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## Impact of Ohio Senate Bill 265 on Infant Mortality Rate in Ohio

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# Walden University

College of Health Sciences and Public Policy

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Lauren Crawford

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Walden University  
2025

Abstract

Impact of Ohio Senate Bill 265 on Infant Mortality Rate in Ohio

by

Lauren Crawford

MA, Walden University, 2012

BS, Wright State University, 2009

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

Walden University

May 2025

## Abstract

There is a problem with the infant mortality rate among Black women living in Ohio. Despite programs such as the Ohio Infant Mortality Reduction Initiative and Celebrate One, the infant mortality rate among Black women continues to persist, and a rate disparity between White women and Black women remains. The purpose of this generic qualitative inquiry was to explore retail pharmacists' behavioral beliefs and attitudes toward providing prenatal care as a reimbursed service in Ohio. Currently, no studies exist that explore retail pharmacists' behavioral beliefs and attitudes toward expanding their services to include prenatal care. Using Ajzen's theory of planned behavior as a theoretical lens, the following research question was explored: With the implementation of Ohio Senate Bill 265 expanding access to care by designating pharmacists as healthcare providers, what behavioral beliefs and attitudes towards offering prenatal care as a reimbursed service influence pharmacists' intention to positively impact the infant mortality rate in Ohio? Survey responses were obtained through open-ended structured surveys from 22 Ohio-based retail pharmacists who illustrated a positive attitude toward providing prenatal care and believed they could successfully provide additional services with adequate support. Overall, four emerging themes were identified: (a) adequate support needed (staffing, space, and time), (b) support for the addition of prenatal care, (c) proper training is critical, and (d) expanded access to care. The potential for positive social change is highlighted by the opportunity to reduce Ohio's infant mortality rate by expanding Ohio Senate Bill 265, which would allow retail pharmacists to provide additional reimbursable clinical support services.

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## Dedication

I want to dedicate my research study to every child who did not reach the age of 1, including my own. I also want to dedicate my research to Karis, the baby girl my heart created. My rainbow after the storm.

## Acknowledgments

I would like to thank my husband, Chauncey Crawford, for his support throughout my journey. He has encouraged me and reminded me daily that I am capable of anything. He is my anchor, and most of all, he is my best friend. He makes me feel like the smartest, most loved woman in the world. I would also like to thank my mom, Robin Hunter, for her constant love and support. Without my mom, I would not be the woman I am today. She was the first ray of light that guided me as a child, a teen, a young adult, and now a woman. She is the epitome of strength and perseverance. I am who I am because of her. Next, I want to thank the matriarch of our family, my grandmother, Pauline Ewing, who set the foundation for our family and ensured God was always at the center. I would also like to thank my Chair, Dr. Matarelli, for his insightful guidance throughout this research project. His brilliance and determination to get me to the finish line fueled me every semester. I am grateful for his time and his instruction. Last but surely not least, thank you to my heavenly Lord for answering every prayer when I called on you for help and guidance. Thank you for your peace, and thank you, Lord, for your strength. I can do all things through Christ who strengthens me (Philippians 4:13).

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## Chapter 1: Introduction to the Study

According to the World Health Organization (WHO), 5.1 million babies are stillborn or die in their first month. Due to this, the WHO has committed to improving healthcare coverage, quality data, and coverage of life-saving interventions. Additionally, released by the U.S. Department of Health and Human Services, Healthy People, set an objective to lower the infant mortality rate to five infant deaths per 1,000 live births nationwide. According to the Centers for Disease Control (CDC), in 2019, the national average infant mortality rate by race for non-Hispanic Black and White infants was as follows: White 4.5 infant deaths per 1,000 live births, and Black 10.6 infant deaths per 1000 live births.

According to the Ohio Department of Health, in 2020, the infant mortality rate for non-Hispanic Whites was 5.1 infant deaths per 1,000 live births, and the infant mortality rate for non-Hispanic Blacks was 13.6 infant deaths per 1,000 live births. More specifically, in the state of Ohio, 5.1 White infants died out of 1000 births, while 13.6 Black infants died out of 1,000 live births. The disparity between White infant deaths and Black infant deaths is pervasive and demonstrated both nationwide and in the state of Ohio. The infant mortality rate for Black infants in Ohio surpassed the national average in 2019.

The infant mortality rate is a key marker identifying the overall health of society, and the infant mortality rate is a serious public health concern in Ohio. Addressing the infant mortality rate in Ohio, specifically targeting the improvement of Black infant deaths, will improve the overall health of Ohio while potentially setting a standard for the

rest of the nation and the world. Chapter 1 of this dissertation covers the background, problem statement, purpose of the study, significance, and other relevant introductory elements of this study.

### **Background of the Study**

Many research studies have been conducted to determine the cause behind the infant mortality rate, and more specifically, the increased infant mortality rate among Black infants. Research has been conducted to determine the effects of structural racism, social environments, genetics, socioeconomic status, obesity, other maternal health factors, social determinants of health, and prenatal care on the Black infant mortality rate.

The leading cause of infant death is low birth weight (LBW) and very low birth weight (VLBW) caused by preterm birth. Researchers conducted studies to determine the factors that contributed to LBW and VLBW. Chambers et al. (2019) examined racial and economic segregation. They determined through their research that residing in the least privileged income, race, and race plus low-income areas significantly increased the odds of women experiencing an infant death. The researchers found that living in deprived neighborhoods was positively associated with preterm birth and the infant mortality rate among Black infants. Kothari et al. (2017) examined socioeconomic status and found that Black women had a higher infant mortality rate far above that attributed to poverty alone. The results of the study suggested that there were additional factors, such as maternal health and parental care, that contributed to the infant mortality rate among Black women. Researchers also examined the health of Black mothers.

Lemon et al. (2016) examined pre-pregnancy obesity and how it impacted the disparity between Black and White infant deaths. The research revealed that women with obesity had a higher rate of stillbirth and infant death as compared to women who were not overweight or obese. However, with this added factor, the infant mortality rate was still higher among Black infants than among White infants. Obesity and being overweight did not completely explain the disparity among White and Black infants, as maternal obesity only explained 10% of the Black-White disparity in stillbirth and infant mortality. Researchers also examined social determinants of health contributing to the infant mortality rate.

Matoba et al. (2017) examined social issues of racism and the effect it has on the infant mortality rate among Black women. The research revealed that infant mortality among Black women is affected by social determinants at the community level. These social determinants included residential segregation, racism in health care systems, and pervasive poverty. The researchers found that the infant mortality rate increased for Black women who continuously lived in poverty, creating issues with access to care. Further, researchers looked at how access to prenatal care can aid in lowering the infant mortality rate among Black infants.

Mallinson et al. (2020) examined the effects of Wisconsin's Prenatal Care Coordination (PNCC) program utilization on infant birthweight, LBW, gestational age, and preterm birth outcomes between 2008-2012. The research revealed that pregnant women receiving PNCC program services decreased their risks of LBW and preterm birth, increased birthweight, and lengthened gestational age. Additionally,

Thurston et al. (2021) also examined the effectiveness of early and adequate prenatal care in reducing racial disparities in preterm birth among low-income women. The research revealed that early prenatal care significantly decreased the risk of preterm birth for all racial/ethnic subgroups. With the research conducted to date, there remains a gap in examining increasing access to care through policy development. Little research has been done to examine the impact that pharmacists can have in lowering the infant mortality rate among Black infants by expanding access to prenatal care in impoverished areas through policy development.

### **Problem Statement**

Infant mortality is the death of a child before reaching the age of 1. The 2019 Infant Mortality Annual Report, created by the Ohio Department of Health, noted that Black infants were 2.8 times more likely to die than White infants before reaching the age of 1 in the state of Ohio. The same report documented that Ohio's overall infant mortality rate decreased by an average of 1.2% per year. For the past 10 years, the White infant mortality rate decreased at an average of 2.6% per year, while the Black infant mortality rate remained stagnant. In 2016, Franklin County Public Health (2022) noted that the White infant mortality rate was 5.8%, and the Black infant mortality rate was 15.2%. The infant mortality rate is the number of deaths per 1,000 live births. Therefore, for every 1,000 live births, five White babies died, and for every 1,000 live births, 15 Black babies died. The United Health Foundation (2016 as cited in Swoboda et al., 2018) found that in 2015, Ohio had the sixth highest infant mortality rate in the United States. While the White infant mortality rate continues to see a decline, averaging 5.1 infant deaths per

1000 live births in 2019, the Black infant mortality rate showed an increase, averaging 14.3 infant deaths per 1000 live births.

