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Digital Health Literacy and Health Information-Seeking Behavior Among Black Mothers With Hypertensive Disorders During the Perinatal Period

Robyn Ford Kebede
Walden University

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Walden University

College of Health Sciences and Public Policy

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Robyn Ford Kebede

has been found to be complete and satisfactory in all respects,
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the review committee have been made.

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Walden University
2025

Abstract

Digital Health Literacy and Health Information-Seeking Behavior Among Black Mothers

With Hypertensive Disorders During the Perinatal Period

by

Robyn Ford Kebede

MPH, Liberty University, 2023

BA, Houston Baptist University, 2011

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Public Health

Walden University

November 2025

Abstract

The purpose of this qualitative phenomenological study was to explore how Black mothers navigated digital health platforms during the perinatal period while managing hypertensive disorders of pregnancy (HDPs). Guided by the social ecological model and the transactional model of eHealth literacy, the study examined how individual, interpersonal, and structural factors influenced digital health engagement and decision-making. Guiding questions focused on how mothers perceived the credibility and trustworthiness of online health information, how healthcare providers shaped and influenced digital health literacy and information-seeking behaviors, and how community and family support affected digital engagement. Data were collected through semi structured interviews with 13 participants who self-identified as Black mothers diagnosed with an HDP within the past 12 months and analyzed using Braun and Clarke's six-step thematic analysis. Findings revealed that representation, trust, and access strongly shaped mothers' digital engagement and underscored the need for culturally responsive, community-informed digital health design. These results suggest that improving digital literacy and health outcomes requires not only expanding access but also ensuring that digital identities, lived experiences, and trust-building needs of Black mothers and other marginalized populations. This research supports Walden University's mission of positive social change by amplifying the voices of Black mothers and advancing equitable maternal care through inclusive digital-health innovation.

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Dedication

To my incredible husband—thank you for being my steady anchor through this entire journey. You believed in me even on the days when I was running on empty, and you stepped in with love and strength whenever I needed to focus, write, or simply breathe. Your encouragement and partnership made it possible for me to turn late nights and long hours into something meaningful. I am endlessly grateful for your patience, understanding, and faith in me.

To my four amazing daughters—you are the reason I kept going. Your laughter, your pride, and your belief in me filled every page of this work with purpose. I hope that as you watch me reach this milestone, you see a reflection of your own potential. May you always know that there are no limits to what you can achieve when you lead with heart, courage, and determination.

And to all the mothers who are doing their best to make informed choices for their health, pregnancies, and babies in a world that doesn't always have them in mind—this work is for you. May you find strength in your journey, power in your voice, and hope in knowing that your story matters deeply.

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Table of Contents

List of Tables	ix
List of Figures	x
Section 1: Foundation of the Study and Literature Review	1
Introduction.....	1
Background	2
Problem Statement	4
Purpose of the Study	5
Research Questions.....	7
Theoretical Framework.....	8
Conceptual Framework.....	9
Nature of the Study	10
Literature Search Strategy.....	11
Theoretical Foundation	13
Conceptual Foundation	16
Literature Review Related to Key Variables and/or Concepts Maternal Health	
Disparities and Social Determinants.....	18
Digital Health Literacy as a Social Determinant of Maternal Health.....	19
Barriers to Information-Seeking and Digital Engagement	20
Provider and Health System Roles in Digital Engagement	20
Strengths and Weaknesses of Existing Research Approaches.....	21
Justification for Qualitative Phenomenological Approach.....	21

What Is Known, Controversial, and Still Unknown.....	22
Definitions.....	23
Assumptions.....	25
Scope	26
Delimitations.....	27
Limitations	27
Significance.....	28
Summary and Conclusion.....	30
Section 2: Research Design and Data Collection	32
Introduction.....	32
Research Design and Rationale	32
Restatement of the Research Questions.....	32
Central Phenomenon of the Study	33
Qualitative Research Tradition	33
Rationale for the Chosen Design	33
Role of the Researcher	34
Methodology.....	36
Participant Selection Logic.....	36
Instrumentation	37
Procedures for Recruitment, Participation, and Data Collection.....	40
Recruitment Procedures	40
Participation and Data Collection Procedures	40

Follow-Up Procedures and Exit Protocol	41
Data Analysis Plan	42
Approach to Analysis.....	42
Connection to Research Questions	43
Software and Management	43
Discrepant Cases	44
Issues of Trustworthiness.....	44
Ethical Procedures	46
Institutional Approval and Access to Participants	46
Recruitment and Consent Ethics.....	46
Data Collection Ethics	47
Data Protection and Confidentiality.....	47
Summary	48
Section 3: Presentation of the Results and Findings.....	50
Introduction.....	50
Rationale for the Design	50
Framework Alignment	51
Research Questions.....	51
Organization of Section 3	52
Pilot Study.....	52
Purpose of the Pilot.....	52
Participant and Ethical Safeguards	53

Pilot Procedures	53
Pilot Data Analysis	53
Revisions Resulting from the Pilot	54
Impact on the Main Study.....	55
Researcher Reflexivity During the Pilot.....	55
Data Collection	56
Participants and Recruitment Procedures	56
Setting and Context.....	56
Interview Procedures	57
Frequency and Duration of Data Collection	58
Data Recording and Storage	58
Researcher Positionality and Reflexivity.....	58
Variations and Unusual Circumstances	59
Demographic Profile.....	59
Data Analysis	61
Analytic Framework	61
Coding Process and Development of Themes	61
Framework Integration.....	62
Discrepant Cases and Variation	62
Audit Trail and Analytic Rigor.....	63
Saturation	63
Visual Representation of Themes	63

Evidence of Trustworthiness.....	65
Credibility	65
Transferability.....	66
Dependability	67
Confirmability.....	67
Collective Assurance of Rigor	68
Results.....	69
Overview of Findings	69
RQ1: Credibility and Trustworthiness of Digital Information	71
RQ2: Role of Healthcare Providers	72
RQ3: Influence of Personal and Community Support Systems.....	73
Cross-Cutting Framework Synthesis	74
Summary	75
Section 4: Application to Professional Practice and Implications for Social Change	77
Introduction.....	77
Significance of the Study	77
Summary of Key Findings	78
Organization of Section 4	79
Interpretation of the Findings.....	80
Overview.....	80
Interpretation by Research Question.....	81

Cross-Theme Synthesis.....	86
Implications for Theory	86
Implications for Practice	87
Summary.....	87
Limitations of the Study.....	88
Overview.....	88
Methodological Limitations.....	88
Contextual Limitations.....	90
Recommendations.....	93
Overview.....	93
Recommendations for Future Research	93
Recommendations for Public-Health Practice	96
Recommendations for Policy Development	97
Summary of Recommendations.....	99
Public Health Practice and Field-Based Products.....	100
Overview.....	100
Integration of Frameworks.....	100
Purpose of the Field Products	101
Field Product 1—Policy Brief Memo (Appendix C).....	102
Field Product 2—Executive Summary: Program Development and Implementation Strategies (Appendix D)	103

Field Product 3—Visual Representation of the Program Framework (Appendix E).....	105
Field Product 4—Fact Sheet for Target Audience (Appendix F).....	106
Synthesis and Professional Application.....	107
Positive Social Change	108
Overview.....	108
Individual-Level Change: Empowering Digital Confidence and Self- Advocacy	109
Interpersonal-Level Change: Transforming Provider–Patient Relationships	109
Community-Level Change: Building Collective Digital Literacy	110
Organizational-Level Change: Advancing Institutional Accountability	111
Societal-Level Change: Shifting Systems Toward Equity.....	111
Multilevel Impact: Interconnected Pathways of Change	112
Alignment With Walden’s Social-Change Mission.....	113
Summary.....	113
Conclusion and DrPH Competency Synthesis.....	114
Overview.....	114
Synthesis of Key Findings	114
Theoretical Implications	115
Contributions to Public Health Practice.....	116
Public-Health Impact and Future Directions	117
DrPH Competency Synthesis.....	117

Conclusion	118
References.....	120
Appendix A: Prescreen Tool—Digital Health Literacy and Health Information- Seeking Behavior Among Black Mothers With Hypertensive Disorders During the Perinatal Period.....	126
Appendix B: Interview Protocol and Questions	132
Appendix C: Field Product 1—Policy Brief Memo	135
Appendix D: Field Product 2—Executive Summary.....	137
Appendix E: Digital Health Literacy Empowerment Program (DHLEP): A Multilevel Framework for Black Maternal Health Equity	140
Appendix F: Maternal Digital Health Information Sheet.....	141

List of Tables

Table 1. Participant Demographics ($N = 13$)	60
Table 2. Thematic Analysis—Codes, Categories, and Themes.....	64
Table 3. Code Frequency Table	70
Table 4. Research Questions and Themes	79
Table 5. How Each Criterion Was Addressed	92
Table 6. DrPH Competency Alignment.....	102
Table 7. Multilevel Impact.....	112
Table 8. DrPH Competency Synthesis.....	118

List of Figures

Figure 1. Word Cloud of NVivo Codes Identified Through Thematic Analysis..... 65

Section 1: Foundation of the Study and Literature Review

Introduction

This study explores the intersection of digital health literacy and health information-seeking behaviors among Black mothers diagnosed with hypertensive disorders of pregnancy (HDPs) during the perinatal period in the Greater Houston area. Black maternal health disparities persist as one of the most urgent public health issues in the United States, with Black women experiencing significantly higher rates of pregnancy-related complications and mortality—even after accounting for income, education, and insurance coverage. Among these complications, HDPs are a leading contributor to maternal morbidity and mortality.

Digital health technologies are increasingly used to support prenatal and postpartum care; however, these tools often fail to meet the unique needs of marginalized populations. For Black mothers, systemic barriers—such as inequitable access to culturally appropriate digital resources and low digital health literacy—can hinder the ability to find, evaluate, and act upon reliable health information. This study is necessary to better understand how these mothers engage with digital platforms while managing high-risk conditions like HDPs and navigating racialized healthcare systems.

The implications for positive social change include informing the development of culturally responsive and accessible digital health tools, reducing barriers to information access, and improving maternal health outcomes for Black women. This research can also influence public health policies and provider practices by emphasizing the critical role of digital health literacy in maternal care equity.

This section proceeds with the following major subsections: background of the problem, problem statement, purpose of the study, research questions, theoretical and conceptual framework, nature of the study, literature review strategy, theoretical foundation, conceptual framework, literature review related to key variables and concepts, definitions, assumptions, scope and delimitations, limitations, significance, and summary and conclusions.

Background

Black women in the United States are 3 to 4 times more likely to die from pregnancy-related complications than White women, with HDPs—including chronic hypertension, gestational hypertension, preeclampsia, and eclampsia—among the leading causes of these adverse outcomes (Chinn et al., 2021; Mehta et al., 2020). In Harris County, Texas, which encompasses the Greater Houston area, these disparities are particularly acute. Reports from local health agencies and researchers confirm that Black maternal mortality rates remain among the highest nationally, reflecting longstanding structural inequities in healthcare access, socioeconomic opportunity, and the availability of culturally responsive care (Harris County Public Health, 2024; Welch, 2024).

Digital health tools, such as pregnancy monitoring apps, telehealth services, and patient portals, are increasingly integrated into maternal care to provide timely health information, encourage self-monitoring, and support decision-making. However, Black mothers often face systemic barriers when attempting to use these digital resources.

These challenges include limited access to broadband or smart technology, lower levels of digital health literacy, and a lack of trust in health systems that have historically

marginalized their experiences. Furthermore, the design of digital platforms frequently fails to consider the cultural context, language, and lived experiences of Black women, which can lead to confusion, disengagement, or even the spread of misinformation.

While existing literature has acknowledged the value of digital health interventions in improving prenatal care and health outcomes, few studies have focused specifically on how Black mothers with HDPs navigate digital environments to access and apply health information. Most research tends to generalize findings across broad racial and socioeconomic categories, thereby overlooking the nuanced experiences and needs of this high-risk population. There is a particular critical gap in qualitative research that explores how digital health literacy intersects with structural and interpersonal factors to shape information-seeking behaviors during the perinatal period among Black mothers.

Addressing this gap is essential for developing culturally responsive, user-centered digital tools and improving health communication strategies for vulnerable populations. This study was therefore needed to examine the lived experiences of Black mothers in Houston who manage HDPs while engaging with digital health information. Findings from this research will inform the design of more inclusive public health interventions and advance the field's understanding of how technology can be leveraged to reduce maternal health disparities.

Problem Statement

The focus of this study was to explore the limited understanding of how Black mothers with HDPs evaluate and utilize digital health information during the perinatal period.

Although research on maternal health disparities and digital health engagement is expanding, much of it does not consider the intersectional realities that Black mothers encounter while managing HDPs. Existing studies often generalize findings across racial and ethnic groups or broadly address digital health trends without examining how lived experiences, cultural mistrust, and structural barriers influence digital health literacy and behavior. Research by George et al. (2023) and Girmay (2024) has shown that Black mothers frequently face misinformation, cultural mismatches, and skepticism when engaging with online health information, yet few studies have specifically focused on HDPs or contextualized their findings within high-disparity areas like Greater Houston, where maternal mortality rates among Black women are among the highest in the country (Welch, 2024).

This issue is not only well-documented but also urgent. National health agencies, including the Centers for Disease Control and Prevention (CDC, 2023) and the American College of Obstetricians and Gynecologists (ACOG, 2024), have highlighted the rising rates of HDPs and the ongoing maternal mortality crisis among Black women. Recent public health reports emphasize the need for equity-centered digital health strategies that respond to the unique cultural and contextual needs of marginalized populations (National Institute on Minority Health and Health Disparities, 2023). However, current

practice-based interventions often lack insight into how Black mothers perceive, access, and trust digital health platforms, especially when managing complex conditions such as HDPs.

While research conducted by George et al. (2023) and Girmay (2024) emphasized the digital information barriers faced by Black mothers, there has been a notable lack of focus on high-risk pregnancy disorders (HDPs) specifically, particularly in underserved regions like the Greater Houston area. This reveals a significant void in both the academic literature and public health initiatives. Existing maternal health programs that depend on digital communication or self-monitoring technologies frequently do not take into account the real-life experiences of those who are most impacted by maternal health disparities.

To enhance the effectiveness, equity, and trustworthiness of interventions, it is essential to gain a deeper understanding of how Black mothers with HDPs seek and utilize digital health information. Bridging this practice-oriented gap is crucial for advancing maternal health outcomes and ensuring that digital resources facilitate rather than obstruct efforts aimed at achieving health equity.

Purpose of the Study

The purpose of this qualitative phenomenological study was to explore how digital health literacy shapes the information-seeking behaviors and self-management strategies of Black mothers with HDPs during the perinatal period in the Greater Houston area. Through this research, I sought to understand how these mothers engage with digital health tools, evaluate the credibility of online health information, and apply it to manage

their condition within the broader context of structural inequities and social determinants of health.

The focus of this research was the lived experience of navigating digital health platforms and tools while managing HDPs during pregnancy and up to 1 year postpartum. Through in-depth, semistructured interviews, I aimed to illustrate how personal, cultural, and systemic factors intersect to influence digital engagement and decision-making among Black mothers in a high-disparity region.

This study was crafted to address a crucial gap in the literature and in practice-based public health strategies by centering the voices and experiences of Black mothers—an often-overlooked group in digital health innovation. The findings from this study contributed to the development of field-based products that include (a) a policy brief to guide maternal digital equity legislation and funding; (b) implementation strategies for healthcare systems and community organizations aiming to integrate culturally responsive digital resources; (c) community-oriented educational materials to assist Black mothers in evaluating and utilizing digital health information; and (d) a stakeholder presentation designed to disseminate findings to practitioners, health educators, and decision-makers.

Together, these field-focused products will support stakeholders—from practitioners to policymakers—in advancing maternal health equity through digital innovations that are based on the lived experiences of Black mothers.

Ultimately, I aimed to promote maternal health equity by providing actionable insights that can assist in closing the digital divide and improving the quality and accessibility of maternal care for Black women in Houston and other similar urban areas.

Research Questions

This qualitative phenomenological study was guided by the following research questions, which were designed to explore the lived experiences of Black mothers in the Greater Houston area as they engage with digital health information during pregnancy and postpartum while managing HDPs:

1. How do Black mothers in the Greater Houston area perceive the credibility and trustworthiness of digital health information related to hypertensive disorders during pregnancy?
2. How do Black mothers describe the role of healthcare providers in shaping their digital health information experiences during a pregnancy with a hypertensive disorder?
3. How do Black mothers describe the influence of personal and community support systems on their use of digital health information during the perinatal period?

Through these questions, I aimed to uncover patterns, meanings, and contextual influences that shape digital engagement, decision-making, and self-management among an underserved and high-risk maternal population.

Theoretical Framework

This research was anchored in the social ecological model (SEM), a framework that McLeroy et al. (1988) adapted for public health from Bronfenbrenner's ecological systems theory. McLeroy and his colleagues broadened the original developmental model to concentrate specifically on health promotion, delineating five interconnected levels of influence on health behaviors: individual, interpersonal, organizational, community, and public policy. This multilevel perspective indicates that health behaviors are influenced not only by personal choices, but also by the dynamic interactions occurring within social, institutional, and systemic contexts.

In the scope of this research, SEM served as a vital framework for analyzing how Black mothers experiencing HDPs utilize digital health tools in the Greater Houston area. For instance, individual-level influences encompass personal digital literacy and motivation; interpersonal influences involve relationships with healthcare providers and family support systems; organizational factors pertain to clinical practices and health system communication; community-level influences include local norms and peer networks; and policy-level factors address digital access, health equity policies, and structural racism in healthcare delivery.

The SEM was closely aligned with the qualitative phenomenological design of this study, facilitating an investigation into how individual experiences are situated within—and influenced by—these larger systems. It also shaped the study's research questions, which reflect various levels of the model: individual-level experiences with digital health information, interpersonal interactions with healthcare providers, and the

impact of community and structural supports on information-seeking and self-management behaviors.

Conceptual Framework

The conceptual framework supporting this research was the transactional model of eHealth literacy (TMeHL), which was developed by El Benny et al. (2021). This model expands on the foundational definition of eHealth literacy articulated by Norman and Skinner (2006)—"the ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem" (Norman & Skinner, 2006, *p. e9*). The TMeHL redefines eHealth literacy as a fluid, context-dependent process. Rather than considering digital health literacy as a static collection of skills, the TMeHL underscores the ongoing interactions between individuals, digital content, technology platforms, and sociocultural environments.

This model is particularly suitable for investigating the experiences of Black mothers managing HDPs during the perinatal period. It considers not only the technical proficiency required to access and navigate health information, but also the interpretive and critical skills necessary to evaluate content credibility, ascertain relevance, and make informed decisions—particularly in the face of cultural mistrust, systemic barriers, and structural inequities.

The TMeHL guided the formulation of this study's semi structured interview guide by framing key areas of inquiry, including how participants assess the trustworthiness of digital sources, the influence of prior online health experiences,

barriers to effective engagement, and how digital tools either support or obstruct HDP self-management. During the data analysis phase, the model provided a lens for identifying patterns in participants' digital behaviors, levels of trust, perceived credibility, and strategies for applying information in real-world maternal health contexts.

Nature of the Study

This study used a qualitative phenomenological design to explore the lived experiences of Black mothers managing HDPs while navigating digital health information. The goal was to understand how these mothers interpret, evaluate, and act on digital health content while facing structural barriers and sociocultural challenges during the perinatal period.

A phenomenological approach is appropriate for exploring how individuals experience and make meaning of a particular phenomenon in their own words and context (Creswell & Poth, 2018). This design allows for rich, in-depth exploration of subjective experiences, which is essential for understanding the complexities of digital health literacy in maternal health among marginalized populations.

The phenomenon under investigation was how Black mothers engage with digital health tools and platforms—such as mobile apps, websites, and social media—while managing HDPs between 20 weeks of pregnancy and up to 1 year postpartum. Specific focus was placed on how participants assessed the credibility of digital information, applied it to self-management, and interpreted its value within their personal and community contexts.

Data were collected through semistructured, one-on-one interviews with approximately 12 to 15 Black mothers residing in the Greater Houston area who had been diagnosed with HDPs in the past 2 years. Participants were recruited using purposive and snowball sampling through community health networks and maternal health organizations. Interviews were conducted via secure video conferencing platforms to enhance accessibility and accommodate participants' schedules.

