support—Now and During a High-Risk Birth Hospitalization—Scale (PSS-NADRBH-S-2)

*Data Analysis Plan: Descriptive statistics, including means, standard deviations, frequencies, and percentages; and, inferential statistics using paired t-tests.*

13-What significant relationships were found between the study outcome variable of level of medical mistrust and selected demographic and other variables?

*Data Analysis Plan: Inferential statistics, including via Pearson's correlations and t-tests*

14-What were the significant predictors of the study outcome variable of level of medical mistrust when controlling for social desirability, given selected independent variables?

*Data Analysis Plan: Backward stepwise regression*

## **Data Management**

Data were downloaded from [www.Qualtrics.com](http://www.Qualtrics.com). The data were transferred to SPSS and analyzed using SPSS 27.0.

## **Conclusion**

This chapter described in detail the methods used in the present study. This included an overview of the study design, study procedures, recruitment of participants, and description of research instrumentation. The chapter concluded with the data analysis plan, including how data was managed. The next Chapter IV will provide the results of data analysis, as per the data analysis plans indicated in this chapter.

## Chapter IV

### RESULTS

This chapter provides a detailed presentation of the study results. Findings are presented by research question, providing organization to the chapter. Additionally, findings are presented in table format.

#### **Data Analysis Results by Study Questions**

##### **Results for Research Question #1**

*What were their demographic characteristics [i.e., gender, age, skin color, U.S. Born (yes/no), partner (yes/no), number of children, level of education, household income, student (yes/no), retired (yes/no), etc.]? (BD-10)*

**Part I: Basic Demographics (BD-10).** The study sample used for final data analysis was comprised of 192 Black or African American women over the age of 18 (N=192). The prior Chapter III described the manner in which this final sample emerged, including a comparison of survey completers (N=192) to the study non completers (N= 41).

The sample was 100% female (N=192), ranging in age from 24-61 with a mean age of 33.23 (SD= 4.980, min=24, max=61), as well as 100% Black/African American (N=192)—with “dark” being their mean skin color rating (mean=6.02, SD = .938, min=1, max =7). Some 96.4% (n=185) indicated they were heterosexual and 3.6% identified as LGBTQ+/Other (n=7). Also, 94.8% reported that they were born in the United States (n=182).

The mean household yearly income was 5.27, which is category 5 for \$50,000 to \$99,000 (SD=2.371, min=1, max= 11). For educational level, the mean was 3.98, or category 3 for some

college credit/ no degree (SD= 1.472, min= 1, max= 7)—with 27.1% participants in this category (n=52). Also, some 37.5% of participants were in the bachelor’s degree category (n= 72).

See Table 2.

Table 2. Basic Demographics (BD-10) (N = 192)

	N	%
<b>Gender (N = 192)</b>		
Female	192	100
Male	0	0
<b>Age (N = 192)</b>		
22-25	5	2.6
26-30	50	26.0
31-35	91	47.5
36-40	36	18.8
41-45	6	3.1
46-50	2	1.0
51-55	0	0
56-60	1	0.5
61-65	1	0.5
<i>Mean=33.23, SD=4.980, min=24, max=61</i>		
<b>Race / Ethnicity (N = 192)</b>		
Black/African American	192	100.0
<b>Born in the US (N = 192)</b>		
Yes	182	94.8
No	10	5.2
<b>Marital Status (N = 192)</b>		
Single	1	.5
Married	80	41.7
Living w/ significant other	2	1.0
Missing	109	56.8
<b>Sexuality (N=192)</b>		
Heterosexual	185	96.4
LGBTQ+	7	3.6
<b>Skin Color (N=192)</b>		
7- Very Dark	64	33.3
6- Dark	82	42.7
5-Medium to Dark	37	19.3

	<b>N</b>	<b>%</b>
4-Medium to Light	6	3.1
3-Light	2	1.0
2-Very Light	0	0
1-White	1	0.5
<b>Mean skin color (6.02), SD (.938)</b>		
<b>min (1), max (7)</b>		
<b>Employment Status (N = 192)**</b>		
<b>Employed for wages</b>	61	31.8
Missing	131	68.2
<b>Self Employed</b>	15	7.8
Missing	177	92.2
<b>Unemployed</b>	2	1.0
Missing	190	99.0
<b>Household yearly income (N = 192)</b>		
1-Less than \$10,000	5	2.6
2-\$10,000 to \$19,000	14	7.3
3-\$20,000 to \$39,000	13	6.8
4-\$40,000 to \$49,000	33	17.2
5-\$50,000 to \$99,000	72	37.5
6-\$100,000 to \$199,000	22	11.5
7-\$200,000 to \$299,000	3	1.6
8-\$300,000 to \$399,999	4	2.1
9-\$400,000 to \$499,999	4	2.1
10- \$500,000 to \$799,999	9	4.7
11- \$800,000 or more	12	6.3
I do not know	1	0.5
<b>[Mean yearly income = category 5.27; SD = 2.371; Min = 1; Max = 11]</b>	20	7.0
<b>Educational Level (N= 192)</b>		
1-Some high school or less	10	5.2
2-High school graduate or GED	22	11.5
3-Some college credit, no degree	52	27.1
4-Associate or technical degree	13	6.8
5-Bachelor's degree	72	37.5
6-Master's degree	19	9.9
7-Doctoral or professional degree	4	2.1

**\*\*Note:** Due to a programming error, a great deal of data was missing.

## Results for Research Question #2

*To what extent did they have a tendency to provide socially desirable responses? (SIR-RPSDR-1)*

**Part II: Single Item Rating of Risk of Providing Socially Desirable Responses (SIR-RPSDR-1).** The sample's social desirability mean was 6.49 (SD=2.356, min=0, max=10), suggesting a moderate risk for providing socially desirable responses. Of note, the regression analysis will control for social desirability.

See Table 3.

Table 3. *Single Item Rating of Risk of Providing Socially Desirable Responses (SIR-RPSDR-1) (N = 192)*

<b>Risk Providing Socially Desirable Responses (N=192)</b>	<b>N</b>	<b>%</b>
0 = I am not like this at all	5	2.6
1	2	1.0
2	4	2.1
3	11	5.7
4	16	8.3
5	14	7.3
6	37	19.3
7	34	17.7
8	32	16.7
10 = I am like this all the time	17	8.9

**Mean Risk for Socially Desirable Responses= 6.49; SD= 2.356;  
Min =0; max = 10**

### Results for Research Question #3

*Having a history of a high-risk birth hospitalization (HRBH), regarding their retrospective recall of that particular hospitalization, what was the mean length of time in number of years since it occurred? (HORBH -YOE-3)*

**Part III: History of a High-Risk Birth Hospitalization—Year of Event (HOHRBH - YOE-3).** For this sample, 100% of participants (N=192) entered the hospital with the purpose of giving birth, reported their life was at risk at some point during their high-risk birth hospitalization (HRBH), and gave birth from 2012 to 2018. In sum, the sample met the crucial inclusion criteria for study participation, as confirmed via this brief scale.

See Table 4.

Table 4. History of a High-Risk Birth Hospitalization (N=192)

	N	%
<b>Did you ever enter the hospital with the purpose of giving birth to a baby (or babies/twins, etc.)? (N=192)</b>		
Yes	192	100
No	0	0
<b>At any point during your time in the hospital to deliver your baby (or babies/twins, etc.), did you feel that your life was at risk for even a moment? Or, were you told by someone (e.g., by a husband, partner, family member, hospital staff member, etc.) that there was a moment when your life was at risk, or in danger, or you could have died (e.g., from a hemorrhage, or blood clot, etc.)?</b>		
Yes	192	100
No	0	0

Of note, some 63% (n=121) of women were recalling an event that had occurred in the years 2012, 2013, and 2014—or as much as 10, 9, or 8 years ago.

See Table 5.

Table 5. Year of High-Risk Birth Hospitalization (HRBH) (N= 192)

<b>Birth Year (2012-2018 HRBH)</b>	<b>N</b>	<b>%</b>
2012	38	19.8
2013	40	20.8
2014	43	22.4
2015	24	12.5
2016	23	12.0
2017	12	6.3
2018	12	6.3

#### **Results for Research Question #4**

*What was the nature of their treatment and care experiences during service delivery with doctors and nurses during their high-risk birth hospitalization (i.e. using all 20 items), including those where racism was not perceived as clearly occurring (i.e. Negative Experiences During Service Delivery with Medical Staff Sub-Scale—14 items), and those where race or racism was perceived as occurring (i.e. Racism Perceived as Potentially Operating Sub-Scale—6 items)? (PR-D-ISD-BMS-DRBH-20)*

**Part IV: Perceived Racism, Discrimination, and Inequities in Service Delivery by Medical Staff During a High-Risk Birth Hospitalization (PR-D-ISD-BMS-DRBH-20).** The Perceived Racism, Discrimination, and Inequities in Service Delivery by Medical Staff During a High-Risk Birth Hospitalization (PR-D-ISD-BMS-DRBH-20) had an excellent internal consistency (Cronbach’s Alpha= .958). Findings showed a mean of 2.836 (SD=.949, min= .00, max= 4.00) for closest to experiencing racism, discrimination, and inequities a “few times”, or to a moderate extent. For example, 33.9% (n=65) had experienced a “few times”— “I felt like the

quality of treatment and care that I received was not equal to or the same as a White woman would receive”. However, when the frequencies were combined for *a few times (scored 3) and many times (scored 4)* –findings showed approximately half the sample had experienced all episodes to a high extent (with one exception at 38.5%, as shown below):

- 46.9% (n= 90) felt racially stereotyped or treated like a racial stereotype by doctors and nurses -- *a few times (scored 3) to many times (scored 4)*
- 52.6% (n=101) received poor treatment or poorer treatment
- 59.9% (n=115) felt like the quality of treatment and care that they received was not equal to or the same as a White woman would receive
- 57.8% (n=111) felt disrespected and that they received disrespectful care
- 62% (n=119) were treated with less respect than a White woman would have been
- 51.6% (n=99) overheard judgmental or negative comments about them
- 52.6% (n=101) overheard negative comments about their race
- 45.8% (n=88) were verbally abused a few times to many times;
- 47.4% (n=91) were yelled at a few times to many times.
- 51.1% (n=98) were scolded, ridiculed, mocked, and shamed
- 54.1% (n=104) felt belittled and put down
- 42.7% (n=82) were threatened, coerced, lied to, and manipulated
- 61.2% (n=118) felt what they had to say was dismissed, ignored, and not taken seriously
- 62% (n=119) felt not listened to by doctors and nurses
- 38.5% (n=96) were not being listened to by doctors and nurses the way a White woman would have been
- 48% (n=92) felt like some doctors and nurses were acting like they were better than them
- 58.8% (n=113) felt some doctors and nurses were acting like they were smarter than them
- 48% (n=92) felt like their pain level was not managed appropriately with medication
- 50.5% of respondents (n=97) reported they felt like their pain level was not managed with medication the way a White woman would have her pain managed
- 57.8% (n=111) reported some interactions with doctors and nurses that were so stressful and overwhelming that they felt traumatized

See Table 6.

Table 6. Perceived Racism, Discrimination, and Inequities in Service Delivery by Medical Staff During a High-Risk Birth Hospitalization (PR-D-ISD-BMS-DRBH-20) (N= 192)

	N	%
<b>Perceived Inequities Cronbach's Alpha (20 items) = 0.958</b>		
<b>Mean Inequities = 2.386; SD = .9489; min = .00; max =4.00</b>		
<b>1- I felt racially stereotyped or treated like a racial stereotype by doctors and nurses. (N = 192)</b>		
0=Never	16	8.3
1 = Once	36	18.8
2 = Twice	50	26.0
3 = Few Times	57	29.7
4 = Many Times	33	17.2
<b>2- I received poor treatment, or poorer treatment (N = 192)</b>		
0=Never	23	12.0
1 = Once	35	18.2
2 = Twice	33	17.2
3 = Few Times	63	32.8
4 = Many Times	38	19.8
<b>3- I felt like the quality of treatment and care that I received was not equal to or the same as a White woman would receive (N=192)</b>		
0=Never	13	6.8
1 = Once	33	17.2
2 = Twice	31	16.1
3 = Few Times	65	33.9
4 = Many Times	50	26.0
<b>4-I felt disrespected, that I received disrespectful care. (N = 192)</b>		
0=Never	17	8.9
1 = Once	33	17.2
2 = Twice	31	16.1
3 = Few Times	58	30.2
4 = Many Times	53	27.6
<b>5-I felt I was treated with less respect than a White woman would have been. (N = 192)</b>		
0=Never	9	4.7
1 = Once	31	16.1
2 = Twice	33	17.2

3 = Few Times	57	29.7
4 = Many Times	62	32.3
<b>6-I overheard judgmental or negative comments about me. (N = 192)</b>		
0=Never	22	11.5
1 = Once	28	14.6
2 = Twice	43	22.4
3 = Few Times	62	32.3
4 = Many Times	37	19.3
<b>7-I overheard negative comments about my race. (N = 192)</b>		
0=Never	23	12.0
1 = Once	28	14.6
2 = Twice	40	20.8
3 = Few Times	56	29.2
4 = Many Times	45	23.4
<b>8-I was verbally abused. (N = 192)</b>		
0=Never	45	23.4
1 = Once	26	13.5
2 = Twice	33	17.2
3 = Few Times	59	30.7
4 = Many Times	29	15.1
<b>9-I was yelled at. (N = 192)</b>		
0=Never	43	22.4
1 = Once	24	12.5
2 = Twice	34	17.7
3 = Few Times	58	30.2
4 = Many Times	33	17.2
<b>10-I was scolded, ridiculed, mocked, shamed. (N = 192)</b>		
0=Never	27	14.1
1 = Once	32	16.7
2 = Twice	35	18.2
3 = Few Times	51	26.6
4 = Many Times	47	24.5
<b>11-I felt belittled and put down (N = 192)</b>		
0=Never	20	10.4
1 = Once	35	18.2
2 = Twice	33	17.2
3 = Few Times	64	33.3
4 = Many Times	40	20.8
<b>12-I was threatened, coerced, lied to, and manipulated. (N = 192)</b>		
0=Never	39	20.3
1 = Once	31	16.1

2 = Twice	40	20.8
3 = Few Times	52	27.1
4 = Many Times	30	15.6

**13-I felt what I had to say was being dismissed, ignored, and not taken seriously (N = 192)**

0=Never	11	5.7
1 = Once	26	13.5
2 = Twice	37	19.3
3 = Few Times	67	34.9
4 = Many Times	51	26.6

**14-I felt like I was not being listened to by doctors and nurses. (N = 192)**

0=Never	15	7.8
1 = Once	28	14.6
2 = Twice	30	15.6
3 = Few Times	73	38.0
4 = Many Times	46	24.0

**15-I felt like I was not being listened to by doctors and nurses the way a White woman would have been. (N = 192)**

0=Never	7	3.6
1 = Once	48	19.3
2 = Twice	105	42.2
3 = Few Times	86	34.5
4 = Many Times	10	4.0

**16-I felt like some doctors and nurses were acting like they were better than me (N = 192)**

0=Never	19	9.9
1 = Once	28	14.6
2 = Twice	53	27.6
3 = Few Times	53	27.6
4 = Many Times	39	20.3

**17-I felt like some doctors and nurses were acting like they were smarter than me. (N = 192)**

0=Never	17	8.9
1 = Once	24	12.5
2 = Twice	38	19.8
3 = Few Times	64	33.3
4 = Many Times	49	25.5

**18-I felt like my pain level was not managed appropriately with medication (N = 192)**

0=Never	17	8.9
1 = Once	31	16.1

2 = Twice	52	27.1
3 = Few Times	56	29.2
4 = Many Times	36	18.8

**19-I felt like my pain level was not managed with medication the way a White woman would have her pain managed. (N = 192)**

0=Never	21	10.9
1 = Once	36	18.8
2 = Twice	38	19.8
3 = Few Times	58	30.2
4 = Many Times	39	20.3

**20-During my hospitalization, I had some interactions with doctors and nurses that were so stressful and overwhelming that I felt traumatized. (N = 192)**

0=Never	15	7.8
1 = Once	28	14.6
2 = Twice	38	19.8
3 = Few Times	68	35.4
4 = Many Times	43	22.4

---

**Results for Research Question #5**

*What was the prevalence of their having risk factors, as prior diagnosed chronic conditions (i.e., cardiovascular disease or heart disease, hypertension or high blood pressure, obesity, diabetes, asthma), before their high-risk birth hospitalization? (RFF-PRC-CHC-5)*

**Part V: Risk Factors for Pregnancy-Related Complications—Chronic Health**

**Conditions (RFF-PRC-CHC-5).** Due to a programming issue, risk factors reported for pregnancy-related complications and chronic health conditions were not collected for most of the participants. There are descriptive statistics for those who have data, but due to the high degree of missing data, this variable was not included in bivariate or multivariate statistics. However, for the data that was collected (after the programming error was detected) it is suggestive, showing: *before* they went into the hospital to deliver, 18.2% (n=35) reported having

hypertension or high blood pressure, 14.1% (n=27) reported obesity, 11.5% (n=22) reported diabetes, 4.2% (n=8) reported cardiovascular or heart disease, and 5.7% (n=11) reported asthma.

See Table 7.

Table 7. Risk Factors for Pregnancy-Related Complications—Chronic Health Conditions (RFF-PRC-CHC-5) (N= 192)

	N	%
<b>1- Cardiovascular disease or heart disease (N=192)</b>		
1--cardiovascular disease or heart disease	8	4.2
Missing	184	95.8
<b>2- Hypertension or high blood pressure (N= 192)</b>		
1-Hypertension or high blood pressure	35	18.2
Missing	157	81.8
<b>3- Obesity (N= 192)</b>		
1-Obesity	27	14.1
Missing	165	85.9
<b>4- Diabetes (N= 192)</b>		
1-Diabetes	22	11.5
Missing	170	88.5
<b>5- Asthma (N= 192)</b>		
1-Asthma	11	5.7
Missing	181	94.3
<b>6- Not applicable/None apply to me (N= 192)</b>		
1-Not applicable to me/none apply to me	10	5.2
Missing	182	94.8
<b>7- Unsure (N= 192)</b>		
Missing	192	100

## Results for Research Question #6

*What did they report as medical events (e.g. hemorrhage, blood clot, etc.) that occurred during their high-risk birth hospitalization? And, to what extent did they experience medical events (i.e. single medical event to multiple medical events)? (OME-DHRBH-14)*

**Part VI: Occurrence of Medical Events During a High-Risk Birth Hospitalization (OME-DRBH-14).** Again, due to a programming issue, data on the occurrence of medical events during a high-risk birth hospitalization were not collected for most of the participants. There are descriptive statistics for those who have data, but due to the high degree of missing data, this variable was not included in bivariate or multivariate statistics.

However, for data that was collected, as the most frequent medical events, 8.3% (n=16) had an event related to a cardiovascular condition during their hospitalization to have their baby/babies; 14.6% (n=28) had a hemorrhage; 18.2% (n=35) had a hypertensive disorder of pregnancy/gestational hypertension; and, 8.9% (n=17) had an amniotic fluid embolism.

See Table 8.

