

Fall 2023

Medical Providers' Use of Maternal Mental Health Screening Tools During Prenatal Appointments in Southeast Georgia

Andreka Ewing

Follow this and additional works at: <https://digitalcommons.georgiasouthern.edu/etd>



Part of the [Maternal and Child Health Commons](#), [Public Health Education and Promotion Commons](#), [Social and Behavioral Sciences Commons](#), and the [Women's Health Commons](#)

Recommended Citation

Ewing, N. A. (2023). Medical Providers' Use of Maternal Mental Health Screening Tools During Prenatal Appointments in Southeast Georgia (Publication No.) [Doctoral dissertation/, Georgia Southern University].Digital Commons.

This dissertation (open access) is brought to you for free and open access by the Jack N. Averitt College of Graduate Studies at Digital Commons@Georgia Southern. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of Digital Commons@Georgia Southern. For more information, please contact digitalcommons@georgiasouthern.edu.

MEDICAL PROVIDERS' USE OF MATERNAL MENTAL HEALTH SCREENING TOOLS DURING PRENATAL APPOINTMENTS IN SOUTHEAST GEORGIA

by

ANDREKA N. EWING

(Under the Direction of Tilicia Mayo-Gamble)

ABSTRACT

In the United States, maternal mental health disorders are the most common comorbidities experienced during pregnancy and after childbirth. In particular, the state of Georgia reports that 1 in 7 Georgian mothers experience depression, anxiety, obsessive-compulsive disorders or psychosis related to these disorders. Research suggests that untreated maternal mental health can have adverse effects on the mother and unborn child. Conditions such as autism, mixed handedness, reduced cognitive ability, and affective disorders can develop while the child is in the womb of a depressed mother. Routine maternal mental health screening using a validated screening tool has been recommended to help mitigate this risk. However, adherence to this recommendation is unknown. The purpose of this qualitative study is to explore medical providers use of maternal mental health screening tools during prenatal appointments and identify barriers and facilitators to routine screening implementation. Online open-ended surveys were completed by 20 medical providers, and 8 agreed to optional follow-up telephone interviews. They were recruited through a homogeneous purposive, snowball, and convenience sampling method. Qualitative content analysis was used to summarize and interpret the data. The following main categories emerged from the data: current screening practices, reason for screening tool selection, outcomes of screening, inefficiencies in screening process, challenges in treatment evaluation and perceived value for mental health screening recommendations. Categories for barriers to screening included, limited knowledge and understanding of mental health and limited resources to support mental health screening. While facilitators to screening included, support structures and development of knowledge, skills and techniques, and emerged from the data. Findings from this study can inform screening tool implementation techniques which reduce barriers and promotes facilitators experienced by medical

providers during prenatal appointments. Additionally, findings can inform the development of standardized screening guidelines to support screening tool utilization by providers.

INDEX WORDS: Maternal mental health, Mental health screening tool, Medical providers, Prenatal, Perinatal, Southeast Georgia, Normalization Process Theory

MEDICAL PROVIDERS' USE OF MATERNAL MENTAL HEALTH SCREENING TOOLS DURING
PRENATAL APPOINTMENTS IN SOUTHEAST GEORGIA

by

ANDREKA N. EWING

B.S., University of South Florida, 2012

M.P.H., University of the West Indies, Kingston Jamaica, 2017

A Dissertation Submitted to the Graduate Faculty of Georgia Southern University

in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF PUBLIC HEALTH

JIANN PING-HSU COLLEGE OF PUBLIC HEALTH

© 2023

ANDREKA N. EWING

All Rights Reserved

MEDICAL PROVIDERS' USE OF MATERNAL MENTAL HEALTH SCREENING TOOLS DURING
PRENATAL APPOINTMENTS IN SOUTHEAST GEORGIA

by

ANDREKA N. EWING

Major Professor:
Committee:

Tilicia L. Mayo-Gamble
Bettye Apenteng
Joanne Chopak-Foss

Electronic Version Approved:
December 2023

DEDICATION

I dedicate this dissertation to my paternal grandfather, Hon. Hilly Ewing, who passed away in 2020, my maternal grandfather, Edmund Rigby, who passed away in 2021, and my uncle, Vincent Garland, who passed away in 2022. Experiencing the loss of three of my biggest supporters and protectors during the pursuit of this doctoral degree caused unimaginable pain. However, remembering the love, encouragement, and their sacrifices for our family helped to carry me to the finish line. Thank you all for the love and life lessons. Continue to rest in peace. I hope I made you all proud, I love you.

ACKNOWLEDGMENTS

The journey to completing this doctoral degree often felt never-ending and isolating, I am grateful for a team of people who supported me throughout this entire process. I wouldn't be where I am today without them. Therefore, I want to take this moment to show my appreciation.

Firstly, I would like to thank my parents, Glennie Ewing and Doreen Francis, for their continued love and support, you both have always encouraged me to dream as big as possible, then worked effortlessly to help make my dream a reality. To my siblings, Shantae, Shekia, Shermal, Lurita, and Nevaeh, thank you for the pep talks, care packages and lending a helping hand anyway you could, it meant the world to me and I cannot await to be able to return the favor.

To my uncles and aunts, especially Hon. Dr. Rufus Ewing, Dr. Dawn Perry-Ewing, Althea Williams, Hon. Galmo Williams, Claudine Ewing, Denise Williams, Terry Williams, Brendalee Lightbourne, and Queena Wilson. I appreciated all the check in calls, the financial, mental and emotionally support, and the deep belly laughs that seemed to fix everything during difficult times.

Thank to my dissertation committee members, Dr. Tilicia L. Mayo-Gamble, Dr. Bettye Apenteng, and Dr. Joanne Chopak-Foss, I appreciated the guidance, feedback and support that helped move my dissertation project along.

To my best friend forever (bff), Marcel Morgan, thank you for keeping me sane during this process, allowing me to vent and cry about anything, offering the best advice and reminding me that there is light at the end of the tunnel. I'm so grateful for our friendship.

To my friends and colleagues, Roshonda Welch and Lakeysha Mutcherson, from the first day we met at orientation for this program you both have been nothing short of amazing, inside and outside the classroom. I'm glad we had each other to lean on for advice, support and encouragement.

Lastly, to the countless others who offered support in anyway which contributed to my success, this girl from the small country of Turks and Caicos Islands thanks you from the bottom of my heart, you all have been a blessing!

TABLE OF CONTENTS

ACKNOWLEDGMENTS	3
LIST OF TABLES	7
LIST OF FIGURES	8
CHAPTER 1 INTRODUCTION	9
Statement of the Problem	11
Purpose of the Study	12
Research Questions	13
Delimitations	13
Limitations	13
Assumptions	13
Significance of the Study	14
Critical Terms	15
Chapter One Summary	15
CHAPTER 2 LITERATURE REVIEW	17
Maternal Mental Health	17
Maternal Mental Health- United States	18
Maternal Mental Health- Georgia	19
Effects of Mental Health Prenatally	19
Why Prenatal Mothers	20
The Significance of the Provider	20
Screening Tools Available	21
Screening Tools Utilization	22
When and How Often is Screening Done	22
Facilitators for Screening	23
Barriers to Screening	24
Management of Care	24
Gaps in Literature	27
Chapter Two Summary	27
CHAPTER 3 METHODOLOGY	29
Research Questions	29
Research Setting	29

Study Design.....	30
Recruitment.....	31
Participants: Inclusion and Exclusion Criteria.....	32
Instrumentation	32
Pre-Testing.....	33
Applied Theoretical Framework	33
Data Collection	34
Data Analysis	35
Data Saturation.....	36
Inter-coder Reliability	36
Trustworthiness.....	37
Protection of Human Subjects.....	37
Limitations	37
Chapter Three Summary	37
CHAPTER 4 RESULTS	39
Descriptive Statistics of Providers who Participated in the Online Open-ended survey	39
Categories and Holistic Codes Uncovered from Open-ended surveys	41
Descriptive Statistics of Providers who Participated in Follow-up Telephone Interviews.....	52
Categories and Holistic codes Uncovered from Follow-up Telephone Interviews.....	53
Category Frequencies for Telephone Interviews	66
Comparison between Open-ended Survey and Follow-Up Telephone Interviews	71
Chapter Four Summary	72
CHAPTER 5 DISCUSSION AND CONCLUSION.....	74
Summary of Study	74
Discussion of Results.....	75
Public Health Implications.....	81
Future Research and Next Steps	82
Limitations and Strengths	83
Lessons Learned.....	84
Conclusion	84
REFERENCES	86
APPENDICES	94
APPENDIX A: IRB APPROVAL LETTER: GEORGIA SOUTHERN UNIVERSITY	94

APPENDIX B: IRB AMENDMENT 1 APPROVAL	95
APPENDIX C: CONSENT FOR ANONYMOUS ONLINE SURVEY (click consent).....	96
APPENDIX D: ONLINE OPEN-ENDED SURVEY.....	98
APPENDIX E: CONSENT FOR TELEPHONE INTERVIEW	100
APPENDIX F: TELEPHONE INTERVIEW GUIDE.....	102
APPENDIX G: PARTICIPANT RECRUITMENT CORRESPONDENCE.....	104

LIST OF TABLES

Table 1.1: Available Screening Tools and Brief Descriptions.....	10
Table 3.1: Normalization Process Theory: Definitions of Constructs and Related Survey Questions	33
Table 4.1:Demographic Statistics of the Open-ended Survey	40
Table 4.2:Demographic Statistics of Follow-up Telephone Interviews.....	52
Table 4.3: Category Frequencies for Telephone Interviews	66

LIST OF FIGURES

Figure 2.1: Gateway Provider Framework.....	21
Figure 2.2: Four Main Components of Normalization Process Theory with Descriptions.....	26
Figure 3.1:Map of Georgia Counties Highlighting Counties in the Southeast Region.....	30
Figure 4.1: Comparison of Open-ended survey and Telephone interview Categories	72

CHAPTER 1 INTRODUCTION

In the United States, maternal mental health conditions are the most common comorbidities experienced during pregnancy and childbirth (Griffen et al., 2021). The State of Georgia reports that 1 in 7 Georgian mothers experience depression, anxiety, obsessive-compulsive disorder, or psychosis associated with these disorders. However, only 10% of these mothers receive the necessary treatment even though Georgia has the second highest maternal mortality rate in the country (Bridging the Gaps in Mental Health in Camden County, Georgia, 2019).

Studies indicate that women are at a higher risk of developing depression and suffering from mental health disorders during pregnancy and the postnatal period (Johnson et al., 2018). Depression is the most likely cause of perinatal mental illness and includes conditions such as postnatal depression, antenatal depression, anxiety, perinatal obsessive-compulsive disorder, postpartum psychosis, and post-traumatic stress disorder (PTSD) (Harris et al., 2018). Depression occurs in 8–12 % of pregnant women and is associated with adverse maternal health, birth, and infant outcomes (Biaggi et al., 2016). Additionally, research suggests that untreated prenatal depression persists throughout the first 4 to 5 years postnatally, impacting a child's socio-emotional and cognitive development. The World Health Organization (WHO) estimates that 1 in 5 pregnant women presents with mental health problems associated with their pregnancy (Pedroso et al., 2020). Unfortunately, most pregnant women with depression do not receive treatment because they experience barriers to mental health care.

The American College of Obstetricians and Gynecologists recommends that obstetrician-gynecologists and other obstetric care providers screen patients at least once during the perinatal period for depression and anxiety symptoms using a standardized, validated tool (The American College of Obstetricians and Gynecologists, 2015). Table 1.1 highlights validated screening tools that exist to identify maternal mental health disorders and provide a brief description of each screening tool.

Table 1.1: Available Screening Tools and Brief Descriptions

Screening Tool	Definition
Edinburgh Postpartum Depression Scale (EPDS)	Screens women for depression during the perinatal period, and research has identified it as a validated instrument for detecting perinatal depression (Smith-Nielsen et al., 2018)
Patient Health Questionnaire-2 (PHQ-2)	Identifies the frequency of depressed moods and screens for depression (American Psychological Association, 2011)
Montgomery-Asberg Depression Rating Scale (MADRS)	Assesses symptom severity in primary depressive disorder patients and changes in symptom severity during treatment (Canadian Agency for Drugs and Technologies in Health, 2016)
Patient Health Questionnaire-9 (PHQ-9)	Measures depression and monitors symptoms severity during treatment (American Psychological Association, 2011)
Postpartum Depression Screening Scale (PDSS)	Identifies women facing the threat of postpartum depression (Sit et al., 2009)
Center for Epidemiologic Study Depression Scale (CES-D)	Assesses depressive emotions and behavior over the past seven days (Sit et al., 2009)

The prevalence of perinatal depression is a significant cost to individuals, children, families, and the community. In 2011, 9% of pregnant women and 10% of postpartum women met the criteria for major depressive disorders (Johnson et al., 2018). There is evidence that screening alone can have significant clinical benefits; however, initiation of treatment or referral to mental health care providers offers the maximum benefit.

Numerous data exist highlighting the seriousness of the maternal mental health crisis and the significant public health impact on mothers, babies, and the community if left untreated. Providers have been identified as playing a pivotal role in screening their patients for mental health disorders using validated screening tools. However, there is still a disconnect between mental health screening tools and providers' utilization of these tools during prenatal visits. This study attempts to identify why this problem exists and explore possible recommendations.

Statement of the Problem

The problem of interest is that routine maternal mental health screening practices are not universal and depend solely on the prenatal provider. Recently, both The American Academy of Pediatrics and The American College of Obstetricians and Gynecologists recommended that mothers be screened for mental health disorders using a validated screening tool at least once during pregnancy (Barron et al., 2020 and The American College of Obstetricians and Gynecologists, 2015). However, compliance with this recommendation varies greatly nationwide, especially among providers. Because this screening recommendation does not have set guidelines and is not a mandatory requirement, it is left to the providers' discretion whether patients receive routine mental health screenings during prenatal visits. This lack of guidelines can create significant gaps in prenatal care. Mothers at risk for mental health disorders can slip through the cracks in the system and not receive the early diagnosis and treatment they need. Untreated mental health disorders can develop into a major public health concern with significant implications not only for the mother and unborn child but also for the entire family unit (Bhat et al., 2018)

Prenatal health care providers are the first line of defense in detecting mental health disorders in their patients through recognizing common signs and symptoms and utilizing mental health screening tools. Providers are responsible for implementing and conducting routine mental health screening, but it is often met with significant barriers and challenges. Providers in perinatal health care services reported time constraints, limited specialized training and education, and access to patient's medical records as barriers that prevented screening. (Barrow et al., 2020)

Although several validated, evidence-based, expert-recommended maternal mental health screening tools are available, perinatal mental health disorders are often undiagnosed, under-treated, or untreated (Postpartum et al. (PSI), 2021). Providers serve as the gateway to maternal mental health screening tool utilization and mental health care (Wakida et al., 2018), as most pregnant women will not seek mental health services independently. Providers must identify at-risk patients and direct them to mental health specialists for treatment. Additionally, screening pregnant women for mental health

disorders requires selecting the appropriate screening tools by providers (Biaggi et al., 2016). The method of screening applied further depends on the responses to the following four queries.

- A) What is the test's reliability? The consistency with which it provides results.
- B) Is it valid? Ability to provide accurate results.
- C) How sensitive is it? The ability of accuracy attainment beyond doubt.
- D) Does it have specificity? The test's ability to narrow down to the problem itself.

Therefore, the provider's mandate is to identify the test that meets the criteria in the four-listed questions from above as a principal guideline for the correct diagnosis (Johnson et al., 2018; Biaggi et al., 2016).

Unfortunately, screening rates remain low; this is a missed opportunity for providers to administer routine utilization of these screening tools to detect possible mental health disorders in prenatal mothers during antenatal visits.

Purpose of the Study

The purpose of this qualitative study is to explore the provider's use of maternal mental health screening tools and uncover barriers and facilitators experienced by providers during prenatal appointments. For this study mental health screening tools are defined as an instrument, usually a questionnaire/survey, administered to patients to gauge mental health conditions. For this study prenatal visits are defined as any point during pregnancy before delivery. The study is informed by written open-ended surveys with a target sample size of 16-20 participants and follow-up telephone interviews with a target sample size of 8-10 participants in Southeast Georgia. Results from this study may inform development of integrated care models to bridge the gap between mental health services and general/specialty medical services. This study can also provide a framework to help establish universal guidelines for maternal mental health screening, along with additional screening tool education for providers.

Research Questions

This study is guided by the following questions.

1. What mental health screening tools are used during prenatal visits?
2. What is the perspective of medical providers on the value of screening pregnant women for mental health disorders?
3. What barriers and facilitators do providers encounter when using maternal mental health screening tools during patient prenatal appointments?

Delimitations

The delimitations of the study are:

1. The study sample was medical providers, who provide direct patient care to perinatal mothers in southeast Georgia.
2. Each participant had to sign a consent form before participating.
3. Only medical providers who practice in clinical settings in southeast Georgia were included in the study.

Limitations

The limitations of the study are:

1. This is a qualitative study
2. The study is more prone to bias
3. There is more variance in results due to sample characteristics

Assumptions

The assumptions of this study include:

1. All participants provided honest answers of their own accord.
2. All participants provided direct health care services to perinatal patients
3. The survey questions accurately assessed the barriers and facilitators to maternal mental health screening during prenatal appointments.

Significance of the Study

Maternal mental health disorders are a significant public health concern, especially in the United States, where maternal mental health conditions account for the most common complications experienced during the perinatal period (Griffen et al., 2021). Moreover, the prevalence of perinatal mood and anxiety disorders in Georgia is 16.6% compared to the national average of 10% and 15% (Mental Health America of Georgia, n.d). Maternal mental health conditions negatively impact both mother and infant. The presence of perinatal mental health disorders deems the mother a danger to herself and her unborn child, especially if suffering from psychotic illnesses (Kingston & Tough, 2014). Therefore, screening all pregnant women for perinatal mental health disorders is essential to increase detection rates and address concerns sooner to prevent or mitigate harm. To increase early detection of perinatal mental health disorders, the American College of Obstetricians and Gynecologists recommends that obstetrician-gynecologists and other obstetric care providers screen patients at least once during the perinatal period for depression and anxiety symptoms using a standardized, validated tool (The American College of Obstetricians and Gynecologists, 2015)

Although these recommendations exist, adherence is still being determined due to the lack of standard guidelines for screening implementation. Providers are tasked with deciding if and how screening is done individually. Therefore, this study is significant because it explores medical providers' use of maternal mental health screening tools. It also identifies barriers and facilitators experienced by providers' implementing, sustaining, and improving routine maternal mental health screening practices. The results from this study can be used to help develop standardized screening tools and practices.

Additionally, standardization of screening tool utilization can aid providers in implementing screening in their daily patient care routine. Also, identifying barriers and facilitators can aid in actionable steps to mitigate these barriers and promote factors that increase screening engagement. This study is also significant because the target population, medical providers, are the gateway to maternal mental health screening and access to mental healthcare services. Therefore, it is beneficial to understand their unique challenges with screening recommendations to offer targeted solutions. Most importantly, findings from

this study can encourage increased screening rates and, subsequently, early detection of mental health concerns and access to treatment. Lastly, this study can add to academic knowledge and serve as a starting point for future research on maternal mental health and screening implementation, especially in southeast Georgia.

Critical Terms

1. **Medical Provider**- A certificated health professional who provides direct health care services to patients in a clinical setting. In this study, the medical provider provides direct healthcare services to women during the perinatal period
2. **Prenatal**- During Pregnancy, before delivery. Sometimes used interchangeably with Antenatal
3. **Postnatal**-After Pregnancy, six months after delivery
4. **Perinatal**- The term use when referring to both prenatal and postnatal periods together
5. **Maternal Mental Health**- Refers to a wide range of disorders and symptoms that women can often experience during the Perinatal Period. Some disorders can include but are not limited to, depression, anxiety, psychosis, and obsessive-compulsive disorder
6. **Screening tool**-Instrument, usually a questionnaire, is administered to patients to gauge mental health conditions
7. **Barrier**- Obstacle preventing health care access. In this study, prevents providers from administering maternal mental health screening tools to prenatal patients.
8. **Facilitator**- Anything that aids the desired outcome

Chapter One Summary

Maternal mental health disorders are the leading cause of complications during pregnancy and childbirth (Griffen et al.,2021). According to the WHO, 1 in 5 women experience mental health problems associated with their pregnancy (Pedroso et al., 2020). In an effort to increase maternal mental health awareness, numerous national medical governing bodies have made formal recommendations for mental health screening during the perinatal period (Griffen et al., 2021). While this is a step in the right direction, due to the lack of formal guidelines or mandates, implementing these recommendations

depends on individual providers, creating gaps in patient care. This study aims to explore the barriers and challenges experienced by providers that prevent routine maternal mental health screening. This chapter provides the background of the study, the intent to explore the problem statement, research questions to guide the study, delimitations, limitations, assumptions, significance of the study, and critical terms.