All interviews will be transcribed and analyzed using Braun and Clarke's (2006) six-phase thematic analysis approach. This analytic method supports systematic identification of patterns, themes, and meaning units that emerge from participants' narratives. It is well-suited for examining experiences that are emotionally and socially complex, such as navigating digital health information in the context of high-risk pregnancy.

This methodology is designed to yield insights that are both grounded in lived experience and actionable for improving digital maternal health strategies and tools.

Literature Search Strategy

To construct this literature review, a comprehensive and systematic search strategy was used to identify relevant peer-reviewed literature, dissertations, and gray literature pertaining to maternal health disparities, digital health literacy, and information-seeking behaviors. The literature search focused on capturing both foundational and current research to support a robust understanding of the study topic.

The following databases and search engines were accessed: PubMed, CINAHL, Scopus, Google Scholar, Walden Theses & Dissertations, and databases categorized

under Public Health, Social Sciences, and Health & Medicine. Searches were conducted using a combination of keywords and Boolean operators. Key search terms included: *Black maternal health disparities, hypertensive disorders of pregnancy, digital health literacy, eHealth literacy, health information-seeking behavior, and social determinants of health.*

The scope of the review was limited to literature published between 2019 and 2024 to ensure that findings reflect the most current understanding of digital health behaviors and maternal health outcomes. However, seminal literature such as foundational models of eHealth literacy (e.g., Norman & Skinner, 2006) and the development of the SEM (McLeroy et al., 1988) were included for theoretical grounding.

Federal sources, including the National Institute on Minority Health and Health Disparities and the National Center for Health Statistics, were reviewed to incorporate national-level data and policy insights. Gray literature such as local health department reports, policy briefs, and program evaluations from the Greater Houston area were also analyzed to contextualize national trends with local realities.

Due to the limited availability of peer-reviewed studies specifically examining digital health literacy among Black mothers with HDPs, doctoral dissertations and gray literature were included to supplement the findings. This approach ensured that the review captured both academic and practice-based insights relevant to the population of interest.

Theoretical Foundation

This study is grounded in the SEM, a theoretical framework initially conceptualized by Urie Bronfenbrenner to explain human development within multiple environmental systems, and later adapted for public health by McLeroy et al. (1988). McLeroy and colleagues modified Bronfenbrenner's framework to create a health promotion model organized around five interrelated levels of influence on behavior: individual, interpersonal, organizational, community, and policy. The SEM posits that health behaviors are shaped not only by personal factors but also by interactions with broader social, institutional, and structural systems.

Each of the five levels of SEM provides a lens for examining the multiple and overlapping contexts that influence digital health engagement:

- Individual: Personal knowledge, beliefs, digital literacy skills, motivation, and emotional readiness to engage with digital health tools.
- Interpersonal: Relationships and support from family members, friends, peers, doulas, and healthcare providers that shape trust, interpretation, and use of information.
- Organizational: The systems, processes, and technologies used within healthcare institutions, such as the accessibility of digital portals, patient education practices, or provider communication.
- Community: Neighborhood-level access to technology and culturally relevant care, as well as local norms regarding digital engagement, maternal health, and medical trust.

- Policy: Broader structural factors such as healthcare access policies, digital equity infrastructure, insurance coverage, and systemic racism that affect resource distribution and maternal health outcomes.

The SEM has been widely applied in public health research to investigate how behavior is influenced by multilayered social systems. It has been particularly useful in studies examining maternal health outcomes, health equity, and the use of technology in healthcare delivery. For example, Vamos et al. (2019) applied SEM to evaluate digital maternal health tools and concluded that outcomes improve when interventions are tailored to address not only the individual user but also provider communication, institutional barriers, and social support systems. Similarly, Gebreyes et al. (2024) applied an ecological lens to examine how maternal stress, limited digital access, and fragmented community resources interact to reinforce disparities in maternal outcomes. Their analysis emphasizes that technology-driven maternal health interventions must be designed with attention to inequities across all ecological levels—individual, interpersonal, organizational, community, and policy, aligning closely with the principles of the SEM.

In selecting SEM as the guiding theoretical foundation for this study, the framework offers a critical advantage: it supports a holistic, multilevel analysis of digital health engagement among Black mothers managing HDPs. This approach allows the research to uncover how digital behaviors are shaped not only by individual skills and preferences, but also by interpersonal trust, institutional responsiveness, structural racism,

and digital infrastructure—all of which are central to the lived experiences of Black mothers in the Greater Houston area.

One of the strengths of the SEM is its flexibility and relevance across disciplines. It provides a structured way to examine social and structural determinants of health while remaining adaptable to diverse populations and settings. This makes it highly effective for maternal health research that considers racial disparities, systemic barriers, and multi-layered influences on care access and outcomes. However, a potential limitation of SEM is its broad scope, which may make it challenging to isolate the most influential factors at each level. It can also become descriptive rather than explanatory if not paired with rigorous data collection and analytic strategies that trace the interaction between levels. To address this, the current study uses a focused phenomenological approach to capture detailed, grounded data that will be organized using SEM's levels during analysis and synthesis.

Finally, SEM is expected to inform the structure of the study's Field Product #2, the Executive Summary for Program Development. The multilevel framework will support the development of program strategies that target individual empowerment, provider practices, clinic systems, community partnerships, and policy change. By aligning findings and recommendations with each SEM level, the resulting product will be both theoretically grounded and practically useful for improving maternal digital engagement and health equity.

Conceptual Foundation

This research is conceptually rooted in the TMeHL, a contemporary framework that redefines digital health literacy as a dynamic, interactive, and context-sensitive process. The central theme of this research is digital health literacy, which is defined as the ability to seek, discover, comprehend, evaluate, and utilize digital health information in ways that support informed decision-making and enhance health outcomes. The foundational concept of eHealth literacy was introduced by Norman and Skinner (2006), who outlined six essential literacies— traditional, health, information, scientific, media, and computer literacy—that together determine an individual's capacity to engage with digital health content.

Expanding on this foundation, the TMeHL developed by El Benny et al. (2021) shifts the emphasis from static skills to dynamic interactions between users and digital environments. According to this model, digital health literacy is not merely a set of technical competencies, but a fluid process shaped by trust, emotional readiness, engagement, contextual relevance, and the ability to evaluate health information. These dimensions are particularly important for populations navigating structural barriers and cultural mismatches in digital health systems.

The TMeHL consists of the following fundamental components:

- **Trust:** This is the assurance that digital health information is trustworthy, accurate, and free from harm or bias.
- **Evaluation:** This refers to the capability to evaluate the credibility, accuracy, and cultural relevance of online information.

- Engagement: This indicates the ability and desire to engage meaningfully with digital health platforms.
- Contextual Interaction: This pertains to how users' emotional conditions, previous experiences, and social contexts shape their digital behaviors.

Recent academic work highlights the significance of these constructs for underrepresented communities. Ji et al. (2024) revealed that digital health behaviors are profoundly influenced by the relationship between digital literacy and health literacy, particularly among rural populations managing chronic conditions. Likewise, Ban et al. (2024) conducted a concept analysis of digital health literacy, stressing that cultural context, personal trust in digital systems, and the emotional labor involved in interpreting health information online have a substantial impact on digital health behaviors. These findings support the applicability of the TMeHL for demographics—such as Black mothers dealing with HDPs—who often find themselves at the crossroads of cultural dissonance, health complexity, and digital fragmentation.

This framework is optimally designed for the current study demographic. Black mothers experiencing HDPs often utilize digital health tools while facing systemic racism, inadequate communication from providers, and a history of medical mistrust. Their digital health literacy is not merely determined by their access to technology or literacy levels—it is influenced by their interpretation, trust, and application of digital information to make significant decisions during a high-risk perinatal timeframe.

The TMeHL framework plays a crucial role in several facets of this study:

Research Questions: These are formulated to investigate how Black mothers perceive, assess, and engage with digital health information related to HDPs.

- Interview Protocol: This has been crafted to elicit participants' perspectives and feelings regarding trust, emotional readiness, usability, and the cultural appropriateness of digital health resources.
- Thematic Analysis: The approach outlined by Braun and Clarke (2006) will be employed with TMeHL constructs—such as engagement, trust, and context—as sensitizing concepts to facilitate the interpretation of data patterns.

By situating the study within the TMeHL framework, the research acquires a flexible yet comprehensive conceptual structure for capturing the entire range of participants' digital experiences—particularly how emotions, social contexts, and structural inequalities influence the use and trust of digital health tools in practical maternal health contexts.

Literature Review Related to Key Variables and/or Concepts Maternal Health Disparities and Social Determinants

Numerous studies confirm that Black women in the United States, regardless of income or education level, experience disproportionately poor maternal health outcomes due to interlocking systems of structural racism, economic inequality, and biased medical practices. Chinn et al. (2021) and Crear-Perry et al. (2021) emphasized that these disparities are not rooted in individual behaviors but are driven by broader social

determinants of health. In Harris County, Texas, Welch (2024) reported that Black maternal mortality rates exceed both state and national averages, reinforcing the urgency for localized, culturally responsive strategies. These studies collectively support the selection of *digital health literacy*, *culturally responsive communication*, and *systemic access barriers* as critical constructs shaping maternal health outcomes among Black women.

Digital Health Literacy as a Social Determinant of Maternal Health

Digital health literacy is increasingly recognized as an essential component of maternal health equity. Norman and Skinner (2006) defined eHealth literacy as the ability to seek, understand, evaluate, and apply health information from electronic sources. This multidimensional skillset encompasses not only technical proficiency but also emotional readiness, cognitive evaluation, and trust. Hsu and Tsai (2020) found that higher levels of eHealth literacy among pregnant individuals correlated with more consistent engagement in prenatal care and improved outcomes. Girmay (2024) extended this work by showing how disparities in digital access and trust in health systems disproportionately impact Black mothers, who often report feeling underserved and misinformed in digital spaces.

Recent scholarship by Ji et al. (2024) and Ban et al. (2024) also reinforces the importance of considering both the functional and contextual elements of digital health literacy. Their findings suggest that successful digital engagement requires more than technical skill; it also involves emotional safety, content alignment with lived experience, and meaningful system interactions—particularly for marginalized users navigating complex health conditions like HDPs.

Barriers to Information-Seeking and Digital Engagement

Barriers to accessing and effectively utilizing digital health tools are well-documented. Birati et al. (2022) found that most digital platforms and mobile applications for gestational conditions fail to reflect the cultural and contextual needs of diverse users. George et al. (2023) reported that Black mothers often resort to social media or peer-based information networks due to limited provider communication and lack of culturally relevant online content. However, these platforms frequently expose users to misinformation, conflicting advice, and emotionally distressing narratives.

Kostagiolas et al. (2023) noted that many women of reproductive age face difficulty locating reliable, actionable, and culturally attuned digital content—especially when managing stigmatized or complex health issues. Similarly, Xu et al. (2024) found that women with chronic conditions struggle to assess the quality of online information when it lacks contextual relevance or when digital systems fail to acknowledge cultural nuances. These findings underscore the critical need for digital health platforms that are not only accurate and accessible, but also emotionally affirming and contextually aligned with users' lived realities.

Provider and Health System Roles in Digital Engagement

Healthcare providers play a critical role in shaping patient trust, digital engagement, and maternal self-management. Nguyen et al. (2022) found that clinical encounters often overlook patient variation in digital skills and health literacy, resulting in confusion and disengagement. Vamos et al. (2019) advocated for the adoption of organizational health literacy practices—such as simplified communication, inclusive

language, and culturally tailored resources—to reduce disparities in digital engagement and maternal outcomes. Despite this, many current systems are still designed from a provider-centered perspective and often fail to capture or respond to patient feedback and digital preferences.

Strengths and Weaknesses of Existing Research Approaches

Many of the studies cited above use quantitative or survey-based designs, which offer valuable data on prevalence and correlations but often lack depth in capturing the lived experiences of users. For example, while Girmay (2024) and Ji et al. (2024) successfully identify population-level disparities in digital engagement, they do not provide insight into how individuals interpret or emotionally respond to digital health experiences. Few studies explore digital health literacy through a culturally embedded lens or use qualitative methodologies to understand trust, emotional burden, or social context.

Where qualitative research has been applied, its value is clear. For instance, George et al. (2023) conducted interviews with Black mothers and revealed the emotional trade-offs of using social media as a health information source—insights that would not be visible through quantitative metrics alone. However, such studies remain limited, and very few use phenomenology to explore the deeper meaning-making processes that accompany digital engagement during maternal health challenges.

Justification for Qualitative Phenomenological Approach

This gap in qualitative inquiry justifies the selection of a phenomenological design for the present study. A phenomenological approach is ideally suited for exploring

how individuals experience and make meaning of specific phenomena—such as navigating digital health tools during pregnancy while managing a serious condition like HDP. This method enables the researcher to explore how personal history, social support, cultural mistrust, and emotional states all shape and complicate digital health engagement.

The research questions guiding this study—focused on digital credibility, the role of healthcare providers, and community support—are designed to elicit reflections that can only emerge through lived experience and open-ended dialogue. Quantitative methods cannot adequately capture the nuanced ways Black mothers assess, distrust, reject, or apply digital content in their perinatal health journeys.

What Is Known, Controversial, and Still Unknown

The literature affirms that digital health literacy is an urgent and under-addressed component of maternal health equity. However, there is controversy regarding the effectiveness of current digital interventions—particularly their ability to overcome racial mistrust, cultural mismatch, and information overload. Some researchers argue that mobile apps and web platforms improve access and empowerment; others suggest that they reinforce existing disparities when poorly designed or misaligned with user needs. What remains understudied is the real-world engagement process, how users with high risk, limited resources, and culturally distinct needs make decisions in response to digital content. This study seeks to fill that gap by focusing on a historically marginalized population—Black mothers in Greater Houston—who have been disproportionately impacted by both hypertensive complications and digital inequities.

Definitions

The following terms are defined operationally to clarify their meaning within the context of this qualitative study exploring the digital health experiences of Black mothers managing HDPs. Each definition is grounded in current literature or authoritative sources.

Black: Refers to individuals who self-identify as Black or African American, including those of Caribbean, Afro-Latinx, or multiracial heritage. This term acknowledges the cultural and ethnic diversity within the Black maternal population, while recognizing shared experiences of systemic racism and health inequities that influence healthcare access and digital engagement (Crear-Perry et al., 2021).

Digital health literacy: In this study, digital health literacy is defined as the capacity of participants to seek, understand, critically evaluate, and apply digital health information in the context of managing HDPs. This definition aligns with Norman and Skinner's (2006) foundational model of eHealth literacy and is informed by the TMeHL (El Benny et al., 2021), which emphasizes the dynamic, context-sensitive, and trust-based nature of digital health engagement.

Hypertensive disorders of pregnancy (HDPs): HDPs include a spectrum of conditions such as chronic hypertension, gestational hypertension, pre-eclampsia, and eclampsia that occur during pregnancy or postpartum. For the purposes of this study, HDPs are considered in relation to their diagnosis and management from 20 weeks gestation through one year postpartum (Khedagi & Bello, 2021).

Perinatal period: Operationalized in this study as the timeframe from 20 weeks of gestation through 12 months postpartum. This extended definition allows for exploration of health information-seeking behavior during both the antenatal and postnatal phases, consistent with CDC surveillance guidelines (Centers for Disease Control and Prevention [CDC], 2023).

Health information-seeking behavior: Refers to the strategies used by participants to locate, assess, and apply health-related knowledge—specifically through digital platforms such as websites, mobile apps, or social media. This construct captures both active searching and passive exposure to information and reflects the cognitive and emotional processes involved in interpreting and acting on health content (Di Novi et al., 2024).

Trust (in digital health contexts): Trust is defined as the degree to which participants perceive digital health information to be reliable, culturally relevant, secure, and aligned with their health needs and values. In this study, trust is examined as a relational and evolving construct that influences participants' engagement with digital tools (Ban et al., 2024).

Self-management: Refers to the actions taken by participants to monitor, interpret, and manage their hypertensive conditions using knowledge or strategies derived from digital health information. This includes medication adherence, symptom tracking, dietary adjustments, and decisions about seeking care. Self-management is shaped by both individual knowledge and broader social support systems (Chinn et al., 2021).

Healthcare provider: Operationally defined as any licensed clinical professional— such as an obstetrician, midwife, nurse, or maternal-fetal medicine specialist— who provides perinatal care and whose communication practices may influence participants’ digital health behavior, health literacy, or decision-making (Nguyen et al., 2022).

Assumptions

This study is based on several key assumptions that are necessary for the research to be meaningful but cannot be empirically proven.

First, it is assumed that participants will respond truthfully, thoughtfully, and reflectively during interviews, providing authentic accounts of their lived experiences with digital health tools while managing HDPs. This assumption is essential for ensuring the credibility and richness of the data, especially in a phenomenological design that relies on subjective narratives.

Second, the study assumes that participants have adequate memory, insight, and emotional readiness to recall and articulate their experiences during the perinatal period. Since this study involves a retrospective reflection on high-stress health experiences, it is important to assume that participants are capable of making meaning of those events in a coherent and constructive manner.

Third, it is assumed that participants possess at least a basic level of digital familiarity and have used online platforms (such as websites, mobile apps, or social media) to seek health-related information during pregnancy or postpartum. This is

necessary because the study specifically investigates digital health literacy and information-seeking behaviors in a digital context.

Finally, the study assumes that the chosen theoretical frameworks—the SEM and the TMeHL— are conceptually appropriate and applicable to the experiences of Black mothers in the Greater Houston area. These frameworks are believed to capture both the multilevel influences on health behavior (SEM) and the dynamic, trust-based engagement with digital information (TMeHL).

Scope

This study's scope is intentionally and narrowly defined to examine the lived experiences of self-identified Black mothers aged 19 to 45 who reside in the Greater Houston metropolitan area. Participants must have been diagnosed with a HDP (chronic hypertension, gestational hypertension, preeclampsia, or eclampsia) during the perinatal period, which is operationally defined as 20 weeks of gestation to 12 months postpartum.

This targeted demographic and geographic focus was chosen because Black mothers in Greater Houston experience disproportionately high rates of maternal morbidity and mortality associated with HDPs and systemic inequities in healthcare. A localized scope allows for a more comprehensive and context-specific examination of how structural, social, and cultural factors intersect with digital health engagement. Additionally, it provides valuable findings for program development, particularly in maternal health settings based in Houston.

Delimitations

Delimitations are the specific choices made by the researcher to refine the focus of the study. The following delimitations have been established: Only participants who have access to digital tools (smartphones, tablets, computers) and are comfortable with virtual interviews will be included. This ensures that the study aligns with its focus on digital health literacy, but it necessarily excludes individuals who lack sufficient digital access or skills. The study is geographically limited to the Greater Houston area. While this enhances the cultural and structural relevance of the findings for a community with significant needs, it also limits the generalizability of the results to other regions.

The study is restricted to participants diagnosed with HDPs during a defined perinatal window (from 20 weeks gestation to 12 months postpartum). Mothers with other complications, or those outside of this timeframe, are excluded from the study. Only participants who self-identify as Black or African American (including those of Caribbean, Afro-Latinx, or multiracial heritage) are included, allowing for a culturally specific analysis while excluding other racial or ethnic groups that may also face maternal health disparities. While SEM and TMeHL are utilized as guiding frameworks, other relevant models (such as the Health Belief Model or Critical Race Theory) are not applied, even though they may provide additional insights.

Limitations

Several limitations may impact the study's findings. Recruitment may prove challenging due to limited participant availability, caregiving responsibilities, employment conflicts, or time constraints. Furthermore, skepticism toward academic

research and historical mistrust of healthcare systems may deter some potential participants from fully engaging. Cultural sensitivity and varying levels of digital literacy may also influence how participants interpret and respond to questions.

Another limitation lies in the reliance on self-reported data, which may be subject to bias, memory lapses, or social desirability effects. The digital divide itself—differences in access to quality internet, digital literacy, and device functionality—could further impact the range and consistency of responses across participants.

