# Implicit Bias Training in Maternal Health

A Scholarly Project

Submitted to the

Faculty of Liberty University

In partial fulfillment of

The requirements for the degree

Of Doctor of Nursing Practice

By

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Scholarly Project Chair Approval:

Dr Vickie Moore BSN, MSN, FNP, DNP Date

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**Abstract**

The health care system strives to provide equitable and high-quality care to all patients. However, persistent disparities in health care outcomes based on race, ethnicity, and other social determinants of health highlight the need for targeted interventions. This evidence-based practice project explored the impact of implicit bias training on health care providers' awareness and behavior, with the goal of mitigating disparities of care. The project involved a comprehensive review of the literature on implicit bias, health care disparities, and the effectiveness of training interventions. The training program was designed to raise awareness of implicit bias among health care providers, equip them with strategies to recognize and manage bias, and foster a culture of diversity, equity, and inclusion within the health care organization. Pre- and post-training surveys were conducted to measure the program's impact on health care providers' attitudes, behaviors, and patient outcomes. The results suggest that implicit bias training had a statistically significant impact on the staff's perception of implicit bias and their intent to use the material to change the way medical care is delivered. Findings suggest that even after 30 days, staff perceive the training to be effective in recognizing implicit bias in care.

*Keywords:* implicit bias, maternal disparities, maternal care, bias training

## Dedication

I dedicate this project to my husband and children. God has blessed us beyond what we could have ever imagined. Michael, Dominic, Lorenzo, Nelson, and Chris, God has been good to us, and his faithfulness will continue. May we always strive to seek him further. May we remember his goodness all the days of our lives.

# Implicit Bias Training in Maternal Health

Maternal morbidity and mortality continue to be recognized as health care crises in the United States. The United States is one of 13 countries in which maternal mortality rates have increased in the last 15 years (Shahin et al., 2020). Even more alarming are the extreme disparities in these numbers. These disparities are often attributed to implicit bias in health care providers.

## Background

Maternal mortality is defined as any maternal death that occurs within a year of delivery and is not necessarily caused by the child's birth (Creanga et al., 2017). Maternal morbidity is defined as any unexpected outcome of labor that has any short- or long-term sequelae (Centers for Disease Control and Prevention, n.d.). Maternal morbidity grew more than 200% from 1993 to 2014 (Liese et al., 2019). Maternal morbidity indicators include sepsis, renal failure, eclampsia, and respiratory distress.

Several factors have led to this increase in maternal morbidity and mortality. However, it is essential to note that birth rates in the United States are steadily decreasing. This is important because while the rates of births have gone down, the numbers in disparities have gone up. Rates have steadily declined from 65 births per 1,000 women to 55 births per 1,000 women (Kearney et al., 2021). The US is seeing both declining birth rates and increasing rates of mothers dying or experiencing unintended harm because of birth.

While these facts are hard to understand, it is even more challenging to understand why Black mothers are dying more frequently than their counterparts of other races. A retrospective review of maternal deaths found that Black women are dying at a rate three times greater than other women (LoGiudice, 2022). Black women also see a disproportionate incidence of

morbidity when giving birth. Unfortunately, these factors also lead to higher rates of preterm birth and neonatal deaths in the Black population. While preterm birth rates have declined overall in the United States, the rate of preterm births in the Black community has increased (Thoma et al., 2019).

Several determinants help explain these disparities. The key contributors are social, environmental, health, and clinical factors (Thoma et al., 2019). Several studies have aimed to create maternal vulnerability indices. These indices measure the vulnerability of a mother based on the environment in which they live (Valerio et al., 2023). One study found Black mothers tend to live in higher-risk counties, which can directly correlate to the disparities they face. Giving birth in places with the highest vulnerability index predisposed these mothers to preterm birth (Valerio et. al., 2023).

In addition to the mothers' environments, care providers contribute to disparities in maternal morbidity and mortality. The presence of implicit and explicit bias in care providers greatly impacts the outcomes of women. Implicit and explicit bias are the perceptions that providers bring to the bedside with them. Implicit and explicit bias have the potential to influence outcomes for a birthing mother. Implicit bias is a bias that individuals are unaware of; however, it is activated unknowingly in a person's cues and how they act toward people (Afulani et al., 2021). Explicit bias involves an individual's conscious attitudes and beliefs toward a group (Alfulani et al., 2021). Implicit bias can be displayed through unconscious beliefs, body language, tone of voice, or decision-making (Siden et al., 2021). Bias has been recognized as a threat to maternal health, yet only a few states have mandated that clinicians receive implicit bias training (Siden et al., 2021). Implicit bias has been linked to maternal morbidity disparities.

The setting for this Doctor of Nursing Practice project was in urban public hospital that conducts over 4,000 births annually. The payor mix for the organization is 70% Medicaid and 30% commercial and self-pay patients. Patients of this hospital are 30% White, 40% Black non-Hispanic, and 30% White or Black Hispanic. The organization has the second lowest rate of Cesarean section births in the county and is home to the largest neonatal intensive care unit in the southern region of the United States.

**Problem Statement**

Implicit bias in maternal health can lead to differential outcomes for birthing mothers. Despite all the advances in technology and medical knowledge, the disparities discussed in this paper continue to grow in health care organizations. Pregnant women from minority groups are experiencing higher rates of morbidity and mortality even when educational and socioeconomic status are equal. Health care providers lack standardized education to assist them in acknowledging their implicit bias and creating systems to address the impact of bias on care. Furthermore, measuring improvements related to implicit bias training requires further research to assess best practice.

**Purpose of the Project**

The purpose of this evidence-based practice (EBP) project was to implement an implicit bias training course in an obstetric unit. Currently, the organization has no standard for implicit bias training. At the same time, the state has come under scrutiny for having among the highest rates of Cesarean section births and the highest rates of maternal disparities in the country. Although the organization has the second-lowest rate of Cesarean section births in the county, they are still above the national average. The organization is the largest public health care system

in the state. Therefore, the state is interested in making changes to the organization that may positively affect maternal outcomes.

This project tested the effectiveness of implicit bias training on a percentage of the staff caring for perinatal patients. The nurses and residents who deliver care in the obstetric emergency room were the participants in this project. The training was given in two sessions, and a subjective tool and an objective tool were used to assess the effectiveness of the training. A review of the literature revealed that while there is much ambiguity regarding the long-term effectiveness of training, most articles suggest that the first step in addressing this problem is for individuals to recognize their bias. The goal of this project was to help individuals in this care setting to recognize their biases in the perinatal population.

### Clinical Question

In maternal health providers, does an implicit bias training increase providers' ability to recognize their own implicit biases immediately and 30 days after the educational program?

## Section Two: Literature Review

### Search Strategy

The literature search strategy for this project focused on two distinct topics: maternal health disparities and implicit bias. For the first topic, maternal health disparities, the search utilized keywords such as *maternal health outcomes, Black maternal health, disparities and maternal health*, and *maternal morbidity and mortality in the United States*. The articles identified through this search provided foundational information on this topic and allowed a proper understanding of the problem at a national and local level.

This search produced over 50 articles for review, including systematic reviews and several case controls or cohort studies. Liberty University's online library search engine was

used for the search. Results were filtered to include only articles that were peer reviewed, had online full text, and were published within the last 5 years. After a careful review of the articles, the project leader selected for inclusion articles that focused on maternal health (specifically perinatal care), studies that evaluated the effects of bias on patient outcomes, and studies provided suggestions on how to solve the maternal health crisis. Articles that were excluded focused on women's health outside of perinatal care, articles that needed more evidence of rigor in the study, and studies whose limitations outweighed the benefit of its use.

While the research was conducted, each article was evaluated and examined for its level of evidence according to Melnyk's hierarchy (University of Michigan Library, 2023). This literature review includes many articles that were very valuable for this project. The review includes two level two studies, three level two studies, two level three studies, eight level four studies and six level six studies. The literature matrix that describes the quality of each article can be found in Appendix A.

The literature provides strong evidence that maternal health disparities exist and that Black and Brown patients are more vulnerable to maternal mortality and morbidity. In addition, the literature indicates that even in states where maternal health quality improvement projects have taken place, there is a difference in outcomes for underserved populations and their counterparts. There is literature to support that patients have vulnerability indices that put them at higher risk regardless of race; however, in those same studies, patients of Black and Brown descent see higher levels of disparities in care.

Upon evaluation of the literature, implicit bias becomes evident as a leading cause of disparities in maternal health. Therefore, the second part of the literature review focused on implicit bias. For this search, keywords were *implicit bias, unconscious bias, bias in care, bias in*

*maternal health, maternal health,* and *bias*. This body of literature gave a broad overview of this topic and provided decades of relevant literature. For this project, the chosen articles focused on maternal care or on provider implicit bias and how to evaluate this phenomenon in health care.

For the topic of implicit bias, the project leader reviewed over 30 articles, and 14 of them were selected for inclusion of the project. Liberty University's online library search engine was also used for this search. To be included in this study, articles needed to be peer-reviewed and have full online text. The articles on implicit bias were considered if they were published within the past 10 years since the body of literature on this topic is well developed, therefore required a longer time span for consideration. Therefore, many of the chosen articles did not specifically focus on maternal health. The wide array of specialties included in the articles provided strong evidence on the measurement of the effectiveness of training in any population.

**Critical Appraisal**

The project leader followed a checklist during the appraisal of the literature, which required the following questions to be answered:

- Is this article relevant to the project?
- Does the study add anything new to the project?
- Does the study address one of the two key topics being addressed in this project?
- What level of evidence is the article?
- Do the limitations of the study outweigh the benefits of using the study?

The use of these questions allowed the strongest body of knowledge to guide the project and created a literature review that included studies that gave strong recommendations for practice. While the research was conducted, each article was evaluated and examined for the level of evidence according to Melnyk's hierarchy (University of Michigan Library, 2023). This

literature review was valuable for the project. The articles included three meta-analyses, two randomized controlled studies, two quasi-experimental, four correlational design studies, and six descriptive studies. The literature matrix that describes each article is included in Appendix B.

Several retrospective reviews provided strong evidence that disparities of care exist in maternal health and validated the need for work to take place in this area of medicine (Liese et.al., 2019).The literature supports that these disparities have the greatest effect on the Black population; however, the literature strongly suggests that these disparities need to be examined at the local level. There are areas of the country where the disparities are most substantial for other races (Liese et.al., 2019). This finding makes it even more apparent that disparities are largely led by the providers taking care of patients and the thoughts and attitudes that come to the bedside with the provider.

The second part of the appraisal examined the incidence of implicit bias and how it is measured. Implicit bias is not a new phenomenon, and the literature is well established on this topic. Several articles evaluate the tools used to measure implicit bias for providers, and all endorse the implicit association test (IAT). This tool was used in many of the studies included in this project and is the longest-validated tool for this work.

However, little evidence supports the long-term effectiveness of implicit bias training. Several studies demonstrate its effectiveness in the short term; however, due to the ever-changing nature of health care, there needs to be more literature to assess how long-term training and support programs can effectively eliminate the incidence of bias in care. The literature reveals that the first step to addressing bias is to help individuals recognize the unconscious behaviors that can lead to changes in the care they deliver.

The literature leaves no doubt that the incidence of bias changes patient outcomes. Strong evidence suggests the need for training staff on this topic. However, the best method of training and the long-term effect of training need further review.