Table 8. Occurrence of Medical Events During a High-Risk Birth Hospitalization (OME-DRBH-14) (N= 192)

	N	%
<b>1- Event related to cardiovascular condition (N=192)</b>		
1—Event related to cardiovascular condition	16	8.3
Missing	176	91.7
<b>2- Infection or sepsis (N= 192)</b>		
1-Infection or sepsis	8	4.2
Missing	184	95.8
<b>3- Cardiomyopathy (disease of the heart muscle) (N= 192)</b>		
1-Cardiomyopathy (disease of the heart muscle)	3	1.6
Missing	189	98.4

<b>4- Hemorrhage (N= 192)</b>		
1-Hemorrhage	28	14.6
Missing	164	85.4
<b>5- Blood clot (thrombotic, pulmonary, or other embolism) (N= 192)</b>		
1- Blood clot (thrombotic, pulmonary, or other embolism)	8	4.2
Missing	184	95.8
<b>6- Cerebrovascular accident (CVA, or stroke) (N= 192)</b>		
1- Cerebrovascular accident (CVA, or stroke)	3	1.6
Missing	189	98.4
<b>7- Hypertensive disorder of pregnancy/Gestational hypertension (N= 192)</b>		
1- Hypertensive disorder of pregnancy/Gestational hypertension	35	18.2
Missing	157	81.8
<b>8- Amniotic fluid embolism (N= 192)</b>		
1- Amniotic fluid embolism (CVA, or stroke)	17	8.9
Missing	175	91.1
<b>9- Anesthesia complications (N= 192)</b>		
1- Anesthesia complications	3	1.6
Missing	189	98.4
<b>10- Preeclampsia (N= 192)</b>		
1- Preeclampsia	5	2.6
Missing	187	97.4
<b>11- Eclampsia (N= 192)</b>		
1- Eclampsia	1	0.5
Missing	191	99.5
<b>12- Diabetes (N= 192)</b>		
1- Diabetes	9	4.7
Missing	183	95.3
<b>13- Preterm birth/Premature birth (N= 192)</b>		
1-Preterm birth/premature birth	17	8.9
Missing	175	91.1
<b>14- Low birth weight baby (N= 192)</b>		
1- Low birth weight baby	9	4.7
Missing	183	95.3
<b>15- Not applicable/None apply to me (N= 192)</b>		
1- Not applicable/None apply to me	2	1.0
Missing	190	99.0
<b>16- Unsure (N= 192)</b>		
1- Unsure	1	0.5
Missing	191	99.5

**17- Other (please specify) (N= 192)**

1- Other	3	1.6
----------	---	-----

**18- Other (please specify) - Text (N= 192)**

Other	189	98.4
Placenta abruption	1	0.5
Placenta accreta	1	0.5
Severe drop in blood pressure due to having both epidural and spinal	1	0.5

---

**Results for Research Question #7**

*What was their current level of medical mistrust, including any suspicion and perceived discrimination? (MMS-SF-4)*

**Part VII: Medical Mistrust Scale—Short Form (MMS-SF-4).** The Medical Mistrust (MMS-SF-4) scale had a Cronbach’s Alpha of .755 for good internal consistency. The reported mean was 3.073 (SD=.9131, min=1.00, max=5.00) for a moderate level of medical mistrust. For example, 39.1% (n=75) endorsed “disagree” to the item “Black people are treated the same as people of other groups by doctors and health care workers”. Of note, the frequency of experiencing Medical Mistrust was examined by combining responses to better capture experiences of medical mistrust, as follows:

- 29.7% (n= 57) *agreed or strongly agreed* that Black people cannot trust doctors and health care workers
- 30.8% (n= 59) *agreed or strongly agreed* that Black people should be suspicious of information from doctors and health care workers
- 52.1% (n= 109) *disagreed or strong disagreed* that Black people receive the same medical care from doctors and health care workers as people from other groups
- 56.3% (n= 108) *disagreed or strong disagreed* that Black people are treated the same as people of other groups by doctors and health care workers

See Table 9.

Table 9. *Medical Mistrust Scale—Short Form (MMS-SF-4) (N=192)*

	N	%
<b>Medical Mistrust Cronbach's Alpha (4 items) = 0.755</b>		
<b>[Mean Medical Mistrust = 3.073; SD = .9131; min = 1.00; max = 5.00]</b>		
<b>1- Black people cannot trust doctors and health care workers. (N = 192)</b>		
1= Strongly Disagree	28	14.6
2 = Disagree	53	27.6
3 = Neither Agree or Disagree	54	28.1
4 = Agree	44	22.9
5 = Strongly Agree	13	6.8
<b>2- Black people should be suspicious of information from doctors and health care workers (N = 192)</b>		
1= Strongly Disagree	29	15.1
2 = Disagree	57	29.7
3 = Neither Agree or Disagree	47	24.5
4 = Agree	42	21.9
5 = Strongly Agree	17	8.9
<b>3- Black people receive the same medical care from doctors and health care workers as people from other groups (N=192)</b>		
1=Strongly Disagree	34	17.7
2 = Disagree	66	34.4
3 = Neither Agree or Disagree	40	20.8
4 = Agree	38	19.8
5 = Strongly Agree	14	7.3
<b>4-Black people are treated the same as people of other groups by doctors and health care workers. (N = 192)</b>		
1=Strongly Disagree	33	17.2
2 = Disagree	75	39.1
3 = Neither Agree or Disagree	32	16.7
4 = Agree	29	15.1
5 = Strongly Agree	23	12.0

## Results for Research Question #8

*While recalling their high-risk birth hospitalization, how did they rate their hospital healthcare providers' cultural sensitivity and cultural competence, overall, for treating them as someone who was Black, African American?(RCSCH-OHP-1)*

**Part VIII: Rating the Cultural Sensitivity, Competence and Humility of Hospital Providers (RCSCH-OHP-1).** The Rating the Cultural Sensitivity, Competence and Humility of Hospital Providers had a mean of 2.58 (SD=1.159, min=1.00, max=6.00) for a moderate level of cultural sensitivity, competence and humility for their hospital providers. For example, in response to the prompt (i.e. “Thinking back and recalling that particular hospitalization to deliver your baby (or babies/twins, etc.), please rate your hospital healthcare providers' cultural sensitivity and cultural competence, overall, for treating you as someone who is Black, African American, etc. -- or for providing you with the same quality of care they provide to White women”), some 42.2% (n=81) rated their hospital providers as “poor” for cultural sensitivity/ competence/ humility.

See Table 10.

Table 10. *Rating the Cultural Sensitivity, Competence and Humility of Hospital Providers (RCSCH-OHP-1) (N=192)*

	N	%
<b>Prompt: Thinking back and recalling that particular hospitalization to deliver you baby (or babies/twins, etc.), please rate your hospital healthcare providers' cultural sensitivity and cultural competence, overall, for treating you as someone who is Black, African American, etc. -- or for providing you with the same quality of care they provide to White women (N=192)</b>		
1-Very poor	25	13.0

2- Poor	81	42.2
3-Fair	56	29.2
4-Good	17	8.9
5-Very Good	5	2.6
6-Excellent	8	4.2

**Results for Research Question #9:**

*Regarding their intersectional (i.e. Black, female) and other personal characteristics (e.g. overweight or obese; appearance for skin tone, hair, etc.; disability), what did they identify as those characteristics to which providers seemed to be responding when they experienced any discrimination or unfair treatment during their high-risk birth hospitalization—whether they experienced no (0) discrimination or the highest level of discrimination (5) for multiple characteristics? (PD-BHS-IRTPS-5)*

**Part IX: Perceived Discrimination by Hospital Providers in Response to Personal Demographics (PD-BHS-IRTPS-5).** The Perceived Discrimination by Hospital Providers in Response to Personal Demographics scale produced a mean of 1.89 (SD=1.052, min=0, max=5) for closest to a low-moderate level of discrimination in response to their demographics. For example, during their high-risk birth hospitalization, 75.5% (n=145) reported experiencing discrimination for being Black, and 62.0% (n=119) reported experiencing discrimination due to their appearance (skin tone, hair, etc.), and 28.6% (n=55) for being overweight or obese.

See Table 11.

Table 11. Perceived Discrimination by Hospital Providers in Response to Personal Demographics (PD-BHS-IRTPS-5) (N= 192)

	N	%
<i>[Mean Discrimination= 1.89; SD= 1.052; min=0; max= 5]</i>		
<b>1- Being a woman (N=192)</b>		
1—Being a woman	37	19.3
Missing	155	80.7
<b>2- Being African American or Black (N= 192)</b>		
1-Being African American or Black	145	75.5
Missing	47	24.5
<b>3- Being overweight or obese (N= 192)</b>		
1-Being overweight or obese	55	28.6
Missing	137	71.4
<b>4- My appearance (skin tone, hair, etc.) (N= 192)</b>		
1-My appearance (skin tone, hair, etc.)	119	62.0
Missing	73	38.0
<b>5- Being a person with a disability (N= 192)</b>		
1-Being a person with a disability	6	3.1
Missing	186	96.9
<b>6- Not applicable/None apply to me (N= 192)</b>		
1-Not applicable to me/none apply to me	7	3.6
Missing	185	96.4
<b>7- Unsure (N= 192)</b>		
1-Unsure	10	5.2
Missing	182	94.8

## **Results for Research Question #10:**

*For the year after their high-risk birth hospitalization (months 1 to 12 post-partum), to what extent did they experience mental distress (i.e. Overall Mental Health Index)—and, specifically, to what extent did they experience depression, anxiety, and trauma, as well as access any counseling? And, for the past year, as an indicator of current status, to what extent did they experience mental distress—and, specifically, to what extent did they experience depression, anxiety, and trauma, as well as access any counseling? Is there any significant difference when comparing the year post the high-risk birth hospitalization and the past year?(RDATS-PY-YPRBH—8)*

### **Part X: Retrospective Depression, Anxiety, Trauma and Receipt of Counseling**

**Scale—Past Year (A) and Year Post-High-Risk Birth Hospitalization (B) (RDATS-PY-YPRBH—8).**

**Scale A for Past Year Mental Distress.** First, for Scale A, participants' *past year* experience of any depression, anxiety and trauma combined to create a score for Mental Distress with a Cronbach's Alpha of .833 for good internal consistency. Scale A produced a mean of 1.375 (SD= .9523; min= .00; max= 4.00) for closest to a low level of mental distress in the past year. For example, 32.8% (n=63) indicated they had experienced a mild level of depression in the last 12 months. Also, 69.8% (n=134) sought counseling in the past year.

Of note, the frequency of experiencing Retrospective Depression, Anxiety, Trauma and Receipt of Counseling Past Year was examined by combining the responses to capture "Yes" (i.e. combining 1-Yes, a very mild level, 2-Yes, a moderate level, 3-Yes, a severe level, and 4-Yes, a very severe level), showing:

- 75.5% (n= 145) had depression in the past year
- 82.2% (n=159) had anxiety in the past year
- 74.9% (n=144) had trauma or trauma symptoms in the past year

See Table 12.

Table 12. Retrospective Depression, Anxiety, Trauma and Receipt of Counseling Scale—Past Year (A) (N=192)

	N	%
<b>Do you think you experienced any depression in the past year or 12 months? (N=192)</b>		
0-No	47	24.5
1-Yes, a very mild level	63	32.8
2-Yes, a moderate level	53	27.6
3-Yes, a severe level	23	12.0
4-Yes, a very severe level	6	3.1
<b>Do you think you experienced any anxiety in the past year or 12 months? (N= 192)</b>		
0-No	33	17.2
1-Yes, a very mild level	77	40.1
2-Yes, a moderate level	45	23.4
3-Yes, a severe level	32	16.7
4-Yes, a very severe level	5	2.6
<b>Do you think you experienced any trauma or trauma symptoms in the past year or 12 months? (N=192)</b>		
0-No	48	25.0
1-Yes, a very mild level	74	38.5
2-Yes, a moderate level	43	22.4
3-Yes, a severe level	21	10.9
4-Yes, a very severe level	6	3.1
<b><i>Past year Cronbach's Alpha (3 items)=0.833</i></b>		
<b><i>[Mean 1.375; SD= .9523; min= .00; max= 4.00]</i></b>		
<b>In the past year, did you seek out any kind of counseling or advice for any depression, anxiety, or trauma—such as from a mental health professional or other helper? (N= 192)</b>		
1-Yes	134	69.8
2-No	48	25.0
3-Not applicable/no experience of depression/anxiety/trauma	10	5.2

**Scale B for Year Post-High-Risk Birth Hospitalization.** Second, for Scale B, Year Post-High-Risk Birth Hospitalization, participants’ depression, anxiety, and trauma combined to create a score for Mental Distress with a Cronbach’s Alpha of .855 for good internal consistency. Scale B produced a mean of 1.78 (SD=. 9376; min= .00; max= 4.00) for a low-moderate level of mental distress post-partum months 1 to 12. For example, 35.4% (n=68) experienced anxiety post-partum months 1 to 12. Also, 79.7% (n=153) sought counseling post-partum months 1 to 12.

Further, the frequency of experiencing any retrospective depression, anxiety or trauma the **Year Post-High-Risk Birth Hospitalization** was examined by combining the responses to capture “Yes” (i.e. combining 1-Yes, a very mild level, 2-Yes, a moderate level, 3-Yes, a severe level, and 4-Yes, a very severe level), showing:

- 91.6% (n= 176) experienced depression the year post-partum
- 93.3% (n=179) experienced anxiety the year post-partum
- 89% (n=171) experienced trauma or trauma symptoms the year post-partum

See Table 13.

Table 13. Retrospective Depression, Anxiety, Trauma and Receipt of Counseling Scale Year Post-High-Risk Birth Hospitalization (B) (N=192)

	N	%
<b>Looking back on the PERIOD OF TIME AFTER YOU HAD A HOSPITALIZATION FOR A BIRTH (months 1 to 12 post-partum), do you think you experienced any depression? (N=192)</b>		
0-No	16	8.3
1-Yes, a very mild level	82	42.7
2-Yes, a moderate level	50	26.0
3-Yes, a severe level	34	17.7
4-Yes, a very severe level	10	5.2

**Any anxiety? (N= 192)**

0-No	13	6.8
1-Yes, a very mild level	68	35.4
2-Yes, a moderate level	56	29.2
3-Yes, a severe level	42	21.9
4-Yes, a very severe level	13	6.8

**Any trauma or trauma symptoms? (N=192)**

0-No	21	10.9
1-Yes, a very mild level	64	33.3
2-Yes, a moderate level	59	30.7
3-Yes, a severe level	31	16.1
4-Yes, a very severe level	17	8.9

**Post Partum Cronbach's Alpha (3 items)=0.855**

**[Mean 1.780; SD= .9376; min= .00; max= 4.00]**

**Did you seek out any kind of counseling or advice for any depression, anxiety, or trauma—such as from a mental health professional or other helper? (N= 192)**

1-Yes	153	79.7
2-No	37	19.3
3-Not applicable/no experience of depression/anxiety/trauma	2	1.0

### Paired T-Tests Comparing Past Year to Year Post-Partum

The level of Mental Distress was compared for Scale A [Retrospective Depression, Anxiety, Trauma and Receipt of Counseling Scale—Past Year (A)] and Scale B [Retrospective Depression, Anxiety, Trauma and Receipt of Counseling Scale Year Post-High-Risk Birth Hospitalization (B)]. Findings showed statistically significant differences ( $t=10.885$ ,  $df = 248$ ,  $p = .000$ ) in the paired sample t-tests comparing mental distress ratings in the past year (mean = 1.375,  $SD = .952$ ) versus mental distress post-partum or the year after the high risk birth hospitalization (mean = 1.795,  $SD = .938$ )—indicating a significantly higher level of mental distress for the year post-partum.

See Table 14.

Table 14. Comparison of Mental Distress Past Year Versus Post-Partum Year (N=192)

Mental Distress Scale	Past year versus Post-Partum Year			t-tests		
	N	M	SD	T	df	p
<b>Mental Distress</b>				7.745	191	.000***
Post-Partum	192	1.795	0.938			
Past Year	192	1.375	0.952			

\*p<.05, \*\*p<.01, \*\*\*p<.001

Note: All p values above .05 are considered non-significant, and only those below .05 are considered statistically significant.

### Results for Research Question #11

*For the past month, what is their level of perceived stress, as another indicator of current status? (PSS-4)*

**Part XI: Perceived Stress Scale (PSS-4).** The Perceived Stress Scale (PSS-4) had a Cronbach’s Alpha of .429 for very unacceptable internal consistency, while the mean score was 1.995 (SD = .56162; min = .00; max = 3.50) for a moderate level of past-month stress. For example, regarding “In the last month, how often have you felt that you were unable to control the important things in your life?”, 48.4% (n=93) endorsed feeling “sometimes” and 21.4% (n=41) endorsed feeling this way “fairly often”.

See Table 15.

Table 15. Past Month Perceived Stress (N = 192)

	N	%
<b>1- In the last month, how often have you felt that you were unable to control the important things in your life? (N = 192)</b>		
0=Never	5	2.6
1 = Almost Never	33	17.2
2 = Sometimes	93	48.4
3 = Fairly Often	41	21.4
4 = Very Often	20	10.4
<b>2- In the last month, how often have you felt confident about your ability to handle your personal problems? (N = 192)</b>		
0=Never	4	2.1
1 = Almost Never	31	16.1
2 = Sometimes	84	43.8
3 = Fairly Often	53	27.6
4 = Very Often	20	10.4
<b>3-In the last month, how often have you felt that things were going your way? (N = 192)</b>		
0=Never	2	1.0
1 = Almost Never	41	21.4
2 = Sometimes	89	46.4
3 = Fairly Often	45	23.4
4 = Very Often	15	7.8
<b>4- In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? (N=192)</b>		
0=Never	8	4.2
1 = Almost Never	26	13.5
2 = Sometimes	94	49.0
3 = Fairly Often	44	22.9
4 = Very Often	20	10.4
<b><i>Perceived Stress Scale Cronbach's Alpha (4 items) = .429</i></b>		
<b><i>[Mean =1.995; SD =.56162; min = .00; max = 3.50]</i></b>		

## Results for Research Question # 12

*For the year after their high-risk birth hospitalization (months 1 to 12 post-partum), to what extent did they experience social support? And, for the past year, as an indicator of current status, to what extent did they experience social support? Is there any significant difference when comparing the year post-high-risk birth hospitalization and the past year? (PSS-NADRBH-S-2)*

### Part XII: Perceived Social Support—Now and During a High-Risk Birth

**Hospitalization—Scale (PSS-NADRBH-S-2).** The Perceived Social Support mean was 2.92 (SD = 1.097; min = 1; max = 5) for closest to participants having 2 individuals to rely upon for social support, or a moderate level of social support. For example, 31.3% (n=60) reported having “at least 2 people” for social support at the present time.

For the Perceived Social Support for the year after participants had their high-risk birth hospitalization, there was a mean of 2.74; (SD = 1.085; min = 1; max = 5) for closest to participants having 2 individuals to rely upon for social support, or a moderate level of social support. For example, 29.2% (n=56) reported having “at least 2 people” in their life the year after they had their high-risk birth hospitalization.

See Table 16.

Table 16. Perceived Social Support Now and During High-Risk Birth Hospitalization (N = 192)

	N	%
<b>Having SOCIAL SUPPORT means having people in your life who provide the following kinds of support and assistance: you can ask them for advice or receive words of encouragement; get money or get food in an emergency; or have a place to temporarily wait for help or stay or live in an emergency. (N = 192)</b>		
1. I have no one like this in my life right now	20	10.4

2. I have at least 1 one person like this in my life right now	50	26.0
3. I have at least 2 people like this in my life right now	60	31.3
4. I have 3-5 people like this in my life right now	49	25.5
5. I have 6 or more people like this in my life right now	13	6.8
<i>[Mean social support = 2.92; SD = 1.097; min = 1; max = 5]</i>		

**Social support for the year after birth? (N= 192)**

1. I have no one like this in my life right now	23	12.0
2. I have at least 1 one person like this in my life right now	64	33.3
3. I have at least 2 people like this in my life right now	56	29.2
4. I have 3-5 people like this in my life right now	38	19.8
5. I have 6 or more people like this in my life right now	11	5.7
<i>[Mean social support post-partum- 2.74, SD=1.085, min=1, max=5]</i>		

**Paired T-Tests Comparing Past Year to Year Post-Partum**

Findings showed statistically significant differences ( $t=-2.250$ ,  $df = 191$ ,  $p = .026$ ) in the paired sample t-tests when comparing level of social support post-partum (mean = 2.74, SD = 1.085) versus current level of social support (mean = 2.92, SD = 1.097), indicating a lower level of perceived social support for their post-partum year

See Table 17.