To mitigate these limitations, the study will use trusted community-based recruitment strategies, flexible scheduling, and multiple virtual platforms to facilitate participation. The researcher will create a safe and affirming space during interviews and utilize reflexivity and peer debriefing to minimize interpretive bias. While these efforts will strengthen the credibility of the findings, the specificity of the sample and geographic location means results may not be broadly generalized beyond the Greater Houston area.

Significance

This study has significant potential to advance both theoretical understanding and applied practices in the fields of digital health literacy, maternal health equity, and public health intervention design. From an academic standpoint, this research contributes to scholarly knowledge by extending the application of the SEM (McLeroy et al., 1988) and the TMeHL (El Benny et al., 2021) to a population and condition that remain underexplored in the digital health literature—Black mothers managing HDPs.

By integrating these frameworks with a phenomenological approach, the study deepens our understanding of how multilevel social factors (e.g., provider relationships, digital access, policy-level barriers) and dynamic digital interactions (e.g., trust, emotional readiness, content evaluation) shape health behavior, engagement, and decision-making during the perinatal period (Ban et al., 2024; Ji et al., 2024).

In terms of practice and policy, this study offers practical insights for developing culturally responsive digital maternal health strategies. Findings will inform the design and implementation of digital communication tools, educational resources, and maternal health platforms that reflect the cultural, emotional, and accessibility needs of Black mothers—populations historically marginalized in digital health innovation (Girmay, 2024; George et al., 2023). The results may also guide local and state health policymakers in designing maternal digital equity initiatives that prioritize culturally relevant care, strengthen provider-patient communication, and improve digital access for perinatal populations of color (Chinn et al., 2021; Welch, 2024).

Furthermore, this study supports positive social change by amplifying the voices and lived experiences of Black mothers in Greater Houston—a region with some of the highest maternal mortality rates among Black women nationally (Welch, 2024). By centering these mothers' perspectives, the research advances community-informed innovation and challenges top-down digital health strategies that often overlook the structural barriers, cultural disconnects, and emotional labor Black mothers face when navigating HDPs. In doing so, this study contributes to the broader goals of health equity

and reproductive justice by providing actionable insights that can inform more effective and inclusive public health systems (Crear-Perry et al., 2021).

Ultimately, the study promotes socially-just health solutions rooted in the real-world experiences of marginalized communities, supporting long-term efforts to reduce maternal health disparities through accessible, trustworthy, and culturally resonant digital tools and policies.

Summary and Conclusion

This literature review has synthesized the persistent disparities Black mothers face in managing HDPs, particularly within the context of digital health engagement. Key themes that emerged include the influence of structural racism, gaps in culturally responsive care, and digital exclusion as key barriers to equitable maternal health outcomes. Research consistently shows that Black women in the U.S.—and especially in regions like Greater Houston—are disproportionately affected by HDPs and face heightened risks of maternal morbidity and mortality, regardless of education or income (Chinn et al., 2021; Welch, 2024). At the same time, digital health tools—though increasingly used in maternal health settings—often fail to meet the cultural, emotional, and informational needs of Black mothers due to poor design, lack of trust, and limited health literacy alignment (George et al., 2023; Girmay, 2024).

While digital health literacy has emerged as a critical social determinant of health (Norman & Skinner, 2006; Ban et al., 2024), the literature reveals a significant gap in understanding how Black mothers interpret and use digital health information when navigating HDPs. Most studies either generalize findings across racial groups or rely

heavily on quantitative methods, thus overlooking the rich, lived experiences and emotional realities of this high-risk population. There is also limited application of

holistic frameworks—such as the SEM (McLeroy et al., 1988) and the TMeHL (El Benny et al., 2021)—that account for both systemic context and personal agency in digital health behaviors.

This study addresses that critical gap by exploring the lived experiences of Black mothers in Greater Houston who have navigated HDPs and digital health tools during the perinatal period. By applying a phenomenological approach, the research will generate new insights into how trust, access, social support, and provider interactions shape digital engagement and health decision-making. In doing so, the study will extend current disciplinary knowledge by offering culturally grounded, community-informed evidence that can inform both theoretical frameworks and practical interventions aimed at improving maternal digital equity.

These findings will contribute to advancing public health knowledge, maternal health practice, and digital inclusion policies. Moreover, they will support the development of field-based products designed to inform policy briefs, program strategies, and communication tools that better meet the needs of Black mothers facing HDPs.

The next section, Section 2, presents the qualitative methodology that will guide this investigation. It outlines the study's research design, participant selection criteria, data collection procedures, and plans for thematic analysis, grounded in the conceptual and theoretical foundations established here.

Section 2: Research Design and Data Collection

Introduction

The purpose of this qualitative phenomenological study is to explore how Black mothers in the Greater Houston area with HDPs evaluate, trust, and engage with digital health information during the perinatal period. This study seeks to understand the lived experiences of these mothers as they navigate digital platforms for health-related decision-making and self-management while managing a high-risk pregnancy complication.

This section outlines the research design and methodology used to guide the study. It includes a rationale for the chosen qualitative phenomenological approach, a discussion of the researcher's role, participant selection logic, and a description of data collection tools and procedures. It also explains the data analysis plan, methods used to ensure trustworthiness, and the ethical safeguards that will be implemented to protect participants. Together, these components ensure that the research process is methodologically sound, ethically rigorous, and aligned with the study's purpose.

Research Design and Rationale

Restatement of the Research Questions

This study is guided by the following qualitative research questions:

1. How do Black mothers in the Greater Houston area perceive the credibility and trustworthiness of digital health information related to hypertensive disorders during pregnancy?

2. How do Black mothers describe the role of healthcare providers in shaping their digital health information experiences during a pregnancy with a hypertensive disorder?
3. How do Black mothers describe the influence of personal and community support systems on their use of digital health information during the perinatal period?

Central Phenomenon of the Study

The central phenomenon explored in this study is the lived experience of Black mothers navigating digital health information while managing HDPs. Specifically, the study investigates how participants evaluate the credibility of online information, how healthcare providers influence their digital health behaviors, and how social and community support systems impact their use of digital resources for self-management during the perinatal period.

Qualitative Research Tradition

This study uses a qualitative phenomenological research tradition, which seeks to understand the essence of human experiences through the lens of those who have lived them. Phenomenology enables researchers to describe how individuals make meaning of specific events, challenges, or interactions, particularly those rooted in complex social, emotional, or health-related contexts (Creswell & Poth, 2018; Sundler et al., 2019).

Rationale for the Chosen Design

A phenomenological approach is particularly well-suited for this study because it allows for deep exploration of personal experiences with digital health tools during a

medically and emotionally complex time—pregnancy complicated by HDPs. This design captures the subjective meanings that participants assign to their digital interactions, including trust in information sources, engagement with providers, and reliance on social support. It provides a pathway to illuminate how systemic inequities, cultural values, and digital literacy interact to shape maternal health outcomes.

Unlike other qualitative designs such as grounded theory (which seeks to build new theory), case study (which investigates a bounded system), or narrative inquiry (which focuses on individual life stories), phenomenology emphasizes shared meaning across individuals who have experienced a common phenomenon. Because this study seeks to identify recurring patterns and common themes in how Black mothers navigate digital health landscapes during HDPs, phenomenology offers the most coherent and meaningful approach.

The phenomenological tradition also aligns with the study’s conceptual and theoretical foundations: the SEM and the TMeHL. These frameworks support an exploration of how lived digital experiences are shaped by multilevel influences and dynamic interactions between individuals, systems, and information sources—fitting within phenomenology’s focus on the richness of lived human experience.

Role of the Researcher

In this qualitative research, the researcher will act as an observer-participant, interacting with participants during interviews while maintaining a reflexive awareness of their role in the research process. The researcher will not directly engage in the

participants' experiences but will establish rapport, observe tone and context, and encourage open discussions about their lived experiences.

The researcher identifies as a Black woman, a mother, and a public health practitioner residing in the Greater Houston area. This insider identity may promote a sense of cultural safety and build trust during participant interviews. However, it also raises the potential for preexisting assumptions or biases that could affect data interpretation. The researcher does not currently hold any supervisory, instructional, or healthcare provider roles with any potential participants and possesses no power or professional authority over them.

To mitigate potential bias, the researcher will employ reflexive journaling throughout the study, recording personal reflections, reactions, and positional influences during data collection and analysis. Bracketing techniques will be utilized to set aside personal experiences during interviews and coding. Peer debriefing with a non-participant colleague will be conducted to critically assess emerging interpretations and ensure that data analysis remains centered on the participants.

There are no known ethical conflicts of interest or institutional power differentials in this study. Nevertheless, since the researcher is integrated into the Houston maternal health community, precautions will be taken to avoid recruiting individuals with whom the researcher has a direct organizational or advocacy relationship. If a participant is known to the researcher personally or professionally, they will be excluded from the study to maintain ethical boundaries and reduce perceived coercion.

All interpretations and conclusions will be based on the participants' own words, ensuring that findings accurately reflect their experiences.

Methodology

Participant Selection Logic

This study will be conducted in the Greater Houston metropolitan area and will focus on a population of Black mothers between the ages of 19 and 55 who have been diagnosed with a HDP between 20 weeks gestation and 12 months postpartum. The sampling strategy will be purposeful, targeting individuals who have directly experienced the phenomenon of interest—managing HDPs while engaging with digital health tools. Purposeful sampling is well-suited for phenomenological research because it facilitates the recruitment of individuals with rich, relevant experiences (Campbell et al., 2020). Snowball sampling will also be used to extend outreach through participant networks and to increase access to eligible individuals from diverse social and community settings.

To be eligible, participants must self-identify as Black or African American, reside in the Greater Houston area, and have access to digital devices such as smartphones, computers, or tablets. They must also have used digital platforms for health-related information during their perinatal period. Eligibility will be confirmed via a brief pre-interview screening survey. The anticipated sample size is 12 to 15 participants, which aligns with recommendations for phenomenological studies seeking thematic saturation (Guest, Namey, & Chen, 2020). Recruitment will be facilitated through maternal health programs, doulas, and community-based organizations serving Black families. Outreach materials such as flyers and social media posts will be

distributed via trusted community partners. Participants will be contacted via email and offered flexible scheduling options, including evening and weekend interviews, to minimize participation barriers.

Instrumentation

This study will use two self-developed instruments: (a) a semi structured interview protocol and (b) a Health and Digital Literacy Assessment Tool designed specifically for this study population.

The interview protocol was developed based on the constructs of the SEM (McLeroy et al., 1988) and the TMeHL (El Benny et al., 2021). Questions were created to explore participants' digital health literacy, perceptions of credibility, the role of healthcare providers, and support systems influencing digital health engagement. The interview guide includes open-ended prompts with suggested probes and will be pilot tested with two community members (not included in the study) to establish flow, clarity, and cultural relevance.

Health and Literacy Assessment Tool

The Health and Digital Literacy Assessment Tool (see Appendix A) is a comprehensive, self-developed questionnaire grounded in validated instruments such as the Single Item Literacy Screener (SILS) and the eHealth Literacy Scale (eHEALS). It includes five integrated sections:

- Demographic Information
- General Health Literacy
- eHealth Literacy

- Socio-Ecological Model Constructs
- TMeHL Constructs

The tool is intended to be used during the pre-screening process and adapted for cultural and contextual relevance to Black mothers in the Greater Houston area managing HDPs. It captures data on age, education, income, location, technology access, and self-perceived competencies across multiple domains, including health, digital, and media literacy. The assessment will help determine participants' eligibility by assessing their baseline digital and health literacy, access to technology, and relevant socioecological factors. For example, several items assess how social support systems, community resources, and healthcare policies affect participants' digital health engagement.

Response formats range from Likert scales to multiple-choice and open text. This information ensures that selected participants meet the inclusion criteria and can meaningfully engage with the digital health focus of the study. The assessment is not part of the interview process but serves to inform and prescreen participant selection before interviews are scheduled.

Interview Protocol

The semistructured interview protocol (Appendix B) will be used as the primary data collection method for the qualitative phase of the study. Once participants are screened and determined eligible using the Health and Digital Literacy Assessment tool, they will be invited to participate in a one-on-one interview guided by this protocol.

The purpose of the semistructured format is to explore the lived experiences of Black mothers in the Greater Houston area who were diagnosed with hypertensive disorders.

of pregnancy (HDPs), specifically focusing on their digital health literacy and information-seeking behaviors during the perinatal period. The protocol includes open-ended questions that allow participants to reflect on their experiences, challenges, and interactions with digital health tools, as well as the support received from healthcare providers and their social networks.

While the protocol ensures consistency across interviews, it allows flexibility for follow-up questions based on participant responses, which is essential for capturing rich, nuanced data. These interviews will be audio-recorded (with consent), transcribed, and later analyzed using thematic analysis to identify key patterns and insights.

Content Validity

To ensure content validity, both the semistructured interview protocol and the Health and Digital Literacy Assessment Tool were developed based on established literature and theoretical frameworks, including the SEM (McLeroy et al., 1988) and the TMeHL (El Benny et al., 2021). Items were aligned with core constructs such as trust, digital engagement, health information evaluation, and the influence of social and structural factors.

As an additional step, the instruments will undergo informal pilot testing with individuals who meet the study criteria but will not participate in the formal study. This feedback will help identify any remaining issues with comprehension or navigation before data collection begins.

Procedures for Recruitment, Participation, and Data Collection

Recruitment Procedures

Participants will be recruited through a multi-pronged outreach strategy tailored to the Greater Houston community. Recruitment will begin by establishing partnerships with trusted maternal health organizations, doulas, public health professionals, and Black maternal health advocacy groups. Flyers and digital outreach materials will be distributed via social media (e.g., Facebook, Instagram), community health clinics, prenatal support groups, and parenting networks.

Interested individuals will be directed to contact the researcher via email or a secure online form. Upon initial contact, potential participants will receive a study overview and eligibility screening questions to confirm alignment with the inclusion criteria. Once eligibility is verified, participants will receive an informed consent form electronically, which they will sign and return prior to data collection.

To increase trust and reduce barriers to participation, the recruitment strategy will involve local community gatekeepers and allow for snowball sampling—where enrolled participants can refer others from their networks. Participants will also be given flexible scheduling options to accommodate parenting, work, and caregiving responsibilities.

Participation and Data Collection Procedures

All data will be collected remotely through secure video conferencing platforms such as Zoom. After informed consent is obtained, participants will complete a brief demographic and digital literacy questionnaire (see Appendix A: Health and Digital

Literacy Assessment Tool). This will provide baseline context on participants' digital access, health literacy, and community support structures.

Following the questionnaire, a semistructured, in-depth interview will be conducted lasting approximately 45 to 60 minutes. Interviews will follow an interview protocol designed to elicit open-ended responses while allowing flexibility for individual experiences and stories to emerge. The interview guide includes prompts about trust in digital sources, experiences with providers, and how social or family networks influence participants' digital engagement during the perinatal period.

All interviews will be audio-recorded with participants' permission and transcribed verbatim for analysis. Field notes will be taken during and after the interviews to capture tone, emphasis, and contextual observations. Participants may request breaks, refuse to answer specific questions, or withdraw from the study at any point without penalty.

Follow-Up Procedures and Exit Protocol

Participants will receive a follow-up thank-you message via email after their interview. This message will include:

- A reiteration of their right to withdraw any data from the study within two weeks,
- Contact information for the researcher and dissertation chair,
- Referrals to local maternal health support resources.

If the recruitment strategy results in fewer than 10 eligible participants, additional outreach will be conducted using the same recruitment channels, with expanded

geographic targeting to include outer neighborhoods in the Greater Houston area. No follow-up interviews are anticipated; however, brief clarification follow-ups may be requested on a case-by-case basis, with consent.

Data Analysis Plan

The purpose of this study is to explore the lived experiences of Black mothers in the Greater Houston area navigating digital health information while managing HDPs. Data will be collected through in-depth interviews and demographic/digital literacy assessments and analyzed using a rigorous thematic analysis framework appropriate for phenomenological inquiry.

Approach to Analysis

Thematic analysis will be conducted using the six-phase model developed by Braun and Clarke (2006), which allows for both inductive and deductive theme generation. This flexible analytic method supports a structured, transparent approach to coding while remaining grounded in participants' own words and experiences.

The six steps include:

1. Familiarization with the data: Audio recordings will be transcribed verbatim, and the researcher will read and re-read the transcripts to become immersed in the data.
2. Generating initial codes: Meaningful segments of text will be identified and labeled using both inductive codes (emerging from the data) and deductive codes derived from the conceptual frameworks (SEM and TMeHL).

3. Searching for themes: Codes will be grouped into broader categories that capture shared experiences or meanings across participants.
4. Reviewing themes: Themes will be refined, compared across transcripts, and checked against the original coded extracts to ensure consistency and accuracy.
5. Defining and naming themes: Final themes will be given concise names and operational definitions, ensuring that they reflect both the conceptual frameworks and the participants' narratives.
6. Producing the report: Themes will be reported with supporting quotes, analytic interpretations, and links to research questions and theory.

Connection to Research Questions

RQ1 (Credibility and trust in digital health information): Codes will be created around source evaluation, personal criteria for credibility, exposure to misinformation, and platform preferences.

RQ2 (Role of healthcare providers): Codes will capture how providers encourage or discourage digital health usage, offer referrals, or influence trust.

RQ3 (Support systems): Codes will focus on the influence of family, peer, or community networks in navigating digital health information and managing HDPs.

Software and Management

Qualitative data will be organized and coded using NVivo 14, which allows for efficient management of large text datasets, visualization of coding patterns, and the

creation of thematic maps. The use of NVivo will support transparency in the analysis and the development of a structured audit trail.

Discrepant Cases

Discrepant or non-confirming cases—those that do not fit emerging patterns—will be analyzed intentionally and discussed in the findings. These cases will be used to enhance the depth and trustworthiness of interpretations and to challenge or refine themes where needed.

Issues of Trustworthiness

To ensure the trustworthiness and rigor of this qualitative study, multiple validation strategies will be employed based on both Lincoln and Guba's (1985) classic criteria and more recent applications of rigor in qualitative research (Nowell et al., 2017). These include credibility, transferability, dependability, and confirmability.

Credibility will be strengthened through member checking, where participants will be invited to review and validate their interview transcripts and the themes derived from their responses. Member checking ensures that participants have the opportunity to confirm or clarify how their perspectives have been interpreted and allows them to correct any inaccuracies or add further insights. This collaborative process enhances transparency, builds trust, and affirms the authenticity of the findings, particularly important when working with historically marginalized communities. Additionally, peer debriefing will support the validation of emerging themes.

Transferability will be addressed by providing thick descriptions of participant experiences, settings, and contexts, enabling readers to assess applicability to similar

populations. Dependability will be reinforced through a clearly documented audit trail that includes research decisions, coding processes, and revisions to protocols.

Confirmability will be supported by maintaining researcher reflexivity through journaling and triangulation across interviews, ensuring findings reflect participant voices rather than researcher bias.

Dependability will be established through a clear audit trail documenting the study's procedures and decisions. Nowell et al. (2017) emphasized aligning each stage of thematic analysis with rigor criteria—this study's use of Braun and Clarke's thematic framework, supported by NVivo software, reflects that commitment. Naeem et al. (2023) also provided a clear step-by-step process for applying this framework in health science research, ensuring consistency, transparency, and depth throughout the data analysis phase.

To reinforce confirmability, the researcher will engage in ongoing reflexive journaling to document personal assumptions, positionality, and analytic decisions. Themes and interpretations will be supported by direct participant quotations, emphasizing that findings are derived from the data rather than researcher expectations. Peer debriefing will serve as an additional check on interpretations, enhancing transparency and accountability.

Together, these strategies will contribute to the methodological integrity and reliability of the study's findings.

Ethical Procedures

Institutional Approval and Access to Participants

Prior to recruitment or data collection, this study will receive approval from the Walden University Institutional Review Board (IRB). The complete IRB application will include recruitment materials, informed consent documents, the interview protocol, and the Health and Digital Literacy Assessment Tool. Once approval is obtained, the official IRB approval number will be documented in the final study.

Although recruitment will occur through community-based organizations, maternal health programs, and peer networks, the study does not involve data collection from within a specific institutional site. Therefore, formal site permissions are not anticipated. However, any supporting organizations that facilitate recruitment will be informed of the study's purpose, and any written access agreements, if required, will be submitted with the IRB application.