**Synthesis**

Severe maternal morbidity and mortality is an indication that action is needed. Provider implicit and explicit bias further exacerbate this issue in maternal health (Alfulani et al., 2021). The literature reveals that women experience disparities in care management, and women specific races or socioeconomic statuses are at higher risk than others (Liese et al., 2019). Providers must understand these disparities and work toward a resolution.

While the birth rates are dropping, the co-morbidities of the mothers being cared for steadily increases (Kearney et al., 2021). This leaves mothers at significant risk. If mothers are presenting with higher acuity and are faced with bias from their health care providers, the combination of the two factors can be a death sentence even for women considered healthy before giving birth.

States have tried to address the rates of disparities by placing statewide mandates in obstetric care. Several states have implemented statewide bundles of care that have positively impacted maternal morbidity and mortality (Shahin et al., 2020). Even when these projects resulted in improvements, mothers of certain races and socioeconomic statuses saw less improvement than other mothers with the same health conditions (Shahin et al., 2020). Ethically, this information requires health care leaders to look at the incidence of implicit bias and how it is affecting the health care environment.

The literature reveals that individuals are often unaware of and even surprised by the implicit biases inherent in their practice (Goedderz & Hahn, 2022). It is important to understand

that implicit bias does not exist only in regard to race and economic status. An individual could hold implicit bias toward people with specific hair types or body styles (Chevance et al., 2017). There are instances where a hair type or hair presentation results in an assumption being formed by the provider regarding the patient even with no other information (Kurdi et al., 2021). Implicit bias exists in all individuals' minds. The presence of bias should not be the area of focus, but health care leaders must understand how these biases affect the way care is delivered. Without training that allows individuals to understand their biases, health care will never reduce adverse outcomes resulting from these biases. Work on this topic should not focus on eliminating bias, but on acknowledgement of the bias and how it affects the care that is given. Awareness of bias and how it is different for everyone can influence the outcomes of care (Nyumwa et al., 2023).

### *Tools Used to Measure Implicit Bias*

The IAT has been used in o identify the presence of bias in care. The tool is not only relevant in health care settings. For example, it has been used to assess bias in students who were enrolled in an educational program (Pepis, 2022). In one study, before being given the IAT, students were asked if they were aware of any bias within them. Unanimously, the students underestimated the level of bias they held in light of what the test exposed (Pepis, 2022). Understanding that their implicit bias could affect how they teach others was necessary for these students. This study is critical because it gives an example of the depth of implicit bias and the need for health care to address it head-on. The unintended consequences of ignoring this topic can lead to lifelong effects on patients. Individuals should understand that bias is present in most settings where humans care for other humans, and speaking about it deweaponizes the topic and can bring people together to address this issue nonconfrontationally.

The IAT is a validated and effective tool used to identify the bias an individual may have (Gattol et al., 2011). This test is the longest-validated test of implicit bias. Bias toward a race or culture is identified as individuals answer questions related to a certain topic (Hannay & Payne, 2022). After the test is taken and education is provided, several studies recommend retesting after a given period (Hannay & Payne, 2022). In one study, the test was given 30 days postintervention to assess the effectiveness of this test on creating change (FitzGerald et al., 2019). While the IAT is valid and useful for identifying bias, it has little to no effect the behaviors associated with that bias. The challenge is what to do once the bias has been identified.

Rather than focusing on one intervention, the goal should be to create a framework for improvement. A framework should include education, awareness, and system changes reduce disparities (Siden et al., 2022). In the absence of system changes that help create an environment in which an individual can be vulnerable enough to admit their bias and a framework to reduce the opportunity for bias, the work will never achieve its true intended outcomes. These frameworks should include data displayed by race and ethnicity, ongoing evaluation of bias, and education that is standard for all care providers.

### *Influence of Implicit Bias on Patient Outcomes*

While the Institute of Medicine has studied and released a report on implicit bias, this topic is much more studied in other fields (Zestcott et al., 2016). The literature supports that the presence of bias can and does change how a patient is cared for (Zestcott et al., 2016). However, bias trainings are often found to be ineffective in the long term when education is the only intervention (Volpert-Esmond et al., 2020). Bias trainings provide a foundation for change in, but they need to be part of a larger intervention.

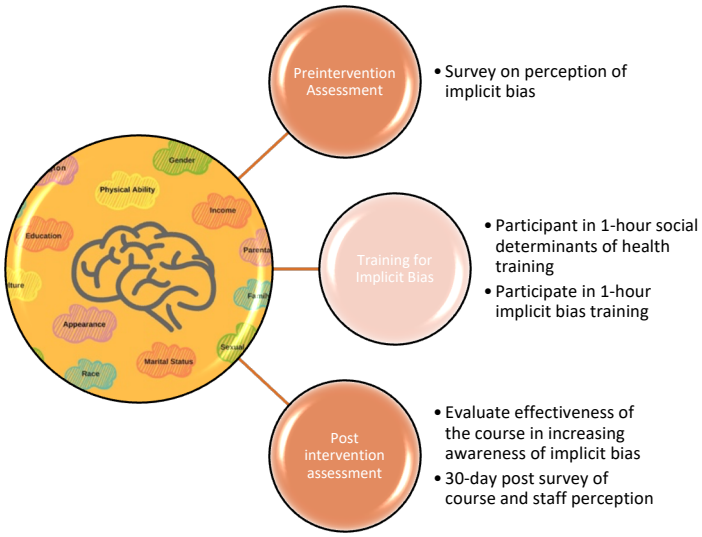
The research has found that health care providers believe African American patients are less likely to comply with their medical regimen than those of other races (Zestcott et al., 2016). When implicit bias regarding race, gender, class or sexual identity exists, outcomes will change as a result of the bias (Vuletich & Payne, 2019). The difference in how patients are treated due to biased thoughts can lead to unwanted outcomes. This project required the use of evidence from other fields of science because the research on implicit bias is more developed outside of medicine. This further strengthens the point that the field of medicine needs to expedite this work and understand how to eliminate disparate outcomes due to bias.

Perinatal women are dying more in the United States than in other countries (Thoma et al., 2019). This problem can be partially attributed to the health care providers caring for women. Therefore, health care providers need to change how they deliver care. In the absence of standardized training and tools that give providers the information they need, the problem will not be resolved. This project aimed to test the effectiveness of a training program to make providers aware of the invisible bias that enters the room with them every time they talk to a patient.

## Conceptual Framework

### Figure 1

*Conceptual Framework*




The conceptual framework for this work is anchored on three components to addressing implicit bias awareness in healthcare. For this project the preintervention will test the staff's knowledge of implicit bias, the training will highlight how implicit bias can show up in how we deliver care, and the post intervention will test the effectiveness of the training.

The Iowa model was used to guide this EBP project and to define the steps of the project. The Iowa model contains 10 components: identification of triggers; clinical application; statement of the question or purpose; topic prioritization; formation of a team; assembly, appraisal, and synthesis of the literature; sufficient evidence; design and pilot of the practice change, determination if change is appropriate; and integration and sustainment of the change (Iowa Model Collaborative, 2017).

The Iowa model is anchored on three key questions. The questions were used to initiate the work on this project and guided the work as it was conducted. The first question asks if this topic is a priority. As stated above, the priority for this topic comes from national and state calls

to action on this work. This project took place in the state's largest public health institution; therefore, the state's call to action makes this topic a priority for the organization. The second question included in the Iowa model asks if there is sufficient evidence. If there is a void in evidence, the model suggests that research be conducted. The literature matrix in Appendix B provides an overview of the literature; therefore, additional research would not be necessary unless the project added to the body of knowledge in a new way. Since evidence exists, the model suggests that users design and pilot a practice change. That was the purpose of this project. The third question of the Iowa model asks, "Is change appropriate for adoption in practice?" This change was appropriate in this practice, which provided a strong pilot group for the organization. The process of identifying key stakeholders and creating plans for sustainment was a priority in this project. The model was used to guide the project and create the pathway to successful implementation.

**Theoretical Framework**

The theoretical framework of acceptability was used for this project. This framework is constructed to assess the extent to which the people receiving an intervention consider it relevant to their work (Nyumwa et al., 2023). The framework has seven components: attitude, burden, ethicality, intervention coherence, opportunity cost, perceived effectiveness, and self-efficacy (Nyumwa et al., 2023).

This framework guides the project leader through deciding if the project is appropriate and legitimate for those undergoing the training. Attitude assesses how an individual feels about the intervention (Sandell et al., 2023). Burden seeks to understand how much effort people think the intervention will require. Ethicality seeks to understand if the individual sees this as a good fit, while intervention coherence seeks to understand how the intervention will work.

Opportunity cost measures the benefit to the individual, and perceived effectiveness relates to the degree to which the individual thinks the intervention has achieved its purpose. Finally, self-efficacy involves understanding if the individual believes they can perform what the behavior requires (Sandell et al., 2023).

When building the curriculum for this project, the project leader took the components of the theoretical framework of acceptability into consideration. The receivers of this training must connect to the work rather than push away the notion that it is irrelevant to them as clinicians (Wright et al., 2022). The training must also be culturally sensitive. Participants' involvement in the training is essential so they do not feel like they are being talked to rather than engaged in the topic. These factors were built into this EBP project.

**Summary**

The literature provides evidence that maternal morbidity and mortality are increasing steadily in the United States. It is hard to separate the rise in the rates from the incidence of bias and due to the direct cause-and-effect relationship between the two variables. For women who are exposed to more negative social health determinants, the disparities are even more striking.

The presence of implicit bias has been studied inside and outside of the health care setting. The articles used to build this project show how implicit bias can change the outcomes in classrooms, clinic rooms, and hospital rooms. Whether individuals want to admit it or not, implicit bias plays a crucial role in how providers approach the bedside.

While the literature suggests that the recognition of implicit bias is the first step to addressing this problem, there is a gap in the literature in the assessment of the long-term effectiveness of this work. More than education is needed in most settings for changes to be sustained. Organizations need to understand the cultural barriers that get in the way of

overcoming this phenomenon in health care. While this project is one step in addressing the effects of implicit bias in maternal health, it is only the beginning of this journey. Continued work and attention are required.

## Section Three: Methodology

Understanding the implications of implicit bias is essential to the development of this work; however, it is equally important to understand people's willingness to accept the truths within themselves. These truths have gone unchecked and unrecognized. When planning this scholarly project, it was important to start with introducing the *why*. Why is it so important to recognize these blind spots? Why should providers care? Why would anyone want to admit they have a bias toward one class of patients or another? When a project starts with the why, people are often more willing to become early adopters of the work, and the work of change becomes a little easier (Sinek, 2020).

### Design

This project was a nonexperimental EBP project. The Iowa model of EBP was used to guide the project and ensure the proper triggers caused the change desired. The project was implemented via Zoom online training and used a survey tool to assess the effectiveness of the training and the ability of the participants to use the information to create change in practice.

In the design phase of the project, the project group assessed the organizational readiness for this project. This phase included an organizational assessment of any implicit bias training that was taking place, as well as identification of the staff population that would be involved in the pilot portion of this project. The organizational readiness assessment was completed and reported as part of this project. The organizational education was planned with the hospital's

organizational development team. Finally, during the design phase, the targeted population for implementation with a test of change was identified.

**Measurable Outcomes**

1. After the educational program, the participants will demonstrate an improvement in their knowledge, awareness, personal beliefs, and perception of implicit bias, as evidenced by a comparison of the data collected from the preeducation and posteducation surveys.