**Table 17. Comparison of Social Support Current Versus Post-Partum Year (N=192)**

Social Support Scale	Past year versus Post-Partum Year			t-tests		
	N	M	SD	T	df	p
Social Support				-2.250	191	.026*
Post-Partum	192	2.74	1.085			
Present	192	2.92	1.097			

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Note: All p values above .05 are considered non-significant, and only those below .05 are considered statistically significant.

### Results for Research Question #13

*What significant relationships were found between the **study outcome variable of level of medical mistrust** and selected demographic and other variables?*

#### **Independent T-tests Comparing Groups on Level of Medical Mistrust (MMS-SF-4).**

Here, independent t-tests were conducted to compare dichotomous groups on the outcome variable of Medical Mistrust (MMS-SF-4). For this present study, 2 dichotomous groups were compared. The following group comparisons were significant:

- **Past Year:** When comparing the level of medical mistrust for those who responded “yes” *did seek counseling in the past year* (mean= 3.164, SD= 0.786) to those who responded “no” (mean=2.862, SD=1.135) there was a significant difference ( $t=-1.845$ ,  $df=81.615$ ,  $p=.001$ ), showing those *who did not seek counseling had significantly higher medical mistrust*
- **Year Post-High-Risk Birth Hospitalization.** When comparing the level of medical mistrust for those who responded “yes” *did seek counseling the year post-partum* (mean= 3.047, SD= 0.761) to those who responded “no” (mean=3.173, SD=1.364) there was a significant difference ( $t=-0.554$ ,  $df=44.210$ ,  $p=.000$ ), showing those *who did not seek counseling post-partum had significantly higher medical mistrust*

See Table 18.

Table 18. Independent T-Tests Comparing Groups on the Medical Mistrust Outcome Variable

	Medical Mistrust			t-tests		
	N	M	SD	t	df	P
<b>Sought counseling past year</b>				-1.845	81.615 <sup>a</sup>	.001***
No	58	2.862	1.135			
Yes	134	3.164	0.786			
<b>Sought counseling post-partum</b>				0.554	44.210 <sup>a</sup>	.000***
No	39	3.173	1.364			
Yes	153	3.047	0.761			

\*p<.05, \*\*p<.01, \*\*\*p<.001

Note: All p values above .05 are considered non-significant, and only those below .05 are considered statistically significant.

Note: <sup>a</sup> df scores are lower than expected due to missing data.

### Pearson's Correlations Examining Associations with the Outcome Variable of

**Higher Medical Mistrust:** Correlations between 13 independent variables were examined with the study primary outcome variable of a higher level of medical mistrust [i.e. higher score on the Medical Mistrust Scale—Short Form (MMS-SF-4) scale]. With 13 comparisons, the Bonferroni Adjustment Significance (.05/13, p =.0038) level was p<.004. Significant correlations showed that the **higher the level of medical mistrust**, then the:

- **Higher** the participant age (r=.219, p=.002)
- **Higher** the education level (r=.252, p=.000)
- **Higher** level of perceived racism, discrimination, and inequity in treatment from medical staff (r= .436, p=.000)
- **Lower** level of cultural sensitivity/ competence/ humility rating for hospital providers (r= -.406, p=.000)
- **Higher** level of discrimination in response to more personal demographic characteristics by hospital providers (r=.232, p=.001)
- **Higher** mental distress (depression, anxiety, trauma) in the past year (r=.490, p=.000)

- **Higher** mental distress (depression, anxiety, trauma) in the year post-partum ( $r=.383$ ,  $p=.000$ )

See Table 19.

Table 19. Correlations for Selected Independent Variables with Medical Mistrust

	Higher Medical Mistrust	
	Pearson's R	P
<b><u>Selected Independent Variables</u></b>		
<b>Older/ Higher</b> Age	.219	.002*
<b>Darker</b> Skin Color	.018	.803
<b>Higher</b> Education Level	.252	.000***
<b>Lower</b> Annual Household Income	-.012	.871
<b>Higher</b> Perceived Racism, Disc., Inequity in Tx from Medical Staff	.436	.000***
<b>Lower</b> Level of Cultural Sensitivity/Competence/Humility Rating	-.406	.000***
<b>Higher</b> Level of Discrimination in Response to More Demographics	.232	.001***
<b>Higher</b> Mental Distress (depression, anxiety, trauma) in Past Year	.490	.000***
<b>Higher</b> Mental Distress (dep, anxiety, trauma) Year Post-Partum	.383	.000***
<b>Higher</b> Past Month Perceived Stress	.156	.031*
<b>Higher</b> Current Social Support	.072	.319
<b>Lower</b> Social Support Post-Partum	-.154	.033*
<b>Lower</b> Risk of Providing Socially Desirable Responses	-.102	.157

\* $p<.05$ , \*\* $p<.01$ , \*\*\* $p<.001$  Bonferroni Adjustment Significance ( $.05/13$ ,  $p = .0038$ )

Note: All p values above .004 are considered non-significant; and only those below .004 are considered statistically significant.

#### Results for Research Question 14

*What were the significant predictors of the study outcome variable of level of medical mistrust when controlling for social desirability, given selected independent variables?*

This study's data analysis plan specified the use of backward stepwise regressions, while seeking significant predictors of the study outcome variable of a higher level of medical mistrust, while controlling for socially desirable responses.

**Independent variables:** For the backwards stepwise regression model, the following 11 independent variables were selected:

- 1-age (continuous variable)
- 2-skin color (continuous variable)
- 3-education level (continuous variable)
- 4-annual household income (continuous variable)
- 5-level of perceived racism, discrimination, and inequity in treatment from medical staff during service delivery (continuous variable)
- 6- level of cultural sensitivity/ competence/ humility of providers during high-risk birth hospitalization (continuous variable)
- 7- level of discrimination by hospital providers (continuous variable)
- 8- mental distress past year (depression, anxiety, trauma) (continuous variable)
- 9- mental distress year post-partum (depression, anxiety, trauma) (continuous variable)
- 10-if counseling was sought in the past year (yes/no—dichotomous variable)
- 11-if counseling was sought the year post-partum (yes/no—dichotomous variable)

**Backwards stepwise regression.** The model began with the above list of 11 independent variables in the regression model. The backward elimination procedure simply drops the weakest predictors at each stage—once variables are dropped, they cannot reenter the equation. The backward stepwise program eliminates the variable having the weakest association with the outcome variable (i.e., medical mistrust), repeating this process of elimination until only those variables that were statistically significant ( $p < .05$ ) remained in the model.

As per Henderson and Denison (198), the backward elimination procedure simply drops the weakest predictors at each stage—once variables are dropped, they cannot reenter the equation. According to Henderson and Denison (1989), backward stepwise regression is defined as a set of “iterative search and model comparison procedures that identify which independent variables” have the strongest association with the dependent variable (p. 252). This regression is

usually invoked to choose the “best set of predictor variables from some broader domain of variables” (p. 252). Backward stepwise regression is used in many instances when “specification of a regression model beforehand is considered difficult” or impossible (p. 252). However, stepwise regression is commonly used without “proper consideration for its inherent theoretical and practical” limitations (Henderson & Denison, 1989, p. 252).

Backward stepwise regression is challenging if there is a “large number of candidate variables and impossible” if the number of candidate variables is larger than the number of observations (Smith, 2018, p. 2). A problem to consider with backward stepwise regression is how this procedure might sometimes select explanatory variables that, although not directly affecting the dependent variable, are “systematically related to variables that do affect the dependent variable” (p. 6). As a result, selection of certain variables by the procedure could give false confidence in the estimated model because of the high t values and the boost they provide to  $R^2$ . Overall, backward stepwise regression is seen as an efficient way of choosing a “relatively small number of explanatory variables from a vast array of possibilities” (Smith, 2018, p. 10).

**Overfitting.** Dalicandro et al., (2021) described overfitting as “the problem of capitalizing on the idiosyncratic characteristics” of the sample being studied (p. 2). Among the data-analytic practices that increase the chance of overfitting, there is backward stepwise regression. Backward stepwise regression can lead to overfitting, as it is an automated algorithmic selection of variables. Overall, the best evidence that these “practices produce overfitted models come from simulation studies” (Dalicandro et al., 2021, p. 2).

**Controlling for social desirability.** In the present study, the exception to the backward stepwise regression process of elimination was the variable for risk for providing socially

desirable responses. Specifically, the risk for providing socially desirable responses was forced into the model as a control variable regardless of the significance level. Thus, this permitted the regression to effectively control for social desirability within the present study.

**Backward stepwise regression results.** The results of the backwards stepwise regression for this study yielded the following, while controlling for social desirability, finding a higher level of **medical mistrust** was significantly predicted by:

- **Older/ Higher** age (B = .033, p = .001)
- **Higher** level of education (B = 0.205, p = .000)
- **Lower** annual household income (B = -.055, p = .026)
- **Higher** level of perceived racism, discrimination, and inequity in treatment from medical staff (B = 0.137, p = .046)
- **Lower** level of cultural sensitivity/ competence/ humility rating for hospital providers (B = -.155, p = .002)
- **Higher** past year mental distress (i.e., depression, anxiety, trauma) (B = .369, p = .000)
- **Lower** level of social support year post-partum (B = -0.162, p = .004).

It was found that, according to this model, 46.5% of the variance was predicted ( $R^2 = 0.698$ , Adjusted  $R^2 = 0.465$ ;  $F = 21.656$ ,  $p = .000$ ) by the independent variable identified above.

See Table 20.

Table 20. Backwards Stepwise Regression Predicting Medical Mistrust

Variables	B	SE of B	P
Older Age	.033	.010	.001**
Higher Level of Education	.205	.040	.000***
Lower Annual Household Income	-.055	.024	.026*
Higher Level of Perceived Racism, Discrimination and Inequity in Treatment from Medical Staff	.137	.068	.046*
Lower Cultural Sensitivity/ Comp/ Hum Rating for Hospital Providers	-.155	.050	.002*
Higher Past Year Mental Distress (i.e., Depression, Anxiety, Trauma)	.369	.059	.000**

Lower Level of Social Support Year Post-Partum	-.162	.055	.004*
--	-------	------	-------

---

*\*p<.05, \*\*p<.01, \*\*\*p<.001; R<sup>2</sup> (0.465); Adjusted R<sup>2</sup> (0.465) – meaning 46.5% of variance was explained by this model*

*F = 21.656, p = .000*

### **Conclusion**

This chapter has presented through text and tables the results of data analysis.

Both quantitative and qualitative data analyses were presented.

Next, Chapter V will present a discussion of the results, along with a summary of the study—including discussions of demographic findings and conclusion.

Chapter V

DISCUSSION, IMPLICATIONS,  
RECOMMENDATIONS, AND CONCLUSION

As the final chapter of the dissertation, this chapter discuss the results of data analysis. In addition to a discussion of findings, this chapter will present the implications of the findings, and recommendations for future research. The limitations of this study and a final conclusion will also be provided.

**Discussion of Results**

**Discussion of Demographic Findings**

The study findings may be compared to those found in the Williams-Gunpot (2021) investigation of COVID-19 knowledge, including factors such as medical mistrust, with a mixed-gender sample of Black adults (N=188), as another COVID-19 pandemic era investigation. The present study used an online sample (n=192) that was also 100% Black (N=192), while only composed of women who were ages 24-61 with a mean age of 33.23 years (SD= 4.980, min=24, max=61). The Williams-Gunpot's (2021) sample was 83.5% female N= (157) with a mean age of 43.16 years (min=18, max=72, SD 12.567).

In the present study, the mean annual household income was category 5.27 for \$50,000 to \$99,000 (SD=2.371, min=1, max= 11). This corresponds to the national median family income for the United States, which was reported at \$79,900 in the year 2021 (US Census Bureau, 2021). Similarly, Williams-Gunpot (2021) reported a mean income for between \$50,000 and \$99,999.

In the present study, the education level was a mean of category 3.98 for some college credit, no degree (SD= 1.472, min= 1, max= 7). Williams-Gunpot (2021) reported a higher level of education with a mean of 5.10 (min=1, max=7, SD=1.603) for bachelor's degree.

### **Discussion of Findings on Social Desirability**

This study found the sample (n=192) had a moderate risk for providing socially responses (mean = 6.49, SD=2.356, min=0, max=10). In contrast, Williams-Gunpot (2010) found a lower social desirability mean of 3.75 (min= 0, max= 10, SD=3.009), suggesting that sample had closest to a low to moderate risk for providing socially desirable responses.

### **Discussion of Findings on Perceived Racism, Discrimination, and Inequities by Medical Staff**

As a new scale created for this study, the Perceived Racism, Discrimination, and Inequities in Service Delivery by Medical Staff During a High-Risk Birth Hospitalization (PR-D-ISD-BMS-DRBH-20) scale had an excellent internal consistency (Cronbach's Alpha= .958). Findings with this new scale showed (mean = 2.386, SD = .9489; min = .00; max =4.00) the frequency with which women had experiences of racism, discrimination, and inequities during interactions with medical staff was closest to "few times" or at a moderate frequency.

Recall that this study's new tool was based on the review of literature, while some items reflect incorporating and adapting items described within the work of Hall et al., (2021) for use in research on discrimination in medical settings and during healthcare service delivery (See Chapter 3 description of this tool). Hall et al., (2021) conducted research with a sample of Black adults (n=145) where 47.6% (n=68) endorsed "agree" or "strongly agree" that they "Felt like a doctor or nurse was not listening to what you were saying." Within the present study, when the frequencies were combined for a *few times (scored 3)* and *many times (scored 4)*, findings similarly showed 61.2% (n=118) felt what they had to say was dismissed, ignored, and not taken seriously, and 62% (n=119) felt not listened to by doctors and nurses.

This study's findings echo those of others on how racial bias, displayed *verbally or non-verbally*, can indicate disregard for mothers, "silencing their voice and eliciting negative responses" (Davis et al., 2021, p. 7). In the present study, racial bias was perceived that was both verbal and nonverbal. When combining a *few times* and *many times*, the women in this study reported a high frequency for experiencing *verbal* racial bias, given 45.8% (n=88) were verbally abused, 47.4% (n=91) were yelled, 51.1% (n=98) were scolded, ridiculed, mocked, and shamed, 54.1% (n=104) felt belittled and put down, and 42.7% (n=82) were threatened, coerced, lied to, and manipulated.

As per Davis et al., (2021), racial bias may also be displayed *non-verbally*, while indicating disregard for a mother—which was also shown in the present study's findings. Specifically, when combining a *few times* and *many times*—findings in this study showed an array of non-verbal experiences were high frequency events, given how: 46.9% (n= 90) felt racially stereotyped or treated like a racial stereotype by doctors and nurses; 52.6% (n=101) received poor treatment or poorer treatment; 59.9% (n=115) felt like the quality of treatment and care that

they received was not equal to or the same as a White woman would receive; 57.8% (n=111) felt disrespected and that they received disrespectful care; and, 62% (n=119) were treated with less respect than a White woman.

Pain treatment and management has also been a serious issue among Black patients (Green et al., 2020). Support for this issue was also found in the present study where (combining the frequencies for a *few times* and *many times*) 48% (n=92) felt their pain level was not managed appropriately with medication, and 50.5% (n=97) felt their pain level was not managed with medication the way a White woman would have her pain managed. These findings are concerning, as other research found that medical residents who held an explicit stereotype that Black people were biologically different “provided less accurate pain treatment recommendations for Black patients” (Green et al., 2020, p. 2). Of note, in the present study, 46.9% (n= 90) felt racially stereotyped or treated like a racial stereotype by doctors and nurse a *few times to many times*.

### **Discussion of Findings on Risk Factors, Complications, Health Conditions**

Data collected via the Risk Factors for Pregnancy-Related Complications—Chronic Health Conditions (RFF-PRC-CHC-5) tool suffered due to a programming error, resulting in a small sample with usable data, while the larger proportion was missing data (for details See Chapter 3 discussion and Chapter 4 results). Despite these limitations, suggestive findings showed 18.2% (n=35) reported having hypertension or high blood pressure before they went into the hospital to deliver. Within the Cederlof et al., (2021) large cohort (n=2,134,239) study, for registered pregnancies between the year 1973 to 2014, some 2.3% (n=9623) reported having hypertension one year before their delivery. The suggestive finding of 18.2% of the women in

this study's all Black sample having had hypertension or high blood pressure is much higher than that 2.3% rate found by Cederlof et al., (2021). This may reflect health disparities among Black women and the fact that this study sought out volunteers for a convenience sample of women who specifically had a high-risk birth hospitalization—thereby increasing the chances they also had high-risk factors and chronic conditions, such as hypertension. By way of another comparison, Varagic et al., (2021) reported a rate of hypertension ranging from 8% to 10% among “all pregnancies in the United States” (Varagic et al., 2021, p. 179). So, even in comparison to that 8-10% rate, this study's finding remains comparatively high with 18.2% reporting having hypertension or high blood pressure before they went into the hospital to deliver. Again, this is likely reflective of those health disparities among Black women which, in this study, may be a function of recruiting exclusively Black women with a history of a high-risk birth hospitalization—likely contributing to a higher prevalence rate for hypertension.

### **Discussion of Findings on Medical Events**

Here, too, due to a programming error, data was compromised after collection with another new tool created for this study: i.e. the Occurrence of Medical Events During a High-Risk Birth Hospitalization (OME-DRBH-14) tool. Thus, findings with a small sample were just suggestive, showing that the top four most frequently cited medical events that occurred during a high-risk birth hospitalization (where the woman nearly died) included: 18.2% (n=35) for a hypertensive disorder of pregnancy/gestational hypertension, 14.6% (n=28) for a hemorrhage, 8.9% (n=17) had an amniotic fluid embolism, and 8.3% (n=16) for an event related to a cardiovascular condition. These suggestive findings on the top four most frequently occurring medical events experienced by the women are important, given prior research that has

established pregnancy complications as “established risk factors for future cardiovascular disease” (Cederlof et al., 2022, p.1). Of note, in the Cederlof et al., (2021) much larger cohort (n=2,134,239) longitudinal study (i.e. 22.7 year follow-up), it was reported that, during the study period, 4,968 women died of cardiovascular disease, after having been diagnosed with a cardiovascular disease during delivery. Cederlof et al., (2021) emphasized how pregnancy complications, such as cardiovascular disease, increased the risk of maternal morbidity. Identifying such risks—as done in the present study with a small suggestive sample—is helpful for women, in order for them to “become informed and engaged in cardiovascular disease prevention at an early age” (p. 11).

### **Discussions of Findings for Medical Mistrust**

In the present study, the Medical Mistrust Scale—Short Form (MMS-SF-4) showed a Cronbach’s Alpha of .755 for good internal consistency. Using the same short version, Williams-Gunpot (2021) found the medical mistrust scale had the exact same Cronbach’s Alpha of .755, as in the present study—again for good internal consistency.