The problem is that the infant mortality rate in Ohio among Black women continues to persist despite programs created to address the disparities between White women and Black women in prenatal care. This problem has negatively impacted Black women because Black babies continue to die at disproportionate rates. The possible cause of this problem is access to prenatal care.

Researchers examined a variety of factors that contributed to the infant mortality rate among Black women. It has been determined that a common cause of infant death among Black women is LBW and VLBW, which is associated with preterm birth (PTB). Low birth weight is a condition in which a child is born weighing less than 2500 grams (5.5 lbs.). Additionally, VLBW is a child born weighing less than 1500 grams (3.3 lbs.). PTB has risen more than 20% since 1990, in the United States (Matoba & Collins, 2017). PTB occurs when a child is born before reaching 37 weeks of gestation. Consequently, PTB has been linked to LBW and VLBW (Matoba & Collins, 2017). PTB weights for Black women are higher than for White women, which has been determined to be one of the main causes of the infant mortality disparity (MacDorman, 2011 as cited in Swoboda et al., 2018). Approximately 1% of births occurring at a VLBW account for nearly two-thirds of the racial gap (Matoba & Collins, 2017). Researchers have been working to determine common causes that contribute to PTB.

It has been determined that prenatal care initiated early in pregnancy, before month four, can decrease the risk of PTB for ethnic groups (Thurston et al., 2021).

Additionally, the Guttmacher Institute stated that the lack of prenatal care is associated with a 40% increase in the risk of infant death within the first 27 days of the child's life. Therefore, providing prenatal care as a pharmacist-provided reimbursed service may help to increase access to prenatal care. However, little is known about Ohio pharmacists' behavioral beliefs and attitudes towards adopting practice changes to incorporate this reimbursable service if the law is expanded to include it.

### **Purpose of the Study**

The purpose of this generic qualitative inquiry was to explore pharmacists' behavioral beliefs and attitudes toward providing prenatal care as a reimbursed service in Ohio. A common cause of infant death among Black women is LBW and VLBW, as associated with PTB. Therefore, examining pharmacists' behavioral beliefs and attitudes to adopt prenatal care as a billable service demonstrates whether their focus is to provide the service, which may contribute to lowering PTB, thus positively impacting the Black infant mortality rate, or continuing to focus on the traditional practice and production metric of prescription fulfillment only.

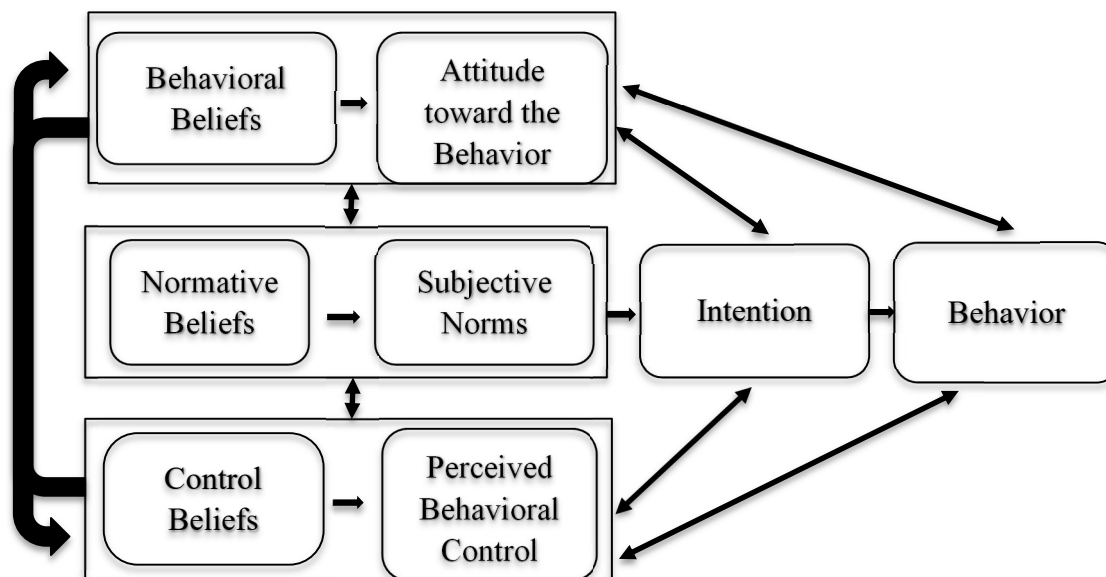
### **Research Questions**

The following is the main research question: With the implementation of Ohio Senate Bill 265 expanding access to care by designating pharmacists as healthcare providers, what behavioral beliefs and attitudes towards offering prenatal care as a reimbursed service influence pharmacists' intention to positively impact the infant mortality rate in Ohio?

## Theoretical Foundation

Ajzen's theory of planned behavior (TPB) served as the theoretical lens for my research. As seen in Figure 1 below, Ajzen posited that behavioral intentions are determined by a combination of three factors: (a) attitudes toward the behavior, (b) subjective norms, and (c) perceived behavioral control (Boslaugh, 2022). Boslaugh stated that the TPB proposes that behavioral beliefs directly influence attitudes or the negative/positive values an individual has towards a particular behavior. Individual attitudes toward behavior are characterized by personal beliefs about a particular action or activity and the expectations regarding its effects (Zielińska-Tomczak et al., 2021).

Ajzen's TPB was chosen as the theoretical framework because it proposes that you can predict an individual's behavior through attitudes and perceived behavioral control. In this study, I explored the behavioral beliefs and attitudes toward the behavior of pharmacists providing prenatal care in their respective pharmacies. Based on TPB, exploring pharmacists' behavioral beliefs and attitudes towards offering prenatal care helped determine if pharmacists would expand their services to include prenatal care if reimbursed for the service. The results of these findings are presented in Chapter 4.

**Figure 1***Theory of Planned Behavior***Nature of the Study**

The specific research design consisted of participants responding to an open-ended, structured, internet-based survey to address the research question in this generic qualitative inquiry. Further, to explore pharmacists' behavioral beliefs and attitudes, I used SurveyMonkey to email the open-ended structured surveys to pharmacists who currently work in or have previously worked in retail pharmacies in Ohio. Personal emails were obtained from a public database of Ohio-licensed retail pharmacists. The questions were pre-structured based on previous research, the theory of planned behavior, and the research question.

Generic qualitative inquiry data collection seeks information from representative samples of people about their experiences. It allows the researcher to get a broad range of

opinions, ideas, or reflections, and a non-representative, but highly informed group can also be effective and provide rich topic information (Percy et al., 2015). Thematic analysis was used to analyze the survey responses.

Thematic analysis is used to analyze qualitative data (Percy et al., 2015). It looks at repeated patterns identified in the responses of those being interviewed. As data are collected from each participant, it is compared to previously analyzed and collected data (Percy et al., 2015). The analysis constantly moves between current and previous data, examining emerging themes. To facilitate thematic analysis, I extracted the questions and responses from SurveyMonkey. SurveyMonkey facilitates downloading all questions and responses into an Excel spreadsheet. Once the spreadsheet was downloaded, thematic analyses were conducted using open-response coding.

### **Definitions**

The section outlines the operational definitions of the study's primary operational terms.

*Community pharmacy:* The most common type of pharmacy that allows the public access to medications and advice about their health (Smith, 2022). Smith (2022) also notes that community pharmacies are also known as retail pharmacies.

*Low birth weight:* According to the CDC (2018), a baby is born weighing less than 2500 grams or 5.5 pounds.

*Prenatal care:* According to the U.S Department of Health and Human Services, Office of Women's Health (2021), prenatal care is the health care you receive while pregnant.

*Preterm birth:* According to the CDC (2018), a baby born before 37 weeks of pregnancy has been completed.

*Obesity:* According to the CDC (2022), it is defined as an adult who has a body mass index of 30 or higher.