2. After the 30-day implementation period, the participants will demonstrate an increase in their knowledge, awareness, personal beliefs, and perception of implicit bias, as evidenced by a comparison of the data collected from the preeducation survey and the 30-day postimplementation survey.

**Setting**

This EBP project took place in an urban public hospital that treats over 10,000 perinatal patients every year. The women's health emergency room sees 6,000 patients annually that are triaged and discharged without giving birth. The organization has approximately 4,000 births a year and is part of a health system with over 10,000 births a year. The hospital is the safety net hospital for the county; therefore, it sees a disproportionate number of patients who are at risk based on social determinants of health. Of the patients seen at the safety net hospital, 70% are uninsured or underinsured. The hospital is one of the highest disproportionate shares of low socioeconomic status in the state. The patient population is 30% White, 40% Black non-Hispanic, and 30% Hispanic. This setting allows for great diversity in EBP projects and social impact. An organizational letter of support was provided and is available in Appendix E.

**Population**

The population for this EBP project was providers in the women's health emergency room. This population was selected due to the current state of emergency in obstetric health and the maternal health crisis. Since this hospital is responsible for caring for the uninsured and underinsured, the staff on this unit must be prepared to identify and address implicit bias to avoid disparate outcomes due to race, gender, or ethnicity.

The staff who attended the educational sessions all worked in the women's health division. To be included in the study, nurses must have worked on the unit for more than 6 months, and have completed the competencies to work on this unit. The average number of years of experience on the unit currently is 5.5.

Staff were sent an invitation to attend the training and were paid 2 hours of work time for attending. This payment was necessary because of the union employment contracts. The nurses confirmed their intention to attend to allow for the planning of the breakout groups in the training. Once the training was complete, the population demographics were reported to include age, years of experience, level of education, and years of working for the public health system.

**Ethical Considerations**

The Doctor of Nursing Practice project leader completed the Collaborative Institutional Training Initiative module (see Appendix A). This project is an EBP project, and therefore was not submitted to the organizational institutional review board for approval; however, it was submitted to and approved by the Liberty University institutional review board (see Appendix I). No patient information was included in this study.

The training was voluntary because in the state of Florida, staff are not allowed to be mandated to attend diversity training. Implicit bias training is considered diversity training.

Therefore, to comply with state laws, the participants were invited to voluntarily attend the training. The data reported contain minimal identifying information. The only identifiers were the unit, years of experience, and level of education. No names were required for the training, and the results were only evaluated at the end of both sessions and combined for the reporting of the data. This further protected the participants in the study.

**Tools**

The training was performed both virtually and in person. Zoom was used for the virtual sessions, and classrooms were used for the in-person sessions. The staff were allowed to attend any of these sessions to accommodate their schedules.

The evaluation was administered via SurveyMonkey. The survey assessed awareness, knowledge, attitudes, beliefs, perception of bias, and intent to use the training in future practice. The information was downloaded to Excel, and the data were analyzed from Excel. The data used for evaluation of the effectiveness of the education are reported in tables.

The literature suggests several tools for measuring implicit bias. The literature supports the use of the IAT tool to identify biases, however, the literature does not lean toward any specific tool for the evaluation of a training program. The literature indicates that these programs need to continue to be developed as the body of science grows on the most effective way to study long-term impacts of training (Chevance et al., 2017). The most well-studied tool for this purpose is the IAT. This tool evaluates the presence of implicit bias and is the most validated tool in the body of literature for the identification of implicit bias (Chevance et al., 2017). The literature has also established that all health care providers have some form of implicit bias (Goedderz & Hahn, 2022).

While the IAT is effective in identifying implicit bias, it does not measure the effectiveness of an intervention, and therefore this tool was used only to measure the presence of implicit bias in the providers. Initiating implicit bias training and helping individuals recognize the bias they bring to the bedside is just as important (Siden et al., 2022). It is important to assess the knowledge, awareness, personal beliefs, and intent to apply the training when evaluating the training outcomes (Siden et al., 2022). It is with this information in mind that the education was built and the survey tool to assess the effectiveness of the training was designed. Bias training must be multipurposed and create a framework for behavior change that lasts beyond the education period. While there is ambiguity on which tool other than the IAT is best to use, the literature supports a multipronged approach to evaluating the effectiveness of training (Qian et al., 2017). The literature supports using a tool that is most useful to the organization and encourages subjective and objective data collection (Javier et al., 2022).

**Data Analysis**

Data were gathered through an online survey tool. The survey was distributed before the education began and immediately after the education. The survey was administered again 30 days after the education to evaluate the sustainability of the intervention. It was also important to understand the subjective components of the training. This information was intended to gather how the training made the team feel. Were they able to engage in the content. There is very little evidence on the long-term effectiveness of this kind of training; however, if individuals can connect with the content, change management models indicate that they are more likely to use the content in the long term (Grossman & Valiga, 2021). The data were statistically analyzed and are reported with statistical significance now that the project is completed.

Data were collected via the survey questions. Participants responded to each question using a Likert scale. The analysis compared the presurvey data and the postsurvey data.

The survey contained four sections. Each category had three questions except for the perception of personal bias. Awareness, knowledge, attitudes, and perceived training impact were the areas of focus. The four sections were given equal weight in the evaluation while the personal bias section was weighed separately. The purpose was to evaluate if the education was more effective in one area over another, and if this information can be used for future planning for the organization. This was the first training of its kind in the organization and the results will be used for future growth. A regression analysis was used to measure the correlations between the variables in the training. A statistician was engaged for the full review and consulted on all results.

**Survey Questions**

***Awareness***

- How valuable do you consider the training in terms of addressing implicit bias?
- Do you believe the training will have a positive impact on patient care and outcomes?
- Would you recommend this training to your colleagues?

***Knowledge***

- How would you rate your understanding of implicit bias before the training?
- To what extent do you feel the training increased your knowledge of implicit bias?
- How well do you understand the impact of implicit bias on decision-making and behaviors?

### *Attitudes and Beliefs*

- Did the training change your attitudes and beliefs about the prevalence and impact of implicit bias in health care settings?
- To what extent do you agree that addressing implicit bias is important for promoting equitable care?
- Do you believe that recognizing and addressing your own implicit biases can positively influence patient outcomes?

### *Perceived Training Impact*

- How valuable do you consider the training in terms of addressing implicit bias?
- Do you believe the training will have a positive impact on patient care and outcomes?
- Would you recommend this training to your colleagues?

## Intervention

The class consisted of 1 hour of social determinants of health training and another hour of implicit bias training. The reason was that unless staff understand the correlation between social determinants of health and patient presentation, their ability to understand their implicit bias would be minimized. It was important to present both pieces of training.

The classes were facilitated by two leaders who had assigned sections to teach. There was a script for each section to ensure consistency. The staff were required to be on camera and present for the breakout sessions to engage in the content. The course consisted of several breakout sessions where staff were allowed to discuss the content they learned and how it might be applicable in their care. Each class was open to 30 participants. The goal was to keep the classes small enough for the teams to engage meaningfully, yet large enough for the participants to engage in diverse conversation.

**Outcomes**

1. After the educational program, the participants will demonstrate an improvement in their knowledge, awareness, personal beliefs, and perception of implicit bias, as evidenced by a comparison of the data collected from the preeducation and posteducation surveys.

2. After the 30-day implementation period, the participants will demonstrate an increase in their knowledge, awareness, personal beliefs, and perception of implicit bias, as evidenced by a comparison of the data collected from the preeducation survey and the 30-day postimplementation survey.

**Timeline**

**Table 1**

*Project Timeline*

| Milestone | Deliverable | Description | Completion date |
|---|---|---|---|
| CITI training | CITI training certificate | Complete all CITI training modules | 6/29/2023 |
| Project proposal | Final paper | Complete all the section writing for the project proposal. Submit for approval and receive final approval. | 7/5/2023 |
| Project educational module | PowerPoint presentation | PowerPoint presentation will be used for the educational session. | 7/5/2023 |
| First defense | Defense scheduled | Prepare PowerPoint for defense. | 7/14/2023 |
| Educational sessions | Intervention sessions | Host implicit bias sessions. | 7/30/2023–8/15/2023 |
| Phase 1 data | Collect and analyze Phase 1 data | Collect all the data from the pre- and postsurveys. Prepare statistical analysis. | 8/15/2023–8/30/2023 |
| Phase 2 survey | Collect and analyze Phase 2 data | Send out survey for the 30-day check back | 9/15/2023–9/25/2023 |
| Phase 2 survey | Collect and analyze Phase 1 data | Collect all the data from the 30-day surveys and prepare statistical analysis. | 9/30/2023 |

| | | | |
|---|---|---|---|
| Final project preparation | Finalize document | Complete all sections of project paper. | 10/15/2023 |
| Final defense | Defense | Complete PowerPoint and schedule defense. | 10/15/2023–10/30/2023 |

## Section Four: Results

The intervention was conducted over a period of 3 weeks. There were 79 people who attended the course. The course was originally open to 30 participants; however, perinatal staff requested to attend and were given the opportunity to do so. The participants were limited to staff who worked more than 80% of their time in the labor and delivery unit. The course was open to physicians, advanced practice providers, and nurses. All attendance was voluntary. The results reflect the analysis of the presurvey data compared to the data from the immediate postintervention survey and the 30-day follow-up survey.

### Demographics

This section reviews the distribution of the years of experience in health care, and level of education for the three surveys. The results are displayed in the tables below.

**Table 2**

*Years of Experience in Roles*

| Experience (years) | Frequency | % |
|---|---|---|
| Preintervention | | |
| 0–5 | 40 | 50.6 |
| 6–10 | 18 | 22.8 |
| 11–15 | 4 | 5.1 |
| 15–20 | 8 | 10.1 |
| Over 20 | 9 | 11.4 |
| Immediate postintervention | | |
| 0–5 | 34 | 43.0 |
| 6–10 | 14 | 17.7 |
| 11–15 | 4 | 5.1 |
| 15–20 | 7 | 8.9 |
| Over 20 | 7 | 8.9 |

| | | |
|---|---|---|
| Missing | 13 | 16.5 |
| 30-day follow-up | | |
| 0–5 | 34 | 43.0 |
| 6–10 | 14 | 17.7 |
| 11–15 | 4 | 5.1 |
| 15–20 | 7 | 8.9 |
| Over 20 | 7 | 8.9 |
| Missing | 13 | 16.5 |
| Total | 79 | 100.0 |

Table 2 shows the distribution of the years of experience in roles among the participants who took the preintervention, immediate intervention, and post-30-day follow-up survey. As shown in the table, there are patterns in the length experience in the three groups. The table also shows that the immediate intervention survey and the follow-up survey had the same distribution.

**Table 3**

*Years of Experience in Health Care*

| Experience (years) | Frequency | % |
|---|---|---|
| Preintervention | | |
| 0–5 | 22 | 27.8 |
| 6–10 | 24 | 30.4 |
| 11–15 | 9 | 11.4 |
| 15–20 | 10 | 12.7 |
| Over 20 | 14 | 17.7 |
| Immediate postintervention | | |
| 0–5 | 15 | 19.0 |
| 6–10 | 21 | 26.6 |
| 11–15 | 9 | 11.4 |
| 15–20 | 10 | 12.7 |
| Over 20 | 11 | 13.9 |
| Missing | 13 | 16.5 |
| 30-day follow-up | | |
| 0–5 | 15 | 19.0 |
| 6–10 | 21 | 26.6 |
| 11–15 | 9 | 11.4 |
| 15–20 | 10 | 12.7 |
| Over 20 | 11 | 13.9 |
| Missing | 13 | 16.5 |

| | | |
|---|---|---|
| Total | 79 | 100.0 |

Table 3 shows the distribution of the years of experience in health care for the participants in three surveys. The postintervention survey and the follow-up survey had 13 missing values.