Also in this study, the mean score for medical mistrust was 3.073 (SD=.9131, min=1.00, max=5.00) for a moderate level of medical mistrust. Similarly, Williams-Gunpot (2021) found a medical mistrust mean of 3.273 (min=1.50, max=5.00, SD=.7615) for a moderate level of medical mistrust.

In the present study with Black women, 52.1% (n= 109) *disagreed* or *strongly disagreed* that “Black people receive the same medical care from doctors and health care workers as people from other groups;” and, 56.3% (n= 108) *disagreed* or *strongly disagreed* that “Black people are treated the same as people of other groups by doctors and health care workers.” In the Williams-

Gunpot (2021) study with Black men and women, 71.8% (n=135) *disagreed* or *strongly disagreed* that “Black people receive the same medical care from doctors and health care workers as people from other groups;” and, 78.7% (n=148) *disagreed* or *strongly disagreed* that “Black people are treated the same as people of other groups by doctors and health care workers. It is possible that the inclusion of Black men in the sample (16% male) contributed to Williams-Gunpot (2021) finding an even higher level of medical mistrust. Also, a Black male and female sample reporting such medical mistrust during the early part of the year 2021 COVID-19 pandemic may not be surprising, as found in the Williams-Gunpot (2021) study.

In light of responses to just those two above items highlighting medical mistrust based on Black people being treated differently by doctors and health care providers, what emerges is a pattern of great concern across studies—i.e. this study and the Williams-Gunpot (2021) study. Jaiswal (2019) emphasized how research has supported the notion of mistrust not simply being the absence of trust, but rather “the suspicion that there is an element of ill will at play” (p. 189). The findings in the present study reinforce the work of Jaiswal (2019), in so far as the study sample of women who had a high-risk birth hospitalization [i.e., with a moment (at least) where they felt they might die] may be inferred as having such a suspicion of ill will operating.

Similarly, suspicions of ill will operating were high during the early part of the year 2021 COVID-19 pandemic in the U.S. when data on levels of medical mistrust (and COVID-19 knowledge) was collected by Williams-Gunpot (2021) with Black male and female adults.

The present study’s finding on medical mistrust are of importance, given how prior research has shown that mistrust is associated with “lower health care utilization and lower health care satisfaction” that is thought to negatively impact a myriad of preventative health practices (Jaiswal, 2019, p. 191).

As the study outcome variable, an examination of medical mistrust will continue later in this chapter when discussing significant associations with it.

### **Discussion of Findings on Cultural Sensitivity, Competence, Humility**

This study found the women rated their hospital providers as having had a moderate level of cultural sensitivity, competence and humility during their high-risk birth hospitalization [i.e. using the Rating the Cultural Sensitivity, Competence and Humility of Hospital Providers (RCSCH-OHP-1) scale, mean = 2.58, SD=1.159, min=1.00, max=6.00).

The scale used for measuring providers' level of cultural sensitivity, competence and humility was taken from the work of Hall (2021) with a sample of older Black lesbians, as pandemic-era research. Hall (2021) found that the women in the sample rated their providers' sensitivity and cultural competence, as follows: first, for their sexual orientation, the rating was a mean of 4.70 (min=1, max=6, SD=1.182) for *closest to very good* level of cultural competence on the part of healthcare providers; and, secondly, for their race, the rating was a mean of 4.57 (min=1, max=6, SD=1.178) for *between good to very good* level of cultural competence on the part of healthcare providers. Thus, in comparison to older Black lesbian women presenting intersectionality with multiple attributes that are potentially stigmatizing—as in the Hall (2021) study, the present study's sample of women provided just a moderate rating of their hospital providers. The fact that the Black women in the present study sample indicated having had a moment where they felt they could have died, or their life was at risk, could explain their lower rating of hospital staff's cultural sensitivity/ competence/ humility.

This study's findings are important, given prior research on culturally competent health care highlighting how it is of "paramount importance to increasing patient satisfaction" (Govere et al., 2016, p. 403).

### **Discussion of Findings for Perceived Discrimination Based on Demographics**

Within the present study, findings for Perceived Discrimination by Hospital Providers in Response to Personal Demographics (PD-BHS-IRTPS-5) had a mean of 1.89 (SD=1.052, min=0, max=5) for closest to a low-moderate level of **discrimination** in response to their demographics. With this scale having been first used in Hall (2021), comparison to those findings with an older Black lesbian sample are appropriate. First, in the present study, for during their high-risk birth hospitalization, the Black women reported 75.5% (n=145) experienced discrimination for being Black, 62.0% (n=119) due to their appearance (skin tone, hair, etc.), and 28.6% (n=55) for being overweight or obese. In the Hall (2021) study, the older Black lesbians reported during service delivery with providers in the healthcare system that 64.4% experienced discrimination for being Black, 31.4% for being overweight/obese, and 29.7% for their appearance (skin tone, hair, etc.)—as highly similar findings on the top three reasons for feeling discriminated against by providers.

The emergent body of findings using a simple question within this study and the Hall (2021) study with Black adult women may be viewed in light of what Green et al., (2020) described as disparities in patient-doctor communication and treatment. Most importantly, with regard to the present study, findings on discrimination experienced with healthcare providers based on women's personal characteristics may partially explain why "Black women have a

twofold higher risk of severe maternal morbidity” and a “threefold higher risk of pregnancy related death compared” to White women (p. 1).

### **Discussion of Findings on Mental Distress Past Year and Year Post-Partum**

In this present study using the Retrospective Depression, Anxiety, Trauma and Receipt of Counseling Scale—Past Year (A) and Year Post-High-Risk Birth Hospitalization (B) (RDATS-PY-YPHRBH—8; Cronbach’s Alpha of .833 for good internal consistency), participants’ past year experience of any depression, anxiety and trauma combined to create a score for Mental Distress with a. This reflected the benefits of the year 2022 conversion of this tool to having a continuous scale.

In this study, findings showed a mean of 1.375 (SD= .9523; min= .00; max= 4.00) for closest to a low level of mental distress in the past year. Williams-Gunpot (2021) found with a sample of Black male and female adults a mean of 1.94 min=0, max=3, SD=1.066) for closest to a moderate level of mental distress in the past year. Again, this somewhat higher level of mental distress may reflect the Williams-Gunpot (2021) sample having both male and female Black participants, as well as potential impacts from the COVID-19 pandemic in early 2021 where there was less experience coping with the pandemic, in comparison to early 2022 (when current study was conducted).

Specific percentages for depression, anxiety, and trauma in the past year may also be compared across studies. The present study found 75.5% (n= 145) had depression in the past year, 82.2% (n=159) had anxiety in the past year, and 74.9% (n=144) had trauma or trauma symptoms in the past year—and, 69.8% (n=134) sought counseling in the past year. Williams-Gunpot (2021) found 70.7% (N=133) indicated depression in the past year, 78.2% (N=147) anxiety, and 45.2%

(n=85) trauma—and, 43% (N=81) sought counselling in the past year. Across the two pandemic-era studies, the rates of depression were comparable. Also, Hall (2021), with a sample of older Black lesbians, found 59.5% reported depression in the past year, and 61.2% indicated anxiety, while 38.8% sought out counseling in the past year, as a pandemic year.

For the year post-partum, following their high-risk birth hospitalization, the women in the present study reported a significantly higher level of mental distress for the year post-partum—as an anticipated finding. This finding was not surprising, given 91.6% (n= 176) experienced depression the year post-partum, 93.3% (n=179) experienced anxiety the year post-partum, and 89% (n=171) experienced trauma or trauma symptoms the year post-partum. The present study’s findings can be considered in light of other findings with depressed mothers at 3 months postpartum, who were “more likely to exhibit an anxiety disorder” than nondepressed mothers at 6 months postpartum (Slomian et al., 2019, p. 6).

This study’s findings point toward the importance of yet other research showing counseling interventions delivered post-partum are considered effective in preventing perinatal depression; and, women with a history of depression, or current depressive symptoms, or certain socioeconomic risk factors could be considered at higher risk and may benefit from counseling interventions (Jin, 2019, p. 620). Fortunately, in the present study 69.8% (n=134) sought counseling in the past year, and 79.7% (n=153) sought counseling post-partum months 1 to 12. These findings are encouraging and suggestive of self-care.

These findings stand in contrast to other research reflecting how Black women and adults (in general) may engage in mental health counseling at comparatively lower rates relative to White women and adults (Shelton, 2022). For example, in 2015, 10.3% of Black women reported they engaged in mental health treatment, while overall 9% of Black adults reported

receiving mental health services (p. 21). These rates are low compared to their White counterparts, where “almost a quarter percent of White women reportedly engaged” in mental health treatment in 2015 (Shelton, 2022, p. 21). Black women contend with additional barriers that have “impacted their overall entry and continuance” in treatment (Shelton, 2022, p. 20).

### **Discussion of Findings on Perceived Stress**

The study findings may be compared to the findings of Hall (2021) where the Perceived Stress Scale (PSS-4) was also used, having a Cronbach’s Alpha of .429 for very unacceptable internal consistency. The present study produced a mean of 1.995 (SD =.56162; min = .00; max = 3.50) for a moderate level of past-month stress. In comparison, Hall (2021) obtained adequate internal consistency (i.e. Cronbach’s Alpha of 0.749) for the PSS-4, while producing a mean of 1.165 (min=.00, max=3, SD=0.699) for between low to moderately low stress level experienced in the past month. Another pandemic-era study conducted with nurses, while exploring predictors of burnout, allowed Harry (2021) to report a past month perceived stress mean score of 1.874 (SD = 0.596, min = 0.00, max = 3.75; Cronbach’s Alpha = .633, acceptable internal consistency) for closest to a moderate level of stress—being similar to the present study finding.

### **Discussion of Findings on Current and Post-Partum Social Support**

Rafaeli et al., (2008) stated that “social support has well-documented positive effects” on physical and psychological health (p. 616). Overall, findings for the Perceived Social Support—Now and During a High-Risk Birth Hospitalization—Scale (PSS-NADHRBH-S-2) revealed the

sample of Black women enjoyed moderately good level of social support (mean= 2.92; SD = 1.097; min = 1; max = 5) having at least 2 people to rely upon for social support at the present time. Hall (2021) found with a sample of older Black lesbians that the perceived social support mean was very close to what was found in the present study (mean = 2.98, min=0, max=4, SD=1.034) for a moderately good level of social support with at least 2 people in their life providing it. Also comparable are the findings of Williams-Gunpot (2021) with a sample of male and female Black adults where there they had closest to a moderately good level of social support (mean = 2.71; min=0, max=4, SD=1.172), or closest to having at least 2 people providing social support.

Shishehgar et al., (2013) noted considerable evidence indicating the “positive role of social support in people’s health and quality of life” (p. 560). The present study, conducted during the pandemic era, adds to this body of research.

The present study also found that the women had significantly less social support for their post-partum year compared to present level of social support—being an anticipated finding.

Negron et al., (2013) described how women experience a “range of psychological stressors in the postpartum period” (p. 616). As a result, social support has been shown to be effective in helping post-partum women cope with these stressors; and, dissatisfaction with social support may increase the risk for “clinical and subclinical depression during the postpartum period” (Negron et al., 2013, p. 616).

### **Discussion of Findings for Significant Relationships with Medical Mistrust**

First, to explore potential relationships with the study outcome variable of a higher level of medical mistrust, independent t-tests were conducted. When comparing the level of medical mistrust for those *did seek counseling in the past year* to those who did not, those *who did not*

*seek counseling had significantly higher medical mistrust.* Also, when comparing the level of medical mistrust for those who *did seek counseling the year post-partum* to those who did not, those *who did not seek counseling post-partum had significantly higher medical mistrust.*

Perhaps, just as those who did not seek counseling had significantly higher medical mistrust, it is likely they also had distrust in the mental health and counseling professions, as well—potentially explaining the lack of engagement in counseling. Consistent with this possible explanation, Imel et al. (2011) described how “some therapists may be relatively less effective” with clients of color than they are with White clients (p. 291). This study’s findings are important, given how Williamson and Bigman (2018) findings described medical mistrust as a health barrier associated with “worse outcomes across many parts of the health care continuum” (p. 1787).

Secondly, Pearson correlations showed that the higher the level of medical mistrust, then the higher the age ( $r=.219, p=.002$ ), higher the education level ( $r=.252, p=.000$ ), higher the level of perceived racism, discrimination, and inequity in treatment from medical staff ( $r= .436, p=.000$ ), lower the level of cultural sensitivity/competence/humility rating for hospital providers ( $r= -.406, p=.000$ ). higher the level of discrimination in response to more personal demographic characteristics by hospital providers ( $r=.232, p=.001$ ), higher the mental distress in the past year ( $r=.490, p=.000$ ), and higher the mental distress year post-partum ( $r=.383, p=.000$ ).

Third, on the other hand, when controlling for social desirability and using background stepwise regression, a higher level of medical mistrust was significantly predicted by older age ( $B = .033, p = .001$ ), higher level of education ( $B = 0.205, p = .000$ ), lower annual household income ( $B = -.055, p = .026$ ), higher level of perceived racism, discrimination, and inequity in treatment from medical staff ( $B = 0.137, p = .046$ ), lower level of cultural sensitivity/competence/ humility rating for medical staff ( $B = -.155, p = .002$ ), higher past year mental

distress (i.e., depression, anxiety, trauma) ( $B = .369$ ,  $p = .000$ ), and, lower level of social support year post-partum ( $B = -0.162$ ,  $p = .004$ )—with 46.5% of the variance predicted ( $R^2 = 0.698$ , Adjusted  $R^2 = 0.465$ ).

Of note, Williams-Gunpot (2021) found that level of medical mistrust and level of COVID-19 Knowledge were not significantly (negatively) correlated. Hall (2021) found that a higher provider rating for having cultural sensitivity/ competence in response to the client being Black was significant correlated with older Black lesbian's level of satisfaction with life. ( $r = 0.385$ ,  $p = .000$ ). Regarding experiences of discrimination based on a lower number of personal characteristics to which providers were responding, Hall (2021) found this was not significantly (negatively) correlated with satisfaction with life.

Brenick et al (2021) found with a sample of Black women who have sex with women that rates of medical mistrust were high. Further, higher rates of race-based medical mistrust independently predicted significantly lower rates of engagement in physical examinations with providers. The conclusions of Brenick et al (2021) regarding their own findings also provide a compelling framework for the present study's findings, given the “critical need for novel approaches to patient care in which care providers and institutions work to repair the well-established and long-lasting damaged relationship between Black people and the healthcare system” (p. 8). The Black women who recalled their high-risk birth hospitalization for purposes of participating in the present study certainly provided evidence of having experienced such damage.

### **Implications of the Findings for Practice and Future Research**

The purpose of this study was to capture and describe the experiences of Black women who felt they were at risk of dying during a hospitalization to give birth, including exposure to any racism, discrimination, and disparities in healthcare service delivery during their hospitalization. The implications of the findings for practice and future research follow:

- The research study contributes a new tool, with roots in the prior work of Hall et al. (2021): i.e. the Perceived Racism, Discrimination, and Inequities in Service Delivery by Medical Staff During a High-Risk Birth Hospitalization (PR-D-ISD-BMS-DRBH-20)—with excellent internal consistency (Cronbach’s Alpha= .958). Data showed approximately half the sample had experienced all episodes to a high extent (with one exception, discussed in Chapter IV), while the highest ranked items showed 62% were treated with less respect than a White woman would have been, and 62% felt not listened to by doctors and nurses. Of interest is the finding that 57.8% reported some interactions with doctors and nurses that were so stressful and overwhelming that they felt traumatized. Hence, in many respects, there is a crisis in healthcare service delivery to Black women. Overall, findings showed approximately half the sample had experienced all episodes of racism, discrimination and inequity in service delivery to a high extent (with the exception of just 1 item)—being reflective of a crisis. Thus, implications of the study findings for practice include a future role for health educators and psychologists in designing, delivering and evaluating the kind of diversity, equity and inclusion training that effectively addresses medical staff tendencies to racially stereotype patients, as well as engage in verbal and nonverbal acts reflective of racism, discrimination and inequities in service delivery. Recommendation for future research include using the Perceived Racism, Discrimination, and Inequities in Service Delivery by Medical Staff During a

High-Risk Birth Hospitalization (PR-D-ISD-BMS-DRBH-20) in studies with Black populations, as well as with other Indigenous and People of Color populations.

- This study contributes to the body of evidence supporting use of a short tool for investigating level of medical mistrust: i.e., the Medical Mistrust (MMS-SF-4) scale, which showed a Cronbach's Alpha of .755 for good internal consistency. Being short and focused on medical mistrust, it is ideal for pandemic-era research with Black, Indigenous, and People of Color (BIPOC) populations. In this study, the tool showed the Black women in the sample had a moderate level of medical mistrust—while over half the sample *disagreed or strong disagreed* that (1) Black people receive the same medical care from doctors and health care workers as people from other groups, and (2) Black people are treated the same as people of other groups by doctors and health care workers. This is again reflective of a crisis in healthcare service delivery for Black women, that likely extends to Black men. Implications for practice are that efforts to date to counter the negative effects of the Tuskegee Study of Untreated Syphilis in the Negro Male have not been sufficient, while actual contemporary experiences in the healthcare system by Black women are telling—being sufficient to fuel medical mistrust. Health educators and psychologists need to prioritize not only efforts to design, deliver and evaluate diversity, inclusion and equity training for medical staff (i.e., that may reverse their bias and engagement in negative stereotyping of Black patients), but also interventions designed to address medical mistrust and any related trauma in patients. Such interventions for Black patients are of vital importance, so there is not avoidance of engagement with healthcare providers, or avoidance of seeking out screening tests, etc. This is important, as the

current study findings suggests there is a strong risk of Black patients engaging in such avoidant behavior, based on their level of medical mistrust.

- The study also reinforces the value in using another short tool, being ideal for pandemic era research: i.e. The Rating the Cultural Sensitivity, Competence and Humility of Hospital Providers (RCSCH-OHP-1) scale, which was taken from Hall (2021) and modified for the present study—as a simple 1-item tool. This study found a moderate level of cultural sensitive/ competence/ humility as the mean rating for the women’s providers in the hospital during their high-risk birth hospitalizations. However, some 42.2% (n=81) rated their hospital providers as “poor” for cultural sensitivity/ competence/ humility. This finding adds importance to the recommendation that health educators and psychologists need to prioritize not only efforts to design, deliver and evaluate diversity, inclusion and equity training for medical staff. Meanwhile, this simple rating tool could also be used to obtain self-ratings of cultural sensitivity/ competence/ humility for pre- and post-diversity training, as part of an evaluation of the training. Future research can also use this short tool for inclusion in order to ascertain the role of cultural sensitivity/ competence/ humility as a variable potentially impacting patient perceptions of the quality of healthcare service delivery.
- Another short tool that is ideal for pandemic-era research, where the goal is to reduce the burden of time on study participants, is the Perceived Discrimination by Hospital Providers in Response to Personal Demographics (PD-BHS-IRTPS-5) scale. The Perceived Discrimination by Hospital Providers in Response to Personal Demographics scale found closest to a low-moderate level of discrimination in response to the study women’s multiple demographics. However, the data betrays a dimension of the crisis in

healthcare being experienced by Black women who report experiencing discrimination for being Black at 75.5%, for their appearance (skin tone, hair, etc.) at 62.0%, and for being overweight or obese at 28.6%. The very essence of who the women are and how they “show up” for interactions with medical staff, given their personal demographics, is the basis for their experiencing discrimination. Future research should use this tool, while it remains urgent that in practice health educators and psychologists are able to design the kinds of diversity, inclusion and equity trainings that might result in Black women no longer reporting such discrimination in response to their intersectionality and appearance.