Chapter Two of this study will provide a review of the literature that currently exists on the topic of maternal mental health, screening tool utilization, and the key role that providers play in implementing routine mental health screening.

CHAPTER 2 LITERATURE REVIEW

This literature review provides an overview of the current maternal mental health crisis, the effects of mental health disorders, the study population chosen, and the importance of the provider's role, using a conceptual gateway provider framework perspective. In addition, a description of the theoretical framework, the Normalization Process Theory, was also provided to inform this study. Moreover, available screening tools, the utilization of these tools, how often mothers should be screened versus how often they are screened along with facilitators, and barriers to screening and managing care. Lastly, a description of the gaps in the literature is provided, linking the study's objectives.

Maternal Mental Health

Perinatal mental health is a woman's mental health during pregnancy and the first year after birth (Kendig et al., 2017). Accordingly, Wickham et al. (2017) explain that a woman's mental health may deteriorate due to hormonal changes and stress associated with motherhood. Mental health disorders are the most common among the different conditions that manifest prenatally. Most pregnant women experience contradictory psychological attitudes, frequent mood changes due to fatigue, emotional interferences, and mixed anxiety-depressive diseases (Bjelica et al., 2018). Depression is the most likely cause of perinatal mental illness and includes conditions such as postnatal depression, antenatal depression, anxiety, perinatal obsessive-compulsive disorder, postpartum psychosis, and post-traumatic stress disorder (PTSD) (Harris et al., 2018). The World Health Organization (WHO) estimates that 1 in 5 pregnant women presents with mental health problems associated with their pregnancy (Pedroso et al., 2020).

Biaggi et al. (2016) state that depression commonly occurs among pregnant women at the rate of 12%. However, mental illness among pregnant women varies in intensity due to some having a history of mental illnesses before the pregnancy (Harris et al., 2018). To this end, Pedroso et al. (2020) acknowledge that the symptoms of perinatal mental health exemplify the usual symptoms of mental health, such as anxiety, depression, fear, and sadness. In addition, perinatal mental health symptoms can be associated with or linked to the pregnancy. For instance, depression due to sudden weight gain, changes in body

shape, anxiety, and fear about the pregnancy, as well as lack of support from a spouse during the pregnancy, can all contribute to the development of mental health disorders (Harris et al., 2018; Pedroso et al., 2020). Maternal mental health is critical in influencing the mother's and child's well-being.

Maternal Mental Health- United States

In the United States, maternal mental health conditions are the most common complication women experience during pregnancy and childbirth (Griffen et al., 2021). Approximately 1 in 5 or 800,000 people of childbearing age are affected by perinatal mental health conditions, including but not limited to depression, bipolar disorder (with or without psychosis), anxiety disorders, obsessive-compulsive disorder, post-traumatic stress disorder, and substance abuse (Griffen et al., 2021). The US experiences the highest rate of maternal mortality in the developed world. Untreated perinatal disorders are a significant contributing factor to maternal mortality (Postpartum et al. The Gap, 2019)

Notably, rural counties within the United States have higher maternal mortality rates than urban counties (CDC, 2022). The risks of maternal mortality are exacerbated by the barriers rural women and their families face, including access to adequate health care, especially for perinatal mental health care, lack of transportation, the cost of these health care services and childcare resources (Barriers to Improving Rural Maternal Health, 2021; Cross-Sectional Innovation to Improve Rural Postpartum Mental Health Challenge, 2022). Moreover, mothers who live in rural areas are associated with having an increased risk of perinatal mental health illness (Ginja et al., 2020).

Recently, there has been an increasing awareness surrounding maternal mortality and perinatal mental health within the United States. However, efforts to address these issues on the federal level have been minimal. For instance, in 2019 and 2020, more than two dozen bills addressing maternal health were introduced to Congress; however, not one bill passed (Griffen et al., 2021). Several States have developed policies to improve perinatal mental health care, including recommending screening for postpartum depression. However, due to uneven implementation, screening rates for perinatal mental health is only around 40% in the US (Griffen et al., 2017)

Maternal Mental Health- Georgia

According to the Georgia Obstetrical and Gynecological Society, Georgia has the second-worst maternal mortality rates in the United States (Ranum, 2019). Moreover, mental health conditions are the leading underlying causes of pregnancy related deaths (CDC, 2022). Unfortunately, these rates continue to increase; the rates of postpartum depression increased from 8.5% in 2012 to 12% in 2019 (Centers for Disease Control and Prevention, n.d). The prevalence of perinatal mood and anxiety disorders in Georgia is 16.6% compared to the national average of 10% and 15% (Mental Health America of Georgia, n.d). Regarding maternal mental health disorders, the State of Georgia reports that 1 in 7 Georgian mothers experience depression, anxiety, obsessive-compulsive disorder, or psychosis associated with these disorders. However, only 10% of these mothers receive the necessary treatment even though Georgia has one of the country's highest maternal mortality rates (Bridging the Gaps in Mental Health in Camden County, Georgia, 2019). No data currently exists to describe the state of maternal mental health in southeast Georgia. Moreover, data addressing screening rates are unavailable.

Effects of Mental Health Prenatally

Johnson et al. (2018) observe that pregnancy stress exposes the unborn child to multiple neurodevelopmental risk factors. Conditions such as autism, mixed-handedness, reduced cognitive ability, and affective disorders are among the harmful conditions that can develop while the child is in the womb of a depressed mother (Atzi et al., 2019). Consequently, maternal anxiety and stress have been linked to premature births; children born prematurely have also been found to be underweight and in need of nursery care (Johnson et al., 2018). In addition, various challenges impact the health of pregnant women undergoing mental disorders.

For example, mothers can develop eating disorders and anxiety disorders, which can cause hormonal imbalance during pregnancy that negatively affects the fetus's development. The presence of a prenatal mental disorder deems the mother-to-be a danger to herself and her unborn child, especially if suffering from psychotic illnesses (Kingston & Tough, 2014). Evidence indicates that prenatal mental

health affects the neurodevelopment of the fetus and can have adverse childhood experiences (ACE) (Atzi et al. (, 2019). Fundamentally, Johnson et al. (2018), Atzi et al. (2019), and Kingston and Tough (2014) all acknowledge that prenatal mental illness will negatively impact the health of the pregnant woman and her child, with unfortunate health outcomes in fetal development.

Why Prenatal Mothers

Almost all women face the threat of developing mental illnesses when pregnant and within the first year after delivery. Prenatal mothers' mental health is critical, as untreated mental health conditions may impact the emotional and physical health of the mother and child. Mental health problems that develop during pregnancy may persist during the perinatal period. Effects of mental health prenatally include risk of suicide, negative obstetric outcomes, adverse effects on fetal development and neonatal outcomes, child malnutrition, and child's behavioral, emotional, and cognitive development (Baron et al., 2016). According to the American College of Obstetricians and Gynecologists (ACOG), screening prenatal mothers for symptoms of stress and anxiety is necessary to curbing prenatal stress (The American College of Obstetricians and Gynecologists, 2018). Johnson et al. (2018) also reports that in 2011, 10% of postpartum women met the criteria for major depressive disorder in the United States.

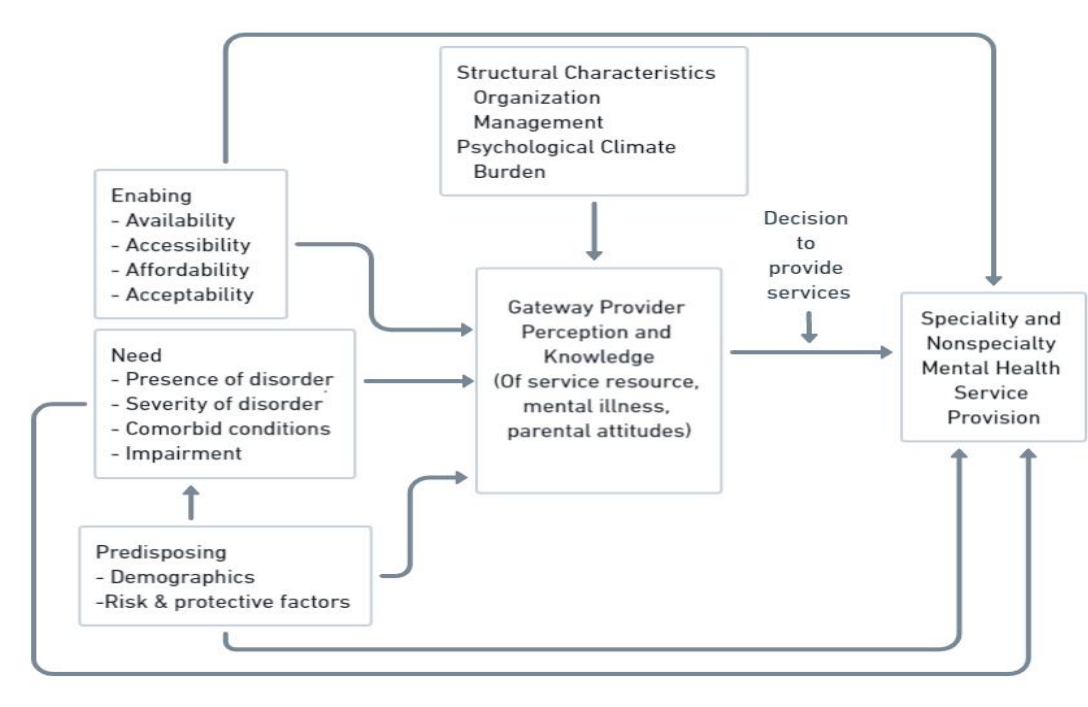
Hence, the importance of screening prenatal women for mental health disorders cannot be overemphasized. Timely screening is equally linked to the early implementation of treatment that can significantly mitigate the risks associated with mental illness during pregnancy (Atzi et al., 2019). Similar sentiments by Harris et al. (2018) and Johnson et al. (2018) indicate that untreated prenatal stress can result in hormonal imbalances affecting the mother's and child's immune systems. Consequently, such a hormonal imbalance can result in neurodevelopmental damage impacting brain function and the fetus's development (Johnson et al., 2018). Therefore, the focus on prenatal mothers is informed by the need for early detection and treatment of mental health disorders to reduce adverse effects.

The Significance of the Provider

According to the gateway provider framework, providers are the gatekeepers into general mental healthcare (Wakida et al., 2018). Most pregnant women will not seek mental health services on their own.

Since providers are the first contact with a patient, they are responsible for explaining the importance of maternal mental health screening, the dangers of untreated mental health conditions, and encouraging them to undergo screening to protect themselves and their unborn child. The Gateway Provider Framework illustrates the importance of the healthcare providers' role, which is to offer pregnant mothers adequate and easy access to services. Furthermore, the model or framework is designed to note patient-specific needs with the implication of mediating, mitigating, and facilitating provider services. In other words, it helps prenatal mentally ill patients to access mental healthcare treatment and intervention much faster and more accurately (Stiffman et al., 2004). Figure 2.1 below illustrates the Gateway Provider Framework.

Figure 2.1: Gateway Provider Framework



Screening Tools Available

Screening tools for mental health disorders follow the need to identify illnesses present in a prenatal mother, resulting in severe mental health problems (Heyningen et al., 2018). There are several validated mental health screening tools available, including the Edinburgh Postpartum Depression Scale (EPDS), Patient Health Questionnaire-2 (PHQ-2), Montgomery-Asberg Depression Rating Scale

(MADRS), Patient Health Questionnaire-9 (PHQ-9), Postpartum Depression Screening Scale (PDSS), and Center for Epidemiologic Study Depression Scale (CES-D). EPDS screens women for depression during the perinatal period, and research has identified it as a validated instrument for detecting perinatal depression (Smith-Nielsen et al., 2018). PDSS detects women facing the threat of postpartum depression. PHQ-2 identifies the frequency of depressed moods and screens for depression. PHQ-9 measures depression and monitors symptoms severity during treatment, while CES-D assesses depressive emotions and behavior over the past seven days. MADRS assesses symptom severity in primary depressive disorder patients and changes in symptom severity during treatment.

Screening Tools Utilization

Trost et al. (2016) state that only 14.6% of pregnant women receive proper depression screening. Screening tool utilization is very low globally and nationally despite understanding the adverse effects of perinatal mental health disorders. These disorders are continually undiagnosed, under-treated, or untreated, implying physicians' low utilization of screening tools. In most cases, physicians tend to focus on maternal and fetal physical health rather than mental health and wrongly attribute emotional changes to the physical and hormonal changes during pregnancy (Biaggi et al., 2016). Overall, data is scarce concerning screening rates among people with mental health, specifically among pregnant women. Therefore, the current investigation proves necessary for encouraging screening and developing a database that can contribute to the academic knowledge about screening rates (Johnson et al., 2018).

When and How Often is Screening Done

During pregnancy screening should be performed during the first prenatal visit, after sixteen weeks, after thirty-two weeks, and postpartum. A provider should screen a nursing mother within the first two weeks after delivery, after four months, six months, and one year. The American College of Obstetricians and Gynecologists recommends screening patients for anxiety and depression symptoms at least once before delivery using an approved instrument. It also proposes screening during the first postpartum visit.

However, studies suggest that mental health screening is often done as requested, according to Biaggi et al. (2016). Similarly, Heyningen et al. (2018) support these findings; screening antenatal mothers for mental health disorders is often initiated by the patient herself or per the request of the spouse or family members. The deficiency of mental health screening during neonatal and prenatal visits poses significant risks for both the child and the mother (Kendig et al., 2017). Subsequently, the mother and child's deteriorating health manifests in elevated stress levels if left untreated (Harris et al., 2018). Moreover, the unborn child's neurodevelopment is negatively impacted, causing problems in the child's brain development (Pedroso et al., 2020). Therefore, the literature emphasizes the importance of detecting mental illness early during pregnancy to prompt timely intervention measures.

Facilitators for Screening

According to Atzi et al. (2019), mental health screening among pregnant women and new mothers can be encouraged by physicians during prenatal and neonatal visits, respectively. Research suggests that facilitators of screening include providers showing interest in discussing the patient's mental health status, patients knowing that mental health help is available, understanding the different kinds of support they can access, and knowledge that emotional health is part of routine prenatal care. Other facilitators ensure that other women experience emotional problems during pregnancy and know what to expect if they tell the provider she is experiencing emotional struggles (Kingston et al., 2015). Women previously treated for psychological health problems should expect to be screened during pregnancy. Other facilitators are the provider-patient relationship quality and the provider considering mental health screening as an element of prenatal care and screening all pregnant women. Mainly, screening is facilitated by factors such as the provision of access to screening tools, a physician-led initiative of screening during neonatal and prenatal visits, the willingness of pregnant women and new mothers to be screened, and the creation of awareness concerning the dangers of mental illness among pregnant women and new mothers (Atzi et al., 2019; Johnson et al., 2018).

Barriers to Screening

Barriers to screening include pregnant women believing they can handle the psychological changes on their own, partners, friends, and family informing women that their emotions are expected, and preference to discuss mood changes with partners, family, and friends than healthcare providers (Kingston et al., 2015). Women also fail to seek mental health help as they cannot differentiate between familiar or not common emotions when pregnant. Women who were never treated for mental health problems in the past are less likely to seek help during pregnancy. Women also fear seeking mental health help due to fear of losing custody of the baby after birth and exposing the fetus to psychotropic medications for treating mental illnesses. Kendig et al. (2017) note that stigma is the most significant hurdle in attaining 100% mental health screening outcomes. The stigmatization of people diagnosed with mental health conditions has been associated with feelings of embarrassment, shame, and associated with insanity (Stiffman et al., 2014).

Other than stigmatization, another barrier that denies most prenatal and neonatal women access to mental health screening is the limited use of screening tools (The American College of Obstetricians and Gynecologists, 2018). Whereas screening tools may be available, few physicians are trained and experienced in applying them to the screening process. As such, pregnant women and new mothers may not access screening during prenatal and neonatal visits (Harris et al., 2018). Thirdly, mental health screening is voluntary and not a prerequisite during neonatal and prenatal checkups. Therefore, pregnant women and new mothers are not compelled to take mental health screening tests unless they request them (Heyningen et al., 2018).

Management of Care

Atzi et al. (2019) state that mental illness interventions are most effective during the early stages of mental health symptoms. Consequently, screening for mental illnesses among prenatal and neonatal mothers should ideally occur during the early stages of the pregnancy and continue throughout prenatal visits (Kendig et al., 2017; Wickham et al., 2017). Furthermore, screenings should be done for at least one year during neonatal visits (Wickham et al., 2017). Pundits argue that prenatal and neonatal mental

illnesses can be identified only through a continuous screening process and treatment interventions implemented (Atzi et al., 2019; Wickham et al., 2017).

Theoretical Framework

The American College of Obstetricians and Gynecologists recommends that obstetrician-gynecologists and other obstetric care providers screen patients at least once during the perinatal period (The American College of Obstetricians and Gynecologists, 2015). However, despite this recommendation and the existence of multiple validated maternal mental health screening tools, adherence to this recommendation is unknown. The Normalization Process Theory (NPT) was used as the theoretical framework of this study to develop survey questions to help identify area-specific facilitators and barriers to routine maternal mental health screening experienced by prenatal health care providers in southeast Georgia.

The Normalization Process Theory identifies and characterizes critical factors that facilitate or inhibit the implementation, embedding, and integration of health techniques, technologies, and interventions (May et al., 2018). NPT is an implementation process that focuses on people, individually and collectively, and their actions rather than their beliefs or intent (May et al., 2018). Additionally, NPT is described as the social organization of work or implementation. It influences practices to become routine elements of everyday life, the embedding process, how these embedded practices are sustained in their social context, and the integration process (May et al., 2009). NPT has four main components: coherence, cognitive participation, collective action, and reflexive monitoring. See Figure 2.2 below, which describes each component.

Figure 2.2: Four Main Components of Normalization Process Theory with Descriptions

Normalisation Process Theory Constructs	Description
<i>Coherence</i>	Refers to the ‘sense-making work’ carried out by individuals and collectively within organisations when implementing a new set of practices, understanding the purpose and benefits of them being a pre-requisite to their success. Subcomponents Differentiation; communal specification; individual specification; internalization.
<i>Cognitive Participation</i>	Refers to the ‘relational work’ carried out to ‘build and sustain a community of practice’ around an intervention, including the involvement of key stakeholders to drive it forwards. Subcomponents Initiation; enrolment; legitimation; activation.
<i>Collective Action</i>	Refers to the ‘operational work’ required to enact a new set of practices, such as staff resourcing, equipment availability and other issues specific to local contexts. Subcomponents Interactional workability; relational integration; skill set workability; contextual integration (including plasticity and elasticity).
<i>Reflexive Monitoring</i>	Refers to the ‘appraisal work’ in understanding how a new set of practices affects those engaging with them. Subcomponents Systematisation; communal appraisal; individual appraisal; reconfiguration.

(Read et al., 2021)

The field of medicine and healthcare is constantly evolving. Evidenced-based, best practices recommendations are continuously emerging, which requires these practices to be integrated into existing healthcare models. However, problems can arise when attempting to implement these recommendations. Qualitative studies explore how new technologies and practices become normalized, incorporating the normalization process theory as a feasible solution to the routine implementation of new technologies or practices in medicine and healthcare organizations (May et al., 2009). For example, Holtrop and colleagues explored integrating care management in primary care to help patients with chronic illnesses improve their health status. Primary healthcare practices often experience challenges with implementation (Holtrop et al., 2016). NPT was utilized to understand how the care management structure affected how it was integrated into routine chronic illness management in primary care. The results indicated that NPT

proved to be a valuable framework for researchers to understand the processes that affect the implementation of care management within primary care.

This study aims to explore the barriers/challenges and facilitators that impact the implementation of routine maternal mental health screening tools during prenatal appointments. Therefore, the NPT framework was an excellent fit for understanding these factors.

Gaps in Literature

Pregnant women experience an increased risk of developing mental health disorders during pregnancy, which often extend even after delivery. Despite this risk, very few women undergo maternal mental health screening despite several available validated screening tools. Few studies have investigated the barriers to maternal mental health screening by providers (Postpartum et al. (PSI) 2021). The proposed research investigated the area-specific barriers to routine maternal mental health screening tool utilization during prenatal appointments experienced by providers. The limitations of the literature review provide important objectives to pursue. As such, the study's objectives were meant to mitigate the gaps found in the literature review.

Chapter Two Summary

This literature review highlights the current state of maternal mental health within the United States, focusing on the State of Georgia. Studies report that the United States has the worst maternal mortality rate in the developed world, and Georgia has the second highest maternal mortality rate in the country (Postpartum et al. the Gap,2019; Barrow et al.,2021). Maternal mental health disorders significantly affect maternal mortality rates, as perinatal mental health disorders are the most common comorbidity during pregnancy and childbirth (Griffen et al., 2021). The World Health Organization (WHO) estimates that 1 in 5 pregnant women presents with mental health problems associated with their pregnancy (Pedroso et al., 2020). Evidence indicates that prenatal mental health affects the neurodevelopment of the fetus and can have adverse childhood experiences (ACE) (Atzi et al. (2019).