**Table 4**
*Education*

| Education | Frequency | % |
|---|---|---|
| Preintervention | | |
| High school | 1 | 1.3 |
| Bachelor's | 40 | 50.6 |
| Associates | 21 | 26.6 |
| Master's | 12 | 15.2 |
| Doctoral | 5 | 6.3 |
| Immediate postintervention | | |
| High school | 1 | 1.3 |
| Bachelor's | 39 | 49.4 |
| Associates | 20 | 25.3 |
| Master's | 5 | 6.3 |
| Doctoral | 1 | 1.3 |
| Missing | 13 | 16.5 |
| 30-day follow-up | | |
| High school | 1 | 1.3 |
| Bachelor's | 39 | 49.4 |
| Associates | 20 | 25.3 |
| Master's | 5 | 6.3 |
| Doctoral | 1 | 1.3 |
| Missing | 13 | 16.5 |
| Total | 79 | 100.0 |

Table 4 shows the distribution of the level of education for the participants in the three surveys. Next, the comparison of the variables took place.

**Change Over Time in Awareness and Understanding**

This section provides the results of the analysis of variance (ANOVA), which compared the variances among the means in awareness and understanding for the three surveys. The question is: Are there significant differences in health care professionals' understanding and

awareness of the impact of implicit bias on decision-making and behaviors among the preintervention, immediate postintervention, and follow-up surveys?

**Table 5**

*Descriptive Statistics Pre, Post, and 30 day Follow Up*

| | *N* | *M* | *SD* | *SE* |
|---|---|---|---|---|
| Awareness | | | | |
| Preintervention | 79 | 3.4873 | .87697 | .09867 |
| Immediate postintervention | 66 | 4.2803 | .68009 | .08371 |
| 30-day post follow-up | 66 | 4.2803 | .68009 | .08371 |
| Total | 211 | 3.9834 | .84851 | .05841 |
| Understanding | | | | |
| Preintervention | 79 | 3.5443 | .83662 | .09413 |
| Immediate postintervention | 66 | 4.3106 | .62490 | .07692 |
| 30-day post follow-up | 66 | 4.3106 | .62490 | .07692 |
| Total | 211 | 4.0237 | .79994 | .05507 |

The results in Table 5 show the descriptive statistics related to awareness and understanding among the participants for the three surveys. The follow-up survey participants had higher awareness and understanding than the preintervention survey. An ANOVA was conducted to test the significance of these results.

**Table 6**

*ANOVA Significance of Pre and post intervention group*

| | *SS* | *df* | *MS* | *F* | Sig. |
|---|---|---|---|---|---|
| Awareness | | | | | |
| Between groups | 31.076 | 2 | 15.538 | 26.906 | .000 |
| Within groups | 120.116 | 208 | 0.577 | | |
| Total | 151.192 | 210 | | | |
| Understanding | | | | | |
| Between groups | 29.021 | 2 | 14.511 | 28.647 | .000 |
| Within groups | 105.360 | 208 | 0.507 | | |
| Total | 134.382 | 210 | | | |

According to the ANOVA results above, the follow-up survey group had statistically significantly higher awareness than the preintervention survey group, $p < .001$. Also, the follow-up survey group had statistically significantly greater understanding than the preintervention survey group, $p < .001$.

**Persistence of Beliefs and Attitudes**

This section provides the result of an independent *t* test conducted to test the differences in means between the beliefs and attitudes in preintervention and postintervention survey groups. The main question is: To what extent do health care professionals still believe they possess implicit biases in the post-30 days (follow-up) survey compared to the preintervention survey?

**Table 7**

*Persistence of Beliefs and Attitudes*

| Survey | *N* | *M* | *SD* | *SEM* |
|---|---|---|---|---|
| Preintervention | 79 | 3.2342 | .58609 | .06594 |
| Follow-up | 66 | 4.3106 | .47039 | .05790 |

The results in Table 7 show that the follow-up survey group had higher beliefs and attitudes than the preintervention survey group. The significance of these results is shown in Table 8.

**Table 8**

*Significance of Beliefs and Attitudes*

| | Levene's test for equality of variances | | *t* test for equality of means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 95% CI | |
| Equal variances assumed? | *F* | Sig. | *t* | *df* | Sig. (2-tailed) | Mean difference | *SE* difference | *LL* | *UL* |
| Yes | 1.916 | .168 | -12.029 | 143 | .000 | -1.07643 | .08948 | -1.2533 | -.8996 |
| No | | | -12.267 | 142.788 | .000 | -1.07643 | .08775 | -1.2499 | -.90297 |

Table 8 shows that there are significant differences in beliefs and attitudes in the follow-up and the preintervention survey groups. Hence, there are statistically significant differences in beliefs and attitudes between the follow-up and the preintervention survey groups, $t(143) = -12.029$, $p < .001$.

**Application of Training Knowledge**

This section provides the results of the descriptive analysis of the 30-day follow-up survey results, which was conducted to answer the following questions.

1. What is the extent to which health care professionals report incorporating strategies discussed in the training to mitigate the impact of implicit bias in the follow-up survey?
2. Do health care professionals indicate they feel more equipped to integrate implicit bias recognition and reduction techniques into their professional practice in the follow-up survey?

**Table 9**

*Descriptive Statistics – Follow-Up Survey*

| Question | *N* | *M* | *SD* | *SEM* |
|---|---|---|---|---|
| How motivated are you to apply the knowledge and skills learned in the training to address implicit bias in your daily interactions? | 63 | 4.44 | .778 | .098 |
| How likely are you to incorporate strategies discussed in the training to mitigate the impact of implicit bias? | 63 | 4.68 | .469 | .059 |
| Do you feel equipped to integrate implicit bias recognition and reduction techniques into your professional practice? | 63 | 4.43 | .640 | .081 |

**Figure 2**

*Motivation to Apply Knowledge*

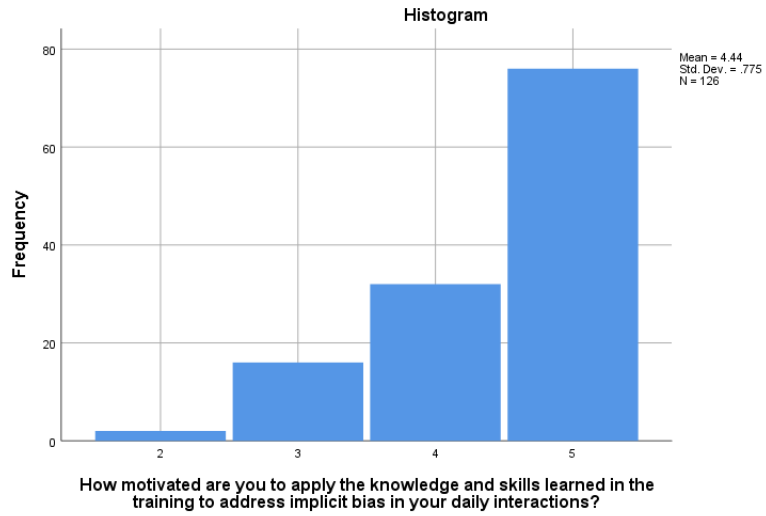
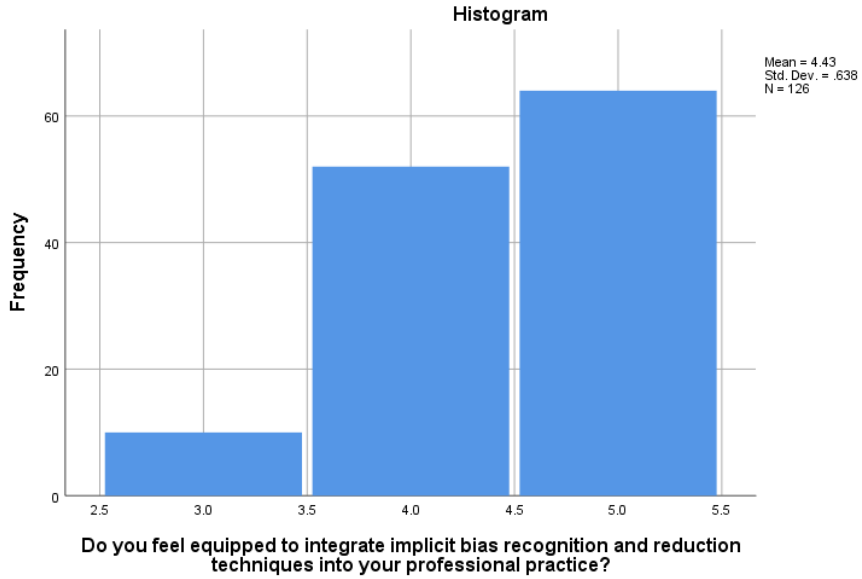



**Figure 3**

*Likeliness to Incorporate Strategies*

**Figure 4**

*Equipped to Recognize Bias*




According to the results of the analysis, participants had a very high motivation to apply the knowledge and skills learned in the training to address implicit bias in daily interactions. Also, many of the follow-up survey participants incorporated strategies discussed in the training to mitigate the impact of implicit bias. Finally, the participants were highly equipped to integrate implicit bias recognition and reduction techniques into their professional practice. Figures 2, 3, and 4 show that equipment, motivation, and incorporation of strategies increased after the training.

**Evaluation of Training Impact**

This section provides the results of the regression analysis conducted to test the impact of awareness, understanding, knowledge, beliefs, training knowledge, and attitudes on patient care, outcomes, and colleagues. The dependent variable is the training impact, while the independent variables are awareness, understanding, training knowledge, beliefs, and attitudes. The regression model explained 58.6% of the variation in the dependent variable. Table 10 shows the

results of the ANOVA, which revealed the independent variables had a statistically significant effect on the training impact, $p < .001$.

**Table 10**

*Significance of independent variables*

| Model | *SS* | *df* | *MS* | *F* | Sig. |
|---|---|---|---|---|---|
| Regression | 14.223 | 5 | 2.845 | 33.935 | .000[a] |
| Residual | 10.059 | 120 | 0.084 | | |
| Total | 24.282 | 125 | | | |

The regression equation obtained from Table 11 is: $y = 1.542 + 0.014$ (awareness) – 0.064 (understanding) + 0.123 (addressing) + 0.166 (beliefs and attitudes) + 0.433 (training knowledge). The regression equation shows that awareness ($p = .839$), addressing ($p = .151$), beliefs and attitudes ($p = .100$), and training knowledge ($p < .001$) positively impacted the patients and outcomes. However, understanding ($p = 0.383$) negatively affected the patients and outcomes. However, the effect was not statistically significant.