- While the current study sample of Black women engaged in counseling at relatively high rates (i.e. 69% in the past year, and 79.7% the year post-partum), evidence from this study suggests a role for using in future research the refined and expanded tool, Retrospective Depression, Anxiety, Trauma and Receipt of Counseling Scale—Past Year (A) and Year Post-High-Risk Birth Hospitalization (B) (RDATS-PY-YPRBH—8). It was refined by requesting ratings for depression, anxiety, and trauma for the past year (Scale A) on a *continuous scale* for the first time, and expanded for this study to include a Scale B for ratings the year post-partum. Producing a composite depression/anxiety/trauma score for Mental Distress, both Scales A and B had good internal consistency. The significantly higher mental distress found for the year post-partum (a low-moderate level was found post-partum, as per the mean score) is reflected in percentages; specifically, data showed a high 91.6% with depression, 93.3% with anxiety, and 89% with trauma/trauma symptoms. This data effectively identifies the year after a high-risk birth hospitalization as an essential time for ensuring Black women enter counseling with licensed and certified mental health professionals. Findings suggest that having a high-

risk birth hospitalization may need to be followed by a referral for counseling—as an important study implication.

- Regarding future research in the pandemic era, two additional short tools are recommended for inclusion: Perceived Stress Scale (PSS-4) and Perceived Social Support—Now and During a High-Risk Birth Hospitalization—Scale (PSS-NADRBH-S-2), which had an additional question specific to the post-partum year experience of social support. Moderate levels of past month perceived stress *and* moderate levels of social support were found. Social support is one of the main ways for coping with stress. Of note, women had significantly lower levels of social support the year post-partum. Here, too, health educators and psychologists need to design, deliver, and evaluate workshops and other brief interventions designed to assist Black women in coping with stress, and for increasing their access to social support, especially for the year after a high-risk birth hospitalization. The pandemic era’s use of Zoom and proliferation of easy to access webinars and YouTube videos suggests contemporary mechanisms for delivering the desired content on stress coping and seeking out social support—as one of the most effective means of coping with stress.
- Due to a programming issue, two of the new scales created for this study [i.e., Occurrence of Medical Events During a High-Risk Birth Hospitalization (OME-DHRBH-14), and Risk Factors for Pregnancy-Related Complications—Chronic Health Conditions (RFF-PRC-CHC-5)] only provided suggestive findings with a reduced number of participants and much missing data. Future research should use these tools, in order to more fully capture the experiences of women. Indeed, it is possible that a greater percentage of variance in the regression model could have been accounted for if these

two tools had produced useful variables for inclusion in bivariate and multivariate statistics.

- Given a higher level of medical mistrust was significantly predicted [i.e. by older age, higher education, lower annual household income, higher level of perceived racism, discrimination, and inequity in treatment from medical staff, lower level of cultural sensitivity/ competence/ humility by medical staff, higher past year mental distress (i.e., depression, anxiety, trauma), and lower level of social support year post-partum], while accounting for 46.5% of the variance in the regression model, future research should select a similar array of variables. This would follow from using the package of measures from this study in future research, which is strongly recommended.
- Given how doula care is a social support intervention associated with lower levels of negative birth outcomes, future research should consider using a tool that asks participants questions about any use of doulas or midwives: 1-before delivery; 2-during delivery in hospital (and rate level of involvement in care); and 3- once the respondent went home. A doula is a trained professional who provides continuous physical, emotional, and informational support to a mother before, during and shortly after childbirth to help her achieve the healthiest, most satisfying experience possible. Doulas provide support to their clients including physical, socioemotional, and verbal support. Furthermore, they play an important role in birth satisfaction, and clients desire to utilize them in subsequent births. Community-based doulas focus on the mother and her ecological system, providing comprehensive, holistic support through the pregnancy, birth, and critically, during the postpartum period, for at least one year post birth.

Therefore, knowing their role in future research is important to assess additional social support during and after a high-risk birth hospitalization.

- Indeed, in the ideal scenario, a future grant funded study with a large nationally representative sample of women who are Black, Indigenous and People of Color (BIPOC) as well as White should be conducted as a replication of this study, while permitting comparisons for groups of diverse women. The crisis of Black maternal mortality in the United States, as well as the crisis in healthcare service delivery to Black women—uncovered via this study, indicate the need for such a study.

### **Limitations of the Study**

The design of the study was cross-sectional, which as a study design has its own limitations, while sample was a self-selected convenience sample, which renders it not representative of the population being studied, limiting the generalizability of the study findings.

The survey length of 10 to 15 minutes may have been a limitation for respondents who had less time or experiencing the highest levels of past month stress, for example—creating a biased sample. Moreover, the study was also conducted online which requires access to a computer with Internet connection to complete the survey. Also, those who wanted to volunteer, or were motivated by the chance to win an Amazon gift care might have been overrepresented. The study had an incentive of a \$300, \$200, or \$100 Amazon gift card, for those who entered their e-mail into lottery drawing. This may have produced bias, as those with lower incomes may have been motivated to complete the survey—biasing the sample.

Other study limitations involved the use of backward stepwise regression, while Chapter IV provides a discussion of the pros and cons, including overfitting. Furthermore, as a serious and totally unexpected limitation, due to a programming issue, missing data was an issue for two scales [i.e., Occurrence of Medical Events During a High-Risk Birth Hospitalization (OME-DHRBH-14), and Risk Factors for Pregnancy-Related Complications—Chronic Health Conditions (RFF-PRC-CHC-5)].

## **Conclusion**

The problem that this study addressed was the high rate of maternal mortality for African American and Black women in the United States, which has been rising, including before the COVID-19 pandemic. The intent was to uncover the predictors of medical mistrust. This study aimed to capture and describe the experiences of Black women who felt they were at risk of dying during a hospitalization to give birth, including exposure to any racism, discrimination and disparities in healthcare service delivery during their hospitalization. This also included capturing and describing the women's own characteristics and the behavior characteristic of their providers (i.e. doctors and nurses) during service delivery. This study also aimed to provide a snapshot of how the women are currently functioning, in comparison to the year following their high-risk birth hospitalization.

The research was framed by several theories, as follows: Harrell's (2020) theory and **Model of Racism-Related Stress**; Pierce et al.'s (1977) **Theory of Racism**; Tervalon and Murray-Garcia's (1998; Murray-Garcia, et al, 2021) tenets of **Cultural Humility** as Cultural

Competence; and, **Social Support** theory (Harrell, 2000; Bedaso et al, 2021). This framework emerged as having value, having directing the creation of the survey tool with multiple parts.

The sample was 100% female (N=192), ranging in age from 24-61 with a mean age of 33.23 (SD= 4.980, min=24, max=61), as well as 100% Black/African American (N=192)—with “dark” being their mean skin color rating (mean=6.02, SD = .938, min=1, max =7). Some 96.4% (n=185) indicated they were heterosexual and 3.6% identified as LGBTQ+/Other (n=7). Also, 94.8% reported that they were born in the United States (n=182).

The mean household yearly income was 5.27, which is category 5 for \$50,000 to \$99,000 (SD=2.371, min=1, max= 11). For educational level, the mean was 3.98, or category 3 for some college credit/ no degree (SD= 1.472, min= 1, max= 7)—with 27.1% participants in this category (n=52). Also, some 37.5% of participants were in the bachelor’s degree category (n= 72).

The sample’s social desirability mean was 6.49 (SD=2.356, min=0, max=10), suggesting a moderate risk for providing socially desirable responses. The Perceived Racism, Discrimination, and Inequities in Service Delivery by Medical Staff During a High-Risk Birth Hospitalization (PR-D-ISD-BMS-DRBH-20; Cronbach’s Alpha= .958) showed a mean of 2.836 (SD=.949, min= .00, max= 4.00) for closest to experiencing racism, discrimination, and inequities a “few times”, or to a moderate extent. Yet, when the frequencies were combined for *a few times (scored 3) and many times (scored 4)*, findings showed approximately half the sample had experienced all episodes to a high extent (with one exception out of 20 scenarios). For example, 62% (n=119) felt not listened to by doctors and nurses .

The Medical Mistrust (MMS-SF-4) scale had a Cronbach’s Alpha of .755 for good internal consistency. The reported mean was 3.073 (SD=.9131, min=1.00, max=5.00) for a moderate level of medical mistrust. However, 56.3% (n= 108) *disagreed or strongly disagreed*

that Black people are treated the same as people of other groups by doctors and health care workers. The Rating the Cultural Sensitivity, Competence and Humility of Hospital Providers had a mean of 2.58 (SD=1.159, min=1.00, max=6.00) for a moderate level of cultural sensitivity, competence and humility for their hospital providers, while 42.2% (n=81) rated their hospital providers as “poor” on this attribute. The Perceived Discrimination by Hospital Providers in Response to Personal Demographics scale produced a mean of 1.89 (SD=1.052, min=0, max=5) for closest to a low-moderate level of discrimination in response to their demographics, while 75.5% (n=145) reported experiencing discrimination for being Black, 62.0% (n=119) due to their appearance (skin tone, hair, etc.), and 28.6% (n=55) for being overweight or obese.

Using the Retrospective Depression, Anxiety, Trauma and Receipt of Counseling Scale—Past Year (A) and Year Post-High-Risk Birth Hospitalization (B) (RDATS-PY-YPRBH—8) scale, any depression, anxiety and trauma combined to create a score for Mental Distress. This tool had a Cronbach’s Alpha of .833 for good internal consistency with a mean of 1.375 (SD= .95232; min= .00; max= 4.00) for moderate mental distress in the past year. Findings also showed a significantly higher level of mental distress for the year post-partum.

The Perceived Stress Scale (PSS-4) had a Cronbach’s Alpha of .429 for very unacceptable internal consistency, while the mean score was 1.995 (SD =.56162; min = .00; max = 3.50) for a moderate level of past-month stress. Also, the Perceived Social Support mean was 2.92 (SD = 1.097; min = 1; max = 5) for closest to participants having 2 individuals to rely upon for social support, or a moderate level of social support—while there was a significantly lower level of perceived social support for their post-partum year

Independent t-tests found that, compared to those who did seek counseling, those *who did not* seek counseling had significantly higher medical mistrust, ( $p < .000$ ) and those *who did not* seek counseling post-partum had significantly higher medical mistrust ( $p < .001$ ). Pearson’s

correlations found that the higher level of medical mistrust, then the higher the participant age ( $r=.219$ ,  $p=.002$ ), higher the education level ( $r=.252$ ,  $p=.000$ ), higher the level of perceived racism, discrimination, and inequity in treatment from medical staff, lower the level of cultural sensitivity rating for hospital providers, higher the level of discrimination in response to multiple demographics by hospital providers, higher the mental distress in the past year, and higher the mental distress post-partum.

Using background stepwise regression, the following were found to be significant predictors of a higher level of medical mistrust: older age ( $B = .033$ ,  $p = .001$ ); higher levels of education ( $B = 0.205$ ,  $p = .000$ ); lower annual household income ( $B = -.055$ ,  $p = .026$ ); higher level of perceived racism, discrimination, and inequity in treatment from medical staff ( $B = 0.137$ ,  $p = .046$ ); lower levels of cultural sensitivity/ competence/ humility ratings for medical staff ( $B = -.155$ ,  $p = .002$ ); higher past year mental distress (i.e., Depression, Anxiety, Insomnia and Trauma) ( $B = .369$ ,  $p = .000$ ); and lower levels of social support post-partum ( $B = -0.162$ ,  $p = .004$ )—with 46.5% of the variance predicted by the model ( $R^2 = 0.698$ , Adjusted  $R^2 = 0.465$ ).

The study findings highlight a crisis of Black maternal mortality in the United States, as well as a crisis in healthcare service delivery to Black women, as uncovered via this study. Overall, findings showed over half the sample had experienced 19 of the 20 episodes of racism, discrimination and inequity in service delivery offered to them for rating—being reflective of a crisis in healthcare service delivery. In this study, Black women in the sample had a moderate level of medical mistrust—while over half the sample *disagreed or strong disagreed* that Black people are treated the same as people of other groups by doctors and health care workers. This is again reflective of a crisis in healthcare service delivery for Black women, that likely extends to Black men. However, the data betrays an additional dimension of the crisis in healthcare service

delivery to Black women who report experiencing discrimination for being Black at 75.5%, for their appearance (skin tone, hair, etc.) at 62.0%, and for being overweight or obese at 28.6%. Implications of the findings are discussed, while recommendations for future research are offered, given the body of findings. Finally, in terms of those implications, perhaps most importantly, this data effectively identifies the year after a high-risk birth hospitalization as an essential time for ensuring Black women enter counseling with licensed and certified mental health professionals.

## **References**

- Ackerman, C. M., Platner, M. H., Spatz, E. S., Illuzzi, J. L., Xu, X., Campbell, K. H., ... & Lipkind, H. S. (2019). Severe cardiovascular morbidity in women with hypertensive diseases during delivery hospitalization. *American Journal of Obstetrics and Gynecology*, 220(6), 582-e1.
- Allan, K. R. (2020). Maternal mortality: beyond overmedicalized solutions. *American Journal of Obstetrics & Gynecology MFM*, 2(1), 100047.
- Alsan, M., Wanamaker, M., & Hardeman, R. R. (2020). The Tuskegee Study of Untreated Syphilis: a case study in peripheral trauma with implications for health professionals. *Journal of general internal medicine*, 35(1), 322-325.
- Bazargan, M., Cobb, S., & Assari, S. (2021). Discrimination and medical mistrust in a racially and ethnically diverse sample of California adults. *The Annals of Family Medicine*, 19(1), 4-15.
- Bedaso, A., Adams, J., Peng, W., & Sibbritt, D. (2021). The relationship between social support and mental health problems during pregnancy: a systematic review and meta-analysis. *Reproductive Health*, 18(1), 1-23.
- Berger, J. T., & Miller, D. R. (2021). Health disparities, systemic racism, and failures of cultural competence. *The American Journal of Bioethics*, 21(9), 4-10.
- Bogart, L. M., Ojikutu, B. O., Tyagi, K., Klein, D. J., Mutchler, M. G., Dong, L., ... & Kellman, S. (2021). COVID-19 related medical mistrust, health impacts, and potential vaccine hesitancy among Black Americans living with HIV. *Journal of Acquired Immune Deficiency Syndromes (1999)*, 86(2), 200.
- Bond, R. M., Gaither, K., Nasser, S. A., Albert, M. A., Ferdinand, K. C., Njoroge, J. N., ... & Association of Black Cardiologists. (2021). working agenda for black mothers: a position paper from the Association of black cardiologists on solutions to improving black maternal health. *Circulation: Cardiovascular Quality and Outcomes*, 14(2), e007643.
- Brenick, A., Romano, K., Kegler, C., & Eaton, L. A. (2017). Understanding the influence of stigma and medical mistrust on engagement in routine healthcare among black women who have sex with women. *LGBT Health*, 4(1), 4-10.
- Bridges, K. M. (2020). Racial Disparities in Maternal Mortality. *NYUL Rev.*, 95, 1229.
- Burger, K., Evans-Agnew, R., & Johnson, S. (2021). Reproductive justice and black lives: A concept analysis for public health nursing. *Public Health Nursing*.
- Cancelmo, C. M. (2021). Protecting Black mothers: How the history of midwifery can inform doula activism. *Sociology Compass*, 15(4), e12867.

- Carthon, M. B., Brom, H., McHugh, M., Sloane, D. M., Berg, R., Merchant, R., ... & Aiken, L. H. (2021). Better nurse staffing is associated with survival for Black patients and diminishes racial disparities in survival after in-hospital cardiac arrests. *Medical care*, 59(2), 169.
- Carvalho, K., Kheyfets, A., Lawrence, B., Moky, A., Harris, L., Abouhala, S., & Amutah-Onukagha, N. (2021). Examining the Role of Psychosocial Influences on Black Maternal Health During the COVID-19 Pandemic. *Maternal and Child Health Journal*, 1-6.
- Centers for Disease Control. (2020, November). *Pregnancy Mortality Surveillance System*. <https://www.cdc.gov/reproductivehealth/maternal-mortality/pregnancy-mortality-surveillance-system.htm>
- Chinn, J. J., Martin, I. K., & Redmond, N. (2021). Health equity among Black women in the United States. *Journal of Women's Health*, 30(2), 212-219.
- Clark, R. R., & Lake, E. (2020). Burnout, job dissatisfaction and missed care among maternity nurses. *Journal of Nursing Management*, 28(8), 2001-2006.
- Cooke, M., de la Fuente, M., Stringfield, C., Sullivan, K., Brassil, R., Thompson, J., ... & Reynolds, S. S. (2022). The Impact of Nurse Staffing on Falls Performance within a Healthcare System: A Descriptive Study. *Journal of Nursing Management*.
- Crear-Perry, J., Correa-de-Araujo, R., Lewis Johnson, T., McLemore, M. R., Neilson, E., & Wallace, M. (2021). Social and structural determinants of health inequities in maternal health. *Journal of Women's Health*, 30(2), 230-235.
- Davis-Floyd, R., Gutschow, K., & Schwartz, D. A. (2020). Pregnancy, birth and the COVID-19 pandemic in the United States. *Medical Anthropology*, 39(5), 413-427.
- Davis, B., Baggett, K. M., Patterson, A. L., Feil, E. G., Landry, S. H., & Leve, C. (2021). Power and Efficacy of Maternal Voice in Neonatal Intensive Care Units: Implicit Bias and Family-Centered Care. *Maternal and Child Health Journal*, 1-8.
- Dalicandro, L., Harder, J. A., Mazmanian, D., & Weaver, B. (2021) How prevalent is overfitting of regression models? A survey of recent articles in three psychology journals. *CrossMark*, 1-6.
- Devido, J., Appelt, C. J., & Szalla, N. (2020). Wise women's provision of maternal-child health information and support for urban, African American women. *Journal of Transcultural Nursing*, 31(6), 554-563.

- Douthard, R. A., Martin, I. K., Chapple-McGruder, T., Langer, A., & Chang, S. (2021). US maternal mortality within a global context: Historical trends, current state, and future directions. *Journal of Women's Health, 30*(2), 168-177.
- Essien, U. R., Molina, R. L., & Lasser, K. E. (2019). Strengthening the postpartum transition of care to address racial disparities in maternal health. *Journal of the National Medical Association, 111*(4), 349–351. <https://doi.org/10.1016/j.jnma.2018.10.016>
- Gary, J. C., Dormire, S. L., Norman, J. M., & Harvey, I. S. (2020). Insights into unspoken fears of pregnant Black women.
- Green, L., Fateen, D., Gupta, D., McHale, T., Nelson, T., & Mishori, R. (2020). Providing women's health care during COVID-19: Personal and professional challenges faced by health workers. *Int. J. Gynaecol. Obstet. Off. Organ. Int. Fed. Gynaecol. Obstet, 151*, 3-6.
- Green, T. L., Zapata, J. Y., Brown, H. W., & Hagiwara, N. (2021). Rethinking Bias to Achieve Maternal Health Equity: Changing Organizations, Not Just Individuals. *Obstetrics and Gynecology, 137*(5), 935.
- Hall, O. T., Jordan, A., Teater, J., Dixon-Shambley, K., McKiever, M. E., Baek, M., ... & Fielin, D. A. (2021). Experiences of racial discrimination in the medical setting and associations with medical mistrust and expectations of care among black patients seeking addiction treatment. *Journal of Substance Abuse Treatment, 108*551.
- Hardeman, R. R., Murphy, K. A., Karbeah, J. M., & Kozhimannil, K. B. (2018). Naming institutionalized racism in the public health literature: a systematic literature review. *Public Health Reports, 133*(3), 240-249.
- Harrell, S. P. (2000). A multidimensional conceptualization of racism-related stress: Implications for the well-being of people of color. *American Journal of Orthopsychiatry, 70*(1), 42-57
- Heitzler, E. T. (2017). Cultural competence of obstetric and neonatal nurses. *Journal of Obstetric, Gynecologic & Neonatal Nursing, 46*(3), 423-433.
- Henderson, S., Horne, M., Hills, R., & Kendall, E. (2018). Cultural competence in healthcare in the community: A concept analysis. *Health & Social Care in the Community, 26*(4), 590-603.
- Henderson, D. A., & Denison, D. R. (1989). Stepwise regression in social and psychological research. *Psychological Reports, 64*(1), 251-257.