*Overweight:* According to the CDC (2022), overweight is an adult who has a body mass index between 25.0 and < 30.

*Social determinants of health:* According to the CDC (2022), these are the conditions in which we live, learn, work, and play affect a wide range of health and quality-of-life risks and outcomes.

*Structural racism:* Refers to how society and its systems cause unfair inequities in access to power, resources, and opportunities for groups perceived as inferior in the context of White supremacy (Misra et al., 2022).

*Very low birth weight:* According to the CDC (2018), a baby born weighing less than 1500 grams or 3.3 pounds.

### **Assumptions**

An underlying study assumption is that prenatal care alone will lower the infant mortality rate. Literature on the factors associated with the infant mortality rate has shown that access to prenatal care, marital status, and education are strongly associated with positive birth outcomes (Loggins & Andrade, 2014). Evidence suggests that married women have more psychosocial support, which decreases exposure to health-eroding behaviors that contribute to infant death (Loggins & Andrade, 2014). Further, studies have found that educational attainment, along with inadequate prenatal care, is associated

with pregnancy outcomes and a higher risk of infant mortality (Loggins & Andrade, 2014).

An assumption is being made that retail pharmacists have practiced long enough to understand the impact they can have in their communities. Additionally, assumptions are being made that pharmacists are aware of Senate Bill 265 and understand infant mortality, the infant mortality rate in Ohio, and the benefits of prenatal care. Further, an assumption was made that the participants were fluent in English, highly educated, and answered the survey questions honestly. Finally, it was assumed that each participant had a sincere interest in participating in the study and held no other motives for participation.

### **Scope and Delimitations**

In this study, I addressed the research problem by exploring the behavioral beliefs and attitudes of retail pharmacists in Ohio to add prenatal care services if Ohio policy expands to include it as a billable service. This was completed by asking currently licensed Ohio retail pharmacists to complete an open-ended structure survey to explore their behavioral beliefs and attitudes toward their impact on the Ohio infant mortality rate by providing prenatal care as an offered and reimbursable service. This focus was chosen because I wanted to determine the intentions of pharmacists to offer prenatal care if the law were updated to expand reimbursable services for pharmacists further.

### **Limitations**

There are several study limitations. The first limitation pertains to open-ended questions and the use of structured questions. Open-ended questions can present data analysis challenges due to the typed response lengths from each question for each

interviewee. Additionally, responses may be discrete with defining words or phrases while others may be expansive and lack clarity. It can be difficult to sift through each response to determine patterns, linkages, and plausible explanations using inductive analysis while looking for competing themes. To address this, I chose to create open-ended structured questions in hopes of creating consistency among responses.

Three sampling limitations can arise within qualitative research designs: limitations associated with observing all possible situations, time-period limitations, and limitations in findings based on the people selected to interview (Patton, 1999). I conducted purposeful sampling to capture individuals' specific experiences to mitigate these study limitations. Purposeful sampling focuses on highlighting important cases rather than generalizing information to fit the population (Patton, 1999).

### **Significance of the Study**

A thorough understanding of pharmacists' behavioral beliefs and attitudes towards providing prenatal care as a reimbursed service will help inform public policy. It seeks to demonstrate whether prenatal care is worth adding to legislation as a reimbursed service. The knowledge of pharmacists' behavioral beliefs and attitudes toward providing prenatal care can further be explored by legislatures and/or government agencies in other states. The study's findings could also encourage more individuals to become pharmacists as their services will include more than dispensing medications. This, in turn, will further expand access to care. Additionally, this study will fill a gap in the literature. Currently, no studies exist that explore the behavioral beliefs and attitudes of pharmacists

toward expanding their services to include prenatal care and its possible benefits in lowering the infant mortality rate.

### **Significance to Practice**

The study will advance policy as it can expand Ohio Revised Code 1751.91 to include prenatal care as a reimbursed pharmacist-provided service. S.B. 265 added the following language to Ohio Revised Code 1751.91:

A health insuring corporation may provide payment or reimbursement to a pharmacist for providing a health care service to a patient if both of the following are the case: (A) The pharmacist provided the health care service to the patient in accordance with Chapter 4729. of the Revised Code, including any of the following services: (1) Managing drug therapy under a consult agreement with a physician pursuant to section 4729.39 of the Revised Code; (2) Administering immunizations in accordance with section 4729.41 of the Revised Code; (3) Administering drugs in accordance with section 4729.45 of the Revised Code. (B) The patient's individual or group health insuring corporation policy, contract, or agreement provides for payment or reimbursement of the service.

### **Significance to Social Change**

Holcomb and Pengetnze (2021) noted that public policy has continually been impacted by prenatal care as an intervention due to its improvement of maternal morbidity and neonatal outcomes. Using my study results, I aim to continue advocating for and expanding legislation and improving the health of mothers and infants by increasing access to care, which in turn supports positive social change.

I further provided for potential implications for positive social change by improving the infant mortality rate in Ohio through retail pharmacist practice, adoption, and expansion of current legislation to include prenatal care as a reimbursed service in retail pharmacies. Allowing pharmacists to be reimbursed for prenatal care services expands access to care by adding more providers who can offer reimbursable prenatal care services. This practice adoption can lead to nationwide policy modeling and legislative expansion focused on expanding professional roles to meet patient needs; therefore, helping to lower the health policy perspective of the burden of disease, disability, death, and dollars.

### **Summary and Transition**

Ohio was ranked 10th in the United States in 2020 for having one of the highest infant mortality rates at 6.7 infant deaths per 1,000 live births. Ohio surpassed California, Texas, and Florida, which have populations that are either double or more than double the population size of Ohio. The common cause of infant death is LBW and VLBW caused by PTB. It has been determined that there is a positive correlation between the lack of prenatal care and preterm birth, which leads to infant death. The Guttmacher Institute found that the lack of prenatal care is associated with a 40% increase in the risk of infant death within the first 27 days of the child's life. Adding prenatal care as a reimbursed service may incentivize pharmacists to provide the service, supporting lowering the infant mortality rate. Chapter 2 outlines the literature search strategy, theoretical foundation, conceptual framework, and literature review.

## Chapter 2: Literature Review

Infant mortality is the death of a child before reaching their first birthday, and the infant mortality rate is the number of deaths per 1,000 live births. The infant mortality rate is a crucial factor in determining a community's and society's health (CDC and Prevention, 2021). Some factors have contributed to the infant mortality rate. According to the CDC and Prevention (2010), the five leading causes of infant death in 2018 were birth defects, PTB and LBW, injuries, such as suffocation, sudden infant death syndrome, and maternal pregnancy complications. The overall birth rate in the United States declined annually from 2015 to 2018; however, during that same time, the overall rate of preterm birth rose annually, to 10.02% in 2018 (CDC, 2019).

In 2016, the White infant mortality rate was 5.8% and the Black infant mortality rate was 15.2% in Ohio (Franklin County Public Health, 2021). Therefore, for every 1,000 live births, five White babies died, and for every 1,000 live births, 15 Black babies died. The United Health Foundation (2016 as cited in Swoboda et al., 2018) found that in 2015, Ohio had the sixth highest infant mortality rate in the United States. While the White infant mortality rate continues to see a decline, averaging 5.1 infant deaths per 1,000 live births in 2019, the Black infant mortality rate has shown an increase, averaging 14.3 infant deaths per 1,000 live births. Thus, the problem is the continued rate at which Black babies are dying in the state of Ohio. There is a problem among Black women living in Ohio. Despite programs created within the community to address the problem, such as the Ohio Infant Mortality Reduction Initiative and Celebrate One, the infant mortality rate among Black women continues to persist, and the disparity between White

women and Black women remains. This problem has negatively impacted Black women because Black babies continue to die at disproportionate rates. The possible cause of this problem is access to prenatal care.

Researchers examined a variety of factors that contributed to the infant mortality rate among Black women. It has been determined that a common cause of infant death among Black women is LBW and VLBW, which is associated with PTB. LBW is a child born weighing less than 2500 grams (5.5 lbs.). Additionally, VLBW is a child born weighing less than 1500 grams (3.3 lbs.). PTB has risen more than 20% since 1990, in the United States (Matoba & Collins, 2017). PTB occurs when a child is born before reaching 37 weeks of gestation. Consequently, preterm birth has been linked to LBW and VLBW (Matoba & Collins, 2017). PTB weights for Black women are higher than for White women, which has been determined to be one of the main causes of the infant mortality disparity (MacDorman, 2011, as cited in Swoboda et al., 2018). Approximately 1% of births occurring at a VLBW account for nearly two-thirds of the racial gap (Matoba & Collins, 2017). Researchers have been working to determine common causes that contribute to PTB.