**Table 1**

*Coefficient*

| | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|
| Model | *b* | *SE* | Beta | *t* | Sig. |
| (Constant) | 1.542 | .271 | | 5.692 | .000 |
| Awareness | 0.014 | .067 | .021 | 0.204 | .839 |
| Understanding | -0.064 | .073 | -.089 | -0.876 | .383 |
| Addressing | 0.123 | .085 | .133 | 1.447 | .151 |
| Beliefs and attitudes | 0.166 | .100 | .174 | 1.656 | .100 |
| Training knowledge | 0.433 | .073 | .556 | 5.974 | .000 |

[a]Dependent variable: training impact

These results indicate a positive effect of the education overall. The project also aimed to evaluate if there was any regression of knowledge, skills, and beliefs from the immediate

postintervention survey to the 30-day follow-up survey. The following results show the change in results from the immediate postintervention survey to the 30-day follow-up survey.

**Comparative Analysis Between Immediate and Post Survey Results**

This section provides the results of an independent *t* test conducted to compare the variances among the means in awareness and understanding for the three surveys. The question is: Are there significant differences in health care professionals' understanding and awareness of the impact of implicit bias on decision-making and behaviors between the immediate postintervention and follow-up surveys?

**Table 12**

*Group Statistics*

| Survey | *N* | *M* | *SD* | *SEM* |
|---|---|---|---|---|
| Awareness | | | | |
| Immediate postintervention | 66 | 4.2803 | .68009 | .08371 |
| 30-day follow-up | 66 | 4.2803 | .68009 | .08371 |
| Understanding | | | | |
| Immediate postintervention | 66 | 4.3106 | .62490 | .07692 |
| 30-day follow-up | 66 | 4.3106 | .62490 | .07692 |

The results in Table 12 show the descriptive statistics related to awareness and understanding among the participants for the immediate postintervention and follow-up surveys. The follow-up survey participants had the same awareness and understanding as the 30-day follow-up survey group. Table 13 shows the results of the *t* test conducted to evaluate the significance of these results.

**Table 13**

*Independent* t *Test*

| | Levene's test for equality of variances | | *t* test for equality of means | | | | |
|---|---|---|---|---|---|---|---|
| | *F* | Sig. | *t* | *df* | Sig. (2-tailed) | *M* Difference | *SE* Difference |
| Awareness | | | | | | | |
| Equal variances assumed | .000 | 1.000 | .000 | 130 | 1.000 | .00000 | .11839 |
| Equal variances not assumed | | | .000 | 130 | 1.000 | .00000 | .11839 |
| Understanding | | | | | | | |
| Equal variances assumed | .000 | 1.000 | .000 | 130 | 1.000 | .00000 | .10878 |
| Equal variances not assumed | | | .000 | 130 | 1.000 | .00000 | .10878 |

The results reveal that the follow-up survey group had no statistically significantly different awareness than the immediate intervention survey group, $t(130)= 0$, $p = 1.000$. Also, the follow-up survey group had no statistically significantly different understanding than the pre-intervention survey group; $t(130) = 0$, $p = 1.000$.

**Persistence of Beliefs and Attitudes**

This section provides the results of an independent *t* conducted to test the differences in means of the beliefs and attitudes in immediate intervention and 30-day post-intervention survey groups. The main question is: To what extent do health care professionals still believe they possess implicit biases on the 30-day follow-up survey compared to the immediate intervention survey? The results show that the follow-up survey group had the same beliefs and attitudes as the immediate intervention survey group (see Table 14). The significance of these results was also tested (see Table 15).

**Table 2**

*Group Statistics – Beliefs and Attitudes*

| Survey | *N* | *M* | *SD* | *SEM* |
|---|---|---|---|---|
| Immediate intervention | 66 | 4.3106 | .47039 | .05790 |
| 30-day follow-up | 66 | 4.3106 | .47039 | .05790 |

**Table 15**

*Independent Samples Test – Beliefs and Attitudes*

| | Levene's test for equality of variances | | *t* test for equality of means | | | | |
|---|---|---|---|---|---|---|---|
| | *F* | Sig. | *t* | *df* | Sig. (2-tailed) | *M* difference | *SE* difference |
| Equal variances assumed | .000 | 1.000 | .000 | 130 | 1.000 | .00000 | .08189 |
| Equal variances not assumed | | | .000 | 130 | 1.000 | .00000 | .08189 |

Table 5 shows that there are significant differences in beliefs and attitudes of the follow-up and the preintervention survey groups. Hence, there is no statistically significant differences in beliefs and attitudes of the 30-day follow-up and the immediate intervention survey groups, $t(130)= 0.0, p = 1.000$.

**Application of Training Knowledge**

This section provides the descriptive analysis of the results of the 30-day follow-up survey to answer the following questions (see Table 16).

1. What is the extent to which health care professionals report incorporating strategies discussed in the training to mitigate the impact of implicit bias in the immediate and the follow-up survey?
2. Do health care professionals feel more equipped to integrate implicit bias recognition and reduction techniques into their professional practice in the immediate and follow-up survey?

**Table 16**

*Descriptive Statistics 30 Day Follow Up Survey*

| Question | Min. | Max. | Mean | *SD* |
|---|---|---|---|---|
| Immediate posteducation survey | | | | |
| How motivated are you to apply the knowledge and skills learned in the training to address implicit bias in your daily interactions? | 2 | 5 | 4.44 | .778 |
| How likely are you to incorporate strategies discussed in the training to mitigate the impact of implicit bias? | 4 | 5 | 4.68 | .469 |
| Do you feel equipped to integrate implicit bias recognition and reduction techniques into your professional practice? | 3 | 5 | 4.43 | .640 |
| 30-day follow-up survey | | | | |
| How motivated are you to apply the knowledge and skills learned in the training to address implicit bias in your daily interactions? | 2 | 5 | 4.44 | .778 |
| How likely are you to incorporate strategies discussed in the training to mitigate the impact of implicit bias? | 4 | 5 | 4.68 | .469 |
| Do you feel equipped to integrate implicit bias recognition and reduction techniques into your professional practice? | 3 | 5 | 4.43 | .640 |

According to the results displayed in Table 16, participants indicated a similar motivation to apply the knowledge and skills learned in the training to address implicit bias in daily interactions on the immediate postintervention and 30-day follow-up surveys. Also, there was a no difference in the likelihood participants would incorporate strategies discussed in the training to mitigate the impact of implicit bias between the immediate post education and the follow-up survey. Finally, the participants from both surveys felt highly equipped to integrate implicit bias recognition and reduction techniques into their professional practice. This analysis gives confidence that the intervention continued to be effective 30 days after the intervention.

## Section Five: Discussion

Bias can be unconscious and can result in unwarranted attitudes and behaviors toward patients. The first step in trying to address this problem in any organization is the recognition of

the bias and the creation of a shared mental model to eliminate implicit bias at the bedside. This requires courageous conversations at all levels of leadership. The goal of this project was to create an awareness of implicit bias and begin the conversations about how to combat this silent killer.

During the education sessions, the conversations were richer than the curriculum had been created for. The staff were engaged and courageous in sharing their personal experiences with bias and how bias could have played a role in the care they delivered. Staff shared stories of how they have seen bias play a role in the care their loved ones have received. They even shared common biases that were present in the care environment. These vulnerable conversations were the beginning of something great within the organization.

One of the challenges of the training was the interdisciplinary collaboration. The physician groups had competing priorities, and the time that worked for the nurses did not work for the physicians. The physician group made a commitment to attend future sessions and plan to use some of their grand round sessions to complete this training.

**Implication for Practice**

The first training session was conducted using the Zoom platform, and it was quickly realized that these conversations would be better held via in-person sessions. After the first session, all other sessions were conducted in person with a small group. The goal was to keep each group to less than 15 people to give time for open communication. The use of interactive materials ensured that the staff remained engaged in the education. Mentimeter was used as a real-time data collection tool during the classes. Mentimeter showed an overall engagement rate of 73%. This percentage is calculated by dividing the total click rate by the total opportunity for clicks. While the trainings were planned for 2 hours, on average they required 1 hour and 40

minutes. They were best conducted on the unit so that staff could attend before or after their shift.

The results showed that there was a statistically significant improvement in the staff's motivation to use the material in practice. This significance remained strong even after 30 days. This informs leaders on how to initiate such trainings on other units. The results also show that staff were more aware of their bias after the training. As mentioned earlier in this paper, implicit bias has been linked to disparities in patient outcomes. Since most bias is unconscious, the recognition of bias by health care providers is important to reduce disparities in care. The implications of this work go beyond the staff who attended the training, as this work can reduce disparities in the patient population served.

Reducing bias in care can reduce the disparities in maternal outcomes. Preconceived notions about how care should be delivered can lead to outcomes that are not favorable for all populations. One key goal of the training was to create an understanding of affinity bias. This is the understanding that human beings tend to treat others that look and feel like them differently than they treat others. This information was used to engage staff in the understanding that health care providers need to have a heighted awareness of potential bias toward patients that look or sound different than the provider.

**Sustainability**

Implicit bias can be unconscious. This unconscious state can result in unwarranted attitudes and behaviors toward patients. If sustained, this work will result in a change in the organizational culture. Ensuring sustainability is essential for such an important topic. The staff well received this work; however, without a sustainability plan, the work will not have a long-

term effect on the care environment. A sustainability model must consider the culture, staff engagement, and ongoing support.

Consideration of the culture will ensure that the culture does not dismantle a sustainability plan. This work cannot be a one-time initiative. The team has decided to embed this training into the department orientation to ensure that the concepts become part of the department's culture. After reviewing the orientation content, the team has identified a portion of the orientation day where this content can be included. This will ensure that everyone in the unit understands implicit bias and how it can affect patient care.

Staff engagement will continue to be important in this work. To that end, staff members have been invited to be part of the training team. The team intends to create a super user model, which will ensure that there is a core of staff who are experts in this content. These experts will be front-line staff members who will help ensure that content stays relevant to the care environment.

Finally, implicit bias will be added as a topic to regular meetings and agendas. The implicit bias training session will also be added to the physician ground rounds sessions to ensure physician alignment. These items will keep the training relevant.

Health care organizations are resource conscious. Therefore, work like this requires support to continue. To ensure that this work receives ongoing support, structures are being created to ensure that it becomes part of the organization's fabric. Leaders in the organization have committed to this initiative, and nursing leaders are committed to leading the work. Staff have been allocated the time to attend the classes, and the organization will support the technology for the interactive portion of the class.

## Dissemination

The plan for this initiative is to expand beyond the delivery unit to the entire women's health division. The next group to be trained will be the antepartum nurses. The team's goal is to train 80% of the antepartum unit in January and February of 2024. Next, the postpartum group will be trained. The team's goal is to train 80% of the postpartum unit in April and May of 2024. Everyone attending the class will be engaged in a 90-day postsurvey assessment.

The final goal is to ensure that every provider in the entire women's hospital participates in the training and a yearly refresher on the content. To ensure that happens patient outcomes will be tracked, and the teams will assess the effectiveness of the education based on the patient outcomes. The rate of cesarean delivery will be tracked using internal tracking dashboards. The rate of postpartum hemorrhage will be tracked using data extracted from the electronic medical record. Finally, the rates of breastfeeding rates will be tracked using the data gathered at discharge regarding mother's feeding status. These metrics are essential in reducing maternal morbidity rates in organizations, and assessing the long term effectiveness of the intervention.

This work will also be submitted for publication or presentation. The scholarly project will be submitted to Liberty University's Scholars Crossing, the institutional repository for all theses and dissertations.