- House, T. S., Alnajjar, E., Mulekar, M., & Spiryda, L. B. (2020). Mommy meltdown: understanding racial differences between black and white women in attitudes about postpartum depression and treatment modalities. *Journal of Clinical Gynecology and Obstetrics*, 9(3), 37.
- Howell, E. A., & Zeitlin, J. (2017). Improving hospital quality to reduce disparities in severe maternal morbidity and mortality. In *Seminars in Perinatology* (Vol. 41, No. 5, pp. 266-272). WB Saunders.
- Hoyert, D.L. (2022). Maternal mortality rates in the United States, 2020. NCHS Health E-Stats. DOI: <https://dx.doi.org/10.15620/cdc:113967>
- Jaiswal, J. (2019). Whose responsibility is it to dismantle medical mistrust? Future directions for researchers and health care providers. *Behavioral Medicine*, 45(2), 188-196.
- Jin, J. (2019). Counseling interventions to prevent perinatal depression. *JAMA*, 321(6), 620-620.
- Johnson, L. M., Green Jr, H. D., Koch, B., Harding, R., Stockman, J. K., & Wagner, K. D. (2021). Correlates of Medical Mistrust Among Minority Women at Risk for HIV and Their Networks. *Health Education & Behavior*, 48(6), 860-872.
- Kathawa, C. A., Arora, K. S., Zielinski, R., & Low, L. K. (2022). Perspectives of Doulas of Color on their Role in Alleviating Racial Disparities in Birth Outcomes: A Qualitative Study. *Journal of Midwifery & Women's Health*, 67(1), 31-38.
- Kozhimannil, K. B., Almanza, J., Hardeman, R., & Karbeah, J. M. (2021). Racial and Ethnic Diversity in the Nursing Workforce: A Focus on Maternity Care. *Policy, Politics, & Nursing Practice*, 15271544211005719.
- Kumar, N. R., Borders, A., & Simon, M. A. (2021). Postpartum Medicaid extension to address racial inequity in maternal mortality.
- Kunins, Hillary V. MD, MPH, MS. (2020). Structural Racism and the Opioid Overdose Epidemic: The Need for Antiracist Public Health Practice. *Journal of Public Health Management and Practice*, 26 (3), 201-205.
- Lake, E. T., Staiger, D., Edwards, E. M., Smith, J. G., & Rogowski, J. A. (2018). Nursing care disparities in neonatal intensive care units. *Health Services Research*, 53, 3007-3026.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, Appraisal, and Coping*. Springer Publishing Company.
- Logan, R. G., Daley, E. M., Vamos, C. A., Louis-Jacques, A., & Marhefka, S. L. (2021).

- “When Is Health Care Actually Going to Be Care?” The Lived Experience of Family Planning Care Among Young Black Women. *Qualitative Health Research*, 31(6), 1169-1182.
- Lu, M. C., & Noursi, S. (2021). Summary and Conclusion: Framing a New Research Agenda on Maternal Morbidities and Mortality in the United States. *Journal of Women's Health*, 30(2), 280-284.
- MacDorman, M. F., Thoma, M., Declercq, E., & Howell, E. A. (2021). Racial and Ethnic Disparities in Maternal Mortality in the United States Using Enhanced Vital Records, 2016–2017. *American Journal of Public Health*, 111(9), 1673-1681.
- Mehra, R., Boyd, L. M., Magriples, U., Kershaw, T. S., Ickovics, J. R., & Keene, D. E. (2020). Black pregnant women “Get the Most Judgment”: A qualitative study of the experiences of Black women at the intersection of race, gender, and pregnancy. *Women's Health Issues*, 30(6), 484-492.
- Meyer, B.A., Arnold, J. A., & Pascali-Bonaro (2001). Social support by doulas during labor and the early postpartum period. *Hospital Physician*, 57-65.
- Minhas, A. S., Ogunwole, S. M., Vaught, A. J., Wu, P., Mamas, M. A., Gulati, M., ... & Michos, E. D. (2021). Racial Disparities in Cardiovascular Complications With Pregnancy-Induced Hypertension in the United States. *Hypertension*, HYPERTENSIONAHA-121.
- Morton, C. H., Henley, M. M., Seacrist, M., & Roth, L. M. (2018). Bearing witness: United States and Canadian maternity support workers’ observations of disrespectful care in childbirth. *Birth*, 45(3), 263-274.
- Morton, C. H., VanOtterloo, L. R., Seacrist, M. J., & Main, E. K. (2019). Translating maternal mortality review into quality improvement opportunities in response to pregnancy-related deaths in California. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 48(3), 252-262.
- Murphy, L., & Liu, F. (2022). A new perspective on the maternal mortality disparity. In *Nursing Forum* (Vol. 57, No. 1, pp. 171-176).
- Murray-García, J., Ngo, V., Marsh, T., Pak, T., Ackerman-Barger, K., & Cavanagh, S. J. (2021). Cultural Humility Meets Antiracism in Nurse Leader Training. *Nurse Leader*.
- National Center for Education Statistics. (2020). *Degrees conferred by race/ethnicity and sex*. Retrieved from <https://nces.ed.gov/fastfacts/display.asp?id=72>

- Negron, R., Martin, A., Almog, M., Balbierz, A., & Howell, E. A. (2013). Social support during the postpartum period: mothers' views on needs, expectations, and mobilization of support. *Maternal and Child Health Journal*, 17(4), 616-623.
- Obinna, D. N. (2021). Essential and undervalued: health disparities of African American women in the COVID-19 era. *Ethnicity & Health*, 26(1), 68-79.
- Ojo, A., Beckman, A. L., Weiseth, A., & Shah, N. (2021). Ensuring racial equity in pregnancy care during the COVID-19 pandemic and beyond. *Maternal and Child Health Journal*, 1-4.
- Pacheco, L. D., Clark, S. L., Klassen, M., & Hankins, G. D. (2020). Amniotic fluid embolism: principles of early clinical management. *American Journal of Obstetrics and Gynecology*, 222(1), 48-52.
- Parker, A. (2021). Reframing the narrative: Black maternal mental health and culturally meaningful support for wellness. *Infant Mental Health Journal*, 42(4), 502-516.
- Patel, R. S. Navigating the Effects of Implicit Bias Through Communication on Healthcare Disparities for African American and Black Populations in the US: A Multifaceted Issue. *Oklahoma City University's Undergraduate Research Journal*, 21.
- Phillippi, J. C. (2009). Women's perceptions of access to prenatal care in the United States: a literature review. *Journal of Midwifery & Women's Health*, 54(3), 219-225.
- Pierce, C. (1995). Stress analogs of racism and sexism: Terrorism, torture, and disaster. *Mental Health, Racism, and Sexism*, 33, 277-293.
- Population Reference Bureau (PRB, 2021). Black Women Over Three Times More Likely to Die in Pregnancy, Postpartum Than White Women, New Research Finds, Washington, D.C. Retrieved from:<https://www.prb.org/resources/black-women-over-three-times-more-likely-to-die-in-pregnancy-postpartum-than-white-women-new-research-finds/>
- Prather, C., Fuller, T. R., Jeffries IV, W. L., Marshall, K. J., Howell, A. V., Belyue-Umole, A., & King, W. (2018). Racism, African American women, and their sexual and reproductive health: a review of historical and contemporary evidence and implications for health equity. *Health Equity*, 2(1), 249-259.
- Rafaeli, E., Cranford, J. A., Green, A. S., Shrout, P. E., & Bolger, N. (2008). The good and bad of relationships: How social hindrance and social support affect

- relationship feelings in daily life. *Personality and Social Psychology Bulletin*, 34(12), 1703-1718.
- Reddy, S., Patel, N., Saxon, M., Amin, N., & Biviji, R. (2021). Innovations in US Health Care Delivery to Reduce Disparities in Maternal Mortality Among African American and American Indian/Alaskan Native Women. *Journal of Patient-Centered Research and Reviews*, 8(2), 140.
- Saluja, B., & Bryant, Z. (2021). How implicit bias contributes to racial disparities in maternal morbidity and mortality in the United States. *Journal of Women's Health*, 30(2), 270-273.
- Shelton, K. (2022). Culturally Competent Counseling Practice with African American Women. *A Handbook on Counseling African American Women: Psychological Symptoms, Treatments, and Case Studies*, 20.
- Shelton, R. C., Winkel, G., Davis, S. N., Roberts, N., Valdimarsdottir, H., Hall, S. J., & Thompson, H. S. (2010). Validation of the group-based medical mistrust scale among urban black men. *Journal of General Internal Medicine*, 25(6), 549-555.
- Shishehgar, S., Mahmoodi, A., Dolatian, M., Mahmoodi, Z., Bakhtiary, M., & Majd, H. A. (2013). The relationship of social support and quality of life with the level of stress in pregnant women using the PATH model. *Iranian Red Crescent Medical Journal*, 15(7), 560.
- Slomian, J., Honvo, G., Emonts, P., Reginster, J. Y., & Bruyère, O. (2019). Consequences of maternal postpartum depression: A systematic review of maternal and infant outcomes. *Women's Health*, 15, 1745506519844044.
- Suarez, A. (2020). Black midwifery in the United States: Past, present, and future. *Sociology Compass*, 14(11), 1-12.
- Sutton, A. L., He, J., Edmonds, M. C., & Sheppard, V. B. (2019). Medical mistrust in Black breast cancer patients: acknowledging the roles of the trustor and the trustee. *Journal of Cancer Education*, 34(3), 600-607.
- Smith, G. (2018). Step away from stepwise. *Journal of Big Data*, 5(1), 1-12.
- Snyder, J. E., Stahl, A. L., Streeter, R. A., & Washko, M. M. (2020). Regional variations in maternal mortality and health workforce availability in the United States. *Annals of Internal Medicine*, 173(11\_Supplement), S45-S54.
- Taylor, J. K. (2020). Structural Racism and Maternal Health Among Black Women. *The Journal of Law, Medicine & Ethics*, 48(3), 506-517.
- Täufer Cederlöf, E., Lundgren, M., Lindahl, B., & Christersson, C. (2022). Pregnancy

Complications and Risk of Cardiovascular Disease Later in Life: A Nationwide Cohort Study. *Journal of the American Heart Association*, e023079.

- Tervalon, M., & Murray-Garcia, J. (1998). Cultural humility versus cultural competence: A critical distinction in defining physician training outcomes in multicultural education. *Journal of Health Care for the Poor and Underserved*, 9(2), 117-125.
- Thurston, H., Fields, B. E., & White, J. (2021). Does increasing access to prenatal care reduce racial disparities in birth outcomes?. *Journal of Pediatric Nursing*, 59, 96-102.
- Trego, L. L. (2020). Why nurses are essential to research on birth outcomes in the United States. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 49(4), 336-347.
- U.S. Census Bureau. (2021). *Educational attainment in the United States: 2019 Table Package (Internet Release)*. Retrieved from [www.census.gov/content/census/en/data/tables/2019](http://www.census.gov/content/census/en/data/tables/2019)
- Van Eijk, M. S., Guenther, G. A., Kett, P. M., Jopson, A. D., Frogner, B. K., & Skillman, S. M. (2022). Addressing Systemic Racism in Birth Doula Services to Reduce Health Inequities in the United States. *Health Equity*, 6(1), 98-105.
- VanNoy, B. N., Bowleg, L., Marfori, C., Moawad, G., & Zota, A. R. (2021). Black Women's Psychosocial Experiences with Seeking Surgical Treatment for Uterine Fibroids: Implications for Clinical Practice. *Women's Health Issues*, 31(3), 263-270.
- Varagic, J., Desvigne-Nickens, P., Gamble-George, J., Hollier, L., Maric-Bilkan, C., Mitchell, M., ... & Redmond, N. (2021). Maternal morbidity and mortality: Are we getting to the “heart” of the matter?. *Journal of Women's Health*, 30(2), 178-186.
- West, R., DiMeo, A., Langer, A., Shah, N., & Molina, R. L. (2022). Addressing Racial/Ethnic Inequities in Maternal Health Through Community-Based Social Support Services: A Mixed Methods Study. *Maternal and Child Health Journal*, 1-11.
- Williams, D. R., & Cooper, L. A. (2019). Reducing racial inequities in health: using what we already know to take action. *International Journal of Environmental Research and Public Health*, 16(4), 606.
- Wint, K., Elias, T. I., Mendez, G., Mendez, D. D., & Gary-Webb, T. L. (2019). Experiences of community doulas working with low-income, African American mothers. *Health Equity*, 3(1), 109-116.

- Wisner, K. (2021). Partnering with Patients and Families to Prevent Maternal Morbidity and Mortality. *MCN: The American Journal of Maternal/Child Nursing*, 46(1), 56.
- Zachariah, R. (2009). Social support, life stress, and anxiety as predictors of pregnancy complications in low-income women. *Research in Nursing & Health*, 32(4), 391-404.
- Zaghini, F., Biagioli, V., Proietti, M., Badolamenti, S., Fiorini, J., & Sili, A. (2020). The role of occupational stress in the association between emotional labor and burnout in nurses: A cross-sectional study. *Applied Nursing Research*, 54, 151277.
- Zephyrin, L. C. (2021). Changing the Narrative and Accelerating Action to Reduce Racial Inequities in Maternal Mortality. *American Journal of Public Health*, 111(9), 1575-1577.

## APPENDICES

# Appendix A

## Letter of IRB Approval

**Attachments:**

- Exemption Notification - IRB ID: 22-131.pdf



Teachers College IRB

Exempt Study Approval

To: Amina Abdelaziz  
From: Myra Luna Lucero, Research Compliance Director  
Subject: IRB Approval: 22-131 Protocol  
Date: 02/28/2022

Thank you for submitting your study entitled, "*An online investigation into factors related to Black maternal mortality using retrospective recall of a prior birth hospitalization with a risk of death—predicting medical mistrust*;" the IRB has determined that your study is **Exempt** from committee review (Category 2) on 02/28/2022.

Please keep in mind that the IRB Committee must be contacted if there are any changes to your research protocol. The number assigned to your protocol is **22-131**. Feel free to contact the IRB Office by using the "Messages" option in the electronic Mentor IRB system if you have any questions about this protocol.

**Please note that your Consent form bears an official IRB authorization stamp and is attached to this email. Copies of this form with the IRB stamp must be used for your research work.** Further, all research recruitment materials must include the study's IRB-approved protocol number.

As the PI of record for this protocol, you are required to:

- Use current, up-to-date IRB approved documents
- Ensure all study staff and their CITI certifications are on record with the IRB
- Notify the IRB of any changes or modifications to your study procedures
- Alert the IRB of any adverse events

You are also required to respond if the IRB communicates with you directly about any aspect of your protocol. Failure to adhere to your responsibilities as a study PI can result in action by the IRB up to and including suspension of your approval and cessation of your research.

You can retrieve a PDF copy of this approval letter from Mentor IRB.

Best wishes for your research work.

Sincerely,  
Dr. Myra Luna Lucero  
Research Compliance Director  
irb@tc.edu

## Appendix B

### The Study Email

# **BLACK WOMEN INVITED TO VOLUNTEER** **12-15 MINUTES ANSWERING SURVEY QUESTIONS**

**If You Gave Birth Between 2012-2018 & Felt For Even A Moment Your Life Was At Risk, Or You Could Have Died During Your Hospital Stay (i.e. You had a high-risk birth hospitalization)**

## **SHARE YOUR STORY!**

**FOR A 3 IN 250 CHANCE TO WIN 1 OF 3 AMAZON GIFT CARDS (\$300, \$200, \$100)**

**IRB Protocol Number 22-131**

The Research Group on Disparities in Health (RGDH) within the Department of Health and Behavior Studies at Teachers College, Columbia University in New York, New York is conducting a study. This study seeks women age 18 or above who identify as African American or Black and indicate having had a high-risk birth hospitalization (HRBH) between the years 2012-2018 where there was a moment when they felt their life was at risk, or they could have died. Black women who volunteer to participate in the study will be asked to engage in retrospective recall of a high-risk birth hospitalization (i.e., looking back and remembering what happened back then). The present study seeks to contribute to societal efforts to reduce Black maternal mortality (i.e., Black women dying during a hospitalization to give birth). We seek to identify potential factors (e.g. provider discrimination) playing a role in the high rates of Black maternal mortality in the United States. We invite women to share their story of what happened (via an open-ended question), including whether they felt what happened was related to their race or other characteristics (e.g. skin tone, hair, physical appearance, etc.).

- Participation in this survey is limited to the first 250 volunteers
- Completing the online survey takes about 12-15 minutes
- Those who complete the survey will have a 3 in 250 chance of winning 1 of 3 Amazon gift cards (\$300, \$200, \$100)
- Please click on the link in the message below to view the informed consent, learn about your rights as a participant and proceed to the survey.
- We also invite you to forward this email to others who may be willing to volunteer, or send them a text message, or tweet using the message, below:

*Are you a Black woman who felt your life was at risk for even a moment while in the hospital to give birth between years 2012-2018? If “YES,” click on <https://tinyurl.com/BlackWomenLivesAtRisk> & Take 12-15 Min Survey for 3 in 250 chance to win a \$300, \$200, or \$100 Amazon Gift Card!*

## **THANK YOU FOR YOUR PARTICIPATION!**

*If you have any questions or would like to have additional information about the study, please contact:*  
**Amina Abdelaziz, MA, Doctoral Candidate, Department of Health and Behavior Studies, Teachers College, Columbia University, Box 114, 525 W. 120th Street, New York, NY 10027; [aa3915@tc.columbia.edu](mailto:aa3915@tc.columbia.edu)**

**BARBARA C. WALLACE, Ph.D.**, Director, Research Group on Disparities in Health, Professor of Health Education, Clinical Psychologist, Department of Health and Behavior Studies, Teachers College, Columbia University, Box 114, 525 W. 120th Street, New York, NY 10027; [bcw3@tc.columbia.edu](mailto:bcw3@tc.columbia.edu); Study Contact Number: 267-269-7411

## Appendix C

### **The Study Text/Tweet**

**Please share:** *Are you a Black woman who felt your life was at risk for even a moment while in the hospital to give birth between years 2012-2018? If “YES,” click on <https://tinyurl.com/BlackWomenLivesAtRisk> & Take 12-15 Min Survey for 3 in 250 chance to win a \$300, \$200, or \$100 Amazon Gift Card!*

## Appendix D

### Informed Consent

Teachers College, Columbia University  
525 West 120th Street  
New York NY 10027  
212 678 3000

### INFORMED CONSENT

#### IRB Protocol Number 22-131

#### Protocol Title:

An online investigation into factors related to Black maternal mortality using retrospective recall of a prior birth hospitalization with a risk of death—predicting medical mistrust

**Principal Researcher:** Amina Abdelaziz, MA  
Teachers College, Columbia University  
917-684-0430; aa3915@tc.columbia.edu

**INTRODUCTION** You are invited to participate in this research study called “*An online investigation into factors related to Black maternal mortality using retrospective recall of a prior birth hospitalization with a risk of death—predicting medical mistrust*”. You may qualify to take part in this research study if you: 1) are age 18 or above; 2) identify as a Black or African American woman; 3) live in the United States; 4) feel able to answer questions about your experiences being hospitalized to deliver a baby in the United States where you felt for even a moment that your life was at risk, or you could have died; and 5) experienced that particular high-risk hospitalization between the years 2018 and 2012. Black women who volunteer to participate in the study will be asked to engage in retrospective recall of a high-risk birth hospitalization (i.e., looking back and remembering what happened back then). The present study seeks to contribute to societal efforts to reduce Black maternal mortality (i.e., Black women dying during a hospitalization to give birth). We seek to identify potential factors (e.g. provider discrimination) playing a role in the high rates of Black maternal mortality in the United States. Approximately 250 people will participate in this study, and it will take about 12-15 minutes of your time to complete.