Multiple validated mental health screening tools exist as a solution to detect maternal mental health disorders. Additionally, The American College of Obstetricians and Gynecologists recommends

that obstetrician-gynecologists and other obstetric care providers screen patients at least once during the perinatal period for depression and anxiety symptoms using a standardized, validated tool (The American College of Obstetricians and Gynecologists, 2015). However, gaps in the implementation of routine screening during prenatal appointments exist due to limited guidelines with much less than 100% compliance from providers (Barrow et al., 2021). Data for screening rates are currently unavailable in Georgia; additionally, area-specific factors to improve implementation of screening tool utilization are unknown. There needs to be more research explicitly focusing on the key factors that can improve providers' implementation of routine screening in rural southeast Georgia. Therefore, the literature review supports the purpose of this study.

Chapter three of this research study will provide a comprehensive overview of the methodology used to collect data for this study. This chapter will address the open-ended survey and follow-up telephone interviews that served as the instrument to collect data from study participants designed to elicit honest, transparent responses. Chapter three provides the framework to understand the data collection and analysis processes.

CHAPTER 3 METHODOLOGY

This chapter discusses the study population, data collection methods, instrumentation development, theoretical framework application, and analysis of data. Because this study aimed to explore medical health providers' use of mental health screening tools during prenatal appointments, a qualitative data collection method was utilized.

Research Questions

1. What mental health screening tools are used during prenatal visits?
2. What is the perspective of medical providers on the value of screening pregnant women for mental health disorders?
3. What barriers and facilitators do providers encounter when using maternal mental health screening tools during patient prenatal appointments?

Research Setting

The research setting was conducted in the southeast region of Georgia, providers were recruited from twenty-five (25) counties, selected because of proximity and convenience, including, Appling, Bulloch, Coffee, Tattnall, Atkinson, Candler, Evans, Toombs, Bacon, Tift, Charlton, Jeff Davis, Ware, Brantley, Clinch, Pierce, Wayne, Camden, Glynn, McIntosh, Chatham, Effingham, Long, Liberty and Bryan County (Georgia Department of Economic Development; Southeast Health District; Southeast Georgia Health System). Most of the counties in southeast Georgia are classified as rural, with a population of 50,000 or less, eighteen (18) of the twenty-five (25) counties are rural (State Office of Rural Health, 2021). In 2020, southeast Georgia had an estimated population of 1,018,708 with a race and Hispanic demographic of 65% Caucasian, 30% Black or African American, 8% Hispanic, and 2% Asian, and the median household income was reported as \$47,191 (U.S. Census Bureau, 2020). According to the Georgia Board of Health Care Workforce, the southeast region has ninety-three (93) obstetrician and gynecologist (OBGYNs) and three (3) physician assistants (PAs) specializing in obstetrics and gynecology (Georgia Board of Health Care Workforce, 2020). Figure 3.1 below shows a map of Georgia

A generic qualitative design was chosen for this study because the framework does not fit neatly within any established methodology (Kahlke, 2014). This generic qualitative design allows for flexibility while providing some structure similar to more defined qualitative designs such as case studies, phenomenology, or ethnography.

This study used both open-ended surveys and follow-up telephone interviews. The online survey link was posted on social media, namely Facebook and LinkedIn, and a recruitment letter was emailed and mailed to healthcare providers to explore their use of mental health screening tools during prenatal appointments with their patients. Open-ended surveys and follow-up telephone interviews allowed for the use of probes to encourage a more detailed response. These data collection methods can improve response rates due to ease of access and eliminate the need to meet in person. Surveys allowed participants to complete their responses privately, making them feel more comfortable and potentially evoking more insightful responses. Telephone interviews eliminate the need to meet in person; the physical distance between researcher and interviewee creates an environment more conducive to participants opening up and providing unhindered responses.

Recruitment

Approval for this study was obtained from Georgia Southern University (GSU) Institutional Review Board (IRB). A homogeneous purposive, snowball, and convenience sampling method recruited healthcare providers from clinics, hospitals, and healthcare settings. Southeast Georgia has approximately seventeen (17) rural health clinics, seven (7) rural hospitals, and six (6) critical access hospitals (State Office of Rural Health, 2021). Most southeast counties have a local Department of Public Health that provides women's health services, including a network of providers they refer patients to for prenatal care. Moreover, other medical facilities within the counties offer prenatal services. A web search created a database of providers and medical facilities that offered prenatal services in the region. The search collected data including physical locations, phone numbers, and email addresses if available on the public websites. An amended IRB approval was requested and received to include using social media, Facebook

and LinkedIn, to post study recruitment letters to help increase the study's awareness and boost recruitment rates.

A recruitment letter with a survey link was posted on various social media platforms: Facebook and LinkedIn. A printed copy of the recruitment letter was mailed, and an electronic copy was emailed to potential participants with information about the study, including an IRB approval letter, consent document, and the link/QR code to the survey, which included an option to participate in the follow-up telephone interview at the end of the survey. If survey participants agreed to a follow-up telephone interview, the researcher and participant scheduled a date and time for the interview to be conducted. To help improve response rates, the researcher utilized follow-up emails, courtesy phone calls, or in-person visits to the clinic. As an incentive to increase response rates, each participant who completed the survey was awarded a twenty-five-dollar Amazon e-gift card, while funding was available and sent electronically via email.

Participants: Inclusion and Exclusion Criteria

The study population comprised of health care providers, MD, DO, PA, NP or RN, of all ages, race, and gender who provide direct patient care to women during prenatal appointments. All participants practiced in the southeast geographical area. Each participant provided voluntary consent to participate in the study. Healthcare providers who did not meet the above inclusion criteria were excluded from the study.

Instrumentation

The qualitative data collection tools consisted of an online open-ended survey; once the survey was completed, participants could opt-in for a follow-up telephone interview. See Appendix D for online open-ended survey questions and Appendix F for the follow-up telephone interview guide; probes were used to elicit more in-depth responses. The beginning of the survey included seven multiple choice socio-demographic questions, six open-ended questions to gain insight into the research problem, and one question allowing feedback or additional information that participants would like to share. Participants were asked to provide an email address to send the electronic gift card incentive upon survey completion.

The survey was created in Qualtrics, a survey/questionnaire creation and dissemination platform through the Georgia Southern University student portal.

Pre-Testing

Before the surveys were sent out to participants for data collection, the questions were pretested for face and content validity. Pilot testing ensured that the questions were well written, easy to understand, reliable, and valid in its ability to elicit the intended information. Pretesting participants consisted of two healthcare providers who met inclusion criteria. See Appendix D for the open-ended survey.

Applied Theoretical Framework

As stated in chapter two, The Normalization Process Theory identifies and characterizes critical factors that facilitate or inhibit the implementation, embedding, and integration of health techniques and interventions (May et al., 2018). NPT is an implementation process that focuses on people, individually and collectively, and their actions rather than what they believe or intend (May et al., 2018). This theory is guided by four constructs: Coherence (making sense of the work), Cognitive Participation (who does the work), Collective Action (How is the work done), and Reflective Monitoring (how is the work understood). This theory is not linear but rather iterative (McEvoy., et al., 2014). This study aims to explore provider's use of maternal mental health screening tools and uncover barriers and facilitators that impact the implementation of routine screening practices. Therefore, the Normalization Process Theory was used as a guide to inform the creation of the open-ended survey questions. See Table 3.1 below.

Table 3.1: Normalization Process Theory: Definitions of Constructs and Related Survey Questions

Constructs	Definitions	Survey Questions
Coherence (Sense-making/value)	“The process and work of sense-making and understanding that individuals and organizations have to go through in order to promote or inhibit the routine embedding of a practice.”	What are your thoughts on the recommendations for routine maternal mental health screening?

Cognitive Participation (Enrolment/Engagement)	“The process and work that individuals and organizations have to go through in order to enroll individuals to engage with the new practice.”	<p>From your experience, what are the barriers to mental health screening?</p> <p>From your experience, what are the facilitators of mental health screening?</p> <p>In your opinion, what factors would improve mental health screening?</p>
Collective Action (Enactment)	“The work that individuals and organizations have to do to enact the new practice.”	<p>What is your process for screening for mental health and mental health disorders?</p> <ul style="list-style-type: none"> ● Who does the screening? ● Is a specific screening tool used?
Reflective Monitoring (Appraisal)	“The work inherent in the informal and formal appraisal of a new practice once it is in use, in order to assess its advantages and disadvantages, and which develops users’ comprehension of the effects of a practice.”	<p>What happens if someone has a high depression score?</p> <ul style="list-style-type: none"> ● Outcomes of screening

(Finch., et al 2012)

Data Collection

Once IRB approval was received, the survey created in the Qualtrics platform was emailed or mailed to potential study participants and posted on social media health professional groups via Facebook and LinkedIn. The electronic informed consent was at the beginning of the survey; participants had to click agree to proceed. Screening questions were asked at the beginning of the survey to exclude anyone who did not meet the inclusion criteria. The Qualtrics platform database saved all responses and produced a results report once the survey was completed. Each completed survey generated a unique identification number; however, no identifiable information was included in the final report. The multiple-choice socio-

demographics questions were reported in a table form. The time to complete the survey was approximately 15 minutes. Responses for open-ended questions were collected and reported in narrative form using direct quotes from data. Upon completion of the survey, participants were awarded a \$25 Amazon gift card for their participation while funding was available, given that they provided an email address for the gift card to be sent.

Additionally, the end of the open-ended survey allowed participants to opt in for a follow-up telephone interview. If they agreed, a date and time were set to conduct the interview. Before the interview began, participants were read the telephone interview consent form and verbally agreed to participate. The interviews were recorded to capture all thoughts and opinions expressed. The recordings were destroyed once the data was transcribed. Responses were reported in narrative form using direct quotes from data. Interviews were approximately 15 minutes. Data collection was conducted from January 2023 to June 2023; at the end of the data collection period, twenty (20) providers were recruited and completed the online open-ended survey. Of the twenty (20) participants recruited, eight (8) agreed to participate in the follow-up telephone interviews. Participants answered all survey questions; there was no missing data.

Data Analysis

This study utilized a content analysis approach to identify specific words, themes, categories, and patterns uncovered in the data (Population Health Methods, 2022). The qualitative data analysis software NVIVO was used to analyze responses from the survey and telephone interviews. Responses from open-ended questions and telephone interviews were uploaded to NVIVO software. Two coding phases were applied to each open-ended survey response and telephone interview response. Responses were read multiple times to understand the text better.

Two first-cycle coding methods were used for the first phase, *in vivo* and holistic coding, respectively. *In vivo* coding, also known as literal coding or verbatim coding, uses words or phrases identified from the actual language of the participant's responses (Saldana, 2009). In this study, *in vivo* coding highlighted how medical providers used specific words and phrases, allowing the researcher to

understand the text more clearly. The second first cycle coding method was holistic coding, which developed a single code using large units/sections of data to capture themes that developed (Saldana, 2009). This coding technique was beneficial for this study because the literature review and theoretical framework gave the researcher a general idea of what to investigate in the data. Therefore, they were able to create broad topic areas as a starting point.

In the second phase, a second cycle coding method, focused coding, was used. Focus coding was used to identify the "most frequent or significant initial codes" (Saldana,2009). Data from the holistic coding process was synthesized using focus coding. This coding method ensured that the initial themes represented the participants' ideas.

Data Saturation

Data Saturation is reached when no additional information is obtained during data collection (Guest et al.,2006). Because surveys and interviews were used as the data collection method, the point of data saturation was not predetermined. However, the researcher determined saturation individually (Tran et al., 2017). For this study, data saturation was determined when half the total participants (50%) shared similar responses without new emerging information. Frequency percentage was calculated by the number of participants who mentioned each key category divided by the total number of participants multiplied by 100.

Inter-coder Reliability

Inter-coder reliability is the degree to which individual coders give consistent coding of the same phenomenon (Trochim et al., 2016). Percent agreement will be calculated to assess the inter-coder reliability. Inter-coder reliability was determined by dividing the number of categories agreed upon by the total number of categories. The target inter-coder agreement is 0.80 or greater. However, research has found that an inter-coder agreement code of 0.70 is acceptable for exploratory studies (Lombard et al., 2010; Neuendorf, 2002; Riffe et al., 2005). The researcher along with a female colleague who holds a doctorate degree in public health (DrPH) and is proficient in qualitative research analysis each

independently reviewed and coded the data transcripts. Once analysis was completed, both coders met to discuss findings and agree on emergent codes. The intercoder agreement was 0.86 for this study.

Trustworthiness

Lincoln and Guba (1985) proposed four criteria for judging trustworthiness of qualitative research, which better reflected the underlying assumptions associated with qualitative research (Trochim et al., 2016) Credibility of this study was established by using the theoretical framework to develop survey questions, utilizing the NVIVO software for data analysis, conducting multiple rounds of coding and transparently presenting gathered data. Additionally, identified categories were reviewed by committee members to reduce researcher bias and data triangulation was achieved by using of two data collection tools. Transferability was established through the rich, detailed descriptions of the data analysis process. Confirmability was established through inter-coder reliability. Dependability was established by asking participants to share via online surveys the barriers and facilitators they experience to maternal mental health screening tool use during prenatal appointments, followed up with telephone interviews. Participants were asked not to deviate from their daily routines for the benefit of study participation.

Protection of Human Subjects

Informed consent was included at the beginning of the survey and telephone interview; participants had to agree to participate before data collection began. No names were used for the published report, and results were reported as group data to assure anonymity and maintain confidentiality. Participants could decide not to participate in the study at any point during data collection.

Limitations

Limitations to the study included a significant challenge in gaining access to the study population, obtaining a diverse study sample, increased possibility of groupthink among providers in the same environment, and the study is not generalizable due to the small sample size.

Chapter Three Summary

This study aimed to explore the barriers and facilitators that providers experience to maternal mental health screening tool utilization during prenatal appointments. Data was collected using online

open-ended surveys and follow-up telephone interviews. The research design is a general qualitative research study. The findings of this study may form process improvements to help integrate routine maternal mental health screening tool use during all prenatal appointments.

Chapter four will give an in-depth description of the data collected. The key categories and holistic codes established by the research will also be identified and explored.

CHAPTER 4 RESULTS

This chapter presents the findings of this qualitative research which answers the three research questions (1) What mental health screening tools are used during prenatal visits? (2) What is the perspective of medical providers on the value of screening pregnant women for mental health disorders? and (3) What barriers and facilitators do providers encounter when using maternal mental health screening tools during patient prenatal appointments? The purpose of this qualitative study was to explore the provider's use of maternal mental health screening tools and uncover barriers and facilitators experienced by providers during prenatal appointments. Data was collected using an online open-ended survey which had an option to opt-in to participate in follow-up telephone interviews. Twenty (20) providers participated in the open-ended survey, from the 20 participants, eight (8) agreed to participate in the telephone interviews. Once collected, data was analyzed using qualitative content analyses to identify the presence of certain words, themes, categories, and patterns uncovered in the data (Population Health Methods, 2022). The qualitative data analysis software NVIVO was used to analyze responses from the survey and telephone interviews. The results of this chapter will provide demographic statistics for both the open-ended survey participants and follow-up telephone interviews. Findings will be presented in table form and narrative descriptions with direct quotes from the data.

Descriptive Statistics of Providers who Participated in the Online Open-ended survey

Table 4.1 represents the characteristics of providers. A total of 20 medical providers participated in this study, the majority, (90%) were female while only (10%) were male. Most participants were between the ages of 30-39 (45%) and 50-59 (25%). Sixteen participants identified as White (80%), two identified as Black/African American (10%), one identified as Asian/Pacific Islander (5%) and one identified as Hispanic or Latino (5%). More than half of the participants were Nurse Practitioners (55%). A significant number of participants had the job title of Nurse Practitioner (60%) followed by OBGYN Physician (15%). Most of the participants practiced in Bulloch County (40%) followed by Chatham County (25%). Finally, the majority of participants had between 20 plus years (30%) and 6-10 (25%) years of experience.

Table 4.1:Demographic Statistics of the Open-ended Survey

Variable	N (%)
Gender	
Female	18 (90)
Male	2 (10)
Age (years)	
18-29	1 (5)
30-39	9 (45)
40-49	4 (20)
50-59	5 (25)
60-69	1 (5)
Ethnicity	
White	16 (80)
Black/African American	2 (10)
Hispanic or Latino	1 (5)
Asian/Pacific Islander	1(5)
Medical Degree	
MD	4 (20)
PA	1 (5)
NP	11 (55)
Other	4 (20)
County	
Tift	1 (5)
Bryan	1(5)
Bulloch	8 (40)
Chatham	5 (25)
Effingham	1 (5)
Coffee	1 (5)
Candler	1 (5)
Long	1 (5)
Glynn	1 (5)
Job Title	
Nurse Practitioner	12 (60)
OBGYN Physician	3 (15)
Family Physician	2 (10)
Physician Associate	1 (5)
Registered Nurse	2 (10)
Years of Experience	
Under 1 year	1 (5)
1-5	4 (20)
6-10	5 (25)
11-19	4 (20)
20 +	6 (30)

Categories and Holistic Codes Uncovered from Open-ended surveys

This section summarizes the categories and holistic codes resulting from the providers' responses to the open-ended survey questions. The open-ended survey was the primary data collection tool. Participants answered all questions on the open-ended survey, there was no missing data. Categories, holistic codes and narrative quotes presented represent open-ended survey responses. Categories will be organized by study research questions.

Research Questions

RQ1- What mental health screening tools are used during prenatal visits?

To identify what mental health screening tool is used by providers, it was first necessary to determine if providers had implemented a routine maternal mental health screening practice that adopted the use of a screening tool. Three key categories emerged from the data detailed below, (1) Current screening practice, (2) Outcomes of screening, and (3) Inefficiencies in the screening process. The majority of providers indicated some form of routine mental health screening implemented during their prenatal appointments. Providers identified the Edinburgh Postpartum Depression Scale (EDPS) as the most commonly used screening tool, followed by Unspecific screening tool. Outcomes of screening highlighted, referring to counseling, and prescribing medication as the most common treatment intervention after receiving a high depression score and providers identified a lack of screening guidelines as the most common inefficiency, they experienced to the screening process.

Current screening practice- Identifies providers who implemented a routine maternal mental health screening process and highlights screening tools is used by providers. From this category, two holistic codes emerged, implemented routine mental health screening practice, and screening tool utilized by providers.

Implemented routine mental health screening practice- This holistic code identified that the majority of providers (80%), expressed that their practice had implemented some form of a routine maternal mental health screening process during prenatal appointments. One provider detailed their screening practice stating, *“Yes, all prenatal patients are screened for mental health disorders during the*

first initial appointment.” Another provider expressed a similar statement, *“Patients are screened at each initial visit for depression.”* The implementation of a screening process suggests providers’ understanding of the need for maternal mental health screening during prenatal appointments. Moreover, a few providers revealed that they screen at 28 weeks of gestational age, which is the beginning of the third trimester, they stated, *“We screen at their 28-week visit using the EPDS to have a baseline, we then repeat the EPDS postpartum and compare scores.”* Another provider added, *“Yes, we screen at 28 weeks gestational age.”* However, current mental health screening guidelines recommend that patients be screen earlier in their pregnancy, preferably during the first initial visit. This finding may indicate that some women are not being screened soon enough to benefit from early detection and intervention.

Screening tool utilized by providers-Several validated screening tools are available that providers can choose to utilize during their screening process. This holistic code identifies the most commonly used screening tools among providers. Edinburgh Postpartum Depression Scale (EPDS) was identified as the most common screening tool used at (60%). One provider mentioned, *“We use the Edinburgh Depression screening questionnaire during pregnancy if patients have a h/o depression in the past and after delivery in all patients at week 4 and 10 postpartum.”* Another provider shared, *“Patients are given a printed copy of the Edinburgh Postpartum Depression Scale by the medical assistant once the patient is brought back to the exam room.”* This finding may suggest that providers are slightly more knowledgeable of and comfortable using the EPDS tool. The second most commonly used tool at (40%) were, unspecified company screening tools/basic depression screening tools, this provider added, *“Yes- everyone is screened with a basic depression screening”* and *“If the patient scores high enough on pre-screen, then provider completes a more detailed screening using the company’s screening tool.”* This response showed that almost half of providers are using unvalidated screening tools. Given the slight 10% frequency variability between screening tools used, findings may imply either tool has the same probability of being selected. This finding may also support the lack of screening guidelines assumptions, based on the variability of tool selection.