It has been determined that prenatal care initiated early in pregnancy, before month four, can decrease the risk of preterm birth for ethnic groups (Thurston et al., 2021). Additionally, the Guttmacher Institute stated that the lack of prenatal care is associated with a 40% increase in the risk of infant death within the first 27 days of the child's life. Therefore, increasing access to prenatal care can aid in decreasing the infant mortality rate among Black women. In this study, I explored the implementation of Ohio

Senate Bill 265 and its effect on decreasing the infant mortality rate in Ohio by adding prenatal care as a reimbursed service offered by pharmacists.

Ohio implemented Ohio Senate Bill 265 on January 4, 2019, and it became effective on April 5, 2019. Ohio Senate Bill 265 expands access to care by designating pharmacists as healthcare providers, creating new billing options, and opening the door for those within the profession to be reimbursed for more services. At this time, prenatal care is not listed as a reimbursed service, but this study will explore Ohio Pharmacists' attitudes and behavior towards adding prenatal care as a reimbursed service. The purpose of this generic qualitative inquiry was to explore pharmacists' behavioral beliefs and attitudes toward providing prenatal care as a reimbursed service. This chapter discusses the literature search strategy, theoretical foundation, conceptual framework, literature review, and summary and conclusions.

### **Literature Search Strategy**

The literature that I used for this study is from the Centers for Disease Control (CDC), the Ohio Department of Health (ODH), the United States Department of Human and Health Services (HHS), the World Health Organization (WHO), Google Scholar, SAGE Journals, the British Psychological Society, and ProQuest. I also reviewed and cross-referenced articles. The keywords and phrases I searched in Google Scholar, Sage Journals, and ProQuest include *infant mortality*, *Black and White infant deaths*, *infant death*, *infant mortality rate*, *prenatal care*, *Black mothers*, *White mothers*, *Black*, *White*, *infant mortality programs*, *pharmacists as providers*, *reimbursed pharmacy services*, *Ohio*, *causes of infant death*, *progesterone*, *clinical pharmacists*, *policy*, *access to care*,

*health outcomes, low birth weight, very low birth weight, pharmacists perceptions, access to care improve health outcomes, access to care effects on health outcomes, Ohio Senate Bill 265, theory of planned behavior, the theory of reasoned action, and preterm birth.* I reviewed literature written from 2016 to 2022.

### **Theoretical Foundation**

Considering the strong influence of theory on study design, I chose Ajzen's theory of planned behavior (TPB) as a theoretical framework for this study. Developed in the 1980s, the TPB was an extension of the theory of reasoned action (TRA), initially established by Ajzen and Fishbein in the 1970s. The Encyclopedia of Personality and Individual Differences outlines that the TPB is used to understand and predict actions. It postulates that behaviors are determined by behavioral intentions and, under certain circumstances, perceived behavioral control. TPB suggests that behavioral intentions are determined by a combination of three factors: attitudes toward the behavior, subjective norms, and perceived behavioral control. Boslaugh (2022) states that the TPB proposes that behavioral beliefs directly influence attitudes or the negative/positive values an individual has towards a particular behavior. Individual attitudes toward behavior are characterized by personal beliefs about a particular action or activity and the expectations regarding its effects (Zielińska-Tomczak et al., 2021).

Xing et al. (2021) used TPB to explore the factors that affect the implementation of advanced care planning by community health workers in mainland China. Using a phenomenological methodology, they explored the perceptions of community health workers on values related to advanced care planning and their willingness to implement it

for patients. Xing et al. created an interview question guide based on behavioral, normative, and control beliefs, each a TPB construct domain. They interviewed 13 community health workers, distributed as seven nurses and six doctors, each lasting approximately 40 minutes. The transcribed interviews were analyzed and categorized using a combination of the TPB constructs of behavioral beliefs, normative beliefs, and control beliefs.

Xing et al.'s (2021) thematic analysis of the interviews revealed three themes of behavioral beliefs and normative beliefs of community health workers, as well as control beliefs of the patient on the implementation of advance care planning. They determined that most community health workers had a supportive attitude towards implementing advance care planning. They were able to identify themes within the community health workers' responses that supported advance care planning: (a) relieve the suffering of patients and respect their medical autonomy; (b) relieve the economic and psychological burden on family members; and (c) promote the development of community palliative care. Xing et al. also determined that some community health workers believe that implementing advanced care planning will lead to doctor-patient disputes and medical risks. The results showed that Chinese community health workers have a positive attitude towards advance care planning; however, their action level needs improvement.

I chose TPB as the theoretical framework for this study because it proposes that you can predict one's intentions and behavior. I examined pharmacists' behavioral beliefs and attitudes towards offering prenatal care as a service, and if reimbursed for the service, their intention to offer the service in their local pharmacy. TPB enabled me to determine

if pharmacists will participate in providing prenatal care, which in turn can aid in lowering the infant mortality rate in Ohio. Additionally, the research question for my study relates to TPB because it is centered around exploring pharmacists' behavioral beliefs and attitudes towards offering prenatal care as a reimbursed service. TPB assumes that an individual's intentions are directly influenced by their behavior and are determined by attitudes, subjective norms, and perceived behavioral control (Zielińska-Tomczak et al., 2021). The key component of this model is behavioral intent:

Behavioral intentions are influenced by the attitudes about the likelihood that the behavior will have the expected outcome and the subjective evaluation of the risks and benefits of that outcome. The TPB has been used successfully to predict and explain a wide range of health behaviors and intentions including smoking, drinking, health services utilization, breastfeeding, and substance use, among others. The TPB states that behavioral achievement depends on both motivation (intention) and ability (behavioral control). It distinguishes between three types of beliefs - behavioral, normative, and control. The TPB is comprised of six constructs that collectively represent a person's actual control over the behavior. (LaMorte, 2019, para. 2)

TPB distinguishes between three types of beliefs: behavioral, normative, and control (LaMorte, 2019). Behavioral belief assumes an individual's behavior is the link between their behavior and the outcome that the behavior is expected to produce (Luenendonk, 2019). If the outcome is favorable, then it is likely that he or she will have

a positive attitude toward the behavior, increasing the likelihood of performance (Luenendonk, 2019). The second belief type is normative.

Normative beliefs involve the key people around an individual and the importance that is placed on the thoughts or opinions of these key people towards the individual (Luenendonk, 2019). It is believed that the opinions of others influence the behavior of individuals and play a role in the likelihood of a behavior being performed. Lastly, the final belief type is control.

Control beliefs are those factors that will have an impact on how the performance of a behavioral action will go (Luenendonk, 2019). For example, if policies state that one must complete a specific task, this task may influence an individual's thoughts towards the ability to provide services. Six constructs further outline TPB.

LaMorte (2019) used six constructs to outline TPB: attitudes, behavioral intention, subjective norms, social norms, perceived power, and perceived behavioral control. Attitudes refer to the consideration of the outcomes if the behavior is performed. Behavioral intention refers to the strong intention to perform the behavior; the behavior will likely be performed. Subjective norms refer to the belief about what others think about the performance of the behavior. Social norms refer to cultural norms. Perceived power refers to the factors that may hinder performance and one's ability to control those factors. Finally, perceived behavioral control refers to one's belief of the level of difficulty that is present in the performance of the behavior.

According to Zielińska-Tomeczak et al. (2021), the use of TPB in understanding and predicting the professional behaviors of healthcare professionals has been examined,

including studies on pharmacists using both quantitative and qualitative methodology. For this reason, this study seeks to explore pharmacists' attitudes and behavioral intentions in providing prenatal care to assist in lowering the infant mortality rate in Ohio. The study evaluated pharmacists' behavioral beliefs and attitudes towards offering prenatal care and being paid for the service.