**WHY IS THIS STUDY BEING DONE?** This study is being done to capture and describe the experiences and actual voices of Black women who felt they were at risk of dying during a hospitalization to give birth. This includes any possible exposure to racism and discrimination during hospitalization. This study is also being done to provide a snapshot of how the women are currently functioning, given the potential for some ongoing impact from their high-risk birth hospitalization (e.g. stress, depression, etc.). Finally, this study will also determine to what extent women have experienced medical mistrust, and factors related to women having the highest levels of medical mistrust following their high-risk birth hospitalization.

**WHAT WILL I BE ASKED TO DO IF I AGREE TO TAKE PART IN THIS STUDY?** If you decide to participate in the study, you will answer a series of questions in an online survey. The questions will cover the following: your personal background, history of a high-risk birth hospitalization, nature of treatment and care experiences during service delivery with doctors and nurses, any experiences of perceived racism and discrimination during their hospitalization, as well as self-ratings for stress, anxiety, depression, trauma, and extent of social support. You will also rate hospital providers for their cultural sensitivity. Finally, you will have a chance to freely share (via an open-ended question) about your high-risk birth hospitalization, and whether you felt what happened to you during your high-risk birth hospitalization was related to your race or other characteristics (e.g. skin tone, hair, etc.).

**WHAT POSSIBLE RISKS OR DISCOMFORTS CAN I EXPECT FROM TAKING PART IN THIS STUDY?** The risks of study participation include the possibility that you may feel some discomfort from taking the survey due to some of the questions. However, your participation in this study is completely voluntary, and you can stop at any time.

**WHAT POSSIBLE BENEFITS CAN I EXPECT FROM TAKING PART IN THIS STUDY?** There is no direct benefit to you for participating in this study.

**WILL I BE PAID FOR BEING IN THIS STUDY?** You will not be paid to participate. However, when you complete the survey, you will be invited to enter your email address and to hit a “submit” button—so that you are officially entered into a drawing for a chance to receive a prize (i.e., 1 of 3 bar coded Amazon gift certificates for \$300, \$200, or \$100). You do not have to enter the lottery drawing to complete the survey. Once you submit your email address, then it will automatically be entered into a private and secure data base that even the principal investigator cannot access. Once 250 people have completed the entire survey, you will have a 3 in 250 chance of winning 1 of 3 bar coded Amazon gift certificates for \$300, \$200, or \$100. The www.Amazon.com gift certificates will be sent to three randomly chosen e-mail accounts using a secure online program. This occurs without in any way linking your identity to the survey results. The principal investigator is not able to view any of the e-mail addresses to which the gift certificates are sent. Only the 3 winners will be contacted.

**WHEN IS THE STUDY OVER? CAN I LEAVE THE STUDY BEFORE IT ENDS?** The study is over when you have completed the online survey. However, you can leave the study at any time even if you have not finished.

**PROTECTION OF YOUR CONFIDENTIALITY** The study does not involve collecting any of your personal identifying information, such as your name or address, allowing you to remain anonymous. (NOTE: Recall, as per what is above, you can elect to enter your e-mail address to enter the drawing for a chance to receive a prize. However, this occurs without in any way linking your identity to your survey answers, and the principal investigator cannot view any e-mail addresses.) Teachers College, Columbia University has determined that [www.Qualtrics.com](http://www.Qualtrics.com) provides a secure platform for the online survey you will take. The survey data files will also be saved on the primary researcher’s password protected computer. Regulations require that research data be kept for at least three years.

For quality assurance, the study team, and/or members of the Teachers College Institutional Review Board (IRB) may review the data collected from you as part of this study. Otherwise, all information obtained from your participation in this study will be held strictly confidential and will be disclosed only with your permission or as required by U.S. or State law.

**HOW WILL THE RESULTS BE USED?** The results of this study will be published in journals and presented at academic conferences. This study is being conducted as part of the doctoral dissertation of the principal investigator.

**WHO CAN ANSWER MY QUESTIONS ABOUT THIS STUDY?**

If you have any questions about taking part in this research study, you should contact the primary researcher, Amina Abdelaziz at 917-684-0430 or at [aa3915@tc.columbia.edu](mailto:aa3915@tc.columbia.edu). You can also contact the sponsor/supervisor of this research study, Dr. Barbara Wallace, at [bcw3@tc.columbia.edu](mailto:bcw3@tc.columbia.edu) or 267-269-7411.

**If you have questions or concerns about your rights as a research subject, you should contact the Institutional Review Board (IRB) (the human research ethics committee) at 212-678-4105 or email [IRB@tc.edu](mailto:IRB@tc.edu). Or you can write to the IRB at Teachers College, Columbia University, 525 W. 120<sup>th</sup> Street, New York, NY 10027. Box 151. The IRB is the committee that oversees human research protection for Teachers College, Columbia University.**

## Appendix E

### Participant's Rights

#### **PARTICIPANT'S RIGHTS**

- I have read the Informed Consent Form and have been offered the opportunity to discuss the form with the researcher.
- I have had ample opportunity to ask questions about the purposes, procedures, risks and benefits regarding this research study.
- I understand that my participation is voluntary. I may refuse to participate or withdraw participation at any time without penalty.
- The researcher may withdraw me from the research at his or her professional discretion. I understand that if I take the survey more than once I will be eliminated from the study.
- If, during the course of the study, significant new information that has been developed becomes available which may relate to my willingness to continue my participation, the researcher will provide this information to me.
- Any information derived from the research study that personally identifies me will not be voluntarily released or disclosed without my separate consent, except as specifically required by law.
- I should receive a copy of the Informed Consent Form document. (I understand that I can download it).

**By signing electronically, you agree to be in the study and confirm that you are a woman over the age of 18 that identifies as Black or African American, live in the United States, gave birth between 2018-2012, and had a hospitalization to deliver a baby in the United States where you felt for even a moment that your life was at risk.**

**Provide your electronic signature:**

\_\_\_\_\_ **Date:** \_\_\_\_\_

## Appendix F

### Screening Survey

#### Teachers College, Columbia University IRB Protocol Number 22-131

We are seeking Black women who felt their life was at risk for even a moment during a hospitalization to deliver a baby (or babies/twins, etc.). To participate in our research study, please answer the following questions to see if you qualify:

1-Are you age 18 or above?  No  Yes

2-Do you identify as a Black or African American woman?  No  Yes

3-Do you live in the United States?  No  Yes

4-Did you ever have a hospitalization to deliver a baby in the United States where you felt for even a moment that your life was risk, or you could have died?  No  Yes

5-Was that particular high-risk hospitalization between the years 2018 and 2012?  No  Yes

6-If you become upset while taking the survey, you can immediately stop and exit the survey. Do you feel able to answer questions in a short 12-15 minute survey about you and your experiences during that particular high-risk hospitalization *without* becoming so upset that it negatively impacts you—OR, do you feel able to stop and exit the survey if you become upset?  No  Yes

**NOTE: If they answer No to any question, then they EXIT survey and arrive at a disqualification page. If they answer YES to all question, then they proceed to the study survey.**

## Appendix G

### The Study Survey

# Black Women: Lives at Risk During Baby Delivery Hospitalization Survey

Teachers College, Columbia University  
IRB Protocol Number 22-131

INSTRUCTIONS: Please answer the following questions in this survey.

-----

### Part I: Basic Demographics (BD-10)

[A tool created for use by the Research Group on Disparities in Health (e.g. Tirhi, 2019), and adapted for the present study population. See: [e.g. Tirhi, 2019; Tirhi, S. Y. (2019). *The Living in America Muslim Life Stress, Coping and Life Satisfaction Study: An Online Mixed Methods Study of Islamophobic Discrimination, Microaggressions, and Predictors of Life Satisfaction* (Doctoral dissertation, Teachers College, Columbia University)].]

1-My age is \_\_\_\_ [DROP DOWN MENU 18 – 80]

2-I consider myself to be

Man  Woman  Transgender  Other (Please indicate \_\_\_\_\_)

3-I consider myself to be

Heterosexual (only have sex with partners of the opposite sex or gender)

LGBTQ+ (have sex with some same sex partners, or same gender partners)

Other (Please indicate \_\_\_\_\_)

4-My race/ethnicity is: (select all that apply)

Black / African American

**IF ANY OF THE BELOW ARE SELECTED → EXCLUDE FROM STUDY**

Latinx/Hispanic /Latino (including Puerto Rican, Mexican, Mexican American, Chicano, Cuban, other Spanish)

White / Caucasian / European American

Asian (Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, or other Asian)

Native American/American Indian / Alaska Native

Native Hawaiian / Pacific Islander

Arab American / Middle Eastern

Other group(s) (specify)

5-My skin color is

7-  Very Dark

6-  Dark

5-  Medium to Dark

4-  Medium to Light    3-  Light    2-  Very Light    1  White  
[NOTE: create a continuous scale from light=1 to very dark=7 education]

**6-** Were you born in the United States?

Yes     No

If "No, "Where was your place of birth or country of origin? \_\_\_\_\_

[List of countries drop down menu]

**7-** What is the highest degree or level of school that you completed?

1  Some high school, or less

2  High school graduate, or GED

3  Some college credit, no degree

4  Associate degree or technical degree/training (e.g.: AA, AS)

5  Bachelor's degree (e.g. BA, BS)

6  Master's degree (e.g. MA, MS, MEd)

7  Doctorate or Professional degree (e.g. PhD, EdD, DrPH, MD, DDS, DMD, PharmD)

[NOTE: create a continuous scale from low=1 to high=7 education]

**8-** What is your partner or marital status?

Single, never married

Married

Have a partner/Living together (not married)

Widowed

Divorced

Separated

[NOTE: create a dichotomous variable, partner yes=1; no=0]

**9-** Are you currently:

Employed for wages

Self-employed

Unemployed

A homemaker

A student

Military

Retired

Disabled/Unable to work

[NOTE: create a dichotomous variable, employed yes=1; no=0]

**10-** My annual household income is:

1-Less than \$10,000

2-\$10,000 to \$19,000

3-\$20,000 to \$39,000

4-\$40,000 to \$49,000

5-\$50,000 to \$99,999

6-\$100,000 to \$199,999

7-\$200,000 to \$299,000

- 8-\$300,000 to \$399,000
- 9-\$400,000 to \$499,000
- 10-\$500,000 to \$799,000
- 11-\$800,000 or More
- I do not know

[NOTE: create a continuous scale from low=1 category to high=11 category; create a mean category]

## Part II: Single Item Rating of Risk of Providing Socially Desirable Responses (SIR-RPSDR-1)

[Note: This is a single item scale created for first time use by Dr. Barbara Wallace in studies in 2018 conducted by the Research Group on Disparities in Health [RGDH], and for ongoing use by the RGDH. For example, this tool was used by Torez (2019) and Laryea (2019). See: Torez, M. (2019). *An online investigation into Internet Gaming Disorder (IGD), comorbidity, and psychosocial issues: A comparison of American and Chinese gamers—and predictors of meeting criteria for a formal diagnosis of IGD*. Doctoral dissertation. Teachers College, Columbia University. See: Laryea, E. (2019). *An online mixed-methods study assessing nurses’ attitudes, knowledge, skill/ability, and perceived barriers with regard to adherence to the national pressure ulcer advisory panel’s clinical practice guidelines*. Doctoral dissertation. Teachers College, Columbia University. Note: Laryea (2019) found that the new one item measure of social desirability was one of two significant predictors of nurses’ higher personal skill/ability rating for managing patients’ pressure ulcers. This was noteworthy, as the well-known 13-item measure of social desirability (i.e. Crowne, D., & Marlowe, D. (1960) A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24(4), 349-354.) similarly was found to be the sole significant predictor of nurses’ ratings for a higher personal skill/ability for managing patients’ pressure ulcers. Hence, there is value in reducing the burden of time on study participants and using in this study the new one item measure of social desirability, especially, given the stress of the pandemic.]

1-I sometimes say things that I think will please people, or what I think they want to hear—versus the honest truth, which might be difficult or painful for other people to hear and accept, or might lead them to judge me harshly...

I rate myself on a scale of 0 to 10, as follows:

0	1	2	3	4	5	6	7	8	9	10
0-I am not like										10-I am like
this at all										this all the
										time

## Part III: History of a High-Risk Birth Hospitalization—Year of Event (HOHRBH -YOE-3)

This is a new tool created by the Principal Investigator, Amina Abdelaziz, and the dissertation sponsor, Professor Barbara Wallace, Director of the Research Group on Disparities in Health (RGDH). This 3-question tool is specific to this study, essentially confirming that all study participants met the inclusion criteria for participation. This was done via the following questions—where any “No” response would have led to their being excluded (exit) from the study.

1-Did you ever enter a hospital for the purpose of giving birth to a baby (or babies/twins, etc.)?  
   Yes    No [If selects no→exit from study]

2-At any point during your time in the hospital to deliver your baby (or babies/twins, etc.), did you feel that your life was at risk for even a moment? Or, were you told by someone (e.g. by a husband, partner, family member, hospital staff member, etc.) that there was a moment when

your life was at risk, or in danger, or you could have died (e.g. from a hemorrhage, or blood clot, etc.)?

Yes  No [If selects no→exit from study]

**3-Please indicate the year that you had this particular hospitalization to deliver your baby (or babies/twins, etc.)**

2021       2020       2019. [If selects 2019, 2020, 2021→exit from study]  
 2018       2017       2016  
 2015       2014       2013  
 2012  2011 or before [If selects 2011 or before→exit from study]

---

---

### **Part IV: Perceived Racism, Discrimination, and Inequities in Service Delivery by Medical Staff During a High-Risk Birth Hospitalization (PR-D- ISD-BMS-DHRBH-20)**

[This is a new scale created for first time use in the present study by Amina Abdelaziz and Dr. Barbara Wallace, Director of the Research Group on Disparities in Health (RGDH)—and for use by the RGHD. This new tool is based on the review of literature. Some items reflect incorporating and adapting items, as described by Hall et al (2021) in a tool they used: i.e. the 7-item Discrimination in Medical Settings (DMS) scale, which was adapted from the Everyday Discrimination Scale (EDS) to assess perceived racial discrimination during healthcare service delivery, as per the work of Peek et al, (2011). Those adapted items modified for the present study appear with \*\*. [NOTE: See Peek, M. E., Nunez-Smith, M., Drum, M., & Lewis, T. T. (2011). Adapting the everyday discrimination scale to medical settings: reliability and validity testing in a sample of African American patients. *Ethnicity & disease*, 21(4), 502; See Hall, O. T., Jordan, A., Teater, J., Dixon-Shambley, K., McKiever, M. E., Baek, M., ... & Fielin, D. A. (2021). Experiences of racial discrimination in the medical setting and associations with medical mistrust and expectations of care among black patients seeking addiction treatment. *Journal of Substance Abuse Treatment*, 108551.] Other items are original and new, being created for this scale and study—and designed with #. The other items arise from factors discussed in the literature. There is a sub-scale with 5 items designated with an R; **R = Racism Perceived as Potentially Operating Sub-Scale** with the 6 items #s 1, 3, 5, 7,15,19. The remaining 14 items comprise the **Experiences During Service Delivery with Medical Staff Sub-Scale** (#s 2, 4, 6, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 20). In sum, there are 20 items scored 0-*Never* *1-Once* *2-Twice* *3-Few Times* *4-Many Times*; this study will determine the internal consistency of the scale, as well as mean, SD. Scores will range from 0 (=no experiences of racism, discrimination, and inequities in healthcare service delivery during their birth hospitalization) to 72 (= highest frequency/many times of experiences of racism, discrimination, and inequities in healthcare service delivery during their birth hospitalization. ]

Please keep in mind that particular hospitalization to deliver your baby (or babies) when there was a moment when your life was at risk, or in danger, or you could have died. Please indicate all that you experienced **when interacting with hospital medical staff—specifically, doctors and nurses, during that hospitalization**, below:

**R ##1-I felt racially stereotyped, or treated like a racial stereotype by doctors and nurses**

*0-Never* *1-Once* *2-Twice* *3-Few Times* *4-Many Times*

**\*\*2-I received poor treatment, or poorer treatment**

*0-Never* *1-Once* *2-Twice* *3-Few Times* *4-Many Times*

**R ##3-I felt like the quality of treatment and care that I received was not equal to or the same as a White woman would receive**

*0-Never* *1-Once* *2-Twice* *3-Few Times* *4-Many Times*

**\*\*4-I felt disrespected, that I received disrespectful care**

*0-Never* *1-Once* *2-Twice* *3-Few Times* *4-Many Times*

**R\*\*5-I felt I was treated with less respect than a White woman would have been**

- \_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*
- 6-I overheard judgmental or negative comments about me  
*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*
- R**7-I overheard negative comments about my race  
*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*
- 8-I was verbally abused  
*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*
- 9-I was yelled at  
*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*
- 10-I was scolded, ridiculed, mocked, shamed  
*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*
- 11-I felt belittled and put down  
*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*
- 12-I was threatened, coerced, lied to, and manipulated  
*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*
- 13-I felt what I had to say was being dismissed, ignored, and not taken seriously  
*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*
- \*\***14-I felt like I was not being listened to by doctors and nurses  
*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*
- R**15-I felt like I was not being listened to by doctors and nurses the way a White woman would have been  
*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*
- \*\***16-I felt like some doctors and nurses were acting like they were better than me  
*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*
- \*\***17-I felt like some doctors and nurses were acting like they were smarter than me  
*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*
- 14-I felt like some doctors and nurses were acting like they were better than me
- ##**18- I felt like my pain level was not managed appropriately with medication  
*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*
- R##**19-I felt like my pain level was not managed with medication the way a White woman would have her pain managed  
*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*
- ##**20-During my hospitalization, I had some interactions with doctors and nurses that were so stressful and overwhelming that I felt traumatized  
*\_0-Never \_1-Once \_2-Twice \_3-Few Times \_4-Many Times*

**Part V: Risk Factors for Pregnancy-Related Complications—Chronic Health Conditions (RFF-PRC-CHC-5)**

[This is a new scale created for first time use in the present study by Amina Abdelaziz and Dr. Barbara Wallace, Director of the Research Group on Disparities in Health (RGDH)—and for use by the RGDH. This new tool is based on the review of literature. There is just 1 item scored *0-No, 0-Unsure*. The scale is scored *Yes = 1; scale ranges from 1=single risk factor to 5=multiple risk factors*]

BEFORE you went into the hospital to deliver your baby (or babies/twins, etc.), had you been diagnosed with any of the following: *[check all that apply]*