## Conclusion

In conclusion, this EBP project has explored the critical issue of implicit bias within the health care system and the potential for implicit bias training to improve patient outcomes. Implicit bias, often unrecognized or unintentional, has been shown to influence health care providers' decision-making processes, leading to disparities in care and patient outcomes.

Through an extensive review of existing literature, it is evident that implicit bias training programs hold significant potential for mitigating the impact of bias in health care. Trainings are designed to raise awareness of implicit biases, provide strategies for health care professionals to recognize and manage their biases, and foster a more inclusive and equitable health care environment.

The research conducted as part of this EBP project gave valuable insights into the effectiveness of implicit bias training within a health care context. The findings suggest that such trainings can lead to improved awareness among health care providers, enhanced cultural competence, and potentially more equitable patient care. However, it is crucial to acknowledge that addressing implicit bias is a complex and multifaceted challenge that cannot be fully accomplished through training alone. It requires ongoing efforts, institutional commitment, and a comprehensive approach that extends beyond the training room.

While the results of this initiative are promising, more research is needed to further refine and evaluate implicit bias training programs. Future studies should explore the development of more tailored and context-specific training interventions. Trainings need to be specific to the population served. The targeted approach was one of the most successful components of this project.

This project underscores importance of addressing implicit bias within the health care system to promote equitable patient care and improve outcomes. Implicit bias training represents a valuable tool in this endeavor, but it must be integrated into a broader framework within health care organizations. The goal is to create a health care system that is characterized by its commitment to diversity, equity, and inclusion, where every patient receives the high-quality care they deserve, irrespective of their background or identity.

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Kearney, M. S., Levine, P., & Pardue, L. (2021). *The puzzle of falling U.S. birth rates since the great recession* (NBER Working Paper No. w29286). SSRN. https://doi.org/10.2139/ssrn.3931808

Kurdi, B., Carroll, T. J., & Banaji, M. R. (2021). Specificity and incremental predictive validity of implicit attitudes: Studies of a race-based phenotype. *Cognitive Research: Principles and Implications*, *6,* Article 61. https://doi.org/10.1186/s41235-021-00324-y

Liese, K. L., Mogos, M., Abboud, S., Decocker, K., Koch, A. R., & Geller, S. E. (2019). Racial and ethnic disparities in severe maternal morbidity in the United States. *Journal of Racial*

*and Ethnic Health Disparities*, *6*(4), 790–798. https://doi.org/10.1007/s40615-019-00577-w

LoGiudice, J. A. (2022). Reducing racial disparities in maternal healthcare: A midwifery focus. *SAGE Open Nursing*, *8*. https://doi.org/10.1177/23779608221138430

Nyumwa, P., Bula, A., & Nyondo-Mipando, A. (2023). Perceptions on acceptability of the 2016 who ANC model among the pregnant women in Phalombe district, Malawi – A qualitative study using theoretical framework of acceptability. *BMC Pregnancy and Childbirth*, *23,* Article 166. https://doi.org/10.1186/s12884-023-05497-6

Pepis, T. (2022). Stereotype threat and colorblindness. *Journal for Multicultural Education*, *16*(2), 184–194. https://doi.org/10.1108/jme-09-2020-0095

Qian, M. K., Quinn, P. C., Heyman, G. D., Pascalis, O., Fu, G., & Lee, K. (2017). A long-term effect of perceptual individuation training on reducing implicit racial bias in preschool children. *Child Development*, *90*(3), e290–e305. https://doi.org/10.1111/cdev.12971

Sandell, T., Schütze, H., Miller, A., & Ivers, R. (2023). Patients' acceptance of a shared cancer follow-up model of care between general practitioners and radiation oncologists: A population-based survey using the theoretical framework of acceptability. *BMC Primary Care*, *24,* Article 86. https://doi.org/10.1186/s12875-023-02032-6

Shahin, Z., Hardwick, I., Jeffery, N., Jordan, J., & Mase, W. (2020). Maternal mortality among African American women in the state of Georgia, causes, policy, and ethical considerations. *Journal of the Georgia Public Health Association*, *8*(1), Article 4. https://doi.org/10.20429/jgpha.2020.080104

Siden, J. Y., Carver, A. R., Mmeje, O. O., & Townsel, C. D. (2022). Reducing implicit bias in maternity care: A framework for action. *Women's Health Issues*, *32*(1), 3–8. https://doi.org/10.1016/j.whi.2021.10.008

Sinek, S. (2020). *Start with why*. Manjul.

Thoma, M. E., Drew, L. B., Hirai, A. H., Kim, T. Y., Fenelon, A., & Shenassa, E. D. (2019). Black–white disparities in preterm birth: Geographic, social, and health determinants. *American Journal of Preventive Medicine*, *57*(5), 675–686. https://doi.org/10.1016/j.amepre.2019.07.007

University of Michigan Library. (2023, August). *Which level of evidence?* Retrieved June 3, 2023, from https://guides.lib.umich.edu/nursing/levelsofevidence

Valerio, V. C., Downey, J., Sgaier, S. K., Callaghan, W. M., Hammer, B., & Smittenaar, P. (2023). Black-white disparities in maternal vulnerability and adverse pregnancy outcomes: An ecological population study in the United States, 2014–2018. *The Lancet Regional Health - Americas*, *20*, Article 100456. https://doi.org/10.1016/j.lana.2023.100456

Volpert-Esmond, H. I., Scherer, L. D., & Bartholow, B. D. (2020). Dissociating automatic associations: Comparing two implicit measurements of race bias. *European Journal of Social Psychology*, *50*(4), 876–888. https://doi.org/10.1002/ejsp.2655

Vuletich, H. A., & Payne, B. (2019). Stability and change in implicit bias. *Psychological Science*, *30*(6), 854–862. https://doi.org/10.1177/0956797619844270

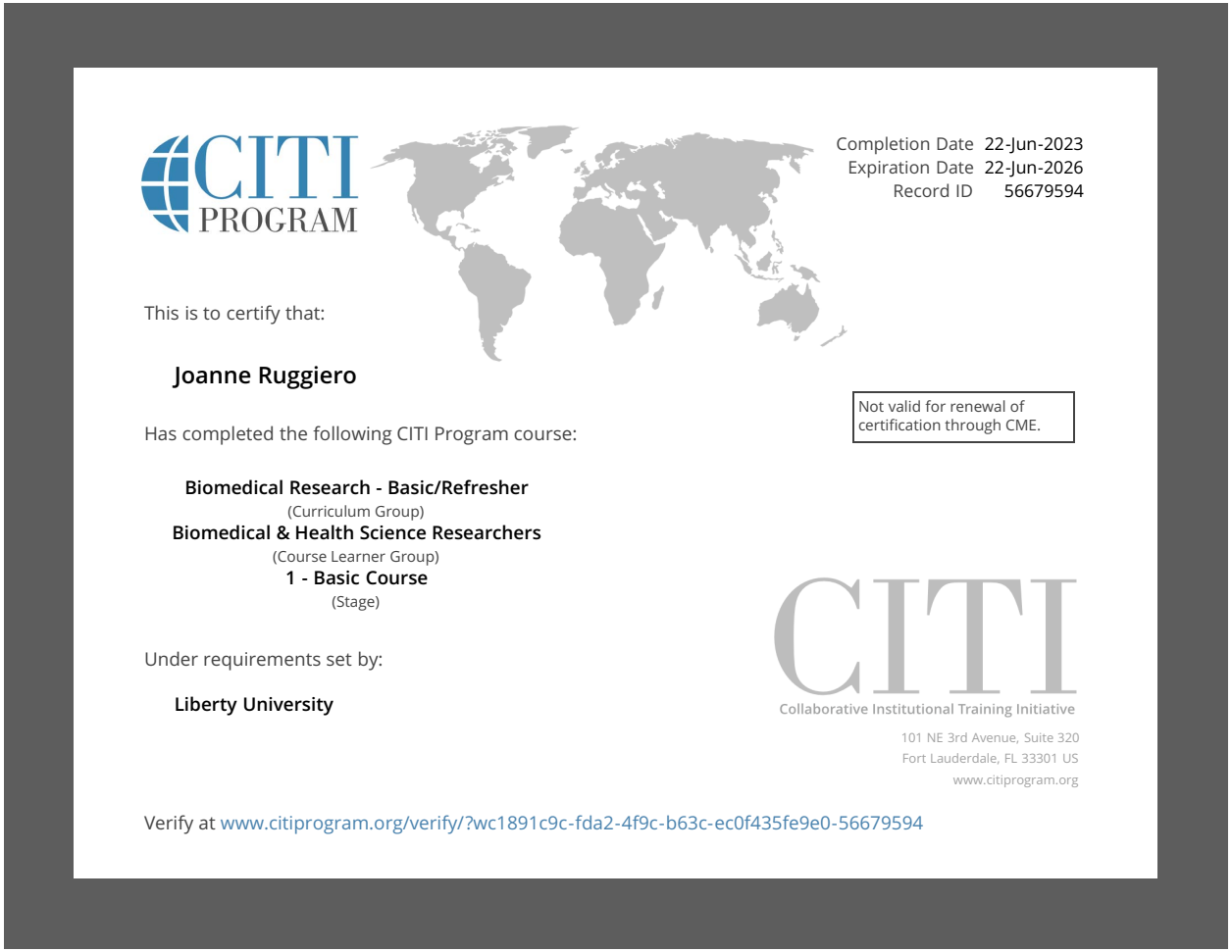
Wright, M. T., Smith, D., Baird, C. S., & Ibrahim, J. E. (2022). Using the theoretical framework of acceptability to understand the acceptability of e-training for nurse led prevention of

unwanted sexual behaviors in Australia's residential aged care services. *Australian Journal of Advanced Nursing*, *39*(4), 23–34. https://doi.org/10.37464/2020.394.762

Zestcott, C. A., Blair, I. V., & Stone, J. (2016). Examining the presence, consequences, and reduction of implicit bias in health care: A narrative review. *Group Processes & Intergroup Relations*, *19*(4), 528–542. https://doi.org/10.1177/1368430216642029

# Appendix A

## CITI Training Certificate



CITI PROGRAM

Completion Date 22-Jun-2023
Expiration Date 22-Jun-2026
Record ID 56679594

This is to certify that:

**Joanne Ruggiero**

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

**Biomedical Research - Basic/Refresher**
(Curriculum Group)
**Biomedical & Health Science Researchers**
(Course Learner Group)
**1 - Basic Course**
(Stage)

Under requirements set by:

**Liberty University**

CITI
Collaborative Institutional Training Initiative
101 NE 3rd Avenue, Suite 320
Fort Lauderdale, FL 33301 US
www.citiprogram.org

Verify at www.citiprogram.org/verify/?wc1891c9c-fda2-4f9c-b63c-ec0f435fe9e0-56679594