Recruitment and Consent Ethics

Participants will be recruited through community-based maternal health groups, social media, and digital outreach materials. These materials will clearly state that participation is entirely voluntary and that interested individuals must contact the researcher directly to express interest. No personal or professional relationships exist between the researcher and potential participants that would create a conflict of interest or supervisory power.

Informed consent will be obtained from all participants prior to participation. The consent form will outline the study's purpose, voluntary nature, procedures, potential

risks, benefits, confidentiality protections, and participants' right to withdraw at any time without consequence. Consent will be documented electronically through a secure platform.

To ensure ethical recruitment, participants will be reminded that their decision to participate or decline will not impact any services or relationships with partnering organizations. Only individuals who meet inclusion criteria and provide informed consent will be enrolled in the study.

Data Collection Ethics

Interviews will be conducted virtually via secure platforms such as Zoom to ensure participant convenience and safety. Participants will be advised to select a private location for the interview to reduce interruptions and maintain confidentiality. They may decline to answer any question or discontinue participation at any time.

Sensitive topics may arise during interviews, such as negative healthcare experiences or barriers to digital access. The researcher will monitor emotional cues, pause the interview if distress is observed, and provide local mental health or maternal support referrals when appropriate.

At no point will the researcher offer clinical advice or act in a professional healthcare capacity. The researcher's role will remain solely that of a qualitative investigator.

Data Protection and Confidentiality

While participant identities are not anonymous due to the nature of video interviews, all data will be treated as confidential. Audio recordings will be assigned

pseudonyms during transcription, and transcripts will be de-identified by removing any references to names, locations, or other identifiable details.

Data protection measures include:

- Storage of all files (audio, transcripts, consent forms) on encrypted, password-protected drives and secure cloud services.
- Restricted access to research files, limited to the researcher and the dissertation committee.
- Maintenance of a secure, encrypted back-up on a secondary device.
- Destruction of all identifying data five years after study completion, in compliance with university policy.

There will be no monetary incentives or compensation provided for participation, which eliminates any undue influence on decision-making.

Summary

This qualitative phenomenological study seeks to explore the lived experiences of Black mothers in the Greater Houston area who manage HDPs while engaging with digital health information during the perinatal period. Guided by the frameworks of the SEM and the TMeHL, the study aims to understand how trust, credibility, provider interactions, and support systems influence digital health information-seeking behavior in this population.

A phenomenological research design has been selected to capture in-depth, first-person narratives and shared patterns of experience. The design is supported by Creswell and Poht (2018) and Sundler et al. (2019), and emphasizes open, reflective

interviews that center the participant perspective. Participants will be recruited through purposeful and snowball sampling strategies from trusted maternal health networks, with an anticipated sample size of 12 to 15 participants—sufficient to reach thematic saturation.

Data collection will involve a self-developed semistructured interview protocol and a Health and Digital Literacy Assessment Tool (Appendix A), both designed to reflect the study’s conceptual foundations and cultural context. Interviews will be conducted virtually, recorded with consent, and transcribed verbatim. Data will be analyzed using the Braun and Clarke (2006) six-phase approach to thematic analysis, supported by NVivo software for organization, visualization, and auditability of codes and themes.

Throughout the study, strategies to ensure trustworthiness will be implemented, including member checking, peer debriefing, reflexive journaling, and the creation of thick descriptions to support credibility, transferability, dependability, and confirmability. Ethical considerations related to privacy, power dynamics, and participant safety have been addressed in accordance with Institutional Review Board (IRB) standards.

By amplifying the voices of Black mothers and focusing on their real-world experiences with digital health tools, this study will contribute to the development of culturally responsive, equity-centered interventions. The findings are intended to inform public health practice, digital health design, and maternal health policy efforts aimed at reducing disparities in maternal outcomes. The next section, Section 3, will address the presentation of the results and findings of this study.

Section 3: Presentation of the Results and Findings

Introduction

The purpose of this qualitative phenomenological study was to explore how Black mothers who experienced a HDP locate, evaluate, and apply digital health information during the perinatal period, defined for this study as approximately 20 weeks of gestation through 12 months postpartum. The study aimed to understand how personal, relational, and structural factors influence digital health literacy (DHL) and health-information-seeking behaviors among this population within the Greater Houston metropolitan area. By examining participants' lived experiences, this study provides insight into how Black mothers engage with, interpret, and act upon digital information related to their cardiovascular and maternal health.

Rationale for the Design

A phenomenological design was selected because it allows researchers to capture the essence of a phenomenon as experienced and described by those who have lived it. Phenomenology is particularly appropriate when little is known about how a specific population interprets or gives meaning to an experience, in this case, the process by which Black mothers with HDP navigate digital spaces for health information.

Quantitative or mixed-methods designs would not have captured the nuances of emotion, trust, and cultural context that shape digital-information behaviors. This study therefore focused on describing the phenomenon of digital health literacy in the context of hypertensive pregnancy disorders as it appeared through participants' stories, emotions, and reflections.

Framework Alignment

Two complementary frameworks guided the design, data collection, and analysis. The SEM provided a multilevel lens for examining how individual, interpersonal, community, and societal factors jointly shape health behaviors. Within this model, an individual's ability to use digital health information is influenced not only by personal skills but also by social relationships, community support, and structural systems of access.

The TMeHL further informed the study by conceptualizing digital literacy as an iterative process of accessing, understanding, appraising, and applying electronic health information. Together, SEM and TMeHL allowed the researcher to situate mothers' digital behaviors within broader ecological and sociocultural contexts.

Research Questions

Three research questions guided the study:

- RQ1: How do Black mothers perceive the credibility and trustworthiness of digital health information related to hypertensive disorders during pregnancy and postpartum?
- RQ2: What role do healthcare providers play in shaping Black mothers' digital-health-literacy and information-seeking behaviors regarding HDP?
- RQ3: How do personal and community support systems influence the effective use of digital health information for managing HDP during pregnancy and the postpartum period?

Each question was explored through semistructured interviews that elicited participants' reflections on their digital practices, the emotions surrounding those experiences, and the people and systems that affected their information choices.

Organization of Section 3

Section 3 presents the procedures and findings of the study. It describes the pilot study, including its purpose, conduct, and influence on the main study. Section 3 details participant recruitment, data-collection procedures, and contextual factors of the interviews. This section also explains the analytic process used to identify patterns and themes. It also documents the strategies employed to establish evidence of trustworthiness and presents the thematic results organized by research question. Section 3 concludes with a summary that transitions to Section 4, which interprets the findings in relation to prior scholarship and implications for practice and social change.

Pilot Study

Purpose of the Pilot

A pilot interview was conducted before full data collection to assess the clarity, pacing, and cultural resonance of the semi structured interview guide and to evaluate the functionality of the virtual data-collection procedures. The pilot's purpose was twofold: (a) to ensure that each interview prompt elicited rich, relevant narratives aligned with the study's purpose, and (b) to confirm that the selected online platform (Zoom) provided a secure and comfortable environment for participants. The pilot also served as a reflexive exercise for the researcher to refine interviewing techniques and to anticipate potential challenges unique to remote qualitative interviewing.

Participant and Ethical Safeguards

One pilot participant (designated PP1) met all inclusion criteria: identifying as a Black mother aged 35–39 who had experienced preeclampsia within the past 10 years and who resided in the Houston metropolitan area. The participant was recruited through a community-health organization flyer and provided informed consent via a secure electronic form before scheduling the interview. All procedures adhered to the protocol approved by Walden University’s Institutional Review Board with approval number 08-29-25-1199495. The consent process emphasized voluntary participation, the right to withdraw at any time, and measures taken to protect confidentiality.

Pilot Procedures

The interview lasted approximately 45 minutes and was conducted using encrypted Zoom videoconferencing. The participant chose a private room in her home for the session, minimizing background distractions. The researcher began with casual rapport-building questions before transitioning to the core prompts addressing digital information-seeking, trust, and use of technology. The conversation was audio-recorded and automatically transcribed using Zoom’s transcription tool, then manually reviewed and edited for accuracy. Immediately following the interview, the researcher wrote reflexive field notes summarizing nonverbal cues, tone, emotional shifts, and contextual observations.

Pilot Data Analysis

The pilot transcript was imported into NVivo 12 for preliminary coding. The researcher conducted open coding to identify patterns of meaning that corresponded with

the study's research questions. Early codes included information overload, mistrust of online sources, provider validation, and cultural representation. These preliminary findings demonstrated that the questions successfully elicited data relevant to the intended constructs of digital trust, credibility, and literacy behaviors. The researcher also noted that follow-up probes could be expanded to capture *how* mothers evaluate online information (e.g., visual cues, testimonials, social-media algorithms).

Revisions Resulting from the Pilot

Findings from the pilot prompted several refinements to the data-collection plan:

1. **Enhanced introductory sequence.** A new opening question, "Tell me about how you usually use your phone or the internet for everyday information" was added to ease participants into discussing digital habits before shifting to health topics.
2. **Targeted credibility probes.** Follow-up prompts were expanded to explore participants' decision-making when encountering conflicting or fear-inducing online information.
3. **Cultural context prompts.** Open-ended follow-up questions were added to explore whether online health information reflected participants' identities and lived experiences as Black mothers.
4. **Procedural efficiency.** The researcher standardized the process for obtaining verbal confirmation of consent on recording before starting the interview and refined the post-interview debrief script to invite reflections on the virtual experience.

Impact on the Main Study

The pilot confirmed that the interview guide generated rich, emotionally authentic data that addressed all three research questions. It also validated the feasibility of remote data collection and the reliability of the recording and transcription processes. The positive rapport and depth achieved in the pilot informed the pacing, tone, and follow-up strategy for subsequent interviews. Importantly, the pilot revealed that participants readily discussed sensitive topics related to trust, race, and healthcare discrimination when provided with a safe and empathetic environment.

Because the pilot data met all ethical and methodological standards, the transcript was retained and integrated into the full dataset for analysis. This inclusion enhanced data saturation and provided an early point of comparison for later participants, enriching the interpretive process.

Researcher Reflexivity During the Pilot

Reflexive journaling during the pilot allowed the researcher—herself a Black mother and public-health professional—to acknowledge positionality and potential biases. The pilot illuminated the importance of balancing empathy and neutrality during interviews. The researcher noted strong emotional resonance when participants described feeling dismissed by providers, which reinforced the need for consistent reflexive awareness throughout data collection. Reflexive notes also captured practical observations, such as the value of allowing longer pauses to encourage deeper reflection and the need to reassure participants that there were no right or wrong answers. These

insights became standard practice in the main study and contributed to the dependability and authenticity of the data.

Data Collection

Participants and Recruitment Procedures

Following Institutional Review Board approval, participants were recruited using purposive and snowball sampling. Recruitment flyers were distributed through local maternal-child-health organizations, community resource centers, and social-media platforms frequented by mothers in the Greater Houston metropolitan area. Snowball recruitment occurred when participants referred friends, relatives, or peers who met eligibility criteria. Each interested individual completed a secure Microsoft Forms screening survey that confirmed: (a) self-identification as Black or African American; (b) age 19–55 years; (c) diagnosis with a HDP—chronic hypertension, gestational hypertension, preeclampsia, or eclampsia—between 20 weeks’ gestation and 12 months postpartum; (d) residence in or birthed within the Greater Houston area; and (e) use of digital technology (internet, smartphone, or apps) to obtain health information.

A total of 13 participants, including one pilot—met all criteria and consented to participate. This sample size aligned with qualitative phenomenological guidance recommending 10 to 15 participants for thematic saturation (Creswell & Poth, 2018).

Setting and Context

Because interviews occurred virtually, participants selected private, familiar locations—most often their homes, work offices, or vehicles that were parked. Virtual

interviewing offered convenience for mothers balancing childcare and employment responsibilities and supported geographic inclusivity across Houston's metro area.

Although online interviewing removed physical proximity, rapport was easily established through informal conversation and the researcher's culturally concordant communication style. Participants often expressed appreciation for the opportunity to share their experiences in a safe, judgment-free setting.

Interview Procedures

Interviews were scheduled individually at participants' preferred times and lasted 45 to 60 minutes. Before recording began, the researcher reviewed the consent form verbally, answered questions, and confirmed consent to record. Each session began with a conversation starter question about daily technology habits to help participants ease into discussion. The semistructured guide then prompted reflection on four domains:

- typical digital-information use,
- evaluation of credibility,
- interaction with providers around online information, and
- influence of family and community supports.

Interviewing remained conversational, with follow-up probes such as "Can you tell me more about that experience?" or "How did that make you feel about the information you found?" Field notes captured nonverbal cues, tone, and environmental context.

Frequency and Duration of Data Collection

Data collection spanned four weeks, with two to four interviews conducted weekly. The researcher scheduled only one to two interviews per day to allow same-day transcription verification and analytic memoing. This deliberate pacing supported prolonged engagement with each participant's narrative, enhancing credibility and dependability. Saturation was achieved after the 11th interview and two additional sessions confirmed thematic redundancy.

Data Recording and Storage

All interviews were recorded via Zoom and automatically transcribed. Transcripts were reviewed against recordings for accuracy, cleaned of identifiers, and imported into NVivo 12 for coding. Audio files, transcripts, and field notes were stored on a password-protected laptop and duplicated on an encrypted external drive accessible only to the researcher. A numeric identifier (P1–P12; PP1) replaced names in all files. Each file contained metadata including interview date, length, and analytic notes to maintain a transparent chain of evidence.

Researcher Positionality and Reflexivity

The researcher's shared identity as a Black mother and maternal-health advocate facilitated trust but also required vigilant reflexivity. Before and after each interview, brief journal reflections documented expectations, emotional reactions, and potential biases. For example, the researcher noted personal empathy when mothers described being dismissed by clinicians but consciously bracketed these feelings to allow

participants' voices to take precedence. Reflexivity thus served both as a safeguard for credibility and as an analytic resource during interpretation.

Variations and Unusual Circumstances

Minor procedural variations occurred and were documented in the audit trail. One participant temporarily lost internet connection, and another requested to pause when her infant awoke. Both interviews resumed within minutes without data loss or inconvenience. A few mothers conducted interviews from vehicles for privacy. These naturalistic conditions reflected the real-life contexts of postpartum motherhood and did not compromise data quality. No withdrawals or adverse events occurred.

Demographic Profile

Descriptive characteristics are summarized in Table 1. The sample included women aged 19 to 45 years with varied education levels, marital statuses, and HDP diagnoses. All reported daily digital-tool use. This collection enriched comparative analysis across literacy levels, age cohorts, and healthcare experiences.

Table 1*Participant Demographics (N = 13)*

Participant ID	Age range	Education level	Marital status	HDP type reported	Employment status	Frequency of digital-tool use	Key context/ notes
PP1 (Pilot)	35–39 yrs	Bachelor’s degree	Married	Preeclampsia	Full-time employed	Daily	Pilot participant; helped refine interview guide.
P1	19–24 yrs	Some college	Single	Gestational hypertension	Part-time employed	Daily	Youngest participant; limited Wi-Fi, relied on mobile data.
P2	25–29 yrs	Associate degree	Married	Chronic hypertension	Full-time employed	Daily	Reported strong provider trust.
P3	25–29 yrs	Bachelor’s degree	Married	Preeclampsia	Stay-at-home parent	Daily	Experienced anxiety from online misinformation.
4	30–34 yrs	High school / GED	Single	Gestational hypertension	Unemployed	Daily	Relied on printed provider materials.
P5	30–34 yrs	Some college	Married	Preeclampsia	Self- employed	Daily	Active in community “mom groups.”
P6	35–39 yrs	Bachelor’s degree	Married	Eclampsia	Full-time employed	Daily	Distrusted providers; turned to peer networks.
P7	35–39 yrs	Graduate degree	Married	Chronic hypertension	Healthcare professional	Daily	High digital literacy; verified info via databases.
P8	25–29 yrs	Bachelor’s degree	Single	Gestational hypertension	Full-time employed	Daily	Reported lack of culturally relevant provider communication.
P9	40–44 yrs	Some college	Married	Preeclampsia	Part-time employed	Daily	Cross-checked online info with provider.
P10	30–34 yrs	Graduate degree	Married	Gestational hypertension	Full-time employed	Daily	Strong provider partnership; validated online searches.
P11	40–44 yrs	Bachelor’s degree	Divorced	Eclampsia	Self- employed	Daily	Relied on social-media peer support.
P12	25–29 yrs	High school / GED	Single	Gestational hypertension	Unemployed	Daily	Used smartphone exclusively for health info.

Note. Participants = 12 (main study) + 1 pilot participant (PP1). All identifiers are deidentified for confidentiality. Percentages

correspond with summary frequencies described in text.

Data Analysis

Analytic Framework

The researcher employed Braun and Clarke's (2006, 2023) six-phase thematic-analysis process:

- Familiarization through repeated reading and memoing transcripts.
- Generating initial codes using an inductive, line-by-line approach.
- Searching for themes by clustering codes into conceptual categories.
- Reviewing themes against the dataset for coherence.
- Defining and naming themes to capture essence and scope; and
- Producing the report linking empirical data to theoretical frameworks.

NVivo 12 software facilitated systematic management of transcripts, memos, and coding hierarchies. The researcher coded manually within NVivo to maintain proximity to participants' language while using the software's visualization tools (word-frequency charts, node matrices) to detect code clustering and relationships.

Coding Process and Development of Themes

Initial open coding produced 118 codes representing concrete experiences (e.g., "Googling symptoms," "doctor dismissed concerns," "trust in peer groups"). Through iterative recoding, conceptually related items were merged into 25 categories. Categories were then abstracted into eight themes that corresponded with the multilevel influences of SEM and the literacy domains of TMeHL. Analytic memos documented evolving definitions, reflections on researcher assumptions, and emergent patterns across participants.

A codebook was maintained in NVivo and updated after each analytic cycle. Each version was dated and archived, forming part of the audit trail. Theme refinement continued until definitions were distinct, internally coherent, and supported by multiple participants. Saturation was confirmed when new data fit within existing thematic boundaries without generating additional codes.

Framework Integration

Interpretation drew concurrently from both guiding frameworks. At the individual level of SEM, participants' functional-literacy skills (searching, reading comprehension) aligned with the access and understanding domains of TMeHL. At the interpersonal level, communicative literacy appeared through provider–patient and peer exchanges about online information. Community-level influences captured collective validation within mom groups and faith networks, illustrating collaborative or *collective* literacy. Finally, societal and structural levels of SEM corresponded with TMeHL's *critical literacy*, as participants evaluated inequities in representation and access to digital tools.

Discrepant Cases and Variation

Two cases provided contrast that enhanced analytic depth. One participant (P7), a healthcare professional, exhibited advanced digital literacy yet expressed distrust of mainstream health sites that lacked racial representation. Another (P4) preferred printed provider handouts and avoided internet searches altogether due to fear of misinformation. Including these discrepant perspectives illuminated the continuum of digital-literacy experiences among Black mothers and confirmed the interpretive range of the themes.

Audit Trail and Analytic Rigor

An extensive audit trail linked each analytic decision to supporting evidence, ensuring transparency and methodological integrity. NVivo logs preserved coding timestamps, memo entries, and theme revisions, while decision memos summarized rationale for merging or redefining categories after every three interviews. This continuous documentation process established a clear chain of evidence from raw data to final themes.

Reflexive-journal entries and analytic memos were added to the audit record, demonstrating how interpretations evolved through systematic reflection and data immersion rather than external verification. Together, these procedures provided confirmability and transparency consistent with best practices in phenomenological qualitative research.

Saturation

Data saturation—the point at which no new information emerged—occurred after the 11th interview. Two additional interviews yielded confirmatory data without new codes, validating thematic completeness. Given the constancy of experience (all participants daily digital users) but assortment of life stage and education, the researcher determined that saturation was sufficient for phenomenological interpretation.

Visual Representation of Themes

The final eight themes are summarized in Table 2. A word-cloud visualization (Figure 1) provides an additional representation of code density, illustrating the frequency

of concepts such as trust, provider communication, misinformation, and community support.