## **Literature Review**

### **Structural Racism**

Chambers et al. (2019) examined if local measures of racial and economic segregation were associated with the infant mortality rate and preterm birth among Black women residing in California. This was done by using the Index of Concentration (ICE). The ICE was used to quantify privileged and deprived groups by ZIP code. ICE scores range from -1 (deprived) to 1 (privileged). The ICE measures spatial social polarization by quantifying extremes of deprived and privileged social groups using a single metric. Bivariate analysis revealed that across all Index of Concentration measures, residing in the least privileged income, race, and race + low-income areas significantly increased the odds of women experiencing an infant death. It was determined that women residing in the least privileged ZIP codes were significantly more likely to experience preterm birth and infant mortality (95% CIs [1.31 = 1.72– 1.46] and [1.70 = 1.17–2.47]). In other words, the authors determined that living in highly deprived neighborhoods is associated with Preterm Birth and Infant Mortality among Black women and their offspring.

This study supports my research because the authors reviewed the effects that income privilege, race, and race plus income privilege have on the infant mortality rate.

Chambers et al. (2019) were able to pinpoint that the lack of resources within a community negatively influences infant mortality and preterm birth among Blacks and Whites. The authors examined this on a community level by reviewing these areas based on ZIP codes.

### **Social Environments, Genetics, and Black-White Disparities**

El-Sayed et al. (2015) examined the differences in birth outcomes among racially dissonant and consonant couples over time. More specifically, the authors conducted a quantitative study to review the infant mortality results over a period of time for couples that were both Black, both White or one White and one Black (either father or mother). The authors compared genetic and environmental disparities between couples in Michigan. They reviewed over 1.2 million singleton births between 1989 and 2006. El-Sayed et al. found that among interracial couples, the risk of infant mortality decreased with time relative to White couples, while the risk of infant mortality among Black couples increased with time.

El-Sayed et al. findings are pertinent to my study as they detail the effects of having a child with both Black parents, both White parents, or either one White or one Black parent. It provides statistics on the impact the maternal and paternal parent have on the mortality of their infant. The study reviewed factors outside of health and social determinants, providing another potential cause of the increased mortality rate among Black babies.

## **Socioeconomic Status**

Kothari et al. (2017) examined the differences between the infant mortality rate among Black women and the infant mortality rate among women who are poor in Kalamazoo County, Michigan. The infant mortality rate was measured against non-Hispanic White women who were 20+ years of age with over 13+ years of education in the same area. The authors determined that vaginal bleeding, premature rupture of membranes, history of preterm delivery, and the lack of prenatal care significantly predicted preterm birth when controlling for poverty. Additionally, it was determined that higher socioeconomic status did little to mitigate the risk of maternal preconception and prenatal factors which contributed the greatest risk to Black infants.

As a result of the analysis, the authors found that Black women had a higher infant mortality rate far above that which is attributed to poverty alone. The infant mortality rate for Black Medicaid-insured infants was 17 per 1,000 live births while the rate for White infants was 6 per 1,000 live births. Additionally, the infant mortality rate for non-Medicaid insured Black infants was 19 per 1,000 live births, while the rate for White infants was 2 per 1,000 live births.

To conduct the analysis, the authors used The Perinatal Periods of Risk (PPOR) analysis. The PPOR was used to differentiate broad areas of risk such as being Black and poor. They pulled data from the Michigan Department of Community Health, Division of Vital Records and Health to investigate more intently into the infant deaths in Kalamazoo County, Michigan. The study results suggested that there are factors that contribute to the Black infant mortality rate that are not related to poverty, which includes maternal health

and the lack of prenatal care. Further, the authors examined the infant mortality rate among Black women and causes not solely associated with socioeconomic status. The authors uncovered that the lack of prenatal care is a contributing factor to the infant mortality rate in Michigan.

### **Community Health Programs**

Kruger et al. (2015) reviewed the effectiveness of the Genesee County Racial and Ethnic Approaches to Community Health Program (REACH), which is a Community-Based Public Health program created to reduce the African American infant mortality rates by hosting the Undoing Racism Workshops (URW). The CDC and Prevention's REACH program is a national initiative to eliminate racial and ethnic health disparities through community-based programs. The goals of the URW include (a) knowledge of African American history, (b) understanding of racism and institutional racism, (c) how issues related to race/ethnicity can affect health, and (d) specific actions participants could take to help to reduce the impact of issues related to race/ethnicity on the health of African American mothers and their infants (Kruger et al., 2015). The Genesee County REACH coalition holds that institutionalized racism is a part of the fabric of America and acts as an environmental stressor, affecting the mental and physical health of women who are exposed to unfair practices (Kruger et al., 2015).

The authors conducted a qualitative study by having participants complete a preassessment and post-assessment form. As a result of the surveys the authors determined that URWs promoted understanding of racism and institutional racism, improvement in interaction with community residents, and deeper conversations

generated among participants about racism, however, the workshops were less effective in addressing racism as it relates to maternal and infant health.

To address infant mortality, Swoboda et al. (2018) examined infant mortality for women who were a part of the Ohio Infant Mortality Reduction Initiative (OIMRI) to women who were not. They studied the infant mortality rate for 14 counties in Ohio. They aimed to see if there was a change in the infant mortality rate for those who were a part of the program. This program involved the use of home visitations as a tool to reduce the infant mortality rate in Ohio. The Ohio Department of Health partnered with a third-party evaluator to analyze the OIMRI. The Ohio Department of Health provided data to the third party to evaluate. More specifically, they examined the impact of OIMRI on the infant mortality rate, low birth weight, and very low birth weight.

The results of the study showed that there was no statistical significance in the infant mortality rate of those enrolled in OIMRI and those who were not. Women in the OIMRI program were matched using a propensity score methodology to women who were not a part of the program. The OIMRI participants and non-participants had an infant mortality rate of 0.5% (5 per 1,000 live births) to 0.8% (8 per 1,000 live births). This study provided information on the effectiveness of Ohio-based infant mortality prevention programs. It gives insight into methods used to address the infant mortality rate in Ohio and their impact.

### **Obesity and Other Factors Affecting IMR**

Lemon et al. (2016) examined obesity as a potential cause for the Black and White disparity among the infant mortality rate and stillbirths. The objective was to

assess the link that maternal pre-pregnancy obesity had on the Black-White disparity in infant mortality and stillbirth in Pennsylvania. Lemon et al. found Black mothers experienced 11.1 deaths per 1,000 live births; twice as high as White mothers who experienced 5.1 deaths per 1,000 births. Additionally, non-Hispanic Black mothers are two times more likely to experience stillbirth than non-Hispanic White mothers. In 2013, the stillborn rate for non-Hispanic White mothers was 4.9 per 1000 live births while the stillborn rate for non-Hispanic Black mothers was 10.5 per 1000 live births. Little was known about what caused the differences in numbers between the two groups.

Lemon et al. hypothesized obesity as a potential cause and found strong evidence suggesting a link between pre-pregnancy obesity and adverse infant outcomes including infant mortality and stillbirth. To examine this further, Lemon et al. (2016) conducted a quantitative study to examine Black and White maternal obesity and its potential relationship with stillbirth and infant mortality. They found that approximately 10% of stillbirth and infant mortality was related to disparities in maternal race. Lemon et al.'s study provides insight into how poor health impacts the infant mortality rate.

Ratnasiri et al. (2020) examined maternal and infant predictors of infant mortality in California. These predictors consisted of sociodemographic and economic status, maternal perinatal smoking and obesity, mode of delivery, and infant birthweight and gestational age. They conducted a retrospective study for 9 years that analyzed birth and infant death files alongside the Birth Statistical Master Files compiled by the California Department of Public Health.

They determined that there were significant disparities in the infant mortality rate when analyzing different population groups. It was revealed that Black women had twice the risk of infant mortality as compared to White women. Additionally, they found that infants of women with bachelor's degrees or higher were 89% less likely to die. Further, infants of mothers who smoked were 75% more likely to die. Moreover, infants of mothers who were overweight and obese accounted for 55% of the infant mortality rate (Ratnasiri et al., 2020).