Outcomes of screening- The screening process does not end with screening tool utilization. The purpose of screening is to identify patients at risk for mental health disorders and then discuss a potential treatment plan. This category highlights the actions of the provider once the maternal mental health screening tool is administered and the patient receives a high depression score. Two holistic codes emerged, provider review results and discuss with patient and refer to counseling & prescribe medication.

Refer to counseling & prescribe medication- The holistic code, refer to counseling and prescribe medication, appeared as a combination treatment option for patients with a high depression score. Half of providers (50%), describe starting patients on some form of medication and referring patients to mental healthcare services in the area. A provider stated, *“If high scores discuss starting medication and the situational circumstances. Arrange follow-up. Referral to counseling etc.”* Another provider explained, *“if high, depression resources provided, discuss referral to counseling/psych, start medication if patient agrees with plan after discussing risk/benefit to mother/baby.”* Findings may imply that if patients are determined to be at risk for maternal mental health disorders there is at least a (50%) chance they will receive some form of treatment, either refer to counseling, prescribe medication or both.

Provider review results and discuss with patients- This holistic code describes (30%) of providers likely first steps after patients receive high depression scores. One provider shared their process after patient has a positive depression screening. *“If the patient has a positive screen, in-depth questioning regarding type, severity, and frequency of symptoms is performed by the provider. Based on these responses, treatment options are reviewed.”* Another provider describes a similar process of discussing screening results with their patient, *“If a patient has a high score, then I discuss the findings with patient and determine next steps.”* Findings may suggest providers willingness to offer resources to their patients, to address mental health concerns after screening.

Inefficiencies in the screening process-Describes inefficiencies and barriers providers encounter in the screening process. Two holistic codes were identified, lack of screening guidelines and disruption of the screening flow process.

Lack of screening guidelines- Almost half of providers, (40%), identified the lack of screening guidelines as a barrier to screening implementation and current screening practices. One provider stated, *“There really aren't any consistent clinical practice guidelines. There should be a validated tool specific to maternal mental health incorporated into the ACOG prenatal record.”* Another provider expressed similar sentiments, stating, *“There is a need for consistency in mental health screening recommendations from health care providers.”* Additionally, providers expressed the need for a standardized screening tool, they shared, *“Standardized screening tool and guidelines”* and *“A better screening tool than the EPDS may be more effective.”* These findings identified providers awareness of the routine screening recommendations but implies the vagueness in guidelines can impact screening practices.

Disruption of the screening flow process- Describes disruption in the sequence of steps, (10%), during and after the screening tool is administered. One provider highlighted an inefficiency in their screening process, *“The barriers to mental health screening include: - patients not filling out the screening paperwork - then nurse being too busy to give the patient the screening or to score/chart the screening - the nurse not notifying the OB of a high score.”* Another provider expressed a similar experience, *“A lot of times I see the depression screening form does not get filled out for whatever reason, or a high score gets charted by the nurse and no one has told the OB. I often find this when I go to get the patient's discharge paperwork ready.”* Results imply that even though a screening tool is being utilized, if depression scores are not reviewed and addressed patient will not receive the benefit of screening. The findings from this holistic code may suggest an opportunity to train clinical staff to reduce mental health screening process inefficiencies.

RQ2-What is the perspective of medical providers on the value of screening pregnant women for mental health disorders?

The findings of this research question explored providers' viewpoints regarding routine maternal mental health screening. Moreover, findings uncovered the value they have towards implementing routine screening practices and uncovered the impact screening recommendations have on providers' patient care

routines. One key category emerged from the data (1) Perceived value for mental health screening Recommendations

Perceived value for mental health screening recommendations- This category identifies providers perceived value for mental health screening recommendations. Findings highlight that the majority of providers perceived a positive value towards mental health screening and supported the implementation of routine screening practices. Two holistic codes emerged, expressed support for screening and perceived a need for mental health screening implementation.

Expressed support for screening-This holistic code describes providers' who support routine mental health screening recommendations. Responses indicate that the majority of providers, (70%) view screening for mental health disorders as an essential part of perinatal healthcare. One provider shared their view on mental health screening, *“It is extremely important to be able to identify mental health issues and let patients know what is available in their communities”* Another provider expressed their support for routine maternal mental screening and the benefits to future patient care, *“Screening should be a standard of care for all prenatal patients. Routine maternal mental health screening is very important.”* It is implied that providers who indicate a positive value and perspective towards new medical technologies are more like to engage in implementation practices, one provider appears to support this finding stating, *“I support 100%, I’ve been a supporter for years, and have brought prenatal screening to my last 3 practices with great success”* Finding indicate that support for mental health screening increases the likelihood of routine screening implementation.

Perceived a need for mental health screening implementation- Similar to providers who expressed support for routine mental health screening, this holistic code highlights the reasons why screening is needed. Half of the providers (50%) perceived a need for mental health screening implementation, detailing how the absence of screening can have a negative impact on patient pregnancy experience. One provider describes her personal experience as a birthing woman, and the lack of mental health screening she received, *“I feel like it is not something that is given enough attention. As both a practitioner and a birthing woman in this country, it is poorly assessed. I was never asked about my*

mental health during my pregnancy.” Another provider described their routine screening practices in another patient group, and identified the need to expand this practice to include routine maternal mental health screening as well, *“We do routine screening for elderly patients and I think we need to have a habit of doing maternal screening too.”* One provider remarked on the positive impact that screening can have on a patient’s overall experience during the prenatal and postnatal period, *“I think it should be done. It could likely help them have a better pregnancy and postpartum period”* Additionally, multiple providers appeared to express a shared value about routine screening, stating succinctly, *“Screening is not performed enough”*, *“Needs to be more often than it’s currently occurring”* and *“Because of that experience I am more aware of the need to screen prenatal and postnatal patients.”* Findings imply that providers who perceived a need for screening share a deeper understanding of the importance of screening and strongly encourage and/or practice routine maternal mental health screening.

RQ3-What barriers and facilitators do rural Georgia providers encounter when using maternal mental health screening tools during patient prenatal appointments?

The purpose of this study was to explore providers' use of maternal mental health screening tools and uncover the barriers and facilitators to screening experienced by providers during prenatal appointments. Therefore, the findings of this research question identified providers perceived barriers and facilitators to routine maternal mental health screening and highlights the impact these factors have on screening implementation. Analysis of the data revealed four key categories. Categories that represent barriers include, (1) Limited knowledge and understanding of mental health and (2) Limited resources to support screening practices, while categories that represent facilitators include, (3) Support structures and (4) Development of knowledge, skills, and techniques. The first category identified mental health stigma as the most significant barrier, the second category identified limited time during appointments as the most significant barrier. The third category highlighted both patient cooperation and collaborative participation as the most referenced holistic codes. Lastly, the fourth category highlighted adequate mental training as the most significant holistic code. The findings identify the area specific barriers and facilitators experienced by providers in southeast Georgia during prenatal appointments. Additionally,

these findings may inform solutions to reduce barriers, and promote facilitators of routine mental health screening implementation.

Barriers to Screening Practices

Limited knowledge and understanding of mental health- This category identifies the barriers to maternal mental health screening created by the limited information and training that providers have about mental health. Providers highlighted how these gaps in knowledge develop patterns of avoiding or ignoring mental health issues. Two holistic codes emerged, mental health stigma and lack of confidence addressing mental health concerns.

Mental health stigma- Describes the negative, discriminatory and dismissive attitudes and beliefs towards mental health illnesses and treatment. At least half of providers, (50%) identified stigma as a barrier to screening. Therefore, it can be implied that mental health stigma inhibits the development of a positive mental health screening culture. One provider describes the negative beliefs about mental health, stating, *“The taboo that exists around mental health. So many individuals feel like if they start a medication or see a counselor, it will come with judgment.”* Another provider implied that due to mental health stigma, patients may be reluctant to seek care, they stated, *“Mothers fear of failing or appearing not to be able to handle “all the things” or her own self-thoughts of guilt for feeling different than expected.”* Additionally, multiple providers mentioned that there are providers who express a lack of concern addressing and treating mental health conditions, they stated, *“Ob/gyn or other providers dismissing depression blaming it on hormones or baby blues”, “the OB not doing anything about a patient’s high score” and “I experienced postpartum depression. I had to be my own advocate and my feelings were dismissed by my Ob/gyn.”* Findings imply that providers who express stigma towards mental health illness and treatment are less likely to address mental health concerns.

Lack of confidence addressing mental health concerns- Describes providers' comfort level with mental health screening and the impact it has on their ability to address mental health concerns. This holistic code had a (40%) frequency. One provider stated that a barrier to mental health screening practices is the comfort level of providers, they shared, *“Many providers in women's health can be*

reluctant to screen for mental health issues because if you diagnose a patient you have to address your findings” Another provider explains the fear associated with maternal mental health treatment, *“Treating mental health in pregnancy can be intimidating from a provider standpoint because there are so many medications/disorders”* Others talked about feelings of inadequacy, *“ob providers not feeling qualified to identify and diagnose”* and *“uncomfortable with dealing with the issue of depression”* This suggest that providers who do not have adequate knowledgeable about mental health illness and screening are uncomfortable engaging in screening practices.

Limited resources to support screening practices-This category describes key resources that providers identified as important factors to consider in the decision to implement routine maternal mental screening. Findings indicate that a lack of these resources is a barrier to screening implementation and ultimately treatment. Three holistic codes emerged including, Limited time during appointments, Limited mental healthcare services in the area, and Limited financial assistance.

Limited time during appointments- Identifies time, as a barrier to routine maternal mental health screening. A significant number of providers (55%), expressed time as a barrier to screening, they stated, *“A Lack of time during appointments to fully discuss concerns”, “you may not have the time,” and “Total patient volume seen by providers, leading to time limitations”* Findings indicate that because of time constraints providers would not be able to adequately address screening results, therefore they are not motivated to screen routinely.

Limited mental healthcare services in the area- Describes the lack of mental healthcare services in the area. Multiple providers, (40%), echoed similar concerns about the limited availability of mental health services to refer their patients, they stated, *“limited mental health services in the area”, “We also have a great shortage of mental healthcare providers” and “lack of resources for referral once patients are identified.”* Findings suggest providers may be hesitant to screen patients due to a lack of resources in the area to support them once they received a positive depression score.

Limited financial assistance - Describes the cost and financial restraints associated with patients' ability to access mental healthcare services. Several providers, (30%), highlighted the financial barriers

affecting access to mental healthcare services, one provider states that the “*cost of mental healthcare is ridiculous*” Another provider implied that there is a need for, “*financial assistance for patients who cannot afford mental health services.*” This finding implies that the cost of mental healthcare and lack of financial assistance for mental health services can reduce providers screening practices and reduce patient patients’ willingness to be screened if they cannot afford treatment. Providers also mentioned the limited insurance coverage available for mental healthcare services, “*A lot of insurances don’t cover therapy*” Additionally, providers describe insurance companies' reimbursement policy as a barrier to mental healthcare and stressed the need for better reimbursement policies. One provider stated, “*Improved reimbursement for mental health screening and treatment*” Another provider shared a need for, “*Reimbursement to provide screening and discussion*” during prenatal appointments. Finding suggest that current reimbursement policies for mental healthcare treatment may discourage providers from routine screening practices due to the concern of not being compensated for their services.

Facilitates Screening Practices

Support structures- This category describes the social support structures that cultivates a favorable screening environment. Providers expressed how developing and strengthening these structures makes it easier for them to implement routine screening practices. Three holistic codes emerged including, patient cooperation, provider-patient relationship, and collaborative participation.

Patient cooperation- Identifies patients with favorable behaviors and attitudes towards mental healthcare and screening are more likely to facilitate the process. In response to factors that improve screening, (25%) of providers shared their perspective on the benefit of patient cooperation. One provider shared, “*Patients attitudes towards mental health screening,*” Another provider reported patient and family advocacy as a facilitator to screening, stating, “*Patient or family members being their own advocates*” and “*Patient behavior or patient request.*” Findings suggest that patients who play and active role in their healthcare and perceive mental health screening as important can improve and support screening practices.

Collaborative participation-Identifies (25%) providers' perspectives on the importance of team collaborative efforts and the impact on screening implementation, one provider implied, *“Getting the whole office team in board”* another provider shared a similar response, *“Team approach in clinic.”* Lastly, one provider remarked on the importance of having a strong mental health advocate within the clinical practice, they shared, *“A strong leader in Practice who is passionate about screening.”* This finding may imply that the presence of a strong mental health advocate in clinical practice encourages team engagement.

Provider-patient relationship-Findings suggest that developing a trusting relationship between providers and patients aids screening. A few providers, (10%), highlighted the importance of the relationship between provider and patient. One provider expresses, *“Seeing the same provider consistently may help establish a trusting relationship with the patient. The patient needs to feel comfortable in order to open up and share these feelings with her provider”* Another provider shared a similar response, *“In general, if they develop a trust relationship with the prenatal care team, they may be more likely to disclose symptoms.”* This finding implies that a strong provider-patient relationship can improve screening process due to patients’ willingness to open up to their providers concerning mental health struggles.

Development of knowledge, skills, and techniques- Providers identified this category as a facilitator to mental health screening. Providers expressed gaining knowledge, developing new skills and incorporating techniques are factors that contribute to routine mental health screening. Four holistic codes emerged, adequate mental health training, increased mental health education, increased mental health awareness and unassisted patient screening.

Adequate mental health training- Identifies providers' perspectives on the importance of training providers and staff to adequately and confidently develop the skillset to address mental health concerns. Numerous providers, (70%), expressed the benefit of trained staff, one provider stated, *“Adequately trained staff will implement these screening correctly and will identify and connect these patients to resources (mental health provider or Ob/Gyn)”* Another provider expressed training staff increases

confidence in screening practices, “*Appropriate training for nursing staff to feel confident in administering these screenings.*” This finding indicated that providers understand the importance of adequately training providers and staff about mental health screening practices and highlighted that trained staff are more likely to implement screening practices.

Increased mental health education-Highlights providers' support for educating providers, patients, and the general public about mental health disorders and the importance of screening. Several providers, (50%), shared their belief on the importance of education, “*Educating patients about the outcomes of untreated depression and the importance of depression screening*”, “*educate the general public about the importance of screening*” and “*increased provider education.*” Findings imply increased maternal mental health education improve routine screening.

Increased mental health awareness- Identifies providers' perspective on the importance of mental health awareness and its impact on screening implementation, (35%) of providers supported this holistic code. One provider stated, “*Provider awareness of the importance of mental health ante and postnatally*” Another provider indicated plans to increase prenatal screening due to increased awareness of mental health issues while participating in this research study, they expressed, “*Because of this survey, I will screen prenatal patients more often. There is a need.*” Providers imply that the awareness of maternal mental health screening recommendations encourage them to perform routine screening practices.

Unassisted patient screening - Describes the method used to complete the screening tool. More than half of the providers stated that currently their medical assistant staff are the persons administering the screening tool to patients, “*The medical assistant or intake nurse administer the EPDS survey questions*” A different provider expressed the same, “*The medical assistance does the screening.*” Although the above method appeared to be more common, a notable number of providers suggested, (30%), that patients are less likely to answer screening questions truthfully when asked by a staff member and would provide more accurate answers if the screening tool was self-administered. Multiple providers stated, “*The screening is completed by the patient without assistance from staff so that they feel safe to*

answer honestly” and *“Allowing patients to answer without guidance from office staff.”* Providers indicated unassisted patient screening can improve screening process. Suggesting this method of screening may evoke more truthful responses from patients.

Descriptive Statistics of Providers who Participated in Follow-up Telephone Interviews

Table 4.2 represents the characteristics of providers. The telephone interview participants are a subset of the total 20 participants. Eight (8) medical providers participated in the follow-up telephone interviews, the majority, 7 (87.5%) were female while only one (12.5%) was male. Most participants were between the ages of 30-39 (37.5%) and 40-49 (37.5%). Five participants identified as White (62.5%), two identified as Black/African American (25%) and one identified as Asian/Pacific Islander (12.5%). More than half of the participants were Nurse Practitioners (62.5%). A significant number of participants had the job title of Nurse Practitioner (75%). Most of the participants practiced in Bulloch County (62.5%) followed by Chatham County (25%). Finally, the majority of participants had between 20 plus years (37.5%) and 6-10 (37.5%) years of experience.

Table 4.2:Demographic Statistics of Follow-up Telephone Interviews

Variable	N (%)
Gender	
Female	7 (87.5)
Male	1 (12.5)
Age (years)	
18-29	0
30-39	3 (37.5)
40-49	3 (37.5)
50-59	2 (25)
60-69	0
Ethnicity	
White	5 (62.5)
Black/African American	2 (25)
Hispanic or Latino	0
Asian/Pacific Islander	1 (12.5)
Medical Degree	
MD	2 (25)
PA	0
NP	5 (62.5)
Other	1 (12.5)
County	
Tift	0
Bryan	1 (12.5)

Bulloch	5 (62.5)
Chatham	2 (25)
Effingham	0
Coffee	0
Candler	0
Long	0
Glynn	0
Job Title	
Nurse Practitioner	6 (75)
OBGYN Physician	1 (12.5)
Family Physician	1 (12.5)
Physician Associate	0
Registered Nurse	0
Years of Experience	
Under 1 year	1 (12.5)
1-5	0
6-10	3 (37.5)
11-19	1 (12.5)
20 +	3 (37.5)

Categories and Holistic codes Uncovered from Follow-up Telephone Interviews

This section summarizes the categories and holistic codes resulting from the providers' responses to the follow-up telephone interviews. The optional follow-up telephone interviews were supplemental to the open-ended survey and gave participants an opportunity to provide additional details and explanations for their survey responses. Due to the supplementary nature of the follow-up telephone interviews, many of the categories and holistic codes are identical to the categories and holistic codes uncovered in the survey data. The interviews were a continuation of responses from the survey with added detail and explanations. Participants answered all interview questions, there was no missing data. Categories, holistic codes, and narrative quotes presented represent interview responses. Categories will be organized by study research questions.

Research Questions

RQ1- What mental health screening tools are used during prenatal visits?

The follow-up interviews uncovered the category (1) Reasons for screening tool selection, (2) Outcomes of screening and (3) Challenges in treatment evaluation.

Reason for screening tool selection-This category is an extension of the category, Screening tools utilized by providers uncovered in the survey data. It identifies providers' reasons for selecting a specific mental health screening tool during their screening process. The two holistic codes are the two most commonly used screening tools identified in the surveys which were the Edinburgh Postpartum Depression Scale (EPDS) and Unspecified company screening tool/basic depression screening tool.

Edinburgh Postpartum Depression Scale (EPDS)- Most commonly used screening tool.

Describes the reasons for selecting the Edinburgh Postpartum Depression Scale, two providers stated:

“You know, for me personally, we use that one because that's the one that the practice that I joined already had in place. So, you know mostly that, I mean I didn't look at all of the ones and choose one myself, but I think just historically that's the one they used in the hospital as well. And so, it's kind of all aligns that way. What we screen for prenatally and then in the hospital and then postpartum is all with the same scale. That way, if there's any changes, it can be captured a little more easily, that may be why they initially chose that particular one, that is the EPDS.” (Provider T-1)

“There's actually several reasons, one is it's a very universal tool even though it's a postnatal depression screening score it the questions are not related to pregnancy, they're very universal and so you get very comfortable with the particular screening and we use this very often in the obstetrical patients and that is the primary screening tool and so because it's neutral, we can use it, you know, across the board and I feel it's valid (Provider T-3)

Unspecified company screening tool-The second most commonly used screening tool used by providers. Describes reasons for this tool selection. One provider explains that the decision to use a company screening tool is based on their current electronic health record system, she shared.

“It is because the electronic health record that we have, it is was sort of migrated into the system that our hospital system uses from a practice that had been physician owned and was going to be very expensive to upgrade it or change it and so they kind of kept it. But it doesn't have a lot of the features like to be able to integrate a PHQ9 or Edinburgh or something like that into it. So, the practice where I'm working has been a single solo practice physician for years and so it's just not that, they ask screening questions and there's a, you know, box check depression kind of thing. But in terms of using a validated screening tool routinely for the MA screening, there's just not really a place in the medical record for it. It's just not something they have ever pursued.” (Provider T-7)

Findings indicate screening tool selection is mainly based on existing screening practices in medical offices.

Outcomes of screening- This category highlights the actions of the provider once the maternal mental health screening tool is administered and the patient receives a high depression score. Three holistic codes identical to the survey emerged, provider review results and discuss with patient, refer to counseling, and prescribe medication. However, category (4) Challenges to treatment evaluation, and holistic codes, follow-up with patient and lost to follow-up, emerged from the interview data.

Provider review results and discuss with patients- Describes the likely first steps taken by providers after patients receive high depression scores. Two providers shared,

“So, it queues a discussion. I ask all patients, regardless of their score, how they're feeling, that all patients that screen positive that the conversation starts with, you screen positive on this depression screening and I get a little bit more in-depth into what their symptoms are” (Provider T-6)

“We review it and look at their scoring then, we will typically address it If there is anything concerning.” (Provider T-2)

Findings imply after providers review results there is a discussion with the patient to address concerning scores. During this discussion providers determine next steps i.e., treatment plan.