6. Cardiovascular disease or heart disease  Yes  No  Unsure

7. Hypertension or high blood pressure \_\_ Yes \_\_ No \_\_ Unsure
8. Obesity \_\_ Yes \_\_ No \_\_ Unsure
9. Diabetes \_\_ Yes \_\_ No \_\_ Unsure
10. Asthma \_\_ Yes \_\_ No \_\_ Unsure

*[Score Yes = 1; scale ranges from 1=single risk factor to 5=multiple risk factors]*

## **Part VI: Occurrence of Medical Events During a High-Risk Birth Hospitalization (OME-DHRBH-14)**

[This is a new scale created for first time use in the present study by Amina Abdelaziz and Dr. Barbara Wallace, Director of the Research Group on Disparities in Health (RGDH)—and for use by the RGDH. This new tool is based on the review of literature. There is just 1 item with many options where a woman can check all that apply; It is scored 0=No, 0=Unsure; and Yes = 1; scale ranges from 1=single medical event to 5=multiple medical events]

Please indicate which of the following you experienced, or were diagnosed with, or told happened during your hospitalization to deliver your baby (or babies/twins, etc.): **[check all that apply]**

15. Event related to cardiovascular condition \_\_ Yes \_\_ No \_\_ Unsure
16. Infection or sepsis \_\_ Yes \_\_ No \_\_ Unsure
17. Cardiomyopathy (disease of the heart muscle) \_\_ Yes \_\_ No \_\_ Unsure
18. Hemorrhage \_\_ Yes \_\_ No \_\_ Unsure
19. Blood clot (thrombotic pulmonary, or other embolism) \_\_ Yes \_\_ No \_\_ Unsure
20. Cerebrovascular accident (CVA, or stroke) \_\_ Yes \_\_ No \_\_ Unsure
21. Hypertensive disorder of pregnancy/ Gestational hypertension \_\_ Yes \_\_ No \_\_ Unsure
22. Amniotic fluid embolism \_\_ Yes \_\_ No \_\_ Unsure
23. Anesthesia complications \_\_ Yes \_\_ No \_\_ Unsure
24. Preeclampsia \_\_ Yes \_\_ No \_\_ Unsure
25. Eclampsia \_\_ Yes \_\_ No \_\_ Unsure
26. Diabetes \_\_ Yes \_\_ No \_\_ Unsure
27. Preterm birth/ premature birth \_\_ Yes \_\_ No \_\_ Unsure
28. Low birthweight baby \_\_ Yes \_\_ No \_\_ Unsure

*[Score Yes = 1; scale ranges from 1=single medical event to 14=multiple medical events]*

## **Part VII: Medical Mistrust Scale—Short Form (MMS-SF-4)**

[This study follows Shelton et al (2010), given their 11-item version of their tool: **The Group Based Medical Mistrust Scale (GBMMS), which measures race-based medical mistrust.** The title was shortened for this study to the **Medical Mistrust Scale.** See: Shelton, R. C., Winkel, G., Davis, S. N., Roberts, N., Valdimarsdottir, H., Hall, S. J., & Thompson, H. S. (2010). Validation of the group-based medical mistrust scale among urban black men. *Journal of General Internal Medicine*, 25(6), 549-555. The 11-item tool follows elimination of one item from their original 12 item tool, given the finding of three factors. However, for this study a shorter tool was needed. Hence, of the three factors/scales, this study will include just some items: **Suspicion Scale (Factor 1, 2 of 5 original items included); Discrimination Scale (Factor 2, 2 of 3 original items included for reverse scoring); and, not used in this study were any items from the Lack of Support Scale (Factor 3).** **The result is a scale for this study with 4 questions—as a short form.** The numbering in this scale reflects the removal of items (i.e. 1, 2, 3, 6, 7, 9, 11) to shorten the scale; only original items 4, 5, 8, 10 are included. Shelton et al (2010, p. 552) reported that internal consistency “was high for the total GBMMS ( $\alpha=0.87$ ) and the three sub-scales: Suspicion ( $\alpha=0.89$ ); Discrimination ( $\alpha=0.83$ ); Lack of Support ( $\alpha=0.65$ )” (p. 552). They also “calculated split-half reliability by examining the correlation between odd and even numbered items and found two halves to be highly correlated ( $r=0.78$ ;  $p<0.0001$ )” (p. 552). NOTE: The present study will determine internal consistency for the 4-item short scale—eliminating separate consideration for Short Suspicion Scale and Short Discrimination Scale]



- 2-being **African American or Black** \_\_\_ Yes \_\_\_ No
- 3-being **overweight or obese**  
 \_\_\_ Yes \_\_\_ No \_\_\_ Not Applicable. I am not overweight or obese
- 4-my **appearance** (e.g. skin tone, hair, etc.) \_\_\_ Yes \_\_\_ No
- 5-being a **person with a disability**  
 \_\_\_ Yes \_\_\_ No \_\_\_ Not Applicable. I am not a person with a disability

*(NOTE on Scoring: question answer range = 0 to 5, 0=no discrimination to 5=highest level experience of discrimination for multiple personal characteristics)*

## **Part X: Retrospective Depression, Anxiety, Trauma and Receipt of Counseling Scale—Past Year (A) and Year Post-High-Risk Birth Hospitalization (B) (RDATS-PY-YPHRBH—8)**

[This is shorter version of a scale that follows the work of Tirhi (2019) and others (e.g. Hall, 2021)—as a common tool used by the Research Group on Disparities in Health (RGDH). Added for the first time in this study is an entire scale (B) with new questions about the period of time after their hospitalization for a birth (months 1 to 12 post-partum). Hence, scale A provides past year depression, anxiety and trauma; and, a new scale B provides depression, anxiety and trauma the year following their birth hospitalization. Results should be reported for ODD ITEMS as **Scale A—Past Year Depression, Anxiety and Trauma**; and, for EVEN ITEMS as **Scale B—The Year Post-Birth Hospitalization Depression, Anxiety and Trauma**. The counseling question addresses any **receipt of counseling** for Scale A, and receipt of counseling for Scale B. **NOTE:** Scoring is new, being implemented in the present study for the first time. A new Likert rating scale is being used for both Scale A and Scale B: 0-No \_\_\_; 1-Yes, was a very mild level \_\_\_; 2-Yes, was a moderate level \_\_\_; 3-Yes, was a severe level \_\_\_; 4-Yes, was a very severe level \_\_\_. Hence, scoring for Scale A can range from 0 (no depression, anxiety or trauma) to 12 (most severe levels of depression, anxiety or trauma). In addition, scoring can permit creation of the **Overall Mental Health Index** that combines the ratings for depression, anxiety and trauma by creating a mean score that combines them; this can be done for Scale A and Scale B.

]

**Depression** is an overwhelming feeling of intense sadness. It can include feeling helpless, hopeless, and worthless. It can sometimes be expressed through angry outbursts, as well as bursting into tears. There can also be loss of appetite, or an increase in appetite. There can also be difficulty sleeping or oversleeping. In addition, there can be a loss of interest in your activities. Such a depression can last for days or weeks. This goes beyond typical feelings of sadness, such as following some disappointment.

1-Do you think you experienced any **depression** in the past year or 12 months?

- 0-No \_\_\_  
 1-Yes, a very mild level \_\_\_  
 2-Yes, a moderate level \_\_\_  
 3-Yes, a severe level \_\_\_  
 4-Yes, a very severe level \_\_\_

2-Looking back on the **PERIOD OF TIME AFTER YOU HAD A HOSPITALIZATION FOR A BIRTH (months 1 to 12 post-partum)**, do you think you experienced any **depression**?

- 0-No \_\_\_  
 1-Yes, a very mild level \_\_\_  
 2-Yes, a moderate level \_\_\_  
 3-Yes, a severe level \_\_\_  
 4-Yes, a very severe level \_\_\_

**Anxiety** is an overwhelming and intense feeling of nervousness, fear, tension, powerlessness, and apprehension. It can reach a peak so there are moments of panic where one's heart may be pounding/beating quickly, or there is rapid breathing/difficulty breathing. A person may also experience sweating and trembling. Sometimes it can be so intense that one has trouble concentrating/thinking, leaving the house, or trouble being around other people. The fear can be very intense, and one can feel like there is some impending danger. This goes beyond typical feelings of nervousness, such as when anticipating a new situation, or something unexpected, or unknown.

3-Do you think you experienced any **anxiety** in the past year or 12 months?

- 0-No \_\_\_
- 1-Yes, a very mild level \_\_\_
- 2-Yes, a moderate level \_\_\_
- 3-Yes, a severe level \_\_\_
- 4-Yes, a very severe level \_\_\_

4-Looking back on the **PERIOD OF TIME AFTER YOU HAD A HOSPITALIZATION FOR A BIRTH (months 1 to 12 post-partum)**, do you think you experienced any **anxiety**?

- 0-No \_\_\_
- 1-Yes, a very mild level \_\_\_
- 2-Yes, a moderate level \_\_\_
- 3-Yes, a severe level \_\_\_
- 4-Yes, a very severe level \_\_\_

**Trauma** is the most shocking and horrible thing to ever happen to a person (unless prior trauma)—such as: serious accident or fire; seeing someone seriously injured or die; war; earthquake/flood; physical/sexual abuse; or, a loved one's homicide, suicide, or other tragedy. Trauma symptoms *may* include: anxiety; nightmares; feeling numb, unable to love, and detached with no interest in spending time with others; guilt about surviving if others did not; flashbacks from trauma as images that unexpectedly “pop up” in the mind; avoiding reminders of trauma; and problems concentrating.

5-Do you think you experienced any **trauma or trauma symptoms** in the past year or 12 months?

- 0-No \_\_\_
- 1-Yes, a very mild level \_\_\_
- 2-Yes, a moderate level \_\_\_
- 3-Yes, a severe level \_\_\_
- 4-Yes, a very severe level \_\_\_

6-Looking back on the **PERIOD OF TIME AFTER YOU HAD A HOSPITALIZATION FOR A BIRTH (months 1 to 12 post-partum)**, do you think you experienced any **trauma or trauma symptoms**?

- 0-No \_\_\_
- 1-Yes, a very mild level \_\_\_
- 2-Yes, a moderate level \_\_\_
- 3-Yes, a severe level \_\_\_
- 4-Yes, a very severe level \_\_\_

**Receipt of Counseling**

7-In the past year, did you seek out any kind of counseling or advice for any depression, anxiety, or trauma—such as from a mental health professional or other helper?

\_\_\_ Yes \_\_\_ No \_\_\_ Not Applicable/ No experience of depression/anxiety/trauma

8-Looking back on the **PERIOD OF TIME AFTER YOU HAD A HOSPITALIZATION FOR A BIRTH (months 1 to 12 post-partum)**, did you seek out any kind of counseling or advice for any depression, anxiety, or trauma—such as from a mental health professional or other helper?

\_\_\_ Yes \_\_\_ No \_\_\_ Not Applicable/ No experience of depression/anxiety/trauma

**Part XI: Perceived Stress Scale (PSS-4)**

[NOTE: The PSS-4 is a short version of the PSS-10 created by: Cohen, S., Kamarck, T., Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 385-396. Also see Cohen, S (1994). For the source of the shorter PSS-4 utilized or this study, please see: Macarthur Research Network on SES and Health (2008). Perceived Stress Scale – 4 Item, Retrieved from: <https://macses.ucsf.edu/research/psychosocial/pss4.php>. According to Karam et al (2012), (See: Karam, F., Bérard, A., Sheehy, O., Huneau, M. C., Briggs, G., Chambers, C., ... & Martin, B. (2012). Reliability and validity of the 4-item Perceived Stress Scale among pregnant women: Results from the OTIS antidepressants study. *Research in Nursing & Health*, 35(4), 363-375. Retrieved from: <https://onlinelibrary.wiley.com/doi/abs/10.1002/nur.21482>. In a study with pregnant women, while examining stress, depression and quality of life, they found acceptable internal consistency (Cronbach's alpha coefficient = .79), alternate forms stability reliability with the 10-item PSS (Pearson correlation coefficient  $r = .63$ ;  $p < .001$ ), concluding it was a valid and useful tool.]

{**Perceived Stress Scale Scoring:** PSS-4 scores are obtained by reverse coding the positive items, e.g., 0=4, 1=3, 2=2, etc. and then summing across all 4 items. Items 2 and 3 are the positively stated items.}

Instructions: The questions in this scale ask you about your feelings and thoughts during the last month. In each case, please indicate with a check how often you felt or thought a certain way.

**1. In the last month, how often have you felt that you were unable to control the important things in your life?**

\_\_\_ 0=never \_\_\_ 1=almost never \_\_\_ 2=sometimes \_\_\_ 3=fairly often \_\_\_ 4=very often

**2. In the last month, how often have you felt confident about your ability to handle your personal problems?**

\_\_\_ 0=never \_\_\_ 1=almost never \_\_\_ 2=sometimes \_\_\_ 3=fairly often \_\_\_ 4=very often

**3. In the last month, how often have you felt that things were going your way?**

\_\_\_ 0=never \_\_\_ 1=almost never \_\_\_ 2=sometimes \_\_\_ 3=fairly often \_\_\_ 4=very often

**4. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?**

\_\_\_0=never \_\_\_1=almost never \_\_\_2=sometimes \_\_\_3=fairly often \_\_\_4=very often

[PSS-4 scores are obtained by reverse coding the positive items, e.g., 0=4, 1=3, 2=2, etc. and then summing across all 4 items. Items 2 and 3 are the positively stated items.]

---

---

## **Part XII: Perceived Social Support—Now and During a High-Risk Birth Hospitalization—Scale (PSS-NADHRBH-S-2)**

[This is a common tool used by the Research Group on Disparities in Health (RGDH), having been used by Lian (2017). See: Lian, Z. (2017). *Predictors of depression/anxiety, mental health service utilization, and help-seeking for Chinese international students: Role of acculturation, microaggressions, social support, coping self-efficacy, stigma, and college staff's cultural competence and cultural humility*. Doctoral Dissertation, Teachers College, Columbia University. Note: For this study, to reduce the burden of time during the stress of the ongoing pandemic, a new one item version of the scale was created by combining the essence of 5 questions into one description of what having social support “means.” This shortened version follows the work of others (e.g. Hall, 2021; Williams, 2021). Participants then indicate the number of people they have in their life, using the 5-option scale. For the present study, a second question was added that permits responses on social support for the period of time when they had their birth hospitalization—i.e. for a birth in 2018 or BEFORE 2018.

Please read the description, below (for social support), and then answer the questions that follow.

**Having SOCIAL SUPPORT means having people in your life who provide the following kinds of support and assistance: you can ask them for advice or receive words of encouragement; get money or get food in an emergency; or have a place to temporarily wait for help, or stay or live in an emergency.**

**1-Please indicate the extent to which you experience SOCIAL SUPPORT in your life at this time (i.e., right now):**

1. I have no one like this in my life right now
2. I have at least 1 one person like this in my life right now
3. I have at least 2 people like this in my life right now
4. I have 3-5 people like this in my life right now
5. I have 6 or more people like this in my life right now

**2- Please indicate the extent to which you experienced SOCIAL SUPPORT—for the YEAR AFTER YOU HAD THAT HIGH-RISK HOSPITALIZATION TO GIVE BIRTH?**

1. I had no one like this in my life during my birth hospitalization
2. I had at least 1 one person like this during my birth hospitalization
3. I have at least 2 people like this in my life right now
4. I have 3-5 people like this in my life right now
5. I have 6 or more people like this in my life right now

---

---

## **Part XIII: Share About Your High-Risk Birth Hospitalization (SAYHRBH-3)**

[This follows prior research conducted by the Research Group on Disparities in Health (RGDH) where all studies tend to be mixed-methods, including a final section that provides qualitative data via open-ended questions to be analyzed for emergent themes. These questions were created by the Principal Investigator, Amina Abdelaziz, and Dr. Barbara Wallace, Director of the RGDH.]

Lastly, please answer the following open-ended questions, allowing you to freely share. **Note: One word or very brief answers are acceptable.**

1-If you feel comfortable, please *briefly* share what was happening at that moment of your birth hospitalization when you felt your life was at risk, endangered, or you could have died? Please include whether or not you think what happened to you had anything to do with your being an African American or Black woman, or some additional characteristic (e.g. skin tone, hair, etc.).

[500 WORD TEXT BOX]

2-If you think you had any experiences of racism and/or discrimination during your birth hospitalization, please briefly provide an example. (If you did not experience this, just state N/A for Not Applicable to you.)

[500 WORD TEXT BOX]

3-Finally, please share the impact of your experiences during that birth hospitalization on you (e.g. depression, anxiety, trauma, your level of trust etc..), and how you coped or dealt with what happened to you.

[500 WORD TEXT BOX]

-----END OF SURVEY-----

**THANK YOU!**

**SHARE WITH OTHERS THE LINK THAT LED YOU TO THIS STUDY!**

*Are you a Black woman who felt your life was at risk for even a moment while in the hospital to give birth between years 2012-2018? If “YES,” click on <https://tinyurl.com/BlackWomenLivesAtRisk> & Take 12-15 Min Survey for 3 in 250 chance to win a \$300, \$200, or \$100 Amazon Gift Card!*

## **COUNSELING RESOURCES**

**If you need immediate assistance, please refer to the following contact information.**

You can download this page with contact information for counseling resources, OR SKIP TO THE LINK, BELOW, FOR ENTERING YOUR EMAIL INTO THE LOTTERY DRAWING FOR A CHANCE TO RECEIVE A PRIZE (i.e., 1 of 3 bar coded Amazon gift certificates for \$100).

### **1-For Free Texting Crisis Help:**

- **You text 741741** when in crisis as a service available 24 hours a day, 7 days a week. You will reach a live trained Crisis Counselor who will respond quickly.

The Crisis Counselor helps to move you from a hot moment to a cool calm and safe state, using effective active listening and suggested referrals—all using the Crisis Text Live’s secure platform.

- If you have a phone plan with AT&T, T-Mobile, Sprint, or Verizon, texting to 741741 is free of charge.

**2-Contact a Crisis Intervention Hotline for Immediate Help and Referrals:**

[https://www.allaboutcounseling.com/crisis\\_hotlines.htm](https://www.allaboutcounseling.com/crisis_hotlines.htm)

Examples of Crisis Intervention Hotlines:

- If you are in immediate danger, call 911
- National Suicide Hotline: 800-SUICIDE (800-784-2433)
- National Suicide Prevention Lifeline: 800-273-TALK (800-273-8255)
- Grief Recovery Helpline: 800-445-4808

**3-Seek Out Top Rated, Low-Cost Online Counseling Services:**

<https://www.e-counseling.com/tlp/therapy-1/?imt=1>

- Please see a list of the top rated online counseling services—with the average weekly cost as low as \$60.

**4-Seek Out Affordable Online Counseling:**

<https://www.betterhelp.com/about/>

- Access affordable and convenient online counseling with professionals.

**5-Seek Help from the Study Sponsor by E-Mail or Phone:**

[bcw3@tc.columbia.edu](mailto:bcw3@tc.columbia.edu) or 267-269-7411 (i.e. the study contact number)

- You may contact the study sponsor, Dr. Barbara Wallace, receiving help with referrals. Dr. Wallace is a licensed psychologist with experience working with the study population.

*Are you a Black woman who felt your life was at risk for even a moment while in the hospital to give birth between years 2012-2018? If “YES,” click on <https://tinyurl.com/BlackWomenLivesAtRisk> & Take 12-15 Min Survey for 3 in 250 chance to win a \$300, \$200, or \$100 Amazon Gift Card!*