## Appendix B

## Literature Matrix

| Article | Study Purpose | Sample | Methods | Study Results | Level of Evidence | Study Limitations | Would Use as Evidence to Support a Change? |
|---|---|---|---|---|---|---|---|
| Afulani, P. A., Ogolla, B. A., Oboke, E. N., Ongeri, L., Weiss, S. J., Lyndon, A., & Mendes, W. (2021). Understanding disparities in person-centered maternity care: The potential role of provider implicit and explicit bias. *Health Policy and Planning*, *36*(3), 298–311. https://doi.org/10.1093/heapol/czaa190 | To study the presence of implicit bias on person-centered care | Maternity providers in rural south Kenya | Data were collected through surveys of 101 maternity wards | Implicit bias was identified even when there was a structure for how to implement care. | Level 4: Correlational design | Dependent on the integrity of those filling out the survey | Yes. Supports the project and implementation of new evidence |
| Chevance, G., Héraud, N., Guerrieri, A., Rebar, A., & Boiché, J. (2017). Measuring implicit attitudes toward physical activity and sedentary behaviors: Test-retest reliability of three scoring algorithms of the implicit association test and single category-implicit association test. | To evaluate if the implicit association test (IAT) was a predictive measure of implicit bias toward physical activity | This test was completed on 111 elderly patients needing physical therapy | Single study with two control groups | The results showed that the IAT was effective in understanding the implicit bias toward exercise before starting therapy. | Level 4: Correlational Design | Only one site and only compares two groups | Yes. This can be used to show the utility of this tools across multiple groups. |

| Article | Study Purpose | Sample | Methods | Study Results | Level of Evidence | Study Limitations | Would Use as Evidence to Support a Change? |
|---|---|---|---|---|---|---|---|
| *Psychology of Sport and Exercise*, *31*, 70–78. https://doi.org/10.1016/j.psychsport.2017.04.007 | | | | | | | |
| Creanga, A. A., Syverson, C., Seed, K., & Callaghan, W. M. (2017). Pregnancy-related mortality in the United States, 2011–2013. *Obstetrics & Gynecology*, *130*(2), 366–373. https://doi.org/10.1097/aog.0000000000002114 | To examine characteristics and causes of death in the United States | Reviewed maternal deaths from 2011 to 2013 using the mortality surveillance system | Retrospective review of data | Causes of death in women has been stable and there hasn't been a major shift in deaths reason, however, there continues to be disparities in the rates of death | Level 4 : Cohort Study | Does not take into consideration geographic and social determinant of health considerations | Yes. This study provides context for the project and validates that this work is important. |
| FitzGerald, C., Martin, A., Berner, D., & Hurst, S. (2019). Interventions designed to reduce implicit prejudices and implicit stereotypes in real world contexts: A systematic review. *BMC Psychology*, *7*, Article 29. | To review the evidence on the effectiveness of implicit bias training | There were 30 articles that met the criteria for review | Key terms were identified and literature inclusion criteria created. | According to the evidence, it is best to reassess 30 days after the intervention. There was no evidence to show long-term | Level 1: Systematic Review | Strong study. Limitations were the literature available. | Yes. This would be a strong source of evidence for this work. |

| Article | Study Purpose | Sample | Methods | Study Results | Level of Evidence | Study Limitations | Would Use as Evidence to Support a Change? |
|---|---|---|---|---|---|---|---|
| https://doi.org/10.1186/s40359-019-0299-7 | | | | effectiveness of training; however, it recommends continuing to create educational opportunities | | | |
| Gattol, V., Sääksjärvi, M., & Carbon, C.-C. (2011). Extending the implicit association test (IAT): Assessing consumer attitudes based on multi-dimensional implicit associations. *PLOS ONE*, *6*(1), Article e15849. https://doi.org/10.1371/journal.pone.0015849 | To study the use of the IAT tool in establishing implicit bias | 30 women were included in the study to test brand loyalty related to bias. | Control groups who were given a test to evaluate the difference in testing methodologies | The study gave methods and validation on how to measure the IAT and how to display the evidence | Level 4: Case control study | Case groups were small and all had brand loyalty in common | Yes. This literature is more than 5 years old; however, it gives detailed insight on how to measure the report the IAT which was a limitation in the planning of the project. |
| Goedderz, A., & Hahn, A. (2022). Biases left unattended: People are surprised at racial bias feedback until they pay attention to their biased reactions. *Journal of* | To assess individuals' perception of their bias in care | 400 participants | Development of self-assessment tools | Participants were often surprised at their score of personal bias. | Level 2: Experimental design | This test was performed at one institution. | Yes. This study had self-assessment tools that can be used in the project. |

| Article | Study Purpose | Sample | Methods | Study Results | Level of Evidence | Study Limitations | Would Use as Evidence to Support a Change? |
|---|---|---|---|---|---|---|---|
| *Experimental Social Psychology*, *102*, Article 104374. https://doi.org/10.1016/j.jesp.2022.104374 | | | | | | | |
| Hannay, J. W., & Payne, B. (2022). Effects of aggregation on implicit bias measurement. *Journal of Experimental Social Psychology*, *101*, Article 104331. https://doi.org/10.1016/j.jesp.2022.104331 | To test the efficacy of the IAT. | 292 participants in two different groups | Two groups. One intervention group and one testing group | The study separated participants into two groups. One group was evaluated to establish bias, while the other only had the IAT performed. The IAT was accurate in identifying bias just as effective as the one who had their experience evaluated. | Level 4 | Groups were only compared in one practice setting | Yes, this study helps to establish the IAT as valid. |
| Javier, D., Solis, L., Paul, M., Thompson, E. L., | To test the effectiveness | 977 people | 5 part asynchrono | Creating one course that | Level 4 | Only takes into | Yes. This study helps to |

| Article | Study Purpose | Sample | Methods | Study Results | Level of Evidence | Study Limitations | Would Use as Evidence to Support a Change? |
|---|---|---|---|---|---|---|---|
| Maynard, G., Latif, Z., Stinson, K., Ahmed, T., & Vishwanatha, J. K. (2022). Implementation of an unconscious bias course for the national research mentoring network. *BMC Medical Education*, *22,* Article 391. https://doi.org/10.1186/s12909-022-03466-9 | of an implicit bias training on a large cohort | registered for the course, and 42% of them completed the training. | us bias training was conducted | could be replicated allowed them to reach more people. 83% reported immediately changing an action, 44% noted the training as a strategy for changing organizational culture, and 30% reported changes in reflection and self-observation. | | consideration the self-reported attitudes. There is no organizational objective data | frame the work that I am doing on my project. |
| Kearney, M. S., Levine, P., & Pardue, L. (2021). *The puzzle of falling U.S. birth rates since the great recession* (NBER Working Paper No. w29286). SSRN. https://doi.org/10.2139/ssrn.3931808 | To study the long-term decline in birth rates | Retrospective review of birth logs in the United States | Respective review of data | Supports the decline in birth rates and the age groups where the declines are happening | Level 6: Descriptive design | | Yes. This is used to support the evidence. |

| Article | Study Purpose | Sample | Methods | Study Results | Level of Evidence | Study Limitations | Would Use as Evidence to Support a Change? |
|---|---|---|---|---|---|---|---|
| Kurdi, B., Carroll, T. J., & Banaji, M. R. (2021). Specificity and incremental predictive validity of implicit attitudes: Studies of a race-based phenotype. *Cognitive Research: Principles and Implications*, *6,* Article 61. https://doi.org/10.1186/s41235-021-00324-y | To study the variation in bias based on factors other than race | 2,552 white Americans | Use of the IAT to test the bias present | Studied showed that bias go beyond just race. Hair, color of skin, and mannerism also cause biases | Level 3: Controlled trial | Strong study. Limitation is lack of recommendations on what to do because of these biases | Yes. Study gives insight into bias that exist beyond just race. |
| Liese, K. L., Mogos, M., Abboud, S., Decocker, K., Koch, A. R., & Geller, S. E. (2019). Racial and ethnic disparities in severe maternal morbidity in the United States. *Journal of Racial and Ethnic Health Disparities*, *6*(4), 790–798. https://doi.org/10.1007/s40615-019-00577-w | To study the incidence of racial disparities across the United States | Inpatient sample data set from healthcare utilization banks from 2002 to 2014. | Retrospective cross-sectional study | Incidence of health disparities exist in almost all the data sets reviewed. | Level 4: Retrospective review | Since the study was retrospective, researchers have no way of validating the coding information | Yes. This is a longitudinal study and looks at several states over a 12=year period. |
| LoGiudice, J. A. (2022). Reducing racial disparities in maternal healthcare: A midwifery focus. *SAGE Open Nursing*, *8*. https://doi.org/10.1177/23779608221138430 | To assess the impact midwives can have on reducing maternal morbidity | Retrospective review of maternal deaths | Retrospective review of maternal deaths in 2018 | There were more deaths in black and brown mothers over other races | Level 6: Descriptive | Only looks at 1 year, and there is a limit to the information the researcher | No. Will only use to reference information |

| Article | Study Purpose | Sample | Methods | Study Results | Level of Evidence | Study Limitations | Would Use as Evidence to Support a Change? |
|---|---|---|---|---|---|---|---|
| | | | | | | had access to. | |
| Nyumwa, P., Bula, A., & Nyondo-Mipando, A. (2023). Perceptions on acceptability of the 2016 who ANC model among the pregnant women in Phalombe district, Malawi – A qualitative study using theoretical framework of acceptability. *BMC Pregnancy and Childbirth*, *23,* Article 166. https://doi.org/10.1186/s12884-023-05497-6 | To study the effects of students' reaction to being taught implicit bias | Students enrolled in an education major over 2 semesters | Mixed-method quantitative design | The study found that when students knew they were part of a study to identify implicit bias, it influenced how they answered the questions about implicit bias. | Level 6: Descriptive design | Only one group of individuals. Small scope of the study | No. This study was good for understanding the halo effect of doing a study like this, however the evidence was not strong for using in the project. |
| Pepis, T. (2022). Stereotype threat and colorblindness. *Journal for Multicultural Education*, *16*(2), 184–194. https://doi.org/10.1108/jme-09-2020-0095 | To study the effects of implicit bias training in teachers | Teachers and students who were interviewed post intervention | IAT training sessions and didactic | Even after training teachers still recognized implicit bias in the way they react to individuals | Level 6: Descriptive study | The study only tested on outcome. | Yes. This study is important to understand that training will not eliminate the bias; therefore, the focus should be on awareness and |

| Article | Study Purpose | Sample | Methods | Study Results | Level of Evidence | Study Limitations | Would Use as Evidence to Support a Change? |
|---|---|---|---|---|---|---|---|
| | | | | | | | individual perception change. |
| Qian, M. K., Quinn, P. C., Heyman, G. D., Pascalis, O., Fu, G., & Lee, K. (2017). A long-term effect of perceptual individuation training on reducing implicit racial bias in preschool children. *Child Development*, *90*(3), e290–e305. https://doi.org/10.1111/cdev.12971 | To study the long-term effects of training young children in reducing implicit bias | Studied performed on 5-year-old children in China | Implement a training curriculum to study if teaching the children not to have bias can overcome society norms | The children showed no improvement from the training, and were more or less likely to have bias based on societal exposure | Level 6: Descriptive study | Small sample size and only concentrated on a small geographical area | Yes. Shows the importance of individual accountability and societal influence on this topic |
| Siden, J. Y., Carver, A. R., Mmeje, O. O., & Townsel, C. D. (2022). Reducing implicit bias in maternity care: A framework for action. *Women's Health Issues*, *32*(1), 3–8. https://doi.org/10.1016/j.whi.2021.10.008 | To test the effectiveness of an educational intervention for implicit bias | Review of educational programs | Literature review and framework review | The study gave recommendation from the most effective interventions published on this topic | Level 1: Systematic review | Inability to validate the long-term effects of the studies | Yes. This study gives great suggestions on frameworks to use |
| Shahin, Z., Hardwick, I., Jeffery, N., Jordan, J., & Mase, W. (2020). Maternal mortality among African American women in the | To examine the effect of statewide implementation of a | State of Georgia delivering hospitals | Comprehensive literature review from the Centers for Disease | While there was improvement in maternal outcomes, | Level 6: Descriptive Study | Only one state and limited to information that was | Yes. This shows the effective programs can have when |