Refer to counseling -Describes one of the treatment options for patients with a high depression score. Providers describe referring patients to mental health care services in the area. One provider stated,

“Currently we are referring, we have a provider associated with our group practice that is currently obtaining her DNT right now in Female mental health, I can't remember the exact title, with the end goal being for her to provide that service to our patients once she completes that, but as of right this minute we refer them to practices other practices in states where we have.” (Provider T-1)

Another provider shares the extent of their abilities to help a patient with a concerning depression score but ultimately patients are referred out for further professional counseling.

“We, you know, we can do your basic personal heart to heart. You know, like unofficial counseling, but for like a psychologist or psychiatrist who does that on a daily basis as their profession, then we refer them out.” (Provider T-8)

Findings suggest an intent to provide counseling services for patients in office in the future, to eliminate the need to refer to outside services. However, until those services are available to patients, they are referred to mental healthcare services. Additionally, results show providers attempting to support their

patients with informal discussions about mental health, but ultimately referring patients to receive professional help.

Prescribe medication- Describes providers' decision to prescribe medication to treat maternal mental health diagnoses after a high depression score. One provider explained,

“Well, we discussed options for treatment, such as medication, depending on the person's situation, depending on, I think it depends on the interaction with us, how they're affected.” (Provider T-8)

Another shared that a score of 20 on the EDPS screening automatically indicates the need to be on some kind of treatment. However, they implied that each case is different, therefore, even if a patient scores less than 20 they may still require intervention after further investigation.

“For example, sometimes they're fine and then you're like well, Ms. Smith you made a 14 and I see here you're really struggling with blaming yourself, and all of a sudden they burst into tears right in front of you and you're like, oh, I'm going to go, tell me more, and then you realize that maybe they do need to be on medicine even though they're only a 14 but usually those over 20 most definitely should be on some kind of treatment.” (Provider T-3)

Findings imply that there is usually a threshold number on a screening tool that will indicate the need to discuss starting medication. However, this decision is on a case-by-case bases.

Follow-up with patient- Provider explains the process that happens after treatment options are provided to the patient. Providers detail scheduling follow-up visits after initial screening and treatment to monitor patients' progress.

“Yes, yes, we, yeah, we don't just refer them and they don't come back to us. No, we keep an eye on them. Make sure they're doing well and they're doing better.” (Provider T-8)

“No, no, I bring them back, you know, if I start medicine or, you know, refer them to counseling I bring them back in a month, typically just to touch base with them and then maybe again three months after that if they seem to be stable. But usually no more than a month.” (Provider T-3)

Findings imply that all patients who receive treatment for a high depression score receives a follow-up appointment date to monitor patients progress, especially if they are prescribed medication.

Challenges in treatment evaluation-This category describes barriers providers encounter in monitoring their patients once they provide treatment interventions. One holistic code was identified, lost to follow-up.

Lost to follow-up- Providers express that when they provide treatment intervention, they schedule follow-up appointments to monitor patients' progress. However, they face barriers due to the loss of follow-up from patients. They shared.

“If a patient is referred out, they’re absolutely going to have a follow-up appointment scheduled within our office. If they, you know, don’t show up that could be a little barrier if people don’t show.” (Provider T-1)

“Sometimes, like, sometimes they, sometimes they don’t show up and that’s really not anything you can do about that, except trying to call them and you know, reach back. But again, you do your best and you make an effort to have them come back to you.” (Provider T-3)

Findings indicate that although patients receive follow-up appointments to monitor the effect of their treatment plan, patients may not show up for their appointment. Therefore, keeping track of their progress can be a challenge.

RQ2-What is the perspective of medical providers on the value of screening pregnant women for mental health disorders?

The findings of this research question explored providers' viewpoints regarding routine maternal mental health screening. Moreover, findings identified the value they have towards implementing routine screening practices and uncovered the impact screening recommendations have on providers' patient care routines. One key category emerged from the data (1) Perceived value for mental health screening recommendations

Perceived value for mental health screening recommendations- This category identifies providers perceived value for mental health screening recommendations. Findings highlight that the majority of providers perceived a positive value towards mental health screening and supported the implementation of routine screening practices. Three holistic codes emerged, expressed support for

screening, perceived a need for mental health screening, and increased awareness from mental healthcare recommendations.

Expressed support for screening-Describes providers' thoughts surrounding routine mental health screening recommendations. Responses indicate that the majority of providers believe that screening for mental health disorders is an essential part of perinatal health care. Multiple providers shared similar statements and highlighted their beliefs on the importance of screening prenatally, and not only during postpartum visits. One provider expressed support for screening because they are able to capture more patients prenatally that could benefit from mental health services.

“I feel like since we’ve gone to screening at 28 weeks, we have captured a lot more patients that could use counseling services. We find them first of all, when they’re pregnant versus when they’re postpartum and can implement it sooner.” (Provider T-1)

Another provider expressed support for screening all patients. Additionally, they shared that developing a screening tool specifically for prenatal patients would be more beneficial than using a tool originally developed for postpartum depression screening.

“Well, in general on routine mental health screening, I think that everybody going in for a, you know, primary care provider exam, wellness exam, you know, there should at minimum be screening every patient that walks in the door of a clinic with PHQ 2 and then reflecting to PHQ 9 if they’re positive on that screen. In terms of perinatal mental health, you know we have the Edinburg for postnatal, so that was obviously with postpartum depression was recognized as a problem decades ago and we had that tool. But it’s a unique set of stressors and challenges in pregnancy that aren’t the same as postpartum. So that’s why I feel like we really need to develop a screening tool for pregnancy and perinatal that’s not just focused on the issues of postpartum depression.” (Provider T-7)

Findings suggest a positive attitude towards maternal mental health screening, and highlights the benefits of screening patients perinatally.

Perceived a need for mental health screening-Highlights why provider's perceive a need for mental health screening implementation. One provider reflected on their personal pregnancy experience which made them recognize the need for prenatal screening.

“Just make sure that everybody’s screen and it’s not disregarded because that’s what happened with me, so that’s why I’m so adamant about it” (Provider T-5)

Another provider expressed a need for screening both prenatally and postnatally to establish a baseline to identify any changes in mental health.

“You know that the post postpartum period is linked to higher levels of depression, so you know, interestingly enough I used a different obgyn practice in the same town when I was pregnant than the one, I'm currently working at, and there was no screening at that practice during the prenatal period. It was only postpartum. So, I do appreciate that our practice does it in addition to postpartum because you can't really capture a change in someone's mental health if you don't know what it was. If you don't know your baseline.” (Provider T-1)

Findings suggest a need for routine prenatal screening by highlighting the negative impact maternal mental health disorders can have on pregnant women.

Increased awareness from mental healthcare recommendations-Describes routine maternal mental health screening recommendations and its impact on providers' healthcare practices. Moreover, these findings identify a possible relationship between maternal mental healthcare awareness and increased motivation from providers to take steps to address mental health issues. One provider detail how screening recommendations and discussions about maternal mental health has impacted her patient care practices.

“I would say I think there's increased awareness from a provider standpoint. So I think it just has increased my awareness and you know, with having women come in for prenatal visits so often during their pregnancy, it gives you an, you know, ample opportunity to talk to patients about mental health either during pregnancy or postpartum, so it changed it, it kind of just put it on the forefront of my mind where I would at least address it, you know, and say you know, if you're struggling there's support groups, there's, you know, we can get you into peer groups. So that's I think it's just the awareness and then addressing it, it helped me address it at, you know routinely at previous visits.” (Provider T-4)

Another provider explained the lack of mental health education and screening recommendations during her medical training program. She noted that in light of these recommendations, she is more aware of mental health issues and more likely to address them.

“I would say yes, because it's made me more aware of the issue, especially to deal with postpartum depression. Because in my training, we did not, and that was not a hot topic when I was going through. But now we're more aware of it, and we're asking more about it, and on the alert more compared to when I started.” (Provider T-8)

Findings imply increased awareness about mental health disorders and screening recommendations are likely to improve screening rates and increase routine screening implementation.

RQ3-What barriers and facilitators do providers encounter when using maternal mental health screening tools during patient prenatal appointments?

The findings of this research question identified providers perceived barriers and facilitators to routine maternal mental health screening tool implementation. Analysis of the follow-up telephone interview data revealed identical key categories to the survey data, (1) Limited Mental Health Knowledge and Understanding, (2) Limited Resources to Support Screening Practices, (3) Support Structures and (4) Development of Knowledge, Skills, and Techniques

Barriers to Screening Practices

Limited mental health knowledge and understanding-This category identifies the barriers to maternal mental health screening created by the limited information and training that providers have about mental health. Providers highlighted how these gaps in knowledge develop patterns of avoiding or ignoring mental health issues. Three holistic codes emerged, mental health stigma, lack of confidence addressing mental health concerns and lack of provider training.

Mental health stigma - Describes the negative, dismissive, and discriminatory attitudes and beliefs towards mental health illnesses and treatment. Therefore, it can be implied that mental health stigma inhibits the development of a positive mental health screening culture. One provider expressed patients deny treatment although their symptoms suggest otherwise, which may imply a negative association with mental healthcare treatment.

“I’ve had patients flat out say, you know, I’m struggling with my emotions, I’m having trouble with anger outburst, you know, tearful, a lot of this kind of stuff and we offer them medication and counseling, and they’re like, oh, no, I don’t need all that.” (Provider T-1)

Additionally, providers mentioned that there are providers who express a lack of concern regarding addressing and treating mental health conditions, they stated.

“there’s so much stigma with mental health and especially during pregnancy and women in general because people are supposed to be happy when they’re pregnant, so a lot of times providers “poo poo” it” (Provider T-4)

This provider continued by highlighting the lack of priority that providers have towards mental healthcare versus other healthcare areas, they added.

“We get into one of those things, I mean it's that, I don't know if it's stigma, I don't know what it, but it's like, OK, if I can go to a pharmaceutical dinner at Ruth Chris or, you know, learn some new surgical technique I'm going to do that instead of going to my postpartum depression conference, providers are just you know, it's yeah, they just don't want to deal with it.” (Provider T-4)

Findings imply that due to mental health stigma providers may be less likely to implement routine screening practices. Also, patients may be reluctant to receive treatment for concerning depression scores based on their negative view of mental health disorders and treatment of these disorders.

Lack of confidence addressing mental health concerns- Describes providers' comfort level with mental health screening and addressing mental health concerns. One provider stated that a barrier to mental health screening practices is the comfort level of providers,

“So, this is something I found through my own little study I did for my doctoral research and it was something I ran into with the community OBGYN that I worked with. They didn't want to do any screening because they didn't feel comfortable in their work, they would say they didn't want to deal with it.” (Provider T-4)

“So, if you diagnose this, you're going to have to flesh it out. You have to talk to this person. Going to have to work on it. Some people feel uncomfortable, so being uncomfortable is a barrier” (Provider T-3)

Findings suggest that providers who are not adequately trained to address mental health issues are not comfortable screening for and treating mental health concerns, this may decrease routine screening implementation.

Lack of provider training- Identifies the negative impact of limited mental health training among providers. One provider describes the training discrepancies between physical healthcare and mental healthcare among practitioners.

“So, I think it's just, you know, and training, a lot of OB GYNs focus so much on like, you know, all the disease management, all that stuff, surgery, but they don't get a lot of training on how to screen for mental health disorders” (Provider T-4)

Although the majority of providers expressed the need to train providers, one provider shared the importance of having adequately trained support staff, they explained.

“Well one of the biggest barriers, of course, is having clinical staff, not necessarily the providers, but, you know, the medical assistants and nurses that are putting patients back, you know, lack of training and how to approach those questions, it's, you know, sometimes

difficult and awkward to ask some of those questions, just like it is sexual history, and so they just sort of like say, “you don’t have any depression do you”. (Provider T-7)

Findings suggest that a lack of provider training on mental healthcare issues decreases the likelihood of routine screening implementation.

Limited resources to support screening practices-This category describes key resources that providers identified as important factors to consider in the decision to implement routine maternal mental screening. Findings indicate that a lack of these resources is a barrier to screening implementation and ultimately treatment. Three holistic codes emerged, limited time during appointments, limited mental healthcare services in the area and limited financial assistance.

Limited time during appointments- Identifies time as a barrier to routine maternal mental health screening. A significant number of providers expressed time as a barrier. Providers describe the amount of time allowed for a visit as an inhibiting factor,

“So as far as time, so a lot of times you know with your visit, you're limited to 15 minutes or what have you” (Provider T-4)

“In full disclosure, time is an inhibiting factor for doing this at a more routine basis. So, we can only allow for as much time for a visit that we are told we can do.” (Provider T-6)

Another provider expresses the impact of time limitation in relation to their ability to address mental health concerns, stating:

“You can't really drive into somebody's mental health in that amount of time with her, in addition to dealing with the blood pressure, diabetes, and cholesterol and there's a certain number of people, we have to see a day in order to keep your doors open and it's just, yes time is an issue.” (Provider T-8)

Findings suggest time is a significant barrier to screening, providers identified time constraints as a reason to forgo screening practices.

Limited mental healthcare services in the area- Describes the lack of mental healthcare services in the area. Multiple providers echoed similar concerns about the limited availability of mental health services. One provider debates their decision for screening because of limited mental healthcare services.

“Are there even resources available in our community? Why screen if I can't take care of it, why would I want to open that, Pandora's box.” (Provider T-3)

Another provider shares the difficulties they face trying to navigate their patient to access mental healthcare services when the options are few.

“We have limited resources in Statesboro, so it's hard to get patients into psych. Also, lack of providers, because if we do find someone who qualify that needs further help there's no place to send them in Bulloch County. I think Pineland is the only one that consistently takes any kind of Medicaid, so it's hard and nobody wants to go to Pineland, so it's hard to find a place for these people to go. It's enough trying to convince somebody, yes, you need to talk to someone else, but if we have trouble finding somebody then, you know, I can lose the chance of that patient going if they're willing to go. If I can get them in, then yeah, they'll be seen, but if I keep putting it off, and putting it off, they'll get lost in the cracks.” (Provider T-5)

Findings imply that due to limited mental healthcare services in the area providers may be reluctant to screen patients because it may be difficult to find services to support patients.

Limited financial assistance - Describes the cost and financial restraints associated with patients' ability to access mental healthcare services. Providers highlighted the financial barriers affecting access to mental healthcare services and the limited insurance coverage for mental healthcare services, one provider states.

“Well, just that Mental Healthcare needs to be more affordable and needs to be better access because a lot of the mental health professionals they don't take Medicare, Medicaid, and a lot of people are on Medicare, Medicaid, and those patients need help too.” (Provider T-8)

Additionally, providers describe insurance companies' reimbursement policies as a barrier to mental healthcare and stressed the need for better reimbursement practices. One provider details the reimbursement structure for pregnant patients versus non-pregnant patients and implies that this structure may inhibit providers' motivation to address mental health concerns during prenatal appointments because they are not compensated for their time, they explain.

“Reality of obstetric care is that it's a global fee reimbursement. So, if I see a patient who is not pregnant in a non-global fee thing, if the patient just comes in, she's not pregnant and she just wants to talk about anxiety and depression. If I have a very lengthy conversation with her, I have a complex decision-making process, prescribe the medication and send a referral and do whatever I'm compensated for that time and can bill her according to the time that it took to care for her. Pregnancy care and postpartum care are global, so you get, let's say, \$7000 for all of the prenatal care, and her delivery, and her postpartum care, regardless if you spend 5 minutes with her or an hour with her. If she has a high-risk pregnancy that you see her follow up for, or low-risk pregnancy that you don't, and so the structures that be, I work for a for-profit organization that don't allow the

prioritization of expanded time with non-reimbursable visits if that makes sense. It's unfortunate, like to let people see behind the curtains that it actually happens in healthcare, but it's like a business.” (Provider T-6)

Findings suggest a lack of financial assistance creates a barrier for patients who cannot afford mental healthcare services. Additionally, because of insurance reimbursement policies for pregnant patients’ providers are less likely to screen for mental health disorders due to lack of compensation for their time.

Facilitates Screening Practices

Support structures- This category describes the social supports structures that cultivates a favorable screening environment. Providers expressed how developing and strengthening these structures makes it easier for them to implement routine screening practices. One holistic code emerged, identical to the survey, provider-patient relationship.

Provider-patient relationship- Highlights the importance of the relationship between provider and patient. One provider detailed the importance of routine mental health screening which helps to develop trust between the provider-patient relationship, they detailed.

“Just normalizing that conversation around mental health diagnosis and not just being a question that you ask at the first prenatal visit and at their postpartum visit because a lot can happen in between, and just sort of normalizing that as a part of their prenatal visits is that, you know, we're going to ask you about these things and, you know, so that they feel comfortable bringing it up or they feel comfortable answering. Maybe at that first visit, they didn't feel comfortable with once they've seen either the clinical staff or the provider or both a few times and they have a little more trust then they may say, well, you know, I actually have been experiencing this or I actually have been feeling that or I've had trouble with this all my life but now it's worse. So that kind of goes back to that trusting relationship. But I think, you know, having something that happens at every prenatal visit is important.” (Provider T-7)

Another provider shared similar sentiments that imply routine mental health screening positively impacts the provider-patient relationship.

“I think it helps you to establish a rapport with patients for them to feel like, you know, they have a safe place and that you actually care about their feelings.” (Provider T-6)

Findings suggest the importance of the provider-patient relationship, and highlights the positive impact this relationship can have on screening and treatment outcomes.

Development of knowledge, skills, and techniques-Providers' identified this category as a facilitator to mental health screening. Providers expressed gaining knowledge, developing new skills and incorporating new techniques are factors that contribute to routine mental health screening. Two holistic codes emerged, identical to survey including, increased mental health education, and unassisted patient screening.

Increased mental health education- Identifies providers' perspectives on increased education about mental health which may lead to a reduction in mental health stigma. The provider highlights the importance of increased mental health knowledge and education and promoting patient buy-in for screening, they detailed.

“Yeah, educate patients about outcomes and tell them it's a don't consider like depression as a stigma or anything like that and you have like severe outcomes like suicide increase, suicidal rate, and self-hurting rate, all those things and the untreated depression can lead to like, like early Alzheimer's, all those types of things we can give like patient education. If they understand more about it so they were not gonna be like resists to get the screening done.” (Provider T-2)

In addition, one provider suggested potential methods to increase patient education to reduce stigma and subsequently facilitate screening. This provider recommended a community approach to spread mental health awareness to the public using celebrities and well-known public figures to amplify messaging, they shared.

“In terms of the stigma, you know, just having commercials, having people like the celebrities, the singers, the sports people, the preachers, and everybody, you know, people, teachers saying, hey, you know, mental health is like a broken bone, it's like diabetes, it's like high blood pressure, it needs to be treated. It's a chronic issue and it's not, you know, it's not a bad thing. Then in the screening, just when they come in, just say, you know, a lot of people do it and such-and-such. So, if you have any issues you know, let us know. It's not a bad thing, it's not a rare thing. So, it's educating, and letting people see and knowing people who are going through that, that have made it public now, that that would help.” (Provider T-8)

Findings imply increased mental healthcare education can help to reduce stigma and create support for screening practices and treatment of mental health disorders.

Unassisted patient screening- Identifies providers' belief that unassisted patient screening practices facilitate the screening process. Providers suggested that allowing patients the opportunity to the

complete screening questionnaire without help from staff may promote more truthful responses. Two providers expressed.

“It gives patients the time to answer that question by writing, not that they answer it differently verbally, but they sometimes hesitate when you ask them that verbally, but when they're just filling out boxes or circling their answers, they're a little more truthful, so like that includes the question regarding suicidality.” (Provider T-6)

“If you do screening, they'll be very honest and tell you that they're struggling on paper, but they won't tell you verbally.” (Provider T-3)

Findings suggest allowing patients to complete screening questionnaire unassisted may evoke more truthful and honest responses regarding their mental health status.

Category Frequencies for Telephone Interviews

Table 4.3 below shows the category frequency for each category/holistic code emerged from the follow-up telephone interview data. The frequency was calculated by the number of participants who mentioned a particular holistic code divided by the total number of participants (N=8), multiplied by 100. These results show the most common categories among participants, the more participants mentioned a category, the higher the frequency. Bracket data in column, *No. of Interview responses by interviewee*, indicates the individual interviewee response by participant interview identification number. Additionally, these findings helped to determine data saturation among interview participants.