Ratnasiri et al. (2020) determined that not all disparities could be addressed by direct medical care alone. However, the major factors affecting the infant mortality rate were infant birthweight and gestational age, both able to be addressed by access to medical services. The study revealed that social and public health interventions that address sociodemographic and economic risks will provide the greatest impact on lowering the infant mortality rate. Further, the study revealed that pre-pregnancy obesity and smoking during pregnancy continue to contribute significantly to the infant mortality rate.

### **Social Determinants of Health**

To further understand the racial disparity between the infant mortality rate for Black women and White women, Matoba and Collins (2017) examined factors that go beyond the typically studied health issues, such as low birth weight, very low birth weight, and other health abnormalities, and focused instead on social issues of racism and the effects it has on the infant mortality rate among Black women. Using a life-course conceptual model to explain the differences between Black and White women's

pregnancy outcomes in the United States, they found that infant mortality among Black women is affected by social determinants at the community level. The social determinants consist of residential segregation, racism in the health care system, and pervasive poverty. Matoba and Collins concluded that the infant mortality rates increased for Black women who continuously lived in poverty.

Community factors, such as poverty and violent crime were also strongly associated with perinatal outcomes. Ahern et al. (as cited in Matoba & Collins, 2017) discussed that Black women have been disproportionately exposed to urban poverty, a well-established risk for adverse birth outcomes even when controlling for maternal smoking. They also concluded that neighborhood unemployment was significantly associated with an increased risk of preterm delivery. Furthermore, the role of racism in health disparities exposed the need for public health interventions to combat the environmental, economic, and cultural stressors specific to Black people.

Reno and Hyder (2018) also examined CDC-defined social determinants of health (conditions in which we live, learn, work, and play) as a contribution to the infant mortality rate among Black women. Their research sought to demonstrate a direct link by examining current qualitative and mix-method studies that linked social determinants to the increased infant mortality rate. To explore the evidence supporting a relationship between social determinants of health and infant mortality, they employed a systematic scoping review method to explore published literature to synthesize findings specific to key concepts and information gaps. Specifically, their synthesis explored the correlation between each identified social determinant of health and infant mortality. The articles

reviewed were broken up into 29 different categories. These categories ranged from maternal age, maternal smoking, pollution, education level, safe sleep, prenatal care, child abuse, and drug use.

The results showed a published study overrepresentation focused on individual and policy-level variables. The individual variable level included breastfeeding and its positive effect in lowering the odds of sudden infant death syndrome. Additionally, education was found to be another protective factor that decreased the infant mortality rate (Reno & Hyder, 2018). The individual level also included child abuse, which showed no direct link to the infant mortality rate. Adversely, drug use was directly linked to infant death. A change in employment, also a part of the individual level, showed an increase in the probability of experiencing infant death. On the other hand, Reno and Hyder (2018) determined that the gaining of employment after unemployment showed a statistically significant reduction in infant death. Maternal poverty, health, age, smoking, and weight were all found to be associated with infant mortality (Reno & Hyder, 2018).

The policy level included studies on economic contraction, which can be demonstrated by state unemployment rates. Reno and Hyder (2018) determined that the unemployment rate in California was significantly associated with sudden infant death syndrome and incarceration rates, income inequality, and pollution all demonstrating a positive correlation with the infant mortality rates. Additionally, the U.S. increase in state Medicaid spending was also associated with a reduction in the infant mortality rate among Black women.

### **Lived Experiences of Black Women**

Wallace et al. (2017) examined the infant mortality rate in the United States. More specifically, they detailed the infant mortality rate of non-Hispanic (NH) Black women as compared to non-Hispanic (NH) White women. The researchers discussed possible causal factors such as preterm birth but further explained that because this is not an all-encompassing answer much more research must be done to explore other potential causes. With a focus on oppression, the authors examined cultural, social, and political perspectives to include systems of inequality and lack of resources. Further, the authors chose to add Black women's voices to the sparse literature on the social determinants of Black infant mortality and to identify factors associated with racial inequities by conducting interviews with NH Black women who have experienced infant loss.

Using a mixed methods approach, Wallace et al. (2017) also examined the infant mortality rate among major metropolitan cities as provided by the National Center for Health Statistics. The National Center for Health Statistics provided annual linked birth/infant death files which included geographic identifiers.

The authors concluded that achieving birth equity requires addressing racial and social inequities jointly and consistently. They point out how medical and health research has failed to explain the disparity between NH Black women and NH White women. The authors suggested that implementing universal interventions that target better health and well-being for the entire population—may effectively reduce the infant mortality rate, while first addressing the causes of racial inequities in health. Their findings suggest that eliminating racial disparities in infant mortality will require improving access to care.

## **Prenatal Care**

Prenatal care can aid in supporting both a healthy mother and a healthy baby (Owen, 2022). Mothers who do not receive prenatal care until the end of their pregnancies put themselves at risk for delivering an unhealthy baby (Owens, 2022). The services provided during prenatal care are based on how far along a mother is in her pregnancy.

Pregnancies are divided into 3 trimesters. Weeks 1 to 17 make up the first trimester. Weeks 18 to 30 make up the second trimester and week 31 to the end of the pregnancy makes up the third trimester. During the mid to later first trimester, the prenatal care visit consists of conducting a family history, calculating the estimated date of confinement (EDC; due date), assessing baseline physiological parameters (blood pressure, weight, baseline blood chemistry, & complete blood count), screening for other acute or chronic medical conditions such as diabetes mellitus, thyroid issues, anemia, sexually transmitted infections, genetic abnormalities, depression, anxiety, and other psychiatric disorders (Owens, 2022). During the first trimester mothers routinely see their physician once per month.

During the second trimester, the prenatal care visits consist of examining the mother's weight and blood pressure, listening to the heartbeat of the baby, monitoring the growth of the baby, and testing the mother for diabetes (Owens, 2022). According to the CDC, gestational diabetes occurs in 2% to 10% of pregnancies annually across the United States. If this condition is left untreated it can create pregnancy-related health emergencies for both the mother and baby (Owens, 2022).

During the third trimester, the physicians' visits increase to at least twice monthly increasing to weekly as the EDC approaches. During the final months of pregnancy, the physician will monitor the health of the mother and baby more closely to include the mother's urine for protein spillage, an indicator sign for pre-eclampsia or eclampsia, fetal heart sounds, fetal position, and fetal movement (Owens, 2022). Additionally, the uterine fundus is measured, the mother's legs are checked for swelling and reflexes, which can be a clinical sign of eclamptic conditions, the position of the cervix is checked, and vaginal swabbing for common bacterium or group B streptococcus both of which can be harmless to the mother but cause fetal illness at birth (Owens, 2022).

Pregnant women who do not attend regular prenatal care visits are 3 times more likely to have a child with a low birth weight (Owens, 2022). Continually, according to the US Department of Health and Human Services' Office on Women's Health, babies of mothers who do not receive prenatal care are 5 times more likely to die. Prenatal care is typically centered around the nutritional, physical, and emotional needs of a mother during her pregnancy in the hopes of a successful pregnancy and safe delivery (Owens, 2022).

Mallinson et al. (2020) examined the effects of Wisconsin's Prenatal Care Coordination (PNCC) program utilization on the outcomes of infant birthweight, low birthweight (LBW), gestational age, and preterm birth between 2008-2012. The PNCC's program purpose was to connect women who received Medicaid to medical, educational, and social services to improve maternal and infant mortality. Participating women could receive services ranging from nutrition counseling, tobacco cessation, psychosocial

therapy, and general health education. The authors found that pregnant women receiving PNCC program services decreased their risks of LBW and preterm birth, increased birthweight, and lengthened gestational age. These findings supported their hypothesis that the use of PNCC's program services is linked to program benefits and determined that Wisconsin's PNCC program may have prevented LBW and preterm birth for mothers who used services beyond care planning. These findings were then compared to similar program studies in Iowa, North Carolina, and Michigan and they found a direct link between care coordination and decrease in preterm birth and LBW across these state-level programs. These findings are beneficial to informing Medicaid policy generation focused on maternal program outreach and intervention implementation.