Table 2

Thematic Analysis—Codes, Categories, and Themes

Theme	Category	Representative codes	Brief description / alignment to frameworks
Navigating misinformation	Evaluating online sources (individual—functional/critical literacy)	Doctor Google; Conflicting advice; Fear after reading online	Participants described confusion and anxiety caused by inconsistent or exaggerated digital information about HDP.
Evaluating credibility through cross-checking	Critical information filtering (individual/interpersonal—communicative literacy)	Checking for CDC or Mayo Clinic; Verifying with provider; Peer validation	Mothers cross-checked multiple sources to confirm digital credibility, often triangulating with provider input.
Digital trust and distrust	Trust in systems and sources (interpersonal/societal)	Provider dismissiveness; Social-media trust; Mistrust in healthcare system	Trust in online information reflected participants' prior medical experiences and perceived systemic bias.
Providers as digital translators	Provider engagement and guidance (interpersonal—communicative literacy)	Bringing screenshots; Provider explanations; Recommended sites	Providers served as interpreters of online information, enhancing understanding and self-efficacy.
The power of reassurance	Empathy and emotional support (interpersonal)	Feeling heard; Provider empathy; Confidence after reassurance	Provider empathy reduced anxiety and helped mothers integrate digital information into care decisions.
Gaps in communication and cultural alignment	Cultural representation and bias (systemic/societal)	Dismissed by nurse; Lack of culturally relevant sites; Feeling invisible	Participants reported exclusion when Black maternal digital sources were dismissed or minimized by staff.
“It takes a village”—Community as a connector	Peer and faith-based networks (community – collective literacy)	Mom groups; Church networks; Online sister circles	Community networks facilitated access to trusted and relatable information and accountability.
Barriers of access and equity	Structural and socioeconomic constraints (societal)	Limited Wi-Fi; Shared devices; Financial barriers; Digital divide	Structural inequities limited reliable digital access, underscoring links between technology and health equity.

Figure 1

Word Cloud of NVivo Codes Identified Through Thematic Analysis



Note. Larger words represent more frequently occurring NVivo codes derived from participant transcripts. This visualization reinforces thematic density and shows interrelated digital-health-literacy concepts across participants.

Evidence of Trustworthiness

Establishing trustworthiness was a continuous and deliberate process throughout the study. Following the criteria outlined by Lincoln and Guba (1985), four dimensions—credibility, transferability, dependability, and confirmability—were intentionally addressed to ensure that the findings accurately reflected participants’ lived experiences and were not influenced by researcher bias or procedural inconsistencies.\

Credibility

Credibility was supported through multiple verification strategies and consistent engagement with the data. The researcher maintained prolonged engagement with participants over a four-week data-collection period, allowing time for rapport-building

and deep exploration of participants' experiences. Persistent observation was achieved by revisiting and re-reading transcripts to ensure an in-depth understanding of context and meaning.

Triangulation of data sources also enhanced credibility. Interview transcripts, demographic-survey results, and reflexive field notes were compared to identify convergence and divergence across narratives. Analytic memoing during coding further provided opportunities to test emerging interpretations against raw data. Collectively, these practices ensured that findings authentically represented participants' perspectives and experiences.

These combined practices demonstrated that the study's results represent trustworthy interpretations of the participants' authentic narratives.

Transferability

Transferability was achieved through thick description and purposeful sampling. Participants were selected to represent a diverse range of ages, educational backgrounds, marital statuses, and HDP types, reflecting the heterogeneity of Black mothers' experiences in the Greater Houston area. Detailed demographic data (see Table 1) and contextual information about setting, digital access, and participant engagement enable readers to determine the extent to which the findings may apply to other populations or regions.

In addition, verbatim participant quotations embedded throughout Section 3.6 provide rich, contextual evidence of lived experience, allowing readers to assess

relevance and resonance. The inclusion of both younger and older participants, as well as mothers with varying degrees of digital literacy, broadens the potential applicability of these results to similar maternal-health contexts.

Dependability

Dependability was achieved through a transparent, replicable analytic process documented in the audit trail.

- **Code–recode procedure:** Three transcripts were recoded two weeks after initial analysis; comparison revealed strong consistency, confirming coding stability.
- **Stepwise replication:** The researcher periodically reviewed earlier coding decisions against later transcripts to ensure uniform application of definitions.
- **NVivo documentation:** The software’s versioning logs, along with sequential codebook iterations, created a record of analytic consistency.
- Because coding was performed by a single researcher, intercoder reliability was not applicable; however, intra-coder reliability was verified through the code–recode strategy.

Confirmability

Confirmability was established through systematic documentation and reflexive awareness rather than participant or peer verification procedures. The researcher maintained an extensive reflexive journal throughout the study to record thoughts, assumptions, and emotional responses that emerged during data collection and analysis. These entries captured the researcher’s reflections after each interview, focusing on

moments of empathy, surprise, or potential bias and on strategies used to bracket personal experiences as a Black mother and maternal-health professional.

An analytic audit trail was also developed in NVivo 12, linking raw data excerpts, codes, memos, and evolving theme definitions. Each analytic decision was recorded chronologically, including rationale for merging, renaming, or deleting codes. This systematic documentation created a transparent chain of evidence that allows others to trace the derivation of findings from the original transcripts.

In addition, analytic memoing within NVivo served as an internal verification process: the researcher routinely compared coded segments and emergent interpretations to participants' verbatim quotations to ensure that meaning was grounded in the data rather than researcher expectation. Reflexive and analytic records together demonstrated that interpretations stemmed from participants' lived experiences, providing a clear audit path that satisfies confirmability standards for qualitative inquiry.

Collective Assurance of Rigor

Taken together, the strategies of credibility, transferability, dependability, and confirmability demonstrate methodological rigor and alignment with established qualitative research standards. Through prolonged engagement, triangulation, reflexivity, saturation, and meticulous documentation, each finding was grounded in verifiable evidence and transparently derived from participants' authentic voices. The integration of these practices ensured the trustworthiness and integrity of the study and reflects adherence to best practices in phenomenological qualitative research, consistent with Walden University's standards for research rigor.

Results

Overview of Findings

Analysis yielded eight overarching themes organized around the three research questions. Each theme was supported by multiple participants and demonstrated across interviews, indicating strong saturation and thematic density. Table 3 summarizes code frequencies, showing that all themes appeared across at least five participants and that digital trust, provider communication, and community support were among the most frequently referenced concepts.

Table 3*Code Frequency Table*

Code	# of participants mentioning	# of data segments assigned	Illustrative excerpt
Doctor Google	9	16	“When I first Googled my condition, every article made it sound like I was in danger right that minute.” (P3)
Conflicting advice/ misinformation	10	18	“I saw so many different answers that I didn’t know what to believe.” (P4)
Cross-checking information	11	24	“If I saw the CDC or Mayo Clinic, I felt safer reading it but still asked my OB.” (P9)
Provider guidance/ digital translator	9	20	“My nurse went over the screenshots with me and explained what was real.” (P10)
Provider empathy/ reassurance	8	17	“When my doctor took time to explain things, I stopped panicking.” (P2)
Provider dismissiveness / cultural bias	6	12	“I mentioned a Black maternal site and the nurse said, ‘Don’t read that stuff.’” (P8)
Community support/ peer networks	11	25	“My church moms’ group shared apps that track blood pressure.” (P5)
Digital Access Barriers / Divide	5	9	“When my data plan ran out, I had to wait until payday to look things up.” (P1)
Health anxiety/fear	7	13	“Reading online made me think something was wrong every time.” (P3)
Cultural representation/identity	8	15	“I wanted info that actually reflected my experience as a Black mom.” (P6)
Empowerment/Self- advocacy	9	18	“Once I understood the signs, I felt like I could speak up for myself.” (P6)

RQ1: Credibility and Trustworthiness of Digital Information

Participants described simultaneous empowerment and confusion when using digital resources to manage HDP. Younger mothers often encountered information overload from social-media algorithms, while older mothers expressed uncertainty about medical language or conflicting recommendations. Three themes emerged.

Theme 1: Navigating Misinformation

Participants frequently encountered alarming or inconsistent online information, leading to unnecessary anxiety.

“When I Googled my symptoms, everything said ‘call 911’—I panicked for no reason.”

“Every site had a different answer about blood pressure numbers. I didn’t know which to trust.” (P9)

This pattern reflects functional-literacy challenges within TMeHL and the individual-level influences of SEM, where participants’ ability to decode information affected their emotional responses and decisions.

Theme 2: Evaluating Credibility Through Cross-Checking

Many participants developed strategies to determine reliability by verifying multiple sources or consulting providers.

“If it wasn’t from CDC or Mayo Clinic, I didn’t even read it all the way.” (P10)

“I’ll check three or four places before I believe something online.” (P5)

These behaviors demonstrate communicative literacy—the interactive, evaluative dimension of TMeHL—and highlight interpersonal trust within SEM.

Theme 3: Digital Trust and Distrust

Trust in online information often mirrored prior experiences of healthcare trust or discrimination.

“My doctor never listens, so I go to my Facebook mom group first.” (P8)

“Because my nurse explained things, I could tell which websites were real.” (P2)

Framework Interpretation (RQ1)

RQ1 themes align with the individual and interpersonal levels of SEM and with functional and communicative literacies of TMeHL. Mothers continually cycled between self-guided searching and relational validation, illustrating that eHealth literacy is both a cognitive and social process.

RQ2: Role of Healthcare Providers

Participants highlighted providers’ dual potential to empower or alienate them during digital engagement.

Theme 4: Providers as Digital Translators

“My OB told me which sites to follow, and that saved me so much stress.” (P10)

“She even looked at the screenshot I brought and said, ‘That one’s fine.’” (P6)

Theme 5: The Power of Reassurance

“I was scared after reading an article, but my doctor said, ‘You’re okay, just monitor.’ I finally relaxed.” (P3)

“He explained the difference between high and emergency blood pressure, and I stopped worrying every night.” (P9)

Theme 6: Gaps in Communication and Cultural Alignment

“When I showed her a Black moms site, she acted like it didn’t count as real information.” (P8)

“Most info online is not for us. The pictures, the stories—they don’t look like me.” (P11)

Framework Interpretation (RQ2)

These findings map onto the interpersonal and organizational levels of SEM and the communicative and critical literacies of TMeHL. Providers who collaborated with mothers enhanced understanding and confidence, whereas culturally dismissive encounters reinforced systemic distrust. This demonstrates that communication quality, not only access, shapes effective digital literacy.

RQ3: Influence of Personal and Community Support Systems

Theme 7: “It Takes a Village”—Community as a Connector

“Our church moms’ group sends articles every week—we talk about what’s true and what’s not.” (P5)

“My husband and mom made me go to the hospital when I wasn’t sure. That probably saved me.” (P6)

Peer and faith-based communities created safe, supportive spaces where mothers interpreted digital information collectively, showing the social dimension of health learning.

Theme 8: Barriers of Access and Equity

“When my phone was disconnected, I had to wait until payday to look stuff up.”

(P1)

“Some apps didn’t work on my old phone, so I missed updates from my doctor.”

(P12)

Limited internet connectivity, outdated technology, and socioeconomic challenges hindered continuous engagement with digital resources.

Framework Interpretation (RQ3)

Themes under RQ3 operate within the community and societal levels of SEM and correspond to collective and critical literacies of TMeHL. Participants’ collaborative evaluation of information illustrates communal learning, while structural barriers reveal how systemic inequities restrict digital inclusion and health equity.

Cross-Cutting Framework Synthesis

Across all research questions, participants demonstrated that digital health literacy is dynamic and context-dependent.

- At the individual level, functional skills determined basic access to information.
- At the interpersonal level, provider and peer relationships mediated understanding.
- At the community level, collective practices fostered shared discernment.
- At the societal level, inequities in access and cultural representation constrained empowerment.

The intersection of SEM and TMeHL shows that improving maternal digital health literacy requires strategies addressing not only individual knowledge but also systemic accessibility, representation, and trust.

Summary

This phenomenological study explored the lived experiences of Black mothers diagnosed with HDPs as they engaged with digital health information during the perinatal period. Thirteen participants described complex, interrelated processes of searching, assessing, and applying online information within personal, social, and structural contexts.

Eight themes emerged: *navigating misinformation; evaluating credibility through cross-checking; digital trust and distrust; providers as digital translators; the power of reassurance; gaps in communication and cultural alignment; “it takes a village”—community as a connector; and barriers of access and equity*. Collectively, these themes demonstrate that digital health literacy is not an isolated cognitive skill, but a relational and ecological process shaped by culture, trust, and systemic opportunity.

The study’s findings confirm that interventions to improve maternal outcomes among Black mothers with HDP must move beyond information dissemination toward culturally relevant, relationship-centered, and equity-focused approaches. Providers who validate patients’ digital experiences and communities that foster shared learning can collectively enhance confidence, comprehension, and early self-advocacy.

Section 4 will interpret these findings within the broader literature, exploring implications for public-health practice, digital-health policy, and sustainable social change.

Section 4: Application to Professional Practice and Implications for Social Change

Introduction

The purpose of this qualitative phenomenological study was to explore how digital health literacy (DHL) influences health information-seeking behaviors among Black mothers with HDPs in the Greater Houston metropolitan area. Guided by the SEM (McLeroy et al., 1988) and the TMeHL (Norman & Skinner, 2006), the study sought to understand how individual, interpersonal, community, and structural factors intersect to shape how Black mothers locate, interpret, and use online health information during the perinatal period.

This study addressed a critical public-health gap. Hypertensive disorders—including chronic hypertension, gestational hypertension, preeclampsia, and eclampsia—remain leading causes of maternal morbidity and mortality (Mehta et al., 2020; Mammaro et al., 2024). In Texas, and particularly in Harris County, Black women continue to experience these conditions at disproportionately high rates, with maternal mortality nearly three times greater than that of White women (Harris County Public Health [HCPH], 2024; Welch, 2024). Despite growing attention to social determinants of health, few studies have examined how digital health literacy—the ability to search for, evaluate, and apply online health information—affects maternal self-management and engagement with healthcare providers in this population.

Significance of the Study

The findings contribute new insights into the intersection of digital equity, cultural relevance, and maternal health. In an era where over 90% of adults use the

internet as a primary source of health information, the quality and accessibility of that information directly influence maternal decision-making (George et al., 2023). Yet digital access alone does not guarantee equitable outcomes; factors such as trust, representation, and cultural alignment play decisive roles in whether digital tools empower or alienate users. By focusing on Black mothers' lived experiences within the Greater Houston context, this study addresses both an academic gap in eHealth literacy theory and a practice gap in maternal-health programming.

This section applies the findings of the study to professional practice and outlines their implications for public-health research, policy, and social change. It demonstrates how the study advances theoretical understanding, informs community-based programming, and supports equitable health policies for Black maternal populations.

Summary of Key Findings

Eight major themes emerged from participants' narratives, organized around the three research questions, as shown in Table 4.

Table 4*Research Questions and Themes*

Research question	Theme	Focus area
RQ1: How do Black mothers perceive the <i>credibility</i> of digital health information related to HDPs? How do Black mothers <i>perceive</i> the trustworthiness of digital health information related to HDPs?	Navigating misinformation	Conflicting or alarmist content caused confusion and stress.
	Evaluating credibility through cross-checking	Verifying information across multiple trusted sources, often combining provider input with peer advice.
	Digital trust and distrust	Trust fluctuated based on provider empathy and cultural representation in online materials.
RQ2: What role do healthcare providers play in <i>shaping</i> Black mothers' DHL and information- seeking behaviors? What role do healthcare providers play in <i>influencing</i> Black mothers' information-seeking behaviors regarding HDPs?	Providers as digital translators	Clinicians who validated online searches improved mothers' confidence in care decisions.
	The power of reassurance	Provider empathy and listening reduced digital anxiety.
	Gaps in communication and cultural alignment	Dismissal of Black-centered resources decreased engagement and trust.
RQ3: How do personal and community-level supports affect DHL effectiveness?	"It takes a village"—Community as connector	Peer, faith-based, and community groups facilitated shared literacy and information filtering.
	Barriers of access and equity	Cost, connectivity, and time constraints limited participation in digital health spaces.

These themes revealed a pattern of digital duality: participants valued digital tools for immediacy and accessibility but questioned their reliability and inclusiveness. Digital experiences often mirrored broader healthcare inequities, demonstrating that trust and culture are as critical to literacy as technological skill.

Organization of Section 4

The subsequent discussion interprets the findings in relation to existing scholarship and theoretical frameworks, laying the foundation for applied implications:

- Interpretation of Findings interprets the results within the context of existing literature and the study’s conceptual frameworks, explaining how the findings confirm, extend, or challenge prior scholarship.
- Limitations of the Study addresses constraints related to design, sampling, and analytic rigor.
- Recommendations provides actionable suggestions for future research, practice, and policy development.
- Public Health Practice and Field-Based Products presents the applied outputs required for the DrPH capstone, including a policy brief, executive summary, visual logic model, and fact sheet.
- Positive Social Change details how the findings and products contribute to local and national health equity initiatives.
- Conclusion synthesizes the section and demonstrates fulfillment of core DrPH competencies, including theory application, ethics, policy analysis, and public communication.

Interpretation of the Findings

Overview

The interpretation of the findings explains how the experiences of Black mothers with HDPs in the Greater Houston area illustrate the ways digital health literacy (DHL) shapes maternal health behaviors. Drawing on the SEM and the TMeHL, this section situates the study results within existing research, demonstrating how individual skills,

interpersonal relationships, community support, and structural conditions interact to influence digital engagement and health decision-making.

The study revealed that Black mothers' use of digital health information is neither random nor passive. It is a transactional process—a continuous negotiation among information, emotion, and environment. Across participants, patterns of trust, representation, and access determined whether digital tools became sources of empowerment or anxiety. These interpretations align closely with your analytic patterns in Section 3 and confirm that digital health literacy must be understood as both a personal competency and a public-health equity issue.

Interpretation by Research Question

Research Question 1

How do Black mothers perceive the credibility and trustworthiness of digital health information related to HDPs?

Theme 1: Navigating Misinformation. Participants consistently described confusion caused by conflicting or fear-based online content about pregnancy and blood-pressure management. Many recounted reading dramatic headlines or anecdotal social-media stories that heightened anxiety.

Within the TMeHL, this represents a breakdown at the functional-literacy stage: individuals can access information but struggle to assess accuracy amid emotional triggers.

From the SEM viewpoint, the problem occurs at the individual level, where skill limitations meet an oversaturated information environment. Consistent with George et al.

(2023), the finding confirms that digital misinformation can intensify stress during pregnancy. It extends prior work by emphasizing that misinformation among Black mothers is compounded by cultural alienation and prior medical mistrust, highlighting an affective dimension of digital literacy rarely addressed in earlier studies.

Theme 2: Evaluating Credibility Through Cross-Checking. Mothers frequently mitigated uncertainty by cross-checking information. They compared advice from multiple websites, reviewed provider-portal materials, and consulted peers. These actions mirror what Section 3 reported as “layered verification.” The process aligns with the *interactive-literacy* domain of the TMeHL, where users integrate new information through social and contextual reasoning rather than simple recall.

Under the SEM, this theme spans the individual and interpersonal levels. Individually, mothers drew on accumulated knowledge and discernment skills; interpersonally, they sought confirmation from family members or trusted peers. This supports El Benny et al. (2021), who found that dialogue enhances health-information validation. The study extends existing theory by identifying collective verification—a culturally grounded practice of evaluating information through trusted relationships—as a unique mechanism of digital credibility among Black mothers.

Theme 3: Digital Trust and Distrust. Trust was fluid and situational. Participants expressed confidence in digital content that reflected Black maternal imagery or referenced culturally relevant experiences, while showing skepticism toward sites perceived as generic or dismissive. The degree of trust often depended on prior provider interactions: empathy increased perceived credibility, whereas dismissal deepened doubt.

Within the TMeHL, trust functions as a moderating variable influencing comprehension and application. The SEM situates this dynamic at the organizational and societal levels, where representation, tone, and accessibility signal inclusion or exclusion. This interpretation confirms Chinn et al. (2021) and extends theory by introducing the idea of representational literacy—the ability to interpret cultural cues as markers of reliability in digital spaces.

Research Question 2

What role do healthcare providers play in shaping Black mothers' digital health literacy and their information-seeking behaviors?

Theme 4: Providers as Digital Translators. Section 3 highlighted that when providers acknowledged patients' online searches, mothers described feeling validated rather than judged. Providers who explained digital content in plain language and guided mothers to credible resources became “digital translators.” This behavior illustrates *interactive literacy* in the TMeHL—a reciprocal process in which expert and patient share information to achieve understanding.