Table 4.3: Category Frequencies for Telephone Interviews

Category	Holistic Codes n (%)	Interview Responses by Interviewee	Illustrative Quotes
Reason for screening tool selection	<i>EPDS 4(50%)</i>	(1,3,4,6)	<ul style="list-style-type: none"> “It's a pretty easy tool for patients to use. It's pretty well validated” (T-6) “It's a very universal tool even though it's a postnatal depression screening score the questions are not related to pregnancy” (T-3)
	<i>Unspecific screening tool 4 (50%)</i>	(5,6,7,8)	<ul style="list-style-type: none"> “Our company they use it for everybody. So, every patient gets the same screening coming in.” (T-5)

			<ul style="list-style-type: none"> • “Well, it's the one that we have access to.” (T-8)
Outcomes of screening	<i>Provider review results and discuss with patient 4 (50%)</i>	(1,2,3,6)	<ul style="list-style-type: none"> • We review it and look at their scoring then, we will typically address it if there is anything concerning.” (T-1) • “If you see the screening score is high, of course you can go into details about the depression.” (T-2)
	<i>Refer to counseling 5 (62.5%)</i>	(1,3,4,6,8)	<ul style="list-style-type: none"> • “There's a threshold number, I don't remember what that number is. But whatever that threshold number is then you refer them out” (T-4) • “You know, as far as the counseling services, that's what we refer.” (T-1)
	<i>Medication 4 (50%)</i>	(1,3,6,8)	<ul style="list-style-type: none"> • “If they have never been on medicine, I introduced that concept that we're going to try and start you out on something” (T-3) • Well, we discussed options for treatment, such as medication, depending on the person's situation.” (T-8)
	<i>Follow-up with patient 6 (75%)</i>	(1,3,4,5,6,8)	<ul style="list-style-type: none"> • “We would make sure we'd have one of our medical assistants follow up with patients to make sure they were being seen for mental health” (T-4) • “If they don't follow up with psych then they always, well, we treat here and then follow up also.” (T-5)
Challenges in treatment evaluation	<i>Lost to follow-up 2 (25%)</i>	(1,3)	<ul style="list-style-type: none"> • “If they, you know, don't show up that could be a little barrier if people don't show.” (T-1) • Sometimes they don't show up and that's really not anything you can do about that, except trying to call them and you know, reach back” (T-3)
Perceived value for mental health screening recommendations	<i>Expressed support for mental health screening 4 (50%)</i>	(1,2,4,7)	<ul style="list-style-type: none"> • “I feel like since we've gone to screening at 28 weeks, we have captured a lot more patients that could use counseling services.” (T-1) • “If we can get everybody to be screened that would be great.” (T-2)

	<i>Perceived a need for mental health screening recommendations</i> 5 (62.5%)	(1,3,5,6,7)	<ul style="list-style-type: none"> • “Just make sure that everybody's screen and it's not disregarded because that's what happened with me, so that's why I'm so adamant about it” (T-5) • “I think what I was sort of thinking with that is you know, it's not just something that needs to happen at the first visit.” (T-7)
	<i>Increased awareness from mental health screening recommendations</i> 4 (50%)	(1,4,5,8)	<ul style="list-style-type: none"> • “I would say I think there's increased awareness from a provider standpoint.” (T-4) • “Honestly until I took your survey, I really didn't think too much about the fact that we see so many women all ages for annual wellness exams and never is a part of that mental health screening” (T-1)
Limited mental health knowledge and understanding	<i>Mental health stigma</i> 3 (37.5%)	(1,4,5)	<ul style="list-style-type: none"> • “There's so much stigma with mental health and especially during pregnancy and women in general because people are supposed to be happy when they're pregnant, so a lot of times providers “poo poo it” (T-4) • “They like heard from family or whoever that, you know, that it'll get better and that it's just crazy to think you can take medicine or, you know, things of that nature.” (T-1)
	<i>Lack of confidence</i> 2 (25%)	(3,4)	<ul style="list-style-type: none"> • “A lot of people don't want to do that because then when you diagnose something, you have to deal with it, so there's that, there's that flip side of the coin.” (T-3) • “They didn't want to do any screening because they didn't feel comfortable in their work, they would say they didn't want to deal with it.” (T-4)
	<i>Lack of provider training</i> 2(25%)	(3,4)	<ul style="list-style-type: none"> • “I think it's just training, a lot of OB GYN's focus so much on like, you know, all the disease management stuff, but they don't get a lot of training on how to screen for mental health disorders.” (T-4)

			<ul style="list-style-type: none"> • “We just train people, we train people to recognize things and we also train them how to deal with the score and how to be nice to people, how to, you know, respect people and you know, appreciate this hidden diagnosis” (T-3)
Limited resources to support mental health screening	<i>Limited time during appointments</i> 5 (62.5%)	(2,3,4,6,8)	<ul style="list-style-type: none"> • “Time is an inhibiting factor for doing this at a more routine basis.” (T-6) • “I think time is also a barrier. So, if you diagnose this, you're going to have to flesh it out.” (T-3)
	<i>Limited mental healthcare services in area 2</i> (25%)	(3,5)	<ul style="list-style-type: none"> • “We have limited resources in Statesboro, so it's hard to get patients into psych” (T-5) • “Are there even resources available in our community? Why screen if I can't take care of it, why would I want to open that, Pandora's box” (T-3)
	<i>Limited financial assistance</i> 3 (37.5%)	(5,6,8)	<ul style="list-style-type: none"> • “Well, just that Mental Healthcare needs to be more affordable and needs to be better access.” (T-8) • “Better funding, better insurance coverage.” (T-5)
Support structures	<i>Provider-patient relationship</i> 3 (37.5%)	(3,6,7)	<ul style="list-style-type: none"> • “I think it gives it helps you to establish a rapport with patients for them to feel like they have a safe place and that you actually care about their feelings.” (T-6) • “Once they've seen either the clinical staff or the provider or both a few times they have a little more trust. So, that kind of goes back to that trusting relationship.” (T-7)
Development of knowledge, skills, and techniques	<i>Increased mental health education</i> 2 (25%)	(2,8)	<ul style="list-style-type: none"> • “Educating, and letting people see and know people who are going through that.” (T-8) • “Give like patient education, if they understand more about it, so they are not gonna be like resists to get the screening done.” (T-2)

	<i>Unassisted patient screening 3 (37.5%)</i>	(2,3,6)	<ul style="list-style-type: none"> • “If you do screening that they’ll be very honest and tell you that they’re struggling on paper, but they won’t tell you verbally” (T-3) • “It gives patients the time to answer that question by writing, not that they answer it differently verbally, but they sometimes hesitate when you ask them that verbally.” (T-6)
--	---	---------	--

The category reasons for screening tool selection had two holistic codes, EPDS and Unspecific screening tool, each had a frequency of (50%), findings indicate each tool had an equal chance to be used by providers. Outcomes of screening identified four holistic codes, refer to counseling, had the highest frequency among treatment options (62.5%), while the holistic codes, provider reviews results and discuss with patient, and prescribe medication each had a (50%) frequency. Follow-up with patient had the highest holistic code frequency, (75%) overall. Providers seemed to strongly suggest the importance of following up with a patient once treatment plan is introduced. A few providers mentioned, lost to follow-up (25%) as a challenge they encounter while attempting to monitor their patients.

Among the category, perceived value for mental health screening recommendations which identified providers’ perspectives on the value of screening, the holistic code, perceived a need of mental health screening had the highest frequency (62.5%), followed by, expressed support for mental health screening and increased awareness from mental health recommendations which each had a (50%) response rate. These findings seem to indicate that at least half of providers expressed a positive value towards mental health screening and the recommended guidelines.

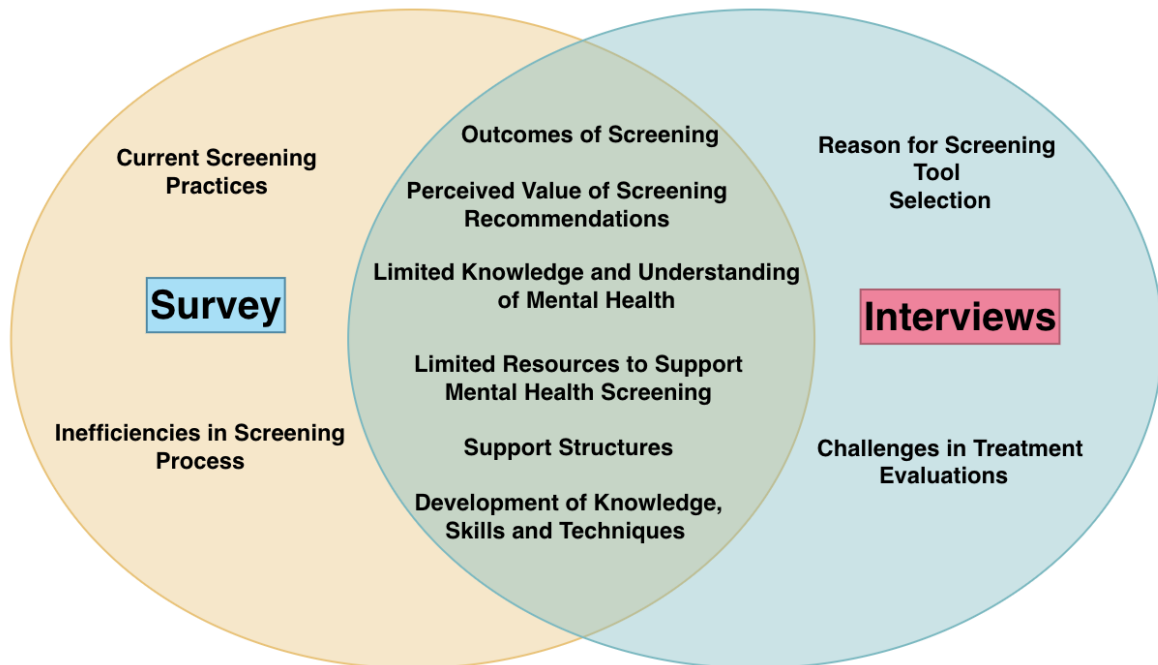
Two key categories emerged as barriers to screening. The category limited mental health knowledge and understanding had three holistic codes, mental health stigma and lack of confidence addressing mental health concerns, each had a frequency of (37.5%) among participants, and lack of provider training revealed a (25%) frequency. All three aforementioned holistic codes indicate equal or similar importance to participants. The category limited resources to support mental health screening had three holistic codes, limited time during appointments emerged as the most common holistic code

(62.5%), followed by limited financial assistance (37.5%) then limited mental health services in area at (25%). Two categories emerged as facilitators to screening, support structures had one holistic code, provider-patient relationship which had a frequency of (37.5%). Lastly, the category development of knowledge, skills, and techniques had two holistic codes, unassisted patient screening was most common (37.5%) and increase mental health education showcased a (25%) frequency.

Comparison between Open-ended Survey and Follow-Up Telephone Interviews

This study utilized two data collection instruments, online open-ended surveys and optional follow-up telephone interviews. A total of twenty (20) medical providers were recruited, eight (8) agreed to participate in the follow up telephone interviews. The goal of the study was to explore medical providers use of maternal mental health screening tools in southeast Georgia. Through analysis of the data ten (10) categories emerged, the open-ended survey and telephone interviews shared six (6) categories, (1) Outcomes of screening, (2) Perceived value for mental health screening recommendations (3) Limited knowledge and understanding of mental health, (4) Limited resources to support mental health screening, (5) Support structures, (6) Development of knowledge, skills and techniques. Two categories emerged only from the survey data, (7) Current screening practices and (8) Inefficiencies in screening process. Moreover, two categories emerged from the telephone interview data only, (9) Reason for screening tool selection and (10) Challenges in treatment evaluation. More than half (60%) of categories were identical between survey data and telephone interview data. The open-ended survey served as the primary data collection tool while the telephone interviews served as a supplementary instrument used to provide more detail and context to the survey responses. Therefore, findings highlighted the relationship between both collection tools. See figure 4.1, comparison of open-ended survey and telephone interview categories.

Figure 4.1 Comparison of Open-ended survey and Telephone interview Categories



Chapter Four Summary

The findings of this chapter provided answers to the following research questions (1) What mental health screening tools are used during prenatal visits, (2) What is the perspective of medical providers on the value of screening pregnant women for mental health disorders, and (3) What barriers and facilitators do providers encounter when using maternal mental health screening tools during patient prenatal appointments. Data was collected using open-ended survey supplemented by an optional follow-up telephone interview. The data uncovered, ten key categories, (1) Current screening practices, (2) Outcomes of screening, (3) Inefficiencies in screening process, (4) Perceived value for mental health screening recommendations (5) Limited knowledge and understanding of mental health, (6) Limited resources to support mental health screening, (7) Support structures, (8) Development of knowledge, skills and techniques, (9) Reason for screening tool selection and (10) Challenges in treatment evaluation.

This study found that the majority of providers indicated that there is some form of routine maternal mental health screening implemented in their practice and the two most common screening tool used by providers included the Edinburgh Postpartum Depressions Scale (EPDS) and Unspecific screening tool/basic company screening tool. In addition, the majority of providers expressed support for routine screening and screening recommendations and also perceived a need for screening practices due to the risk and impact of mental health disorders in pregnant women. Lastly, several barriers and facilitators were identified as having an impact on screening tool utilization and screening process implementation. Overall, findings indicate an opportunity for screening process improvement and improved routine maternal mental health screening implementation.

Chapter five will provide explanations for results related to literature review. Moreover, public health implications, future study recommendations, study strengths and limitations, lessons learned, and conclusion will be presented.

CHAPTER 5 DISCUSSION AND CONCLUSION

This chapter will present the study summary, discussion of results, public health implications, future research, limitations and strengths, lessons learned, and conclusion. This study was guided by three research questions: (1) What mental health screening tools are used during prenatal visits? (2) What is the perspective of medical providers on the value of screening pregnant women for mental health disorders? and (3) What barriers and facilitators providers encounter when using maternal mental health screening tools during patient prenatal appointments?

Summary of Study

The purpose of this qualitative study was to explore providers' use of maternal mental health screening tools during prenatal appointments in southeast Georgia and identify barriers and facilitators that impact screening practices and implementation. Maternal mental health disorders are the leading comorbidities experienced during the perinatal period in the United States (Griffen et al., 2021). Additionally, the United States reports the highest maternal mortality rates in the developed world, and maternal mental health disorders significantly contribute to maternal mortality (Postpartum Support International Minding the Gap, 2019). Moreover, Georgia has the second highest maternal mortality rate (Ranum, 2019). In conjunction, the percentage of patients experiencing perinatal mood disorders is higher in Georgia at 16.6% compared to the national average of 10% -15% (Mental Health America of Georgia). The increasing rates of maternal mental health disorders pose a significant public health concern. Implementation of routine maternal mental health screening by providers was recommended to reduce these rates through early detection and treatment. However, adherence to this recommendation is unknown. This study aimed to explore current screening practices and uncover barriers and facilitators impacting screening implementation.

For this study, participants were medical providers who provided direct patient care to pregnant women during prenatal appointments. Participants were recruited by mailing and emailing recruitment correspondence to providers who met the inclusion criteria. Additionally, recruitment correspondence was posted to health professional groups on Facebook and LinkedIn to expand recruitment reach. Data was

collected using online open-ended surveys and optional follow-up telephone interviews. The Normalization Process Theory (NPT) was used to develop the survey questions. Collected data was analyzed using qualitative content analysis to identify certain words, categories, themes, or patterns uncovered in the data (Population Health Methods, 2022). Ten categories emerged from the data: (1) Current screening practices, (2) Outcomes of screening, (3) Inefficiencies in screening process, (4) Perceived value for mental health screening recommendations (5) Limited knowledge and understanding of mental health, (6) Limited resources to support mental health screening, (7) Support structures, (8) Development of knowledge, skills and techniques, (9) Reason for screening tool selection and (10) Challenges in treatment evaluation. Findings from this study can be used to improve current screening practices and increase routine screening tool utilization and implementation.

Discussion of Results

The Normalization Process Theory (NPT) is a socio-behavioral theory that centers on understanding how practices become implemented into daily life through the organization of social contexts. It also examines the procedures of interventions in healthcare settings to determine the factors influencing the long-term adoption of new practices (Hooker et al., 2015). NPT proposes that for a new health technology, in the case of this study, maternal mental health screening, to become routine everyday practice, the following constructs should be considered- coherence ('what is the work'), cognitive participation ('who does the work'), collective action ('how is the work done') and reflexive monitoring ('how is the work understood'). These constructs are not linear, but iterative and interrelated (Hooker et al., 2015). Discussion of results will be organized by Normalization Process Theory constructs.

Collective action refers to the operational work required for individuals and organizations to enact a new practice, for example staffing resource, equipment availability and the degree to which the new technology fit within existing practices and skill set. In this study, collective action was reflected in the most common screening tools used by providers and reasons for this selection. The American College of Obstetricians and Gynecologists recommends screening pregnant women for maternal mental health disorders at least once during the perinatal period using a validated screening tool (Barron et al., 2020;

The American College of Obstetricians and Gynecology, 2015). Study participants identified the Edinburgh Postpartum Depression Scale (EPDS) and Unspecific depression screening tool as the two most common screening tools used during prenatal visits. Of the two screening tools selected, only the EPDS is a validated screening tool.

Providers' who use the EPDS are more likely to identify patients at risk for mental health disorders because validated screening tools are both sensitive and specific which ensures results are reliable and consistent. Meanwhile, accuracy and consistency of results for the unvalidated unspecific depression screening tools are unknown which increases the possibility that patients at risk for mental health disorders are not detected. This creates a significant gap in patient care as almost half of the screening tools used were unvalidated.

The results indicate that screening practices differ between providers and medical offices, and the screening tool used is not based on best practices but rather on what is integrated into their medical records system or common in-office practice. These findings support the theory that a lack of standardized screening guidelines creates significant variation in maternal mental health screening practices among providers. These variances can create inconsistencies in patient care and screening outcomes.

To reduce the use of unvalidated screening tools and increase the utilization of validated screening tools, the tool must be accessible and simple to use. The development of software updates to include a validated screening tool like the EPDS into an existing medical records system can improve accessibility. Moreover, providers currently using the EPDS describe it as an, "inexpensive universal tool that is quick and simple to use" (Provider T-3). Therefore, developing training material on how to use the EPDS can expand providers skill set and confidence, increasing the likelihood that a validated screening tool will be used as recommended. Additionally, the development of standardize screening guidelines created from evidence-based research can unify screening practices among providers.

Coherence refers to the process in which providers make sense of the new technology implemented and the value and benefit they attribute to the implementation of that technology. Coherence was reflected by determining providers perspectives towards screening recommendation and implementation. According to the gateway provider framework, providers serve as the gatekeepers to general mental healthcare (Wakida et al., 2018). The pipeline between providers and perinatal mental health screening and access to mental healthcare resources is important because the majority of pregnant women will not access mental healthcare services on their own. Previous studies highlight that health providers' perspective toward mental illness impacts their daily decisions and routine practices. Health providers with a negative attitude toward mental illness are less likely to engage in mental healthcare services (Castillejos Anguiano et al., 2019).

This study found that the majority of providers reported having a positive attitude toward mental health screening and screening implementation. The results show that providers who expressed support for screening or perceived a need for screening were more likely to engage in routine maternal mental health screening or had plans to implement screening into their daily patient care practices. Additionally, providers shared that when they became aware of the routine maternal mental health screening recommendations, they made a habit of screening more frequently. These findings are consistent with current research data, which shows a relationship between provider attitudes and mental health screening. Because pregnant patients are more likely to access mental healthcare services and treatment through their primary or obstetric care providers, fostering a positive attitude among providers on mental health is necessary. Therefore, a recommendation for providers to receive mental health education and training can be beneficial to reduce mental health stigma and develop a positive mindset regarding the importance of screening to improve screening rates.

Cognitive Participation refers to how key stakeholders build and sustain engagement, enrollment or buy-in for a new health technology. This study reflected cognitive participation by examining the barriers and facilitators of the screening process. Maternal mental health disorders are a significant public health concern that negatively impacts the mother, unborn child, family unit, and

community. Routine mental health screening has been recommended as a healthcare intervention to help reduce the incidences and severity of mental health disorders. However, it is important to understand the factors that will facilitate or inhibit the successful implementation of a new medical intervention. This study aimed to identify and understand the barriers and facilitators of implementing or improving routine maternal mental health screening tool utilization among providers during prenatal appointments.

Barriers

Participants of this current study highlighted multiple barriers that inhibit screening implementation or impede their decision to screen patients. Two categories emerged as barriers to screening: (1) Limited mental health knowledge and understanding, with holistic codes, *mental health stigma, lack of confidence in addressing mental health concerns, and lack of provider training*, (2) Limited resources to support mental health screening practices, with holistic codes, *limited time during prenatal appointments, limited mental health services in the area, and limited financial assistance*. Providers expressed that the stigmatization of mental health disorders created barriers to screening. Patients were often reluctant to take screening tests or access treatment due to fear of being judged or told by family members that “baby blues” are a normal part of pregnancy. Also, providers who did not view mental healthcare as important as physical healthcare were less likely to prioritize screening.