Thurston et al. (2021) also examined the effectiveness of early and adequate prenatal care in reducing racial disparities in preterm birth among low-income women. They pointed out that 67% of Black mothers receive prenatal care in the first trimester, compared to 83% of White mothers (Martin et al., 2019). The study looked at Sacramento County, California, and its efforts to reduce preterm birth and low birth weight through the county's Comprehensive Perinatal Services Program (CPSP). The federally and state-funded program aimed to promote early and continuous prenatal care, decrease incidences of LBW infants, and address several health-related outcomes. Providers involved in the program offered prenatal care services, which included care coordination. Study conclusions illustrated that early prenatal care significantly decreased the risk of preterm birth for all racial/ethnic subgroups; however, no evidence was found

that early and adequate prenatal care for Black women reduced preterm birth rates in Black women versus preterm birth rates in White women.

### **Healthcare Policy and Pharmacists**

Salgado et al. (2020) looked at healthcare policy and its impact on healthcare reform specific to physicians and the Affordable Care Act and how physicians can be used to improve health outcomes. Salgado et al. (2020) also looked at the demand to expand pharmacists' roles and the growing need for specialty-trained pharmacists to work in health care systems and clinics, while the demand for traditional community-based pharmacists dwindles.

With the passing of the Affordable Care Act, many states are working to improve primary care through patient-centered coordination. An approach created to further this objective was patient-centered medical homes (PCMH). PCMH facilitates partnerships between patients, their families, and their providers. PCMH provides comprehensive care by a multidisciplinary team, it is patient-centered, provides care coordination and integration across many systems including home health care, hospitals, specialty care and community services, and transitions of care, it offers services to address urgent needs, and it engages in continuous performance measurement. Another demonstrated approach to improving healthcare outcomes was through the creation of accountable care organizations (ACOs).

ACOs consist of groups of providers that work together to provide care for an individual. They share the cost and responsibility for providing quality care services to Medicare recipients. ACOs receive reimbursement using the fee-for-service model and

are eligible for the Centers for Medicare and Medicaid Services (CMS) shared savings program that focuses on patient outcomes. Both PCMHs and ACOs focus on the whole person and providing end-to-end patient care.

The Social Security Act of 1965 failed to define pharmacists as healthcare providers, which limited their opportunities to receive reimbursement from public, private, or commercial payers for offering other services outside of dispensing medication. As such, a U.S.-based pharmacy's primary business model is focused on dispensing prescription medications. According to Salgado et al. (2020), approximately 3.8 billion prescriptions were dispensed in the United States in 2019 generating a record \$446 billion in revenue. Across 45 states, 2,700 pharmacies generated income from offering clinical services (Salgado et al., 2020). Changing federal policy to recognize pharmacists as healthcare providers would allow them access to existing fee-for-service health insurance billing codes specific to non-dispensing services. This federal policy change would create an expanded delivery model that encourages pharmacists to provide clinical services in addition to dispensing medications.

With funding from a 3-year grant from CMS, a community pharmacy program known as the Community Pharmacy Enhanced Services Network (CPESN) was created because of the expansion of the program Community Care of North Carolina in 2014. CPESN is a clinically integrated network of community pharmacies that provides a structure for pharmacists to provide primary care. This model has spread across the United States into 44 other states where community pharmacies offer enhanced services to high-risk patients (Salgado et al., 2020). Some of the services offered by pharmacists

in the network are medication reconciliation, medication synchronization, immunizations, comprehensive medication reviews, face-to-face access to a pharmacist, creating a comprehensive medication list, 24-hour emergency services, collection of vital signs, home delivery/home visits, tobacco cessation program, durable medical equipment, point-of-care testing, long-acting injections, naloxone dispensing, nutritional counseling, and specialty medication compounding. These clinical services allow pharmacists to provide end-to-end patient-centered care within specific clinical diagnosis spectrums, once primary and secondary diagnoses are determined by physicians or other advance care practitioners (Salgado et al., 2020).

Truong et al. (2019) examined the feasibility of community pharmacists' availability to counsel women in early pregnancy in Norway. The study's purpose was to test the feasibility of pharmacists' consultation in early pregnancy. The test was done by distributing questionnaires to participants. The study had a total of 35 pregnant participants who had a median gestation stage at recruitment of 9 weeks. Most of the pregnant participants had experienced a pregnancy-related ailment.

Truong et al. (2019) noted that 60-80% of pregnant women take at least one medication during pregnancy and have questions concerning safety. Studies have shown that pregnant women overestimate risk when taking medications and resort to stopping medications and/or using natural medications, which in turn highlights the need to address these concerns to ensure maternal and fetal health (Petersen et al., 2015).

Truong et al. (2019) also noted that a patient-centered approach is growing, and pregnant women have expressed that they are not receiving adequate counseling from

their healthcare providers and in turn seek information from the internet. Truong et al. (2019) further noted that in many countries there is a gap in antenatal care from conception until the first consultation at the end of the first 3 months of pregnancy. Consequently, community pharmacists have been described to have played a significant role in providing medication counseling to pregnant women due to their accessibility. Truong et al. (2019) also noted that pregnant women consider pharmacists a trusted source.

After reviewing the results of the satisfaction forms, the authors determined that the women found the consultation helpful and would recommend it to others. The women in the study also pointed out that they found the consultations helpful because they were tailored to fit their needs. Additionally, each consultation averaged about 15 minutes per session, which seemed reasonable. Truong et al. (2019) noted that the consultations ran about 15 minutes, which was in line with other patient-centered pharmacy services. The study revealed that pharmacist's intervention in early pregnancy is achievable.

Alkoudmani et al. (2021) examined the acceptance of pharmacists' extended roles by other healthcare providers in the Arab region. They discussed how the roles of pharmacists have changed from product-oriented to patient-centered. The historical landscape of pharmacists consisted of them being under the supervision of physicians who took the sole responsibility of dealing with patient care. Alkoudmani et al. pointed out that other studies have shown the positive impact pharmacists are now having on patient outcomes. Additionally, Alkoudmani et al. noted that the American College of Clinical Pharmacy (ACCP) pinpointed that clinical pharmacy is applying the philosophy

of pharmaceutical care by utilizing pharmacist's skills and knowledge of drugs to provide patient care that optimizes medication therapy, disease prevention, wellness, and promotes overall health.

Alkoudmani et al. (2021) discussed many studies that were done to assess the perceptions of pharmacists' extended roles. Studies conducted in Sudan, UAE, Kuwait, Lebanon, and Saudi Arabia believed that pharmacists are an integral part of the clinical team and only providing medication consultation is underutilizing what they have to offer. However, in Egypt, physicians were less comfortable with pharmacists providing direct care. The majority view was that pharmacists are an essential part of the team.

McNamara et al. (2020) evaluated the perceptions of providers of clinical pharmacists' services in the primary care setting. Many studies like this have been done in other countries but not many in the United States. Therefore, the authors surveyed primary care providers and their perceptions of clinical pharmacist services and pharmacists to assess their impressions of their services provided in primary care settings.

McNamara et al. (2020) noted that medication management conducted by pharmacists has consistently shown to improve medication adherence and chronic disease outcomes based on evidence from the Veterans Affairs Health Care System and Kaiser Permanente. National organizations have recognized the need to include clinical pharmacists in the care of patients because their participation has improved health outcomes. Pharmacists are beginning to be recognized by health insurance companies as providers, and in 2013 the California Board of Pharmacy established a class of advanced practice pharmacists who work independently under Collaborative Practice Agreements.

The study's survey data illustrated that for providers medication management was the most important service that pharmacists provided (McNamara et al., 2020). They also found that primary reasons for pharmacist referrals included inadequately controlled chronic diseases, poor or questionable adherence, longer visits for more in-depth discussion, and complex regimens requiring frequent monitoring or titration (McNamara et al., 2020). Through the surveys, the providers revealed the time constraints encountered when working to deliver patient care. The results of the survey were consistent with the national estimate that physicians would require an estimated 10.6 hours per day to follow-up and properly manage chronic diseases (McNamara et al., 2020). Additionally, McNamara et al. (2020) noted that pharmacists can help manage providers' workload by providing medication expertise to effectively improve chronic disease clinical outcomes. McNamara et al. (2020) found that the pharmacist survey responses closely aligned with the provider survey on referral reasons, contributions, and preferences. After the study, McNamara et al. (2020) noted that pharmacists have the skills as clinicians, educators, and patient care advocates to provide medication management, treat chronic conditions, provide useful drug information, and support transitions of care.