In the SEM, this operates at the interpersonal level, emphasizing the provider–patient relationship as a critical determinant of literacy outcomes. The finding corroborates Nguyen et al. (2022), who showed that open provider dialogue improves comprehension, and extends Vamos et al. (2019) by identifying translation of digital material as a new form of health-communication competence.

Theme 5: The Power of Reassurance. As documented in Section 3, reassurance functioned as emotional reinforcement. Mothers reported that calm, empathetic

explanations reduced anxiety stemming from online information overload. This reflects an *affective-transactional* component within the TMeHL: emotional regulation directly affects one's ability to interpret and apply health information.

At the interpersonal SEM level, reassurance transforms provider communication into psychological safety, strengthening adherence to medical guidance. This aligns with Hsu and Tsai (2020), who linked confidence with eHealth engagement, and extends their framework by conceptualizing reassurance as both an emotional outcome and a literacy-enhancing process.

Theme 6: Gaps in Communication and Cultural Alignment. Several mothers recounted that providers dismissed culturally specific online sources created for Black audiences. Such experiences produced feelings of invalidation. Within the SEM, this reflects an *organizational-level barrier*, where institutional practices prioritize traditional clinical sources and undervalue culturally tailored knowledge that speaks to diverse maternal experiences.

Within the TMeHL, these dismissive exchanges interrupt the transaction between digital exploration and professional guidance. The finding corroborates Bond et al. (2021) and expands theory by showing that cultural humility—the willingness to discuss patient-identified digital sources—is an essential facilitator of digital trust and literacy development.

Research Question 3

How do personal and community-level support systems impact the effectiveness of digital health literacy?

Theme 7: “It Takes a Village”—Community as a Connector. Participants emphasized that informal networks—faith groups, mothers’ circles, and community programs—served as safe environments for sharing and interpreting digital information. Section 3 documented that mothers viewed these networks as trusted filters between the internet and the clinic. This corresponds to the community level of the SEM, where collective efficacy reinforces individual capability.

Through the TMeHL, these spaces enhance *interactive and critical literacy* by enabling dialogue, reflection, and peer teaching. The finding confirms Dadaczynski et al. (2022) and Israel et al. (2013), demonstrating that community participation is a structural determinant of health-literacy outcomes. It extends theory by introducing collective eHealth literacy—a process by which shared interpretation and cultural affirmation increase confidence and comprehension (George et al., 2023).

Theme 8: Barriers of Access and Equity. As outlined in Section 3, limited broadband service, high data costs, and inadequate devices restricted mothers’ ability to participate in telehealth and online education. These structural barriers correspond to the societal level of the SEM and highlight the intersection of technology and social determinants of health.

Within the TMeHL, such barriers represent contextual preconditions—without reliable access, the cycle of seeking, evaluating, and applying information cannot occur. This confirms Ban (2023) and HCPH (2024), who identified infrastructure inequities as drivers of maternal-health disparity. The current study extends that evidence by

emphasizing that digital access, affordability, and trust form an inseparable triad required for equitable DHL development.

Cross-Theme Synthesis

Across all three research questions, the findings present a coherent model of digital health-literacy ecology:

- Individual Level (SEM + TMeHL Functional/Interactive): Mothers acquire and evaluate information while managing emotional responses to misinformation.
- Interpersonal Level: Provider communication and reassurance shape how information is internalized and acted upon.
- Community Level: Peer and faith networks sustain engagement and serve as trusted interpreters.
- Societal Level: Policy, infrastructure, and representation define the boundaries of equitable access.

This multilevel pattern demonstrates that digital health literacy is not a solitary skill but a relational and structural phenomenon. The study both confirms and extends prior literature by establishing cultural representation, empathy, and infrastructure as integral components of digital-literacy theory.

Implications for Theory

- Extension of the TMeHL: Incorporates cultural, emotional, and representational literacy as essential subdomains that influence digital comprehension and trust.

- Reinforcement of the SEM: Validates the model's multilevel interplay and underscores the necessity of interventions across individual, community, and policy contexts.
- Integration of Models: Positions the TMeHL within the SEM to form a comprehensive framework—individual skills operate within layered social systems that either enhance or constrain literacy.

Implications for Practice

The interpretation supports a shift from deficit-based to asset-based maternal-health strategies. Rather than viewing Black mothers as lacking digital skills, public-health professionals should recognize them as strategic navigators who actively filter, verify, and adapt information. Healthcare systems must therefore:

1. Train providers as empathetic digital partners;
2. Invest in culturally tailored communication tools; and
3. Collaborate with community networks to deliver shared-literacy interventions.

Summary

This section demonstrates that digital health literacy among Black mothers with HDPs operates within a complex social ecology where skills, trust, and structure intersect. The findings confirm prior scholarship on misinformation and trust, extend theory by introducing cultural and emotional literacy constructs, and challenge assumptions that digital engagement is solely an individual responsibility. Together, these interpretations establish the analytical foundation for evaluating the methodological

boundaries and contextual considerations that shaped the study's rigor and trustworthiness.

Limitations of the Study

Overview

Recognizing limitations is essential to maintaining methodological transparency and interpretive integrity in qualitative research. As Lincoln and Guba (1985) emphasized, every study exists within specific contextual and methodological boundaries that shape what can—and cannot—be claimed from its findings. This section identifies the methodological, contextual, and theoretical limitations of this study and describes the steps taken to uphold the principles of credibility, dependability, transferability, and confirmability.

While this study yielded rich, meaningful insights into how Black mothers with HDPs in Greater Houston navigate digital health information, certain factors may influence how broadly the findings can be applied or interpreted. Recognizing these boundaries ensures that conclusions remain appropriately situated within the realities of qualitative inquiry.

Methodological Limitations

Sample Size and Representation

The study was conducted with 13 participants who met the inclusion criteria of identifying as Black mothers aged 19–45, residing in the Greater Houston area, and having experienced an HDP during pregnancy or postpartum. The sample size was appropriate for a phenomenological design and allowed for thematic saturation, but it

limits generalizability. As Patton (2024) and Subedi (2021) notes, qualitative research seeks depth rather than breadth; thus, the goal was not statistical representation but comprehensive understanding.

However, the experiences of these 13 women may not represent all Black mothers in Houston, particularly those outside major hospital networks or those with limited engagement in digital spaces. A larger or more demographically diverse sample might reveal additional variations in digital-literacy experiences, particularly among younger mothers, rural residents, or non-English-speaking populations.

Recruitment and Participation

Recruitment relied on community-based and digital outreach, including local nonprofits, faith-based organizations, and social-media platforms such as Facebook and Instagram. This strategy successfully reached digitally connected mothers but may have excluded those with limited internet access, inadvertently skewing the sample toward women already moderately literate in digital technology. This potential selection bias may have produced findings that underrepresent the perspectives of digitally disconnected mothers—the very group most vulnerable to misinformation and exclusion.

Additionally, participation required access to a smartphone or computer with an internet connection. While necessary for the virtual-interview format, this requirement limited participation from mothers without reliable technology or private digital space for interviews.

Data Collection Constraints

Interviews were conducted primarily via secure video conferencing, a decision informed by both public-health safety and participant convenience. However, this format limited observation of nonverbal cues and environmental context that might enrich understanding of tone and emotion. Despite these constraints, rapport was successfully built through sustained engagement and empathetic interviewing techniques, as reflected in participants' open and detailed responses.

Minor interruptions, including brief connectivity issues or moments when participants attended to children or home responsibilities could have subtly affected narrative flow or depth of expression, although data completeness was maintained.

Contextual Limitations

Sociodigital Environment

This study was conducted during a period of heightened national attention to Black maternal health disparities, reflected in local policy discussions, advocacy campaigns, and digital awareness initiatives. As a result, some participants may have framed their experiences through the lens of this public discourse, emphasizing advocacy or empowerment more strongly than they might have otherwise. While this context enriched the data with perspectives grounded in community consciousness, it may have also shaped the salience of particular themes such as cultural representation and digital trust.

Because participation required internet access for both recruitment and virtual interviews, the findings primarily represent mothers who were digitally connected and

able to access online spaces. This context may have excluded mothers with limited or no connectivity—those who may face the greatest barriers to digital inclusion. As the SEM emphasizes, environment and access shape opportunity; therefore, these structural limitations are both a study constraint and a subject of its inquiry.

Researcher Positionality

The researcher's shared racial and cultural identity with participants contributed to a climate of trust and openness during interviews, allowing participants to discuss sensitive experiences related to digital health, maternal care, and systemic inequities. This positional proximity also presented potential interpretive bias, as the researcher's professional and personal commitments to maternal health equity could influence data interpretation.

To address this concern, reflexive journaling was used throughout the study to document assumptions, analytic decisions, and emotional responses that arose during data collection and analysis. This process promoted ongoing awareness of positional influence and ensured that emerging interpretations were grounded in participants' perspectives rather than researcher expectation.

In the absence of formal peer debriefing or member checking, audit-trail documentation and detailed analytic memos were employed to support transparency and confirmability of the findings. These procedures align with qualitative standards for reflexivity and rigor, recognizing that complete objectivity is neither possible nor desirable in phenomenological inquiry (Creswell & Poth, 2018).

Trustworthiness and Rigor

To ensure quality and methodological transparency, the study applied Lincoln and Guba's (1985) four criteria of trustworthiness. Table 5 outlines how each criterion was addressed, given the absence of member checking and peer debriefing.

Table 5

How Each Criterion Was Addressed

Criterion	Definition	Application in this study	Remaining constraints
Credibility	Confidence in the accuracy of findings	Prolonged engagement with participants during interviews; reflexive journaling documenting analytic decisions; systematic use of NVivo for transparent coding.	Absence of member checking limited direct participant validation of themes.
Dependability	Stability and consistency of data over time	Maintenance of an audit trail linking raw data, codes, and emerging themes; detailed documentation of coding decisions and framework alignment.	External peer review of coding was not conducted.
Transferability	Extent to which findings apply to other contexts	Thick, descriptive detail provided about participant demographics, community context, and digital environment.	Focus on one urban area limits generalization to rural or national contexts.
Confirmability	Assurance that findings reflect participants' views rather than researcher bias	Reflexive journaling used to monitor positionality and ensure interpretive transparency; decision memos recorded rationale for theme development.	Confirmability depends on reflexive rigor in the absence of external review.

In summary, the contextual limitations of this study include its focus on digitally connected participants in the Greater Houston area, potential influence from heightened advocacy discourse, and absence of formal peer debriefing or member checking. Despite these constraints, credibility was supported through thorough documentation, systematic analysis, and reflective rigor.

These strategies ensured that the findings remain authentic representations of participants' experiences while clearly delineating the boundaries of interpretation. Building on these methodological insights, the subsequent analysis identifies strategies for advancing research, practice, and policy grounded in the study's findings.

Recommendations

Overview

The recommendations presented in this section are grounded in the findings and analytic insights discussed in Section 4.2 and shaped by the contextual boundaries acknowledged in Section 4.3. Together, they illustrate how the experiences of Black mothers with HDPs in the Greater Houston area can inform future research, public-health practice, and policy development related to digital health literacy (DHL).

Each recommendation aligns with the SEM—which identifies multilevel influences on health behavior—and the TMeHL—which conceptualizes eHealth literacy as an interactive, contextual process. These models provide the theoretical structure for addressing individual, interpersonal, community, and societal determinants of digital health literacy.

Given that the study was independently conducted without peer debriefing or participant validation, all recommendations are derived directly from the data analysis and interpretation documented through audit trails and reflexive journaling. They reflect patterns consistently identified across participant narratives and theoretical application.

Recommendations for Future Research

Expand to Diverse Populations and Settings

Future research should replicate and extend this study in diverse geographic and sociocultural contexts to test the transferability of findings beyond the Greater Houston area. Exploring the experiences of Black mothers in rural Texas or other southern states would help determine whether similar barriers—such as misinformation, digital trust, and

provider communication—manifest in environments with differing access to care and connectivity.

Additionally, examining other maternal populations—including Hispanic, Asian, Native, immigrant, and other racially and culturally diverse mothers—would enrich understanding of how cultural frameworks influence digital-health engagement and trust-building across communities.

Employ Longitudinal and Mixed-Methods Designs

Digital engagement evolves throughout pregnancy and postpartum. Future studies should use longitudinal qualitative designs to capture changes in digital behavior, confidence, and emotional regulation over time. Mixed-methods approaches could combine validated eHealth-literacy instruments (e.g., eHEALS) with in-depth interviews to examine relationships between digital literacy, provider communication, and health outcomes. This would strengthen the evidence base for targeted interventions and policy development.

Incorporate Intersectional and Critical Frameworks

While the SEM and TMeHL offered a valuable foundation for examining multilevel influences on digital health literacy, they do not fully capture the intersecting social identities and power dynamics shaping Black maternal experiences. Future research should incorporate intersectional and critical frameworks that center the structural dimensions of race, gender, and inequity within digital-health contexts. Recent research demonstrates that Black feminist and intersectional approaches enrich understanding of maternal-health inequities and digital trust by situating these

phenomena within broader histories of systemic exclusion, resilience, and agency (Brantley, 2023; Figueroa, 2021).

Include Participatory and Collaborative Research Approaches

To deepen cultural relevance and community ownership, future investigations should adopt community-based participatory research (CBPR) or participatory action research (PAR) designs that engage participants as partners throughout all phases of inquiry. Collaborating with mothers, doulas, and community advocates as co-designers of research tools and interventions ensures that data collection reflects lived realities and produces directly applicable solutions.

These participatory approaches enhance ethical engagement, strengthen trust, and improve the sustainability of maternal digital-equity initiatives through shared decision-making and co-learning. Contemporary research confirms that CBPR and PAR frameworks are effective for advancing equity, contextual fit, and empowerment in health-equity and implementation science (Ortiz et al., 2020; Chadd et al., 2025).

Embedding these frameworks within future maternal-health studies would enable Black mothers and their communities to shape digital-literacy interventions that authentically reflect their experiences and priorities.

Evaluate Digital Health Tools and Platforms

Further research should examine the usability, representation, and cultural sensitivity of digital-health platforms commonly used during pregnancy (e.g., mobile applications, hospital portals, and social-media groups). Evaluations should assess not only functionality and accuracy but also the degree to which these platforms reflect

inclusive imagery, relatable content, and accessible language. This work would provide a stronger evidence base for designing digital tools that resonate with Black mothers' experiences and needs (Birati et.al., 2022).

Recommendations for Public-Health Practice

Integrate Digital-Literacy Education into Maternal Health Care

Healthcare providers should incorporate digital-health-literacy education into prenatal and postpartum care visits. Simple discussions or brief check-ins about patients' online information-seeking habits can help clinicians identify misinformation and reinforce accurate understanding. This recommendation operates at the individual level of the SEM and addresses the functional and interactive literacy components of the TMeHL, empowering mothers to locate and apply trustworthy health information with greater confidence.

Train Providers as Digital Guides and Communicators

Findings indicated that trust in digital health information often depended on provider response. Providers should be trained to act as digital guides who validate patient curiosity, address misinformation without judgment, and recommend culturally appropriate online resources. Training curricula should emphasize cultural humility and empathetic communication, ensuring that providers support digital engagement rather than discourage it. This strategy targets the interpersonal SEM level and aligns with the transactional and affective dimensions of the TMeHL.

Embed Emotional Support in Digital Education

Participants described emotional fatigue and anxiety from encountering alarming or contradictory online content. Public-health programs should integrate emotional support mechanisms, such as stress-management strategies, mindfulness resources, or peer discussion circles, into digital-literacy curricula. This aligns with the affective domain of the TMeHL, recognizing that managing emotional responses is a key component of effective digital engagement.

Strengthen Organizational Health Literacy

Health systems should assess and improve their organizational health literacy practices to ensure that digital materials are readable, accessible, and culturally representative. Hospitals and health departments can implement literacy audits to evaluate websites, patient portals, and discharge instructions for clarity, inclusivity, and usability. This recommendation corresponds to the organizational and societal levels of the SEM, fostering system-level accountability rather than placing the burden of literacy solely on patients.

Recommendations for Policy Development

Establish Local Digital-Health-Literacy Standards

County and state public-health departments should develop digital-health-literacy standards similar to existing language-access and cultural-competence requirements.

These standards could include readability benchmarks, inclusion of culturally relevant imagery, and periodic evaluations of public-facing materials. Institutionalizing

such standards at the societal SEM level ensures that equitable communication becomes a core element of maternal-health practice.

Expand Digital Infrastructure and Access

Policymakers should invest in broadband expansion, device access, and digital-skills training in historically underserved neighborhoods. Collaborations with local broadband providers and public libraries can help bridge connectivity gaps, ensuring that all mothers—regardless of socioeconomic status—can participate in telehealth and online education. This aligns with both the societal SEM level and the contextual foundations of the TMeHL, where access is a prerequisite for literacy development.

Fund Community-Based Digital-Literacy Programs

Grant programs under the Title V Maternal and Child Health Block Grant, HRSA, and local philanthropic foundations should allocate funds to community-led digital-health-literacy initiatives. These efforts should prioritize organizations embedded within Black maternal communities to ensure sustainability and cultural resonance. This policy recommendation strengthens the community level of the SEM and reinforces empowerment through local leadership.

Promote Representation and Inclusivity in Health Communication

Health departments and hospitals should ensure that visual and linguistic representation in all public-health messaging reflects the populations they serve. Inclusive communication builds credibility and reinforces representational literacy, one of the key theoretical contributions of this study. This operates at the organizational and societal levels of the SEM and addresses structural determinants of digital trust.

Establish Maternal Digital Equity Coalitions

Public-health agencies should create cross-sector coalitions—comprising healthcare providers, technologists, educators, and community advocates—to coordinate initiatives that promote maternal digital equity. These coalitions can share resources, monitor progress, and align maternal-health programs with broader digital-inclusion efforts. Such collaboration supports a multilevel SEM approach, ensuring that change occurs across interconnected systems rather than isolated programs.

Summary of Recommendations

These recommendations collectively promote a comprehensive, multilevel strategy to improve digital health literacy among Black mothers with HDPs.

- At the individual level, the emphasis is on developing practical skills and emotional resilience for navigating online health information.
- At the interpersonal level, provider–patient relationships are re-envisioned as partnerships for shared digital understanding.
- At the community level, trusted local organizations act as conduits of knowledge and collective empowerment.
- At the societal level, policy and infrastructure ensure sustainable equity in digital access and representation.

Together, these strategies operationalize the study’s findings, positioning digital health literacy as both a determinant and pathway to maternal-health equity. Collectively, these recommendations provide the basis for translating qualitative findings into applied tools that inform program design, policy advocacy, and community engagement.

Public Health Practice and Field-Based Products

Overview

This section connects the findings of the study to professional public-health practice through the creation of four field-based products, developed to apply research insights into actionable interventions, communication tools, and policy initiatives.

Grounded in the SEM and the TMeHL, these products reflect a multilevel approach to improving digital health literacy (DHL) and addressing maternal-health disparities among Black mothers with HDPs in the Greater Houston metropolitan area.

Each product responds to key findings from Section 3, particularly the need for culturally relevant communication, equitable access, and trust-building between provider and patients. Collectively, the products demonstrate how qualitative evidence can be operationalized into strategic materials that influence practice, education, policy, and community engagement.

Integration of Frameworks

- The SEM guided the structure of the field products by identifying four spheres of influence: individual, interpersonal, community, and societal. Each product targets one or more of these levels to ensure comprehensive and sustainable impact.
- The TMeHL provided a lens for designing materials that enhance users' abilities to find, evaluate, and apply digital health information effectively. This model informed the content and format of each product, emphasizing interactivity, emotional regulation, and contextual relevance.

Purpose of the Field Products

The four field-based products were designed to:

- Translate the study’s qualitative findings into practical tools for decision-makers and practitioners;
- Support capacity building among providers and community leaders;
- Improve digital health literacy among Black mothers through culturally tailored materials; and
- Promote system-level policy and program improvements that advance maternal digital equity.

Each product aligns with one or more of the DrPH foundational competencies, including data translation, policy analysis, leadership, and communication with diverse audiences.