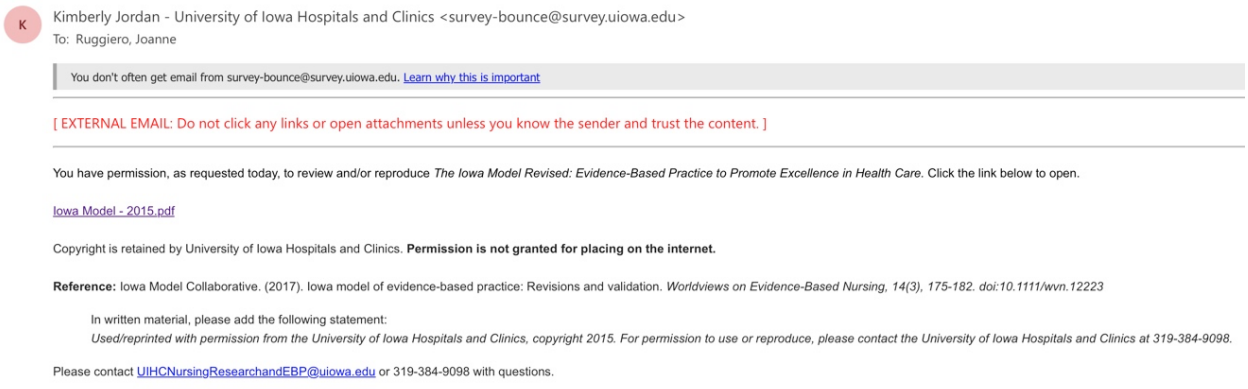
| Article | Study Purpose | Sample | Methods | Study Results | Level of Evidence | Study Limitations | Would Use as Evidence to Support a Change? |
|---|---|---|---|---|---|---|---|
| state of Georgia, causes, policy, and ethical considerations. *Journal of the Georgia Public Health Association*, *8*(1), Article 4. https://doi.org/10.20429/jgpha.2020.080104 | maternal quality package | | Control and Prevention and Georgia department of health | even within those improvement disparities exist | | captured in the data | done systematically |
| Valerio, V. C., Downey, J., Sgaier, S. K., Callaghan, W. M., Hammer, B., & Smittenaar, P. (2023). Black-white disparities in maternal vulnerability and adverse pregnancy outcomes: An ecological population study in the United States, 2014–2018. *The Lancet Regional Health - Americas*, *20*, Article 100456. https://doi.org/10.1016/j.lana.2023.100456 | To study the effective ness of two different test to identify implicit bias | White participant s partaking in a psycholog y course | Participants were placed in two separate groups and had two different intervention s | The results of the study showed that different biases are sensitive to different tests. It is important to evaluate the bias to be identified before implementin g. | Level 3: Quasi-experime ntal design | The study was only looking at white participants. This could have limited the results. | Yes. This can be used for reference for evaluating different tests. |
| Volpert-Esmond, H. I., Scherer, L. D., & Bartholow, B. D. (2020). Dissociating automatic associations: Comparing two implicit measurements | To evaluate the long-term effectiveness of implicit bias training | Longitudi nal study revisiting two previous studies | Longitudina l study revisiting two previous studies. | Study found that long-term effectiveness of implicit bias training | Level 4: Cohort Study | The study could not reevaluate all the participants in the | Yes, this study can help to identify other solutions to maintain the |

| Article | Study Purpose | Sample | Methods | Study Results | Level of Evidence | Study Limitations | Would Use as Evidence to Support a Change? |
|---|---|---|---|---|---|---|---|
| of race bias. *European Journal of Social Psychology*, *50*(4), 876–888. https://doi.org/10.1002/ejsp.2655 | | | Investigators went back to reassess the participant for implicit bias presence. | were ineffective | | original study | training effectiveness |
| Vuletich, H. A., & Payne, B. (2019). Stability and change in implicit bias. *Psychological Science*, *30*(6), 854–862. https://doi.org/10.1177/0956797619844270 | To study the relationship between bias and outcomes | Providers across multiple health care settings | Test the outcomes of the organizations with the presence of bias in their providers | The study suggests that there is a direct correlation between biases and the outcomes of the organization | Level 2: Experimental design | The long-term effects of the bias are not able to be assessed. | Yes. Supports the work of the project. |
| Zestcott, C. A., Blair, I. V., & Stone, J. (2016). Examining the presence, consequences, and reduction of implicit bias in health care: A narrative review. *Group Processes & Intergroup Relations*, *19*(4), 528–542. https://doi.org/10.1177/1368430216642029 | To conduct a narrative review regarding implicit bias in health care | Review of the literature on implicit bias in health care | Review of peer reviewed published articles | Studies support that just like the general population, providers are subject to implicit bias. | Level 2: Narrative Review | The purpose of this review was fulfilled. No limitation identified. | Yes. This study supports the work we are doing. While effectiveness of implicit bias training needs more research, many studies |

| Article | Study Purpose | Sample | Methods | Study Results | Level of Evidence | Study Limitations | Would Use as Evidence to Support a Change? |
|---|---|---|---|---|---|---|---|
| | | | | | | | suggest that understanding peoples feeling regarding implicit bias is important in all organizations. |

# Appendix C

## Permission to Use Iowa Tool



Kimberly Jordan - University of Iowa Hospitals and Clinics <survey-bounce@survey.uiowa.edu>
To: Ruggiero, Joanne

You don't often get email from survey-bounce@survey.uiowa.edu. Learn why this is important

[ EXTERNAL EMAIL: Do not click any links or open attachments unless you know the sender and trust the content. ]

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Iowa Model - 2015.pdf

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**Reference:** Iowa Model Collaborative. (2017). Iowa model of evidence-based practice: Revisions and validation. *Worldviews on Evidence-Based Nursing, 14(3), 175-182. doi:10.1111/wvn.12223*

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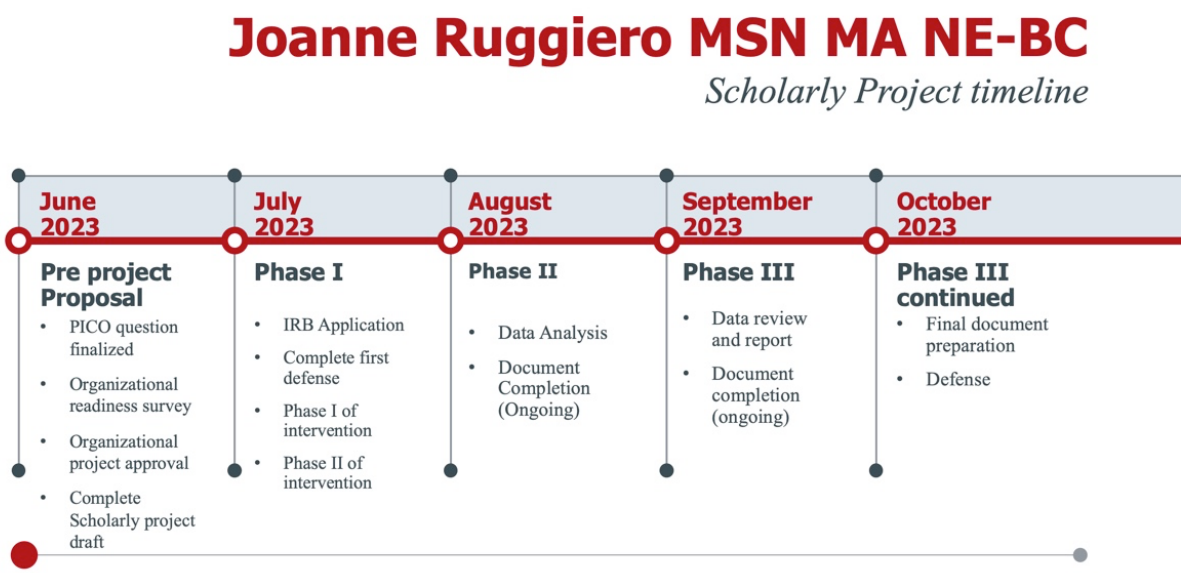
Please contact UIHCNursingResearchandEBP@uiowa.edu or 319-384-9098 with questions.

## Appendix D

## Scholarly Project Timeline



## Appendix E

## Letter of Support

Jackson
MEMORIAL HOSPITAL

Carol Biggs, MBA-HA, DHSc, RN
JHS Senior VP & Chief Nursing Executive
[redacted]
• www.JacksonHealth.org

Attention: IRB
Liberty University
Lynchburg, Virginia

June 28, 2023

Dear IRB Members,

It is with great enthusiasm that I provide this letter of support, on behalf of Jackson Health System, Joanne Ruggiero MSN MA NE-BC for the completion of the DNP project: Implicit Bias training in the Obstetric Population.

Jackson Health System (JHS) is a nonprofit academic medical system offering world-class care to any person who walks through its doors. Governed by the Public Health Trust, a team of citizen volunteers acting on behalf of the Miami-Dade Board of County Commissioners, Jackson Health System ensures that all residents of Miami-Dade County receive a single high standard of care regardless of their ability to pay. JHS is committed to the health of Miami-Dade County, especially its mothers and children. Moms, babies, and partners can rely on a wide range of birthing options, full-service maternity, prenatal care, and breastfeeding and parenting assistance throughout Miami-Dade.

I fully support Joanne's efforst in this project and am commited to providing guidance along the way. I believe this project is essential to address the disparities and health barriers that exist within minority populations in Miami-Dade County. I look forward to working with Joanne On this endeavor.

Sincerely,

[redacted]

Carol Biggs DHSc, MBA-HA, RN
Senior Vice President & Chief Nursing Executive

## Appendix G

## List of Figures

## Appendix H

## List of Tables

# Appendix I

# IRB Approval

July 25, 2023

Joanne Ruggiero
Vickie Moore

Re: IRB Application - IRB-FY23-24-108 Implicit Bias Training in Maternal Health

Dear Joanne Ruggiero and Vickie Moore,

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds that your study does not meet the definition of human subjects research. This means you may begin your project with the data safeguarding methods mentioned in your IRB application.

Decision: No Human Subjects Research

Explanation: Your project is not considered human subjects research because it will consist of quality improvement activities, which are not "designed to develop or contribute to generalizable knowledge" according to 45 CFR 46. 102(l).

Please note that this decision only applies to your current application. Any modifications to your protocol must be reported to the Liberty University IRB for verification of continued non-human subjects research status. You may report these changes by completing a modification submission through your Cayuse IRB account.

**For a PDF of your IRB letter, click on your study number in the My Studies card on your Cayuse dashboard. Next, click the Submissions bar beside the Study Details bar on the Study Details page. Finally, click Initial under Submission Type and choose the Letters tab toward the bottom of the Submission Details page.**

Also, although you are welcome to use our recruitment and consent templates, you are not required to do so. **If you choose to use our documents, please replace the word *research* with the word *project* throughout both documents.**

If you have any questions about this determination or need assistance in determining whether possible modifications to your protocol would change your application's status, please email us at irb@liberty.edu.

Sincerely,

**G. Michele Baker, PhD, CIP**
*Administrative Chair*
**Research Ethics Office**