Additionally, the lack of provider and staff training appeared to lead to a lack of confidence to screen and address mental health concerns. These findings are supported by current research that found stigma, lack of training, and lack of confidence as barriers to mental healthcare treatment. Furthermore, providers with limited education and inadequate training in mental health disorders have lower screening rates (Xue et al. et al., 2023). Therefore, it is essential to increase mental health awareness and education campaigns to reduce mental health stigma, along with prioritizing mental healthcare training in the curriculum of medical programs.

Moreover, providers mentioned that limited resources to support screening impacted screening rates and implementation. Providers often faced appointment time constraints that did not allow for detailed discussions about mental health disorders. If providers utilized screening tools, they faced the

challenge of limited mental healthcare services in the area to refer their patients. Lastly, limited financial assistance created a barrier for patients to access mental healthcare services due to the high cost of these services. In addition, the lack of reimbursement policies from insurance companies for mental health services demotivated providers from performing screenings and addressing mental health concerns due to a lack of compensation.

According to the National Rural Health Association, Accessibility (knowledge and training to address mental healthcare disorders and navigate access to care), Availability (limited mental healthcare providers in the area), Affordability (cost of services and availability of financial resources), and Acceptability (negative perception and stigma) are key factors that can create barriers to mental healthcare screening and services (Rural Mental Health Overview, 2021). These findings indicate that the implementation of routine mental health screening practices, leading to mental healthcare services, involves a multi-level approach. It is important to explore barriers to screening to develop area-specific solutions to reduce challenges to routine screening implementation. Solutions to mitigate barriers can include creating policies to expand insurance coverage for mental health services, improving reimbursement policies for providers, increasing training and education of providers to combat stigma, and incentivizing mental health professionals to practice in areas with limited mental health services.

Facilitators

Two categories emerged from the data highlighting facilitators to mental health screening: (1) Support structures with holistic codes, *provider-patient relationship, patient cooperation, and collaborative participation*. (2) Development of knowledge, skills, and techniques with holistic codes, *increased mental health education and awareness, unassisted patient screening, and adequate training*.

Providers reported that a positive provider-patient relationship made discussions about mental health screening and treatment options easier; this relationship also fostered an environment where patients were comfortable opening up about mental health concerns. Additionally, patients knowledgeable about the adverse effects of mental health disorders typically expressed a positive attitude toward screening, facilitating the screening process (Atzi et al., 2019; Johnson et al., 2018). Collaborative

participation highlighted the importance of team collaboration and buy-in of screening practices. Medical staff that supported mental health screening were more willing to adopt screening practices. These findings support past research, which noted a positive relationship between team collaboration and increased performance and productivity (Assbeihat, 2016).

Providers' awareness of screening recommendations increased their motivation to incorporate mental health screening during prenatal appointments. Additionally, study results indicate that knowledgeable, well-trained providers are more likely to implement screening practices due to increased confidence. These findings align with past research, which notes that education and training of providers is an important first step to improving the screening and treatment of mental health disorders (Selix et al., 2017). Lastly, providers reported unassisted patient screening as a facilitator of the screening process. Findings suggest that patients are more comfortable completing screening questionnaires without the help of the provider or staff member; therefore, they are more likely to provide honest responses to questions. These findings are important because they identify factors that complement screening implementation. Incorporating these facilitators promote sustainable maternal mental health screening practices (Hooker et al., 2015).

Reflective Monitoring refers to the appraisal of the new health technology or how the work is understood by those engaging in the practice. In this study reflective monitoring was reflected in the outcomes of the screening process. After screening, providers reviewed and discuss results with patients who received a high depression score, then they either referred patients to counseling, prescribed medication or used a combination treatment method. Providers then scheduled follow-up appointments with patients to assess the effectiveness of the treatment.

According to the Agency for Healthcare Research and Quality (AHRQ), effective follow-up enables healthcare providers to address any misunderstandings, respond to inquiries, conduct additional assessments, and modify treatments as needed. Moreover, follow-up plays a crucial role in nurturing a positive and collaborative relationship between providers and their patients (AHRQ, 2020). During follow-up appointments providers can monitor patients' health, verify follow-through on referrals and

discuss medicine regimens. Information obtained from these appointments can help providers to determine if screening patients lead to a reduction of the negative effects of maternal mental health disorders (AHRQ, 2020).

Following-up with a patient after initial screening result and development of treatment is a vital step in the implementation of routine maternal mental health screening. Therefore, it is beneficial to include a follow-up requirement in the standardize screening guidelines to not only improve screening implementation and sustainability but also ensuring the goals of screening are being achieved.

Public Health Implications

Public health promotes, prevents, and protects the health of all individuals in a community, and it is a science-based field with the goal of improving quality of life (American Public Health Association, 2021). Perinatal mental health disorders are the leading cause of complications during and after pregnancy for the mother and child; this creates a significant public health concern that should be addressed through evidence-based interventions. Maternal mental health screening is a powerful public health tool used to detect potential mental health disorders early. Screening is also an important step in educating mothers about the risks, signs, and symptoms of these disorders (Policy Center for Maternal Mental Health, 2022). This current study can be used to inform interventions to combat the negative impact of maternal mental health disorders.

Although routine maternal mental health screening with a validated screening tool is recommended at least once during pregnancy, adherence to this recommendation is unknown. Due to its exploratory nature, the results from this study can inform the development of a national database to document current screening practices, screening tool utilization, and outcomes of screening. This information can be used as a baseline to compare with future data to determine screening rates and the impact of screening. Additionally, this study can add to the academic literature by providing material regarding maternal mental health, best practices for screening implementation, and tool utilization.

Moreover, study results can inform the development of various educational materials tailored for medical providers, potential patients, and the general public to help increase awareness and decrease

stigma about mental health in pregnancy. This material can be in the form of modules disseminated through social media, local libraries, doctors' offices, and digital campaigns, which contain information about the risks, signs, and symptoms of maternal mental health disorders and the benefits of routine screening. Likewise, these results can support the creation of training material and programs for medical providers and clinical staff, which increase knowledge, skillset, and confidence that can foster a culture of screening within the organization.

Finally, the findings of this study uncovered barriers and facilitators unique to the southeast region of Georgia; this data can be used to create evidence-based interventions tailored to the area that reduce these barriers and promote facilitators to improve screening implementation. For instance, some barriers identified by providers included a lack of standardized screening guidelines, insurance coverage, and reimbursements. Results from this study can inform federal and state policy efforts to develop standardized screening protocols and policies that increase insurance coverage for mental health services and improve reimbursement payments for practitioners who provide maternal mental health screening services.

Future Research and Next Steps

Future research should include patients and other clinical staff as study participants. This current study only explored the thoughts and opinions from the providers' point of view. It can be beneficial to compare the similarities and differences of responses from each group; the results can inform multi-level interventions that target the needs of each group to improve screening implementation. Also, future research can focus on treatment options by exploring patient outcomes based on receiving counseling services, prescribed medication, or both to determine the most effective treatment plan. Lastly, a mixed method research exploring screening rates and the perception of maternal mental health among key stakeholders on screening implementation in urban and rural counties throughout Georgia can create a more generalizable study.

Limitations and Strengths

The current study had a few limitations that should be highlighted. Firstly, this was a qualitative study with a small sample size of 20 participants, which prevents generalizability outside the research geographical area. Also, the recruitment of study participants posed a significant challenge; the inclusion criteria comprised active, often very busy, perinatal medical providers with rigid schedules, making them a hard-to-reach population. Moreover, there may have been better ways to access medical providers than the recruitment method, sending letters and emails and utilizing social media. This is because letters can get lost in the mail, and the response rate to mail is often low. Medical professionals may be reluctant to open or respond to emails from unknown senders, and social media use among this population may be low. In addition, data was collected by open-ended surveys, which are prone to one word or short responses to questions, which can make it challenging to collect enough rich data to conduct thematic analysis; therefore, content analysis had to be used. The telephone interviews were implemented as a solution to elicit more in-depth explanations to the short responses on the survey; however, because they were optional, providers were not eager to agree to participate. Lastly, this study only recruited medical providers, and it could have been beneficial to recruit patients and support staff to compare responses.

Despite these limitations, the study had several strengths. Firstly, this study contributes to academic literature and provides a strong foundation for future research regarding maternal mental health disorders and the solutions to address this public health concern. Secondly, this study met all criteria for establishing trustworthiness while conducting qualitative research. Additionally, this study achieved data triangulation by using two data collection tools, which helped reduce bias from the researcher. Also, providers were not required to meet in person to participate in the study; this reduced the need to implement COVID-19 safety protocols, allowed for flexibility in scheduling interviews, and anonymous open-ended surveys allowed participants discretion to answer questions more openly and honestly. Lastly, collecting providers' viewpoints was very significant to understanding screening tool utilization and routine screening implementation because providers are the gatekeepers to early detection of maternal mental health disorders and accessing mental healthcare services and treatment.

Lessons Learned

Throughout the process of completing this research project, numerous lessons were learned, which either expanded the researcher's general knowledge about maternal mental health or identified opportunities to improve future research. The first lesson learned was to expect the unexpected and factor in time to account for possible issues. Recruitment of participants proved more complex and required more time than anticipated. Because of this, the researcher had to request an IRB amendment to include the use of social media to assist with recruitment efforts. Gaining access to that population is challenging without a personal connection between researchers and providers. Tabling at medical conferences or health professionals' symposiums may have yielded better results in reaching providers due to face-to-face interactions.

Study participants received a \$25 Amazon e-gift card for completing the open-ended survey; however, the incentive should have been reserved for participants who completed both the survey and telephone interview to boost interview participation. Also, recruiting separately for the open-ended surveys and the telephone interviews could have decreased some recruitment challenges since recruitment of one would not impact the other.

Lastly, expanding the study to include all of Georgia would have provided insight to address the entire state instead of only the southeast region. Furthermore, collecting the viewpoints of prenatal patients and other staff support would have made a more robust study. Overall, this study improved researcher's confidence in their ability to conduct scientific research while highlighting the importance of critical thinking skills, patience, and perseverance.

Conclusion

This qualitative study aimed to identify medical providers' use of maternal mental health screening tools and uncover barriers and facilitators to routine screening implementation during prenatal appointments. To the researcher's knowledge, this study is the first of its kind. The findings of this study can inform the development of standardized screening guidelines, influence public policy that supports

screening initiatives, and improve screening implementation through barrier reduction and promoting facilitators.

This current study found that although the majority of providers state that they routinely screen for maternal mental health disorders during prenatal appointments, screening practices and type of tool used varied significantly between providers, creating inconsistencies in patient care and screening outcomes. Furthermore, results highlighted a positive connection between providers' perspectives of maternal mental health screening recommendations and routine screening implementation. Providers who perceived a need and benefit of screening were more likely to engage in screening practices. Additionally, study findings identified barriers that inhibit screening implementation, which included (1) Limited mental health knowledge and understanding with holistic codes, *mental health stigma, lack of confidence in addressing mental health concerns, and lack of training*, (2) Limited resources to support mental health screening practices, with holistic codes, *limited time during prenatal appointments, limited mental health services in the area, and limited financial assistance*. While facilitators of mental health screening included (1) Support structures with holistic codes, *provider-patient relationship, patient cooperation, and collaborative participation*. (2) Development of knowledge, skills, and techniques with holistic codes, *increased mental health education and awareness, unassisted patient screening, and adequate training*.

In conclusion, implementing routine maternal mental health screening during prenatal appointments extends beyond recommendations alone. Sustainable screening implementation requires a multi-factorial approach to normalize routine screening. This includes creating supportive public policy to ensure providers are reimbursed for mental healthcare services, increasing insurance coverage for patients, and increasing education opportunities for providers, patients, and the general public to reduce stigma. Lastly, design targeted interventions to reduce barriers to screening and promote screening facilitators.

REFERENCES

- Agency for Healthcare Research and Quality. (2020) Follow Up with Patients: Tool #6. Content last reviewed September 2020. <https://www.ahrq.gov/health-literacy/improve/precautions/tool6.html>
- American Public Health Association. (2021, December 21). What is Public Health. <https://www.apha.org/what-is-public-health>
- American Psychological Association. (2011). Patient health questionnaire (PHQ-9 & PHQ-2). <https://www.apa.org/pi/about/publications/caregivers/practice-settings/assessment/tools/patient-health>
- Aripiprazole (Abilify): Depression, Major Depressive Disorder (MDD). (2016). Canadian Agency for Drugs and Technologies in Health. <https://www.ncbi.nlm.nih.gov/books/NBK409740/>
- Assbeihat, J. M. (2016). The Impact of Collaboration among Members on Team's Performance. *Management and Administrative Science Review*, 5. https://www.researchgate.net/publication/311811209_The_Impact_of_Collaboration_among_Members_on_Team's_Performance
- Atzi, V. M., Narayan, A. J., Rivera, L. M., & Lieberman, A. F. (2019). Adverse childhood experiences and prenatal mental health: Type of A.C.E.s and age of maltreatment onset. *Journal of Family Psychology*, 33(3), 304-314. <https://doi.org/10.1037/fam0000510>
- Baron, E. C., Hanlon, C., Mall, S., Honikman, S., Breuer, E., Kathree, T., Luitel, N. P., Nakku, J., Lund, C., Medhin, G., Patel, V., Petersen, I., Shrivastava, S., & Tomlinson, M. (2016). Maternal mental health in primary care in five low- and middle-income countries: a situational analysis. *BMC health services research*, 16, 53. <https://doi.org/10.1186/s12913-016-1291-z>
- Barrow, K., McGreal, A., LiVecche, D., Van Cleve, S., Sikes, C., Buoli, M., Serati, M., Bridges, C. C., Ezeamama, A., & Barkin, J. L. (2020). Are pediatric providers on-board with current recommendations related to maternal mental health screening at well-child visits in the state of

Georgia? *Journal of the American Psychiatric Nurses Association*, 28(6), 444–454.

<https://doi.org/10.1177/1078390320971358>

Bhat, A., Reed, S. D., & Unützer, J. (2017). The Obstetrician-Gynecologist's Role in Detecting, Preventing, and Treating Depression. *Obstetrics and Gynecology*, 129(1), 157–163.

<https://doi.org/10.1097/AOG.0000000000001809>

Biaggi, A., Conroy, S., Pawlby, S., & Pariante, C. M. (2016). Identifying the women at risk of antenatal anxiety and depression: A systematic review. *Journal of Affective Disorders*, 191(1), 62-77.

<https://doi.org/10.1016/j.jad.2015.11.014>

Bjelica A, Cetkovic N, Trninic-Pjevic A, Mladenovic-Segedi L. The phenomenon of pregnancy - a psychological view. *Ginekologia Polska*. 2018;89(2):102-106. doi: 10.5603/GP.a2018.0017.

Bridging the Gaps in Mental Health in Camden County Georgia (2019, June 14). The Importance of Maternal Mental Health. <https://www.camdenbehavioralwellness.com/blog/121115-importance-of-maternal-mental-health>

Castillejos Anguiano, M.C., Bordallo Aragón, A., Aguilera Fernández, D. et al. Perceptions about mental illness among general practitioners. *Int J Ment Health Syst* 13, 27 (2019).

<https://doi.org/10.1186/s13033-019-0284-9>

Centers for Disease Control and Prevention (2022, September 19). Four in 5 pregnancy-related deaths in the U.S. Are preventable. <https://www.cdc.gov/media/releases/2022/p0919-pregnancy-related-deaths.html>

Centers for Disease Control and Prevention. (n.d.). Pregnancy Risk Monitoring System (PRAMS).

<https://www.cdc.gov/prams/index.htm> Centers for Disease Control and Prevention. (2022, June 22). Pregnancy mortality surveillance system. <https://www.cdc.gov/reproductivehealth/maternal-mortality/pregnancy-mortality-surveillance-system.htm>

- Chowdhury, M. F. (2014, August 6). Interpretivism in aiding our understanding of the contemporary social world. *Open Journal of Philosophy*. https://www.scirp.org/html/20-1650412_48986.htm
Content Analysis.
- Population Health Methods. (2022, June 7). <https://www.publichealth.columbia.edu/research/population-health-methods/content-analysis> Cross-Sectional Innovation to Improve Rural Postpartum Mental Health Challenge. Content last reviewed January 2022.
- Agency for Healthcare Research and Quality. <https://www.ahrq.gov/challenges/past/rural-postpartum/index.html>
- Finch T, Mair F, O'Donnell C, Murray E, May CR: From theory to 'measurement' in complex interventions: methodological lessons from the development of an e-health normalization instrument. (2012) *BMC Med Res Methodol*. 12: 69-10.1186/1471-2288-12-69.
- Ginja S, Jackson K, Newham JJ, Henderson EJ, Smart D, Lingam R. Rural-urban differences in the mental health of perinatal women: a UK-based cross-sectional study. (2020, Aug 14) *BMC Pregnancy Childbirth*.20(1):464. doi: 10.1186/s12884-020-03132-2.
- Griffen, A., Meltzer-Brody, S., Clark, C., Stuebe, A., Kimmel, M., Davis, W., Burkhard, J., Zahlaway Belsito, J., & McIntyre, L. (2021, October 1). Perinatal Mental Health Care in the United States: An overview of policies and Programs: *Health Affairs Journal*. *Health Affairs*
<https://www.healthaffairs.org/doi/10.1377/hlthaff.2021.00796>
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*.18(1), 59-82.
- Harris, R., Gibbs, D., Mangin-Heimos, K., & Pineda, R. (2018). Maternal mental health during the neonatal period: Relationships to the occupation of parenting. *Early Human Development*.120, 31-39. <https://doi.org/10.1016/j.earlhumdev.2018.03.009>
- Health Care Workforce Data. (2020). Georgia Board of Health Care Workforce. Retrieved November 30, 2022, from <https://healthcareworkforce.georgia.gov/health-care-workforce-data>

- Heyningen, T. v., Honikman, S., Tomlinson, M., Field, S., & Myer, L. (2018). Comparison of mental health screening tools for detecting antenatal depression and anxiety disorders in South African women. *PLoS ONE*, 13(4), e0193697. <https://doi.org/10.1371/journal.pone.0193697>
- Holtrop, J.S., Potworowski, G., Fitzpatrick, L. et al. (2016) Effect of care management program structure on implementation: a normalization process theory analysis. *BMC Health Serv Res*, 16, 386. <https://doi.org/10.1186/s12913-016-1613-1>
- Hooker, L., Small, R., Humphreys, C. et al. (2015). Applying normalization process theory to understand implementation of a family violence screening and care model in maternal and child health nursing practice: a mixed method process evaluation of a randomized controlled trial. *Implementation Sci*, 10(39). <https://doi.org/10.1186/s13012-015-0230-4>
- Hume, L. E., Drew, C. H., & Cibrian, E. (2021). Development of the MIND: A screening measure assessing mental health treatment needs. *The Journal of Behavioral Health Services & Research*. <https://doi.org/10.1007/s11414-020-09745-x>
- Johnson, A. R., George, M., Goud, B. R., & Sulekha, T. (2018). Screening for mental health disorders among pregnant women availing antenatal care at a government maternity hospital in Bengaluru City. *Indian Journal of Psychology and Medicine*, 40(4), 343-348. https://doi.org/10.4103/IJPSYM.IJPSYM_41_18
- Kahlke, R. M. (2014). Generic Qualitative Approaches: Pitfalls and Benefits of Methodological Mixology. *International Journal of Qualitative Methods*, 37–52. <https://doi.org/10.1177/160940691401300119>
- Kendig, S., Keats, J. P., Hoffman, M. C., Kay, L. B., Miller, E. S., & Moore, T. A. (2017). Consensus bundle on maternal mental health: Perinatal depression and anxiety. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 46(2), 272-281. <https://doi.org/10.1016/j.jogn.2017.01.001>

- Kingston, D., & Tough, S. (2014). Prenatal and postnatal maternal mental health and school-age child development: A systematic review. *Maternal and Child Health Journal*, 18, 1728-1741.
<https://doi.org/10.1007/s10995-013-1418-3>
- Lombard, M., Snyder-Duch, J., & Bracken, C.C. (2010). Practical resource for assessing and reporting intercoder reliability in content analysis research process.
http://matthewlombard.com/reliability/index_print.html
- Pedroso, J., Buccini, G., Venancio, S. I., Perez-Escamilla, R., & Gubert, M. B. (2020). Maternal mental health modifies the association between food insecurity and early child development. *Maternal & Child Nutrition*, 16(e12997), 1-12. <https://onlinelibrary.wiley.com/doi/epdf/10.1111/mcn.12997>
- Policy Center for Maternal Mental Health. (2022, March). Universal Screening for Maternal Mental Health Disorders. <https://www.2020mom.org/issue-briefs-and-papers>
- May, C.R., Cummings, A., Girling, M. et al. (2018). Using Normalization Process Theory in feasibility studies and process evaluations of complex healthcare interventions: a systematic review. *Implementation Sci*, 13(80). <https://doi.org/10.1186/s13012-018-0758-1>
- McEvoy, R., Ballini, L., Maltoni, S. et al. (2018). A qualitative systematic review of studies using the normalization process theory to research implementation processes. *Implementation Sci* 9(2)
<https://doi.org/10.1186/1748-5908-9-2>
- Mental Health America of Georgia. (n.d.). Perinatal mood and anxiety disorders (PMADs): A fact sheet.
https://dbhdd.georgia.gov/sites/dbhdd.georgia.gov/files/related_files/site_page/2_PMADsFactSheet.pdf
- Postpartum Support International. Mind the Gap: A Strategic Roadmap to Address America's Silent Health Crisis: Untreated and Unaddressed Perinatal Mental Health Disorders.
<https://www.postpartum.net/wp-content/uploads/2020/06/Mind-the-Gap-National-Report-2.7.20.pdf>
- Myers, M.D. (2008). *Qualitative Research in Business & Management*. Sage.