Table 6*DrPH Competency Alignment*

Appendix	Field product	Primary SEM level	Purpose/Application
C	Policy brief memo	Societal	Advocates for county-level digital- health-literacy policy initiatives and cross-sector partnerships.
D	Executive summary (program development & implementation)	Interpersonal & community	Guides the design of a maternal digital-literacy intervention based on study findings.
E	Visual program framework	Multilevel	Illustrates how theoretical constructs and study results align in a comprehensive logic model.
F	Fact sheet for target audience	Individual & interpersonal	Delivers clear, culturally responsive digital-health information to mothers and families.

Field Product 1—Policy Brief Memo (Appendix C)*Purpose and Alignment*

The Policy Brief Memo titled “*Advancing Digital Health Literacy for Black Maternal Health Equity in Harris County*” translates research findings into policy actions that support equitable digital engagement and maternal health outcomes.

It addresses the societal level of the SEM by proposing system-level interventions, such as broadband access expansion, digital-equity training for healthcare providers, and culturally representative health communication standards. The brief emphasizes that improving digital access and cultural representation are essential to reducing maternal morbidity among Black women.

Key Components

- Problem Statement: Persistent Black maternal morbidity rates and inequitable access to credible digital health information.
- Evidence Summary: Findings from this study highlighting misinformation, trust barriers, and cultural misalignment.

- Policy Recommendations:
 1. Establish a Digital Health Literacy Equity Initiative (DHLEI) through Harris County Public Health.
 2. Integrate digital-literacy education into existing maternal-health programs.
 3. Partner with technology providers to expand broadband access in underserved neighborhoods.
- Intended Audience: Harris County and City of Houston public-health officials, hospital administrators, maternal-health coalitions, and advocacy networks.

Practical Application

The policy brief can be disseminated to county commissioners, health departments, and partner organizations as an advocacy and decision-making tool. It demonstrates how local government and healthcare systems can use community-based evidence to guide equitable digital-literacy policy reform.

Field Product 2—Executive Summary: Program Development and Implementation Strategies (Appendix D)

Purpose and Alignment

The Executive Summary titled “Building Digital Confidence: Program Development and Implementation Strategies for Black Mothers with Hypertensive Disorders of Pregnancy” provides a roadmap for developing, implementing, and evaluating a digital-health-literacy program grounded in this study’s findings.

This product focuses on the interpersonal and community levels of the SEM and integrates TMeHL concepts of interactive and critical literacy. It highlights how providers, families, and communities can jointly promote digital competence and trust.

Core Components

- Program Rationale: Contextualizes the need for digital-literacy training and provider engagement based on study findings.
- Population Focus: Black mothers aged 20–45 in Greater Houston who experienced or are at risk for HDPs.
- Program Goals:
 - Strengthen individual digital skills and confidence.
 - Improve provider–patient digital communication.
 - Increase access to trustworthy, culturally relevant information.
- Implementation Strategies:
 - Provider workshops on digital empathy and communication.
 - Peer-led digital-literacy sessions at community centers and churches.
 - Evaluation metrics including digital-confidence scales and pre-/post-assessments.
- Intended Users: Public-health practitioners, hospital outreach coordinators, and nonprofit maternal-health leaders.

Practical Application

The Executive Summary serves as a blueprint for organizations developing maternal-health programs that integrate digital-literacy education. It can guide grant proposals, strategic planning, or cross-sector collaborations addressing digital inequities.

Field Product 3—Visual Representation of the Program Framework (Appendix E)

Purpose and Alignment

The Visual Representation, titled “Digital Health Literacy Program Framework for Black Maternal Health,” provides a logic-model illustration of how study findings can be applied in a coordinated intervention strategy.

The diagram reflects the multilevel structure of the SEM and embeds the TMeHL’s stages of literacy development within those levels. It shows the logical flow from inputs and activities to outputs and outcomes, demonstrating theoretical-to-practical alignment.

Structure

- Inputs: Study findings, community partnerships, provider-training modules, funding, and digital resources.
- Activities:
 - Smart Mama Bootcamps (individual).
 - Provider “Digital Translator” training (interpersonal).
 - Peer-led community workshops (community).
 - Policy advocacy for broadband access (societal).

- **Outputs:** Trained participants, distributed resources, and developed partnerships.
- **Outcomes:** Increased digital confidence, reduced misinformation anxiety, improved provider–patient trust, and greater access to digital tools.
- **Impact:** Enhanced maternal self-management, improved HDP outcomes, and institutionalized digital equity.

Practical Application

This framework can be used in funding applications, stakeholder presentations, or program evaluations. It visually demonstrates the alignment between research evidence, theory, and intervention design.

Field Product 4—Fact Sheet for Target Audience (Appendix F)

Purpose and Alignment

The Fact Sheet, titled “Smart Mama: Digital Health Tips for Managing Blood Pressure During and After Pregnancy,” transforms the study’s findings into clear, culturally sensitive educational content for Black mothers and families.

It targets the individual and interpersonal levels of the SEM and focuses on the functional and affective literacy domains of the TMeHL, empowering mothers to interpret online information while managing emotional responses to misinformation.

Key Features

- **Plain-Language Guidance:** Explains HDPs and digital-health best practices in accessible language.

- “Check, Cross-Check, and Chill” Strategy: Encourages users to verify information and manage emotional stress before acting on digital content.
- Provider Communication Tips: Reinforces the importance of asking questions and discussing online information with healthcare providers.
- Community Resources: Lists trusted organizations and websites such as HCPH, CDC, March of Dimes, and The Mama Mission Project.
- Design Considerations: Uses inclusive imagery, teal-tan-black color palette, and QR codes for resource access.

Practical Application

The fact sheet can be distributed through prenatal clinics, WIC programs, hospital waiting rooms, and community events. It also functions as an online resource linked to organizational websites or social media pages, extending reach beyond in-person engagements.

Synthesis and Professional Application

Together, these four field products operationalize this study’s findings into tools that address both individual behavior and structural inequities. They serve as models for how qualitative evidence can be transformed into pragmatic public-health deliverables that:

- Inform local and regional policy advocacy (Appendix C).
- Guide program planning and professional development (Appendix D).
- Illustrate theoretical alignment and systems thinking (Appendix E).
- Promote community engagement and maternal empowerment (Appendix F).

Through these outputs, the study fulfills Walden University's emphasis on scholar-practitioner impact, translating doctoral research into materials that advance positive social change, health literacy, and health equity for Black mothers. These products demonstrate how applied research can drive sustainable impact, setting the stage for broader reflection on the social and systemic implications of this work.

Positive Social Change

Overview

Positive social change is a core component of Walden University's Doctor of Public Health (DrPH) program and a guiding principle of this research. This study contributes to social change by illuminating how digital health literacy (DHL) functions as both a barrier and an opportunity in advancing equitable maternal health outcomes for Black mothers with HDPs in the Greater Houston metropolitan area.

The findings demonstrate that digital literacy is not only an individual skill but a collective and structural determinant of health. By identifying gaps in trust, representation, and access, this research provides a foundation for interventions and policies that promote culturally responsive communication, equitable digital infrastructure, and inclusive healthcare practices.

Through its theoretical integration of the SEM and TMeHL, the study advances a holistic vision of social change — one that recognizes empowerment as a process shared among individuals, families, providers, and institutions.\

Individual-Level Change: Empowering Digital Confidence and Self-Advocacy

At the individual level, this study empowers Black mothers to engage actively and confidently in digital spaces related to their health. Participants described initial confusion and mistrust when encountering conflicting online information about HDPs.

Through interpretation of these experiences, the study identifies strategies to improve self-efficacy and critical evaluation of digital content.

Field Product F (Fact Sheet) directly supports this level of change by providing accessible, culturally affirming resources that help mothers “Check, Cross-Check, and Chill” before responding to digital information. By promoting confidence, emotional regulation, and informed decision-making, the study contributes to the empowerment of mothers as active agents in their care rather than passive recipients of information.

This individual empowerment aligns with the functional and affective literacy domains of the TMeHL, affirming that emotional well-being and confidence are essential precursors to digital health competence.

Interpersonal-Level Change: Transforming Provider–Patient Relationships

At the interpersonal level, the findings reveal that empathetic, culturally attuned communication between providers and patients can transform digital engagement into a source of reassurance rather than anxiety. When providers act as “digital translators,” they validate mothers’ online exploration, bridging the gap between medical expertise and lived experience.

Field Product D (Executive Summary) reinforces this approach by outlining program strategies that equip healthcare professionals with digital-communication and

cultural-humility training. Through such initiatives, provider–patient interactions evolve from hierarchical exchanges into collaborative partnerships, fostering mutual trust and improved adherence to care plans.

This level of social change addresses the interpersonal domain of the SEM and demonstrates how the relational dimension of health literacy can be strengthened through professional practice.

Community-Level Change: Building Collective Digital Literacy

At the community level, social change emerges through collective learning and shared literacy. Participants repeatedly emphasized the influence of community, faith-based, and peer networks as trusted intermediaries between online information and medical systems. By leveraging these networks, public-health initiatives can amplify accurate digital-health messages, normalize conversations about maternal hypertension, and dismantle stigma surrounding pregnancy complications.

Field Products D and E reinforce this community-level strategy through program design and a visual framework that highlight the role of local partners, churches, and nonprofits (such as The Mama Mission Project and Basics Houston). These collaborations create culturally congruent learning environments where mothers can share knowledge, validate experiences, and access reliable resources together.

This community empowerment aligns with the collective literacy construct derived from the TMeHL and the community level of the SEM, demonstrating that literacy is strengthened through shared dialogue and mutual support.

Organizational-Level Change: Advancing Institutional Accountability

Organizational social change occurs when healthcare and public-health institutions adopt practices that reflect the needs and voices of the populations they serve. The study's findings highlight the need for hospitals, clinics, and health agencies to evaluate their organizational health-literacy environments, ensuring that patient-facing materials are culturally representative and accessible.

Field Product C (Policy Brief) advocates for organizational reforms through policies such as standardized digital-literacy assessments, culturally inclusive health communications, and accountability metrics tied to equity goals. When institutions embed cultural responsiveness and inclusivity into communication protocols, they strengthen patient trust and long-term engagement.

This recommendation aligns with the organizational and societal levels of the SEM, linking institutional transformation to systemic equity and improved maternal outcomes.

Societal-Level Change: Shifting Systems Toward Equity

At the societal level, this research contributes to long-term systemic change by framing digital health literacy as a social determinant of health that intersects with race, gender, and technology equity. Through local advocacy and policy adoption, findings from this study can inform broader maternal-health initiatives and digital inclusion strategies.

The Policy Brief Memo (Appendix C) calls for the establishment of a Digital Health Literacy Equity Initiative (DHLEI) in Harris County — a framework that

promotes cross-sector collaboration among healthcare systems, broadband providers, and community organizations. This initiative represents structural change that moves beyond individual responsibility toward systemic accountability.

Such integration reflects the societal SEM level, ensuring that policy, infrastructure, and communication systems align with the realities of the populations they serve. By institutionalizing equity, local governments and health departments can close digital gaps and advance maternal-health outcomes across communities.

Multilevel Impact: Interconnected Pathways of Change

The study's collective findings illustrate that social change does not occur in isolation. Rather, it is a multilevel and interdependent process that requires simultaneous action across individual, interpersonal, community, organizational, and societal domains.

Table 7

Multilevel Impact

SEM level	Mechanism of change	Associated field product(s)
Individual	Builds confidence, critical thinking, and digital self-advocacy	Fact Sheet (Appendix F)
Interpersonal	Strengthens provider empathy and communication	Executive Summary (Appendix D)
Community	Leverages peer networks for shared literacy	Executive Summary & Framework (Appendices D–F)
Organizational	Improves health-system accountability and representation	Policy Brief (Appendix C)
Societal	Embeds digital equity in policy and infrastructure	Policy Brief (Appendix C)

This multilevel alignment demonstrates how qualitative evidence can be directly applied to design interventions that are both locally grounded and scalable to broader contexts.

Alignment With Walden’s Social-Change Mission

This study embodies Walden University’s mission of promoting positive social change through applied scholarship. By combining theory, community insight, and practical tools, it contributes to a vision of equitable digital inclusion that transcends health literacy and touches upon social justice.

Through the creation of field products, the research extends beyond academic contribution to public impact — equipping policymakers, practitioners, and mothers with evidence-based strategies that foster empowerment, cultural validation, and systemic improvement. The study reinforces that digital health equity is central to achieving maternal health justice and the broader goals of public health transformation.

Summary

This section demonstrates that positive social change derived from this study is multifaceted and sustainable, addressing both personal empowerment and structural reform. The research offers a replicable model for how community-based qualitative inquiry can inform real-world interventions that bridge the gap between information access and health equity.

By transforming digital health literacy into a catalyst for self-advocacy, trust, and representation, this study contributes not only to academic knowledge but to the ongoing

work of improving the lives of Black mothers and families across Houston — and, ultimately, communities nationwide.

Conclusion and DrPH Competency Synthesis

Overview

This final section synthesizes the findings, interpretations, and applications presented throughout Section 4, highlighting the scholarly and practical contributions of the study. It reaffirms the significance of understanding digital health literacy (DHL) among Black mothers with HDPs in the Greater Houston metropolitan area and demonstrates how the research aligns with Walden University's Doctor of Public Health (DrPH) competencies.

The study advanced public-health knowledge by identifying the ways in which digital information-seeking behaviors are shaped by cultural representation, emotional response, and systemic access barriers. It also provided actionable pathways for promoting equity, strengthening community partnerships, and supporting policy reforms that improve maternal health outcomes.

Synthesis of Key Findings

The study explored how Black mothers navigate digital health information, evaluate credibility, and apply it to health decisions during and after pregnancy. Findings revealed that digital health literacy is a transactional process situated within a broader social ecology. Individual confidence, provider empathy, community trust, and systemic access intersect to determine whether digital tools empower or marginalize users.

- At the individual level, mothers sought accurate and culturally resonant information but faced confusion and anxiety due to misinformation.
- At the interpersonal level, trust in digital health resources was often mediated by provider communication and reassurance.
- At the community level, faith-based and peer networks played critical roles in reinforcing reliable information and collective literacy.
- At the societal level, structural inequities—such as broadband gaps, limited representation, and lack of digital-literacy infrastructure—restricted full participation in digital health systems.

Together, these insights affirm that digital health literacy should be understood not as an individual deficit but as a public-health capability requiring coordinated, multilevel action.

Theoretical Implications

The integration of the SEM and the TMeHL provided a robust framework for interpreting these findings. The SEM clarified how contextual and systemic factors influence behavior across ecological layers, while the TMeHL revealed how individuals process and emotionally engage with digital information.

This research extends both models by introducing new constructs—representational literacy and collective literacy—to describe how cultural validation and community dialogue shape digital competence. These theoretical contributions emphasize that digital literacy is inherently social and cultural, not merely technical or cognitive.

By merging SEM and TMeHL, the study offers a multidimensional model for future public-health interventions that address not only skill development but also trust, inclusion, and systemic accountability.

Contributions to Public Health Practice

This study bridges the gap between theory and practice by translating qualitative evidence into applied public-health tools. The four field products developed in this section exemplify how scholarly research can inform local policy, program implementation, and community engagement:

- The Policy Brief (Appendix C) provides actionable policy recommendations for integrating digital equity into maternal-health infrastructure.
- The Executive Summary (Appendix D) outlines program strategies for healthcare providers and community partners to enhance digital communication and trust.
- The Visual Framework (Appendix E) demonstrates how theory-driven program design can connect multilevel strategies to measurable outcomes.
- The Fact Sheet (Appendix F) empowers mothers with culturally resonant, plain- language information to enhance individual digital literacy and self-advocacy.

Together, these products operationalize the study's findings into tools that can be adopted by public-health practitioners, healthcare organizations, and community partners seeking to strengthen maternal digital equity initiatives in Houston and similar urban settings.

Public-Health Impact and Future Directions

Top priorities under Healthy People 2030 and the research holds immediate and long-term implications for public-health practice and policy. Locally, the findings inform ongoing maternal-health initiatives such as the Harris County Public Health Maternal and Infant Health Program and collaborations with community-based organizations such as The Mama Mission Project and Basics Houston. Nationally, the study contributes to conversations surrounding digital inclusion, health communication equity, and Black maternal health justice—aligning with federal the U.S. Maternal Health Blueprint.

Future directions include evaluating the scalability of digital-literacy interventions, exploring longitudinal impacts of provider digital training, and examining how digital equity intersects with other determinants such as economic stability, education, and social support.

DrPH Competency Synthesis

Completion of this doctoral research demonstrates mastery of the DrPH foundational competencies, fulfilling the program’s scholar-practitioner mission by linking rigorous inquiry with practical leadership in public health.

Table 8*DrPH Competency Synthesis*

DrPH competency	Evidence of mastery in this study
1. Design and implement public-health research projects that address complex health problems.	Conceptualized and executed a qualitative phenomenological study exploring digital health literacy among a priority population; employed systematic data collection, NVivo analysis, and theory integration.
2. Integrate and apply public- health theories and frameworks.	Applied the Social Ecological Model and Transactional Model of eHealth Literacy to interpret data, demonstrating theoretical synthesis and expansion through new constructs of representational and collective literacy.
3. Communicate public-health evidence effectively to diverse audiences.	Developed four field-based products translating findings into accessible formats for policymakers, practitioners, and community members.
4. Critically analyze ethical and cultural issues in public-health research and practice.	Ensured cultural sensitivity and ethical rigor through informed consent, confidentiality, and reflexive analysis of researcher positionality.
5. Propose evidence-based policies and programs that advance equity and social justice.	Produced policy and program recommendations addressing digital inequities, maternal-health disparities, and representation gaps in healthcare communication.
6. Demonstrate leadership and systems thinking in public-health problem solving.	Bridged community, healthcare, and policy perspectives to propose multilevel interventions that promote maternal digital equity in Houston and beyond.

Through the integration of these competencies, the project reflects the role of the DrPH scholar-practitioner as both a knowledge generator and a change agent—using evidence to transform systems, empower communities, and shape equitable health outcomes.

Conclusion

This doctoral study affirms that digital health literacy is a determinant of maternal health equity. By centering the lived experiences of Black mothers, it amplifies community voices often marginalized in research and practice. The findings advance theoretical understanding, guide public-health programming, and inform policy reform—demonstrating how qualitative inquiry can lead to tangible, lasting impact.

Ethical principles guided every phase of the study, including informed consent, cultural sensitivity, and the protection of participants' confidentiality. The researcher also acknowledges her professional engagement in maternal and public health advocacy but maintained transparency and reflexivity throughout to minimize bias and avoid conflicts of interest.

This study serves as a foundational baseline for understanding digital health literacy in maternal health among Black mothers. Building on these findings, future research will expand recruitment to include a more diverse range of participants and explore other serious maternal health conditions that disproportionately affect Black and marginalized communities. These next steps will help deepen understanding and guide the development of equitable, culturally responsive maternal-health interventions across populations.

Ultimately, this research contributes to Walden University's mission of positive social change by providing actionable insights that improve digital access, rebuild trust, and honor the cultural and emotional realities of Black motherhood. It establishes a model for scholar-practitioner leadership—rooted in evidence, empathy, and advocacy—that will continue to inform the researcher's professional practice and ongoing contributions to public health.

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Appendix A: Prescreen Tool—Digital Health Literacy and Health Information-Seeking

Behavior Among Black Mothers With Hypertensive Disorders

During the Perinatal Period

Section 1: Demographic Information Race/Ethnicity**1. Are you or do you identify as Black or African American (this includes those of Caribbean, Afro-Latinx, or multiracial heritage of African diaspora)**

- Yes
- No
- Unsure/Unknown

2. Age:

- Under age 19
- 19-25
- 26-30
- 31-35
- 36-40
- 41-45

3. Education Level:

- Some high school or less
- High school graduate
- Some college
- Associate's degree
- Bachelor's degree
- Postgraduate degree

4. Annual Household Income:

- Less than \$20,000
- \$20,000 - \$40,000
- \$41,000 - \$60,000
- \$61,000 or more

5. What is your current living situation?

- Living alone
- Living with a partner
- Living with family members
- Unhoused

6. Location (What part of the Greater Houston metro area do you reside in?):

- Inner City/ Inner loop (610 Loop)
- Rural (Unincorporated/Harris or surrounding county)
- Suburban (surrounding suburb of Houston ie Pearland, Sugarland, Woodlands, Etc.)
- N/A or None

7. What type of technology do you regularly use? (mark all that apply)

- Smartphone
- Tablet
- Computer (laptop/desktop)
- None

8. Do you have reliable internet access at home?

- Yes
- No
- Sometimes

Section 2: General Health Literacy (Single Item Literacy Screener - SILS) How often do you need help reading health-related materials?