- Neuendorf, K.A. (2002). *The content analysis guidebook*. Sage.
- Ranum, D. (2019). Georgia maternal mortality second highest in nation. Georgia OBGyn Society.
<https://gaobgyn.org/articles/georgia-maternal-mortality-second-highest-in-nation>
- Read, S., Morgan, J., Gillespie, D., Nollett, C., Weiss, M., Allen, D., Anderson, P., & Waterman, H. (2021, August 2). Normalization process theory and the implementation of a new glaucoma clinical pathway in hospital eye services: Perspectives of doctors, nurses and optometrists. *PLOS ONE*. <https://journals.plos.org/plosone/article?id=10.1371%2Fjournal.pone.0255564>
- Riffe, D. Lacy, S., & Fico, F.G. (2005). *Analyzing media messages: Using quantitative content analysis in research*. Lawrnet Erlbaum Associates.
- Rural Health Information Hub. (2021, May 17). Barriers to improving rural maternal Health.
<https://www.ruralhealthinfo.org/toolkits/maternal-health/1/barriers>
- Rural Health Information Hub. (2021, October 20). Rural Mental Health Overview.
<https://www.ruralhealthinfo.org/topics/mental-health>
- Saldaña, J. 2009. *The Coding Manual for Qualitative Researchers*. Sage.
- Selix, N., Henshaw, E., Barrera, A., Botcheva, L., Huie, E., & Kaufman, G. (2017). Interdisciplinary Collaboration in Maternal Mental Health. *The American Journal of Maternal/Child Nursing*, 42(4): p 226-231, DOI:10.1097/NMC.0000000000000343
- Georgia Department of Economic Development. (n.d.). About Southeast Georgia- Region 11 |
<https://www.georgia.org/regions/southeast-georgia>
- Georgia Department of Public Health. (2022, March 31). Southeast Health District.
<https://www.sehdph.org/about/>
- Sit, D. K., & Wisner, K. L. (2009). Identification of postpartum depression. *Clinical obstetrics and gynecology*, 52(3), 456–468.<https://doi.org/10.1097/GRF.0b013e3181b5a57c>
- Small Business Assistance Corporation. Our Service Areas in Georgia and South Carolina.
<https://sbacsav.com/>

- Smith-Nielsen, J., Matthey, S., Lange, T. et al. (2018). Validation of the Edinburgh Postnatal Depression Scale against both DSM-5 and ICD-10 diagnostic criteria for depression. *BMC Psychiatry* 18, 393 <https://doi.org/10.1186/s12888-018-1965-7>
- Southeast Georgia Health System. (n.d.). About Us. <https://www.sghs.org/about-us/> Southeast Health District. (2018, May 1). Our counties. <https://www.sehdph.org/our-counties/>
- State Office of Rural Health. Georgia Rural Counties Map. Georgia Department of Community Health. <https://dch.georgia.gov/divisionsoffices/state-office-rural-health/sorh-maps-georgia>
- Stiffman, A., Pescosolido, B., & Cabassa, L. J. (2004). Building a model to understand youth service access: The gateway provider model. *Mental Health Service Research*, 6(4), 189-198. <https://www.cienciapr.org/en/building-model-understand-youth-service-access-gateway-provider-model>
- The American College of Obstetricians and Gynecologists. (2018, 11). Screening for perinatal depression. https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2018/11/screening-for-perinatal-depression?utm_source=redirect&utm_medium=web&utm_campaign=otn
- Tran, V. T., Porcher, R., Tran, V. C., & Ravaud, P. (2017). Predicting data saturation in qualitative surveys with mathematical models from ecological research. *Journal of Clinical Epidemiology*, 82(2), 71–78. doi: 10.1016/j.jclinepi.2016.10.001
- Trochim, W. M., Donnelly, J. P., & Arora, K. (2016). *Research methods: The essential knowledge base*. Cengage Learning.
- Trost, J., Molas-Torreblanca, K., Man, C., Casillas, E., Sapir, H., & Schrage, S. (2016). Screening for maternal postpartum depression during infant hospitalizations. *J Hosp Med*. 11(12):840–846.
- U.S. Census Bureau quickfacts. (2020, April 1). United States Census. Retrieved November 30, 2022, from <https://www.census.gov/quickfacts/fact/table/US/PST045221>

- Wakida, E., Talib, Z., Akena, D., Okello, E., Kinengyere, A., Mindra, A., & Obua, C. (2018) Barriers and facilitators to the integration of mental health services into primary health care: a systematic review. *Systematic Reviews*, 7(1):211. doi: 10.1186/s13643-018-0882-7
- World Health Organization International. (2021). Mental health. https://www.who.int/health-topics/mental-health#tab=tab_3
- Wickham, S., Whitehead, M., Taylor-Robinson, D., & Barr, B. (2017). The effect of a transition into poverty on child and maternal mental health: A longitudinal analysis of the U.K. millennium cohort study. *The Lancet Public Health*, 2(3), e141-e148. [https://doi.org/10.1016/S2468-2667\(17\)30011-7](https://doi.org/10.1016/S2468-2667(17)30011-7)
- Xue, W., Cheng, K.K., Liu, L. et al. (2023). Barriers and facilitators for referring women with positive perinatal depression screening results in China: a qualitative study. *BMC Pregnancy Childbirth* 23, 230. <https://doi.org/10.1186/s12884-023-05532-6>

APPENDICES

APPENDIX A: IRB APPROVAL LETTER: GEORGIA SOUTHERN UNIVERSITY



Institutional Review Board (IRB)
 PO Box 8005 • STATESBORO, GA 30460
 Phone: 912-478-5465
 Fax: 912-478-0719
 IRB@GeorgiaSouthern.edu

To: Ewing, Andreka
 Mayo-Gamble, Tilicia

From: Georgia Southern Institutional Review Board

Approval Date: October 5, 2022

Subject: Institutional Review Board Exemption Determination - Limited Review

The following protocol involves activities that do not require full approval by the Institutional Review Board (IRB) according to federal guidelines.

Protocol #: H23004
Title: Medical Providers' Use of Maternal Mental Health Screening Tools During Prenatal Appointments in Southeast Georgia

According to the Code of Federal Regulations Title 45 Part 46, your research protocol is determined to be exempt from full review under the following exemption category(s):

Review Type: E2
 Exemption 2 Research involving only the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, if: Information obtained is recorded in such a manner that human participants cannot be identified, directly or through identifiers linked to them. Please visit our FAQ's for more information on anonymous survey platforms; Any disclosure of the human participant's responses outside the research could not reasonably place the participant at risk of criminal or civil liability or be damaging to the participant's financial standing, employability or reputation; Survey or interview research does not involve children; The research project does not include any form of intervention.

Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that the Institutional Review Board has approved your proposed research **with the understanding that you will abide by the following conditions:**

No COVID Safety Plan No in person procedures were included in this protocol.

Incentives: There is a human subjects incentive in this project in the amount of: **\$25 Amazon Gift Card**
 This project has been approved as the following type of data collection: **Anonymous**
[If University or sponsored funds are used to pay incentives please refer to the Human Subjects Incentive Policy and Human Subjects Incentive Disbursement and Reconciliation Form.](#)

Special Conditions: None

Any alteration in the terms or conditions of your involvement may alter this approval. Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that your research, as submitted, is exempt from IRB Review. No further action or IRB oversight is required, as long as the project remains the same. If you alter the project, it is your responsibility to notify the IRB and acquire a new determination of exemption. Because this project was determined to be exempt from further IRB oversight, this project does not require an expiration date.

APPENDIX B: IRB AMENDMENT 1 APPROVAL



Institutional Review Board (IRB)
 PO Box 8005 • STATESBORO, GA 30460
 Phone: 912-478-5465
 Fax: 912-478-0719
 IRB@GeorgiaSouthern.edu

To: Ewing, Andreka
 Mayo-Gamble, Tilicia

From: Georgia Southern Institutional Review Board

Amendment Approval Date: May 18, 2023

Current Expiration Date: Exempt

Original Approval Date: October 5, 2022

Subject: Status of **Modification Request** for Approval to Utilize Human Subjects in Research
 Amendment #: **1**
 Originally Approved By: **Exempt**

After a review of your Extension Request for the following research project, it appears that (1) the research subjects are at minimal risk, (2) appropriate safeguards are planned, and (3) the research activities involve only procedures which are allowable.

Protocol #: **H23004**

Title: **Medical Providers' Use of Maternal Mental Health Screening Tools During Prenatal Appointments in Southeast Georgia**

Maximum Number of Subjects: **10**

Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that the Institutional Review Board has approved your extension and modification.

Modification Description:

- Addition of Social Media platforms for recruitment;
- Removal of \$25 Amazon E- Gift card compensation incentive;
- Increasing participants to include all medical providers who provide direct patient care to pregnant women during prenatal appointments;
- Updating informed consent to note current changes.

Special Conditions: None

Please provide the IRB with any information concerning any significant adverse event, whether or not it is believed to be related to the study, within five working days of the event. In addition, if a change or modification of the approved methodology becomes necessary, you must notify the IRB Coordinator prior to initiating any such changes or modifications. At that time, an amended application for IRB approval may be submitted. Upon completion of your data collection, you are required to complete a Research Study Termination form to notify the IRB Coordinator, so your file may be closed.

APPENDIX C: CONSENT FOR ANONYMOUS ONLINE SURVEY (click consent)

Project Title: MEDICAL PROVIDERS' USE OF MATERNAL MENTAL HEALTH SCREENING TOOLS DURING PRENATAL APPOINTMENTS IN SOUTHEAST GEORGIA

Principal investigator: My name is Andreka Ewing, and I am a doctoral candidate at Georgia Southern University. I am conducting this research in partial fulfillment of the requirements for the degree of Doctor of Public Health from the Jiann Ping-Hsu College of Public Health.

Research Advisor/Committee Chair: Tilicia Mayo-Gamble

This qualitative study aims to explore the provider's use of maternal mental health screening tools and uncover barriers and facilitators experienced by providers during prenatal appointments. To be in the study, you must be a healthcare provider, who provides direct patient care to women during prenatal appointments. Additionally, you must reside in the state of Georgia and practice in the southeast geographical area. If you do not meet the above inclusion criteria, you will be excluded from the study.

Procedures to be followed. Participants in this research will include completion of an online survey

Discomforts and Risks: The risks associated with participating in this study are the same as the everyday risk of your being on your computer or mobile device as you take this survey. We are careful to ensure that the information you voluntarily provide to us is as secure as possible; however, you must be aware that transmissions over the Internet cannot be guaranteed to be completely secure. Your confidentiality will be maintained to the degree permitted by the technology being used. You will be subject to the privacy policy of Qualtrics.

Benefits: The benefit to society include a better understanding of the barriers and challenges to routine maternal mental health screening to improve patient health outcomes. The benefit to you the participant could include an opportunity to reflect on your own beliefs and practices in maternal mental health screening.

Duration/Time required from the participant: Approximately 15 minutes

Statement of Confidentiality: All data is collected with confidentiality. Any identifying information will not be included in any publication or report. The data you provide will be held privately by the principal investigator. All study-related materials will be kept securely for 3 years from the close of the study and will then be destroyed.

Compensation: There will be no compensation for participating in in survey

Voluntary Participation: You do not have to participate in this research, you may end your participation at any time without penalty. You can stop answering the questions in this online survey at any time if you decide you no longer wish to participate.

Right to Ask Questions: If you have questions you can talk to or write the principal investigator, Andreka Ewing at ae08601@georgiasouthern.edu If you wish to speak with a participant advocate other than the investigator, you can write or call Georgia Southern University's institutional review board, IRB@georgiasouthern.edu or call 912-478-5465

You must be 18 years of age or older to consent to participate in this research study

Please download or print a copy of this consent form for your records.

This project has been reviewed and approved by the GS Institutional Review Board under tracking number **H23004**

Please select an option below to indicate whether or not you agree to participate in this research:

- Yes, I read the terms above and consent to participate in this research.
- No, I do not consent to participate in this research.

APPENDIX D: ONLINE OPEN-ENDED SURVEY**Medical Providers' Use of Maternal Mental Health Screening Tools During Prenatal Appointments
in Southeast Georgia****Demographics Questions**

1. What is your sex?
 - Male
 - Female
 - Other
2. What is your age group?
 - 18-29
 - 30-39
 - 40-49
 - 50-59
 - 60-69
 - 70+
3. What is your ethnicity?
 - White
 - Hispanic or Latino
 - Black or African American
 - Native American or American Indian
 - Asian/Pacific Islander
 - Other
4. What is your medical degree?
 - MD
 - PA
 - NP
 - Other
5. What County do you work in?
6. What is your job title?
7. How many years of experience do you have in your current profession?
 - Under 1 year
 - 1-5 years
 - 6-10 years
 - 11-19 years
 - 20 years or more

Research Questions

8. Are prenatal mothers screened for mental health disorders? Please explain.
9. What is your process for screening for maternal mental health disorders?
 - Who does the screening?
 - Is a specific screening tool used?
 - What happens if someone has a high depression score?
10. What are your thoughts on recommendations for routine maternal mental health screening?
11. From your experience, what are the barriers to mental health screening?
12. From your experience, what are the facilitators of mental health screening?
13. In your opinion, what factors would improve mental health screening?
14. Is there anything else you would like to share?

Would you agree to participate in a follow-up telephone interview to provide additional information and detail on the responses to this survey? The interview will be no more than 15 minutes. If yes, please provide your name, contact number, and email along with a preferred time to contact you to schedule the interview.

Thank you for your responses. This is the end of the survey.

APPENDIX E: CONSENT FOR TELEPHONE INTERVIEW

Project Title: MEDICAL PROVIDERS' USE OF MATERNAL MENTAL HEALTH SCREENING TOOLS DURING PRENATAL APPOINTMENTS IN SOUTHEAST GEORGIA

Principal investigator: My name is Andreka Ewing, and I am a doctoral candidate at Georgia Southern University. I am conducting this research in partial fulfillment of the requirements for the degree of Doctor of Public Health from the Jiann Ping-Hsu College of Public Health.

Research Advisor/Committee Chair: Tilicia Mayo-Gamble

This qualitative study aims to explore the provider's use of maternal mental health screening tools and uncover barriers and facilitators experienced by providers during prenatal appointments. To be in the study, you must be a health care provider, who provides direct patient care to women during prenatal appointments. Additionally, you must reside in the state of Georgia and practice in the southeast geographical area. If you do not meet the above inclusion criteria, you will be excluded from the study.

Procedures to be followed. Participants in this research will include completion of a telephone interview

Discomforts and Risks: The risks associated with participating in this study are minimal, about the same as the everyday risk of using your telephone/mobile device. We are careful to ensure that the information you voluntarily provide to us is as secure as possible; however, you must be aware that transmissions over the telephone cannot be guaranteed to be completely secure. Your confidentiality will be maintained to the degree permitted by the technology being used.

Benefits: The benefit to society include a better understanding of the barriers and challenges to routine maternal mental health screening to improve patient health outcomes. The benefit to you the participant could include an opportunity to reflect on your own beliefs and practices in maternal mental health screening.

Duration/Time required from the participant: Approximately 15 minutes

Statement of Confidentiality: All data is collected with confidentiality. Any identifying information will not be included in any publication or report. The data you provide will be held privately by the principal investigator. All study-related materials will be kept securely for 3 years from the close of the study and will then be destroyed.

Compensation: There will be no compensation for participating in this telephone interview

Voluntary Participation: You do not have to participate in this research, you may end your participation at any time without penalty. You can stop answering the questions of this telephone interview at any time if you decide you no longer wish to participate.

Right to Ask Questions: If you have questions you can talk to or write the principal investigator, Andreka Ewing at ae08601@georgiasouthern.edu If you wish to speak with a participant advocate other than the investigator, you can write or call Georgia Southern University's institutional review board, IRB@georgiasouthern.edu or call 912-478-5465

You must be 18 years of age or older to consent to participate in this research study

Please download or print a copy of this consent form for your records.

This project has been reviewed and approved by the GS Institutional Review Board under tracking number **H23004**.

Please verbally indicate whether or not you agree to participate in this research interview

APPENDIX F: TELEPHONE INTERVIEW GUIDE

Medical Provider's Use of Maternal Mental Health Screening Tools During Prenatal Appointments in Southeast Georgia

Introduction/Welcome:

Thank you for agreeing to participate in today's interview. My name is Andreka Ewing, and I am a Georgia Southern University public health doctoral candidate. I will be asking follow-up questions to gain additional insight into the responses to the open-ended survey that was previously completed.

The information you provide will be completely confidential, I will not associate your name with any information or answer you provide during this interview.

This interview will be recorded to ensure to capture all thoughts and opinions expressed during the interview. The recording will be destroyed once the data is transcribed.

Your participation in this study is voluntary, therefore you may choose to not answer a question or withdraw from the interview at any time.

Interview Questions:

1. What is your process for screening for mental health and mental health disorders?

- *Who does the screening?*
- *Is a specific screening tool used?*
- *What happens if someone has a high depression score?*

Follow-up question:

Is there a reason this screening tool is used compared to other available screening tools?

What is the procedure once a patient receives a high depression score?

Probe: Are additional resources provided to the patient?

Do you follow up with the patient? If so, how?

2. What are your thoughts on recommendations for routine maternal mental health screening?

Follow-up question:

How have the recommendations for routine maternal mental health screening impacted your patient care routine?

Probe: Were you able to implement these recommendations into your patient care routine? Please explain.

3. From your experience, what are the barriers to mental health screening?

Follow-up question:

Can you provide more detail about how these barriers affect the screening process?

Probe: Can you provide an example of how this barrier(s) impacts workflow and or patient care? (Use barriers they provided on the online survey)

4. *From your experience, what are the facilitators of mental health screening?*

Follow-up question:

Are these facilitators a part of your current screening process?

Probe: if possible, can you provide an example of how you have been able to include this in the screening process? (Use facilitators they provided on the online survey)

5. *In your opinion, what factors would improve mental health screening?*

Follow-up question:

Have these factors been implemented in your screening process?

Probe: Why or why not?

This concludes the interview; do you have any questions for me or anything you would like me to clarify? Again, I would like to thank you for your time and participation in this study.

Have a nice day.

End.

APPENDIX G: PARTICIPANT RECRUITMENT CORRESPONDENCE

To whom it May Concern,

My name is Andreka Ewing, I am a public health doctoral candidate at Georgia Southern University. I am writing to invite you to participate in my doctoral dissertation research by completing an online survey.

The project title is Medical Providers' Use of Maternal Mental Health Screening Tools During Prenatal Appointments in Southeast Georgia.

The purpose of my qualitative study is to explore the provider's use of maternal mental health screening tools and uncover barriers and facilitators experienced by providers during prenatal appointments. My dissertation chair/advisor is Dr. Tilicia L. Mayo-Gamble.

To participate in this study, you must be a healthcare provider, RN, MD, PA, NP etc., who provides direct patient care to women during prenatal appointments, you must reside in the state of Georgia and practice in the southeast geographical area. Healthcare providers who do not meet the above inclusion criteria will be excluded from the study.

The 14-item online survey will take approximately 15 minutes or less to complete. At the end of the survey, you will be asked if you would be interested in completing a brief follow-up telephone interview to provide additional detail and information on the responses you provided on the survey. Kindly consider participating in this interview. The survey and follow-up interview will take 30 minutes or less to complete. The Georgia Southern University Institutional Review Board approved this study, under tracking number, H23004. Please review the Informed Consent documents included with this letter.

Please click the link below or scan the QR code to participate in the survey.



https://georgiasouthern.co1.qualtrics.com/jfe/form/SV_9ER9IRMguXyeDYO

Thank you for your time and kind consideration in this matter. If you have any questions about the study or the procedures, you may contact me via email at ae08601@georgiasouthern.edu.

Warm Regards,

Andreka Ewing, MPH BSc
Public Health Leadership
Jiann-Ping Hsu College of Public Health
Georgia Southern University