- *Never*
- *Rarely*
- *Sometimes*
- *Often*
- *Always*

Section 3: eHealth Literacy (eHEALS) Scale

Please read each statement and mark how much you agree with it.

- 1. I know what health resources are available on the Internet to manage my hypertension during and/or after pregnancy.***
 - 1 (Strongly Disagree) to 5 (Strongly Agree)*
- 2. I know where to find helpful health information on the Internet about hypertension during and/or after pregnancy.***
 - 1 (Strongly Disagree) to 5 (Strongly Agree)*
- 3. I can find helpful health information on the Internet even if there is conflicting information about hypertension.***
 - 1 (Strongly Disagree) to 5 (Strongly Agree)*

4. ***I know how to use the Internet to answer my questions about managing hypertensive disorders during pregnancy.***
 - *1 (Strongly Disagree) to 5 (Strongly Agree)*
5. ***I know how to use health information I find on the Internet to make decisions about my hypertension care.***
 - *1 (Strongly Disagree) to 5 (Strongly Agree)*
6. ***I feel confident in using information from the Internet to make health decisions about hypertension during and/or after pregnancy.***
 - *1 (Strongly Disagree) to 5 (Strongly Agree)*
7. ***I have the skills I need to evaluate health information on the Internet about hypertension and/or after pregnancy.***
 - *1 (Strongly Disagree) to 5 (Strongly Agree)*
8. ***I am confident in my ability to use online resources to manage hypertension during and/or after pregnancy.***
 - *1 (Strongly Disagree) to 5 (Strongly Agree)*

Section 4: Socio-Ecological Model Constructs Individual Factors:

1. Health Beliefs:

How confident do you feel in managing your hypertensive disorder during or after pregnancy using digital health tools?

- *Not confident at all*
- *Somewhat confident*
- *Very confident*

2. Health Knowledge:

How familiar are you with the digital health tools (apps/websites) available for managing hypertensive disorders during or after pregnancy?

- *Not familiar*
- *Somewhat familiar*
- *Very familiar*

Interpersonal Factors:

1. Social Support:

Who in your family or social circle helps you understand and make decisions about health information you find online regarding hypertension during or after pregnancy??

- *No one*
- *One person*
- *Multiple people*

2. Family Dynamics:

How do you discuss health information you find online with your partner or family members?

- *Not at all*
- *Occasionally*
- *Frequently*

Organizational Factors:

1. Access to Healthcare:

How easy is it for you to access healthcare services that support the management of hypertension during or after pregnancy?

- *Difficult*
- *Somewhat easy*
- *Very easy*

2. Healthcare Providers' Digital Tools:

Do your healthcare providers recommend or use digital tools (apps, websites) to help you manage your hypertension during or after pregnancy?

- *Never*
- *Occasionally*
- *Always*

Community Factors:

1. Neighborhood Safety:

How does your neighborhood affect your access to resources (e.g., health clinics, digital access, safe spaces) to help you manage hypertension?

- *Not at all*
- *Somewhat*
- *Very much*

2. Access to Healthy Food and Physical Activity:

How easy is it to access healthy food or safe places to exercise in your community?

- *Very difficult*
- *Somewhat difficult*
- *Very easy*

Public Policy Factors:**1. Healthcare Policies and Initiatives:**

Do you believe current healthcare policies provide sufficient support for using digital health tools in managing hypertension during or after pregnancy?

- *Not at all*
- *Somewhat*
- *Very much*

2. Public Health Campaigns:

How aware are you of public health campaigns or digital health initiatives targeting hypertension during pregnancy or postpartum?

- *Not aware*
- *Somewhat aware*
- *Very aware*

Section 5: Transactional Model of eHealth Literacy Constructs Traditional Literacy:**1. How comfortable are you reading health-related content (online articles, websites, health apps) about hypertension during or after pregnancy?**

- *Not comfortable*
- *Somewhat comfortable*
- *Very comfortable*

Health Literacy:**1. How easy is it for you to find reliable information about managing hypertension during or after pregnancy on digital platforms (websites, apps)?**

- *Very difficult*
- *Somewhat easy*
- *Very easy*

Information Literacy:**1. How do you determine if the health information you find online is accurate and trustworthy?**

- *I don't know how*
- *I use some methods*
- I have clear strategies to evaluate it*

Computer Literacy:**1. How comfortable are you using a computer or mobile device to search for health-related information?**

- *Not comfortable*
- *Somewhat comfortable*
- *Very comfortable*

Media Literacy:**1. How do you interpret digital health messages (e.g., social media, online videos) related to managing hypertensive disorders during or after pregnancy?**

- *I don't understand them*
- *I understand them somewhat*
- *I fully understand them*

Scoring and Analysis:

- **General Health Literacy (SILS):** Responses on the SILS scale indicate the need for assistance in understanding health-related materials. Higher scores represent lower literacy levels.
- **eHealth Literacy (eHEALS):** Total scores for the eHEALS items to evaluate the participant's eHealth literacy. Higher scores indicate greater digital health literacy.
- **Socio-Ecological Model:** Scores for each domain (individual, interpersonal, organizational, community, and public policy) reflect the perceived influence of various factors on the participant's ability to manage hypertensive disorders using digital health tools.
- **Transactional Model of eHealth Literacy:** Responses to questions regarding traditional literacy, health literacy, information literacy, computer literacy, and media literacy can help assess the participant's capacity to engage with and use digital health resources effectively.

Conclusion: This integrated tool allows you to comprehensively assess the health literacy, digital health literacy, and socio-ecological and transactional influences on health information-seeking behaviors in Black mothers with hypertensive disorders during pregnancy. This will help identify the key factors that affect their ability to manage their condition effectively and use digital health resources to improve maternal and infant health outcomes.

Appendix B: Interview Protocol and Questions

Introduction (*Read by Interviewer*)

Thank you for agreeing to participate in this interview. My name is [Your Name], and I am a DrPH student conducting a study on how Black mothers diagnosed with hypertensive disorders of pregnancy use digital health tools and information. Your responses will help us better understand how to improve access to trustworthy and useful digital health resources.

This interview will take about 45–60 minutes. Your participation is voluntary, and you may decline to answer any question or stop the interview at any time. With your permission, I will record the conversation to ensure accuracy. Everything you share will be kept confidential.

Do you have any questions before we begin?

Do I have your permission to record this interview?

Conclusion (*Read by Interviewer*)

Thank you again for sharing your experiences with me today. Your insights are incredibly valuable. Before we finish, is there anything else you would like to share that we didn't cover?

If you have any questions or concerns later, please feel free to reach out to me at (Contact Information)

The alignment below demonstrates how each research question is directly addressed through specific items in the semi-structured interview protocol. This ensures that the data collected will meaningfully address the study's aims and support a rigorous qualitative analysis.

Interview Questions Aligned with RQ1: Credibility and Trustworthiness of Digital Health Information

1. Have you ever come across digital information about high blood pressure during pregnancy or after childbirth that you weren't sure was trustworthy or accurate? What did you do?
2. When looking for information about hypertensive disorders during your pregnancy or postpartum, how do you decide which websites, social media pages, or apps to trust?
3. Are there specific online platforms, websites, or apps you turn to—or avoid—when looking for health information about managing your blood pressure? Why?

Probes: Credibility and Trustworthiness of Digital Health Information

- *What made you question whether the information was trustworthy? How did that*

experience make you feel?

- *Did you talk to anyone about the information you found?*
- *What does a "trusted" source mean to you personally?*
- *How do you usually feel after searching online for health information?*
-

Interview Questions Aligned with RQ2: Role of Healthcare Providers

4. What information or advice did your doctor, nurse, or other provider share with you about managing your blood pressure during pregnancy or postpartum?
5. Have your healthcare providers ever suggested online resources, apps, or tools to help you monitor or understand hypertensive disorders of pregnancy?
6. How would you describe the support or communication you received from healthcare providers regarding your blood pressure and how to find reliable online information?

Probes: Role of Healthcare Providers

- *Can you give an example of something helpful or unhelpful a provider said about HDP?*
- *How comfortable did you feel asking your doctor questions about your blood pressure or the information you found online?*
- *Did they explain why a specific app or website might be useful?*
- *Did you follow up on any of the digital tools they recommended? Why or why not?*
- *Do you feel your provider understands the challenges you face with online information?*

Interview Questions Aligned with RQ3: Personal and Community Support

7. Do you have family, friends, church members, or community organizations that help you understand or use online health information about hypertensive disorders of pregnancy?
8. How do your personal experiences, faith, or cultural background influence how you find and use digital tools or online resources to manage high blood pressure during or after pregnancy?
9. What challenges have you faced—such as technology, trust, or understanding—when trying to find or use health information online for your blood pressure condition?

Probes: Personal and Community Support

- *Who do you usually turn to when you're unsure about something you read online?*
- *Can you share a time when a family member or friend helped you make a health decision?*
- *Are there any community programs or groups you've been part of that support Black mothers?*

- *How do your beliefs or values shape how you approach online health advice?*
- *What kinds of support would have made it easier for you to find or understand online health information?*

Appendix C: Field Product 1—Policy Brief Memo

Advancing Digital Health Literacy for Black Maternal Health Equity in Greater Houston

Introduction

Black mothers in Harris and surrounding counties continue to experience disproportionately high rates of hypertensive disorders of pregnancy (HDPs), including gestational hypertension and preeclampsia. Digital resources have become essential for maternal health education; however, limited digital literacy, online misinformation, and lack of culturally relevant materials contribute to confusion, stress, and decreased self-advocacy. Findings from a qualitative study of Black mothers in the Greater Houston area revealed that digital health literacy (DHL) is shaped by access, trust, and representation. Targeted policy interventions can strengthen maternal outcomes by improving digital competence and equitable access to credible information.

Scope of the Problem

In Texas, Black maternal mortality remains nearly three times higher than that of White women (Harris County Public Health [HCPH], 2024). HDPs are leading contributors to this disparity. While 90% of adults rely on digital sources for health information, not all have equal ability to evaluate online content or access reliable networks. Participants in this study described feeling overwhelmed by misinformation and unsupported in discussing online findings with providers. Digital inequities reinforce existing racial health disparities, limiting mothers' ability to make informed decisions about their care.

Current Approaches

Existing maternal-health programs in Harris County primarily focus on clinical interventions, case management, and in-person education. Few initiatives address digital-literacy skills or culturally relevant online health communication. Hospitals and public-health agencies have patient portals and educational sites, but materials are often written above recommended literacy levels and lack representation of Black mothers. Current strategies fail to leverage community organizations and digital tools to address these gaps.

Proposed Program or Policy

Establish a Digital Health Literacy Equity Initiative (DHLEI) through Harris County Public Health and other local health departments to ensure that Black mothers have equitable access to accurate, culturally aligned digital resources.

Key Components:

1. **Provider Training:** Integrate digital-communication and cultural-humility modules into professional development for OB/GYN and nursing staff.
2. **Community Partnerships:** Fund nonprofits (e.g., The Mama Mission Project, Basics Houston) to deliver peer-led “Smart Mama” workshops at clinics, churches, and community centers.
3. **Digital Access Expansion:** Collaborate with broadband providers to extend Wi-Fi coverage and device-lending programs in underserved areas.
4. **Public Awareness:** Launch a maternal-health digital campaign promoting reliable online resources and local support programs.

Major Constituencies

Harris County Public Health, Houston Health Foundation, local hospital systems, community-based maternal organizations, broadband providers, and advocacy networks. Collaboration across these partners will ensure sustainability and alignment with *Healthy People 2030* objectives for maternal health and digital equity.

Conclusions

Addressing digital health literacy is critical to advancing Black maternal health equity. The DHLEI provides a sustainable, evidence-based framework that connects public-health infrastructure, technology, and community engagement. By investing in digital-literacy education, provider training, and equitable access, Harris County can reduce preventable complications and empower mothers as informed decision-makers in their care.

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Appendix D: Field Product 2—Executive Summary

Building Digital Confidence: Program Development and Implementation Strategies for Black Mothers with Hypertensive Disorders of Pregnancy

Introduction

Black mothers in Harris County face disproportionate rates of hypertensive disorders of pregnancy (HDPs), including preeclampsia and gestational hypertension. Findings from a qualitative study conducted in the Greater Houston area revealed that **digital misinformation, inconsistent provider communication, and limited culturally relevant resources** undermine mothers' ability to make informed decisions.

This Executive Summary outlines a proposed **Digital Health Literacy Empowerment Program (DHLEP)** to strengthen digital confidence, foster trust, and improve health outcomes among Black mothers through provider training, community engagement, and digital-access initiatives.

Program Purpose and Goals

The DHLEP is a multilevel initiative designed to:

1. **Increase digital health literacy (DHL)** among Black mothers by teaching skills to find, evaluate, and apply credible online information.
2. **Enhance provider communication**, ensuring clinicians act as “digital translators” who validate and guide patient information-seeking.
3. **Build community capacity** through peer-led education and collaboration between health systems and local organizations.
4. **Reduce health inequities** by expanding access to digital tools and promoting culturally responsive health information.

Target Population

Black mothers aged 19–45 in the Greater Houston metropolitan area who are pregnant or postpartum and have experienced or are at risk for HDPs. The program will prioritize families in low-connectivity zip codes and those enrolled in public-health maternal programs.

Program Components

Component	Key Activities	Lead Partner(s)	Expected Outcome
1. Provider Engagement	Deliver “Digital Translator” workshops on cultural humility and online health communication.	Houston Health Foundation; local hospitals; FQHCs	Providers support patient information-seeking and reinforce trust.
2. Community Education	Facilitate “Smart Mama” peer-led digital-literacy sessions in churches, clinics, and community centers.	CBOs; FQHCs; Local Health Departments	Mothers gain confidence navigating and assessing digital content.
3. Digital Access Expansion	Collaborate with broadband providers to enhance Wi-Fi coverage and establish device-lending programs.	Local Health Departments; tech partners.	Increased internet and device access for underserved mothers.
4. Public Awareness Campaign	Promote culturally tailored maternal-health information through digital and print media.	Community coalitions; media outlets; CBOs	Increased awareness of HDP risks and local support resources.

Implementation Timeline

Phase	Duration	Activities
Phase 1: Planning & Partnership Development	0–3 months	Finalize partnerships, secure funding, and develop training materials.
Phase 2: Pilot Implementation	4–9 months	Conduct provider workshops and launch initial community sessions in two pilot zip codes.
Phase 3: Evaluation & Expansion	10–18 months	Assess outcomes, refine program, and expand countywide through partner organizations.

Evaluation and Measurable Outcomes Key Indicators:

- Increase in participant digital-confidence scores (pre-/post-assessment).
 - Improved provider self-efficacy in digital communication (survey evaluation).
 - Growth in community workshop participation and satisfaction.
- Increased internet connectivity rates among participants (tracked by HCPH).

Evaluation Tools:

Qualtrics surveys, focus groups, and partner reports will be used to assess progress. Findings will guide continuous improvement and scalability.

Sustainability Plan

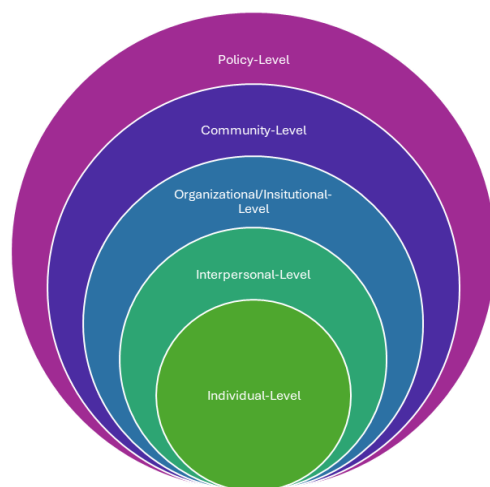
Sustainability will be achieved through integration into existing Harris County maternal-health services. After the pilot phase, the DHLEP can be incorporated into perinatal programs supported by the **Houston Health Foundation, Harris County Public Health, and local nonprofit coalitions**. Partnerships with broadband providers and philanthropic organizations will ensure continued support for device access and program funding.

Conclusion

The **Digital Health Literacy Empowerment Program (DHLEP)** builds upon local strengths and community trust to bridge gaps between digital access, maternal education, and equitable healthcare. By combining provider training, peer-led learning, and systemic policy alignment, this program represents a scalable, evidence-based strategy for improving maternal health outcomes and advancing digital equity in Greater Houston and beyond.

Appendix E: Digital Health Literacy Empowerment Program (DHLEP):

A Multilevel Framework for Black Maternal Health Equity



SEM Level	Intervention Components	Key Activities / Strategies	Mode of Delivery	Intended Outcomes
Individual	Digital Navigation and Self-Efficacy	Digital literacy prenatal workshops; bilingual digital toolkits; stress-management techniques	Community clinics, virtual webinars, home visits; telehealth sessions	Improved digital confidence and ability to evaluate online information
Interpersonal / Family	Strengthen provider-patient communication	Train providers as digital translators; encourage discussion of online sources; include partners in education sessions	Prenatal and postpartum appointments, family workshops	Increased trust and collaborative decision-making between mothers and providers
Organizational / Institutional	Embed digital literacy into health- system culture	Incorporate training into staff onboarding; monitor digital communication metrics; develop inclusive EHR resources	Hospital systems, clinic leadership, health-department programs	Enhanced cultural humility and consistent digital communication practices
Community	Expand collective digital capacity	Partner with CBOs and faith organizations to train peer leaders; host "Digital Days"; collaborate with local media	Public libraries, churches, community centers	Stronger community networks and shared digital health literacy norms
Policy	Institutionalize digital equity and access	Launch Digital Health Literacy Equity Initiative; fund community-led programs; adopt readability standards	County health department, legislative task forces, and broadband partners	Sustainable digital access, funding for equitable maternal-health communication

Appendix F: Maternal Digital Health Information Sheet



Purpose

This information sheet empowers pregnant and postpartum mothers—and their support networks—to confidently find, understand, and use digital health resources that support informed decisions and healthier pregnancies.

Why Digital Health Literacy Matters

In today's world, most health information is found online—through websites, apps, and social media. While digital access puts valuable knowledge at our fingertips, not all information is accurate or trustworthy. **Digital health literacy** means having the skills to find, evaluate, understand, and apply reliable online health information to make confident, informed decisions during pregnancy and postpartum.

Benefits of Digital Health Literacy:

- Improved decision-making
- Better communication with healthcare providers
- Increased self-efficacy
- Enhanced access to support and resources
- Reduced anxiety and stress related to health concerns

For pregnant and postpartum mothers, digital health literacy can be especially crucial. It empowers you to actively participate in your care, understand your options, and access timely information about prenatal care, childbirth, breastfeeding, newborn care, and mental health. By developing your digital health literacy skills, you can better navigate the unique challenges and joys of motherhood.

Key Concepts

Understanding:

- **Basic computer skills:** Using a computer, smartphone, or tablet.
- **Internet navigation:** Searching for and browsing websites.
- **Medical terminology:** Understanding common medical terms and concepts.

Trust:

- **Evaluating sources:** Assessing the credibility and reliability of online health information.
- **Identifying bias:** Recognizing potential biases in health information.
- **Seeking expert advice:** Consulting with healthcare professionals for personalized guidance.

Confidence:

- **Applying information:** Using digital health information to make informed decisions about your health.
- **Communicating effectively:** Sharing information with healthcare providers and support networks.
- **Advocating for yourself:** Confidently expressing your needs and preferences.

Next Steps

To further improve your digital health literacy:

- **Explore reputable websites:** such as the CDC, WHO, and professional medical organizations.
- **Download trusted apps:** Recommended by your healthcare provider.
- **Join online communities:** Connect with other mothers and share experiences in a safe space. However, always verify information with a medical professional before acting on it.
- **Attend workshops and training:** Offered by local hospitals, libraries, and community centers.
- **Ask questions:** Don't hesitate to ask your healthcare provider for clarification or additional resources.