### **Summary and Conclusions**

A common cause of infant death among Black women is LBW and very low VLBW pregnancies are associated with PTB. In the United States, PTB has risen more than 20% since 1990 (Matoba & Collins, 2017). Much research has been conducted to analyze potential PTB causes including examining the effects of maternal obesity and

morbid obesity, maternal smoking habits, familial relationships, employment status, access to health care, lack of prenatal care, geographical location, and access to and use of government assistance. With all the current research there has been no one thing that has been determined to be the sole cause of a high infant mortality rate among Black women. However, it has been determined that there is a positive correlation between the lack of prenatal care and preterm birth, which leads to infant death. The Guttmacher Institute provided that the lack of prenatal care is associated with a 40% increase in the risk of infant death within the first 27 days of the child's life.

No research has been conducted to explore the role that pharmacists can play in improving the infant mortality rate by offering prenatal care. With the passage of Ohio Bill 265, adding prenatal care as a reimbursed service for pharmacists is a viable option to improve outcomes. Community-based pharmacists are the most accessible healthcare professionals (Shariff et al., 2021). Therefore, their assistance in providing prenatal care within their local pharmacy can potentially aid in improving the overall infant mortality rate in Ohio as well as the infant mortality rate among Black women by lowering preterm birth risk. In Chapter 3, I outline the research design, methodology, and instrumentation, including a discussion of trustworthiness and research ethics.

### Chapter 3: Research Method

The purpose of this generic qualitative inquiry was to explore pharmacists' behavioral beliefs and attitudes toward providing prenatal care as a reimbursed service in Ohio. A common cause of infant death among Black women is LBW and VLBW, which is associated with PTB. Therefore, examining pharmacists' behavioral beliefs and attitudes to adopt prenatal care as a billable service will demonstrate whether their focus is to provide the service, which may contribute to lowering preterm birth, thus positively impacting the Black infant mortality rate, or continuing to focus on the traditional practice and production metric of prescription only.

In this chapter, I discuss the research design and why it was chosen to complete the study. Further, I described the methodology and the instrumentation I selected to support it. Finally, I detailed issues of ethics, trustworthiness, and the chosen methods to reinforce a credible study.

#### **Research Design and Rationale**

I used generic qualitative inquiry to answer the following research question: With the implementation of Ohio Senate Bill 265 expanding access to care by designating pharmacists as healthcare providers, what behavioral beliefs and attitudes toward offering prenatal care as a reimbursed service influence pharmacists' intention to positively impact the infant mortality rate in Ohio?

I used generic qualitative inquiry to explore the behavioral beliefs and attitudes of pharmacists toward providing prenatal care as a service. Generic qualitative inquiry investigates people's subjective opinions, attitudes, beliefs, and experiences and how they

see the world (Percy et al., 2015). This approach often uses data collection methods, such as structured and semistructured interviews, that draw on people's accounts of things around them (Percy et al., 2015). Generic qualitative data allows researchers to gain a broad range of opinions by collecting information from a representative sample of people about real-world events and their experiences (Percy et al., 2015).

Percy et al. (2015) offered that other qualitative approaches would not be effective in determining study participants' behavioral beliefs and attitudes. Ethnography investigates social groupings and culture, case study focuses on single or multiple cases requiring multiple data streams, grounded theory focuses on using data to develop a theory, and phenomenology investigates lived experiences of psychological phenomena that have not been experienced by my anticipated retail pharmacist participants thus far.

### **Role of the Researcher**

Data collection using general qualitative inquiry focuses on real situations and uses unstructured data collection methods (Percy et al., 2015). Furthermore, the focus is external, not internal, and psychological; therefore, it requires semi or fully structured interviews, questions, or surveys (Percy et al., 2015). Generic qualitative inquiry examines people's opinions, attitudes, and beliefs, and reflects on their experiences (Percy et al., 2015). In this study, I was the interviewer and asked questions to gain an in-depth understanding of participants' experiences. I had no prior relationship with the participants. As the interviewer, I must maintain an objective perspective to review the data gathered, which I accomplished using thematic analysis. Further, as the researcher and interviewer, it was my job to protect the identity of participants and safeguard what

was shared, which was completed by removing all first and last names from the data sets and assigning pseudonyms to the participants. Additionally, all electronic data were stored in a password-protected primary and redundant source file, and all paper documents were securely filed and are only accessible by me.

There are potential biases that I hold as an American of African descent who has encountered barriers in the system. I understand the issues facing Americans of African descent in my community. Additionally, I have been pregnant and experienced a miscarriage. This experience informed my background and gave me a broader understanding of the need for adequate and early prenatal care; however, I used member checking to ensure objective interpretation of findings.

## **Methodology**

### **Participant Selection Logic**

Participants were recruited through the State of Ohio Board of Pharmacy. The State of Ohio Board of Pharmacy has a public-facing website that lists all currently licensed pharmacists in Ohio. The listing includes pharmacists' first and last names, practice business names, locations, phone numbers, and email addresses. The list also includes practice license information: (a) active versus inactive, (b) expiration date, (c) license number, (d) license type, and (e) board actions. Further, the listing details personal email addresses for all licensed pharmacists. I used this information database to sort and recruit Ohio retail pharmacists for study participation.

Using the Ohio Board of Pharmacy's list of active licensed pharmacists, names were sorted based on retail pharmacist designation where a personal email address was

provided. Personal email addresses rather than practice email addresses are the primary sorting inclusion criteria to avoid potential conflicts of interest for participants who would not want to associate their retail practice location or pharmacy owner with the research study. Therefore, professional emails that indicated a corporate employer, such as “.com” domains, were excluded from recruitment. Outreach to participants was made after I obtained Walden University Institutional Review Board (IRB) approval (05-08-24-0292247). I used purposeful sampling. Suri (2011) offered that purposeful sampling requires access to people in the field who can provide information-rich data, and the Ohio Board of Pharmacy offers this ability to purposely select participants who are designated as retail pharmacists, my primary sample frame of interest.

The recruitment criteria are actively licensed pharmacists working in Ohio and who have designated their Board of Pharmacy profile as a retail pharmacist. Further, the pharmacist must have an active personal email address listed on the Ohio Board of Pharmacy website to be used for email contact. Accessing the Board of Pharmacy report on April 6, 2023, yielded a total of 22,921 actively licensed pharmacists in Ohio, and after filtering for my required inclusion criteria, the sorted report contained 4,813 retail pharmacists with personal email addresses provided.

### **Purposeful Sampling**

Purposeful sampling enables the researcher to focus on individuals who can provide specific information based on personal experiences. In essence, the researcher can eliminate people lacking experience in the studied area. Moreover, purposeful sampling allows the researcher to draw on information-rich knowledge, obtaining a closer

look at the elements being studied. Purposeful sampling focuses on selecting specific cases that will allow for the illumination of the underlying question (Patton, 2002).

Purposeful sampling includes focusing on smaller samples. Qualitative inquiry often focuses on in-depth, small samples with a purposeful intention (Patton, 2002).

Additionally, purposeful sampling illuminates meaningful cases rather than generalizing from a sample to a population (Patton, 1999).

Small samples rich in information can yield in-depth insights. Information-rich cases allow researchers to learn about central issues of importance that focus on the purpose of the inquiry, which is the qualifying definition of purposeful sampling (Patton, 2002). Based on these constructs from Patton, I used purposeful sampling from the Ohio Board of Pharmacy database using these criteria: (a) active pharmacist license, (b) licensed in Ohio, and (c) provided a personal email address.

### **Sample Size**

Qualitative literature proposes that saturation is connected to purposive sampling methods and the analysis approach, but lacks guidance for predicting, assessing, and documenting saturation (Kerr et al., 2010). Hennink and Kaiser (2022) reviewed empirical studies assessing saturation to identify sample sizes needed. They analyzed 23 studies that empirically assessed saturation. The results showed the sample size used for saturation ranged between 5 and 24 interviews (Hennink & Kaiser, 2022). More specifically, the review of 16 studies that involved in-depth interviews demonstrated that saturation was reached in under 25 interviews (Hennink & Kaiser, 2022). Despite using different approaches to assess saturation, studies still reach saturation within a narrow

range of interviews (Hennink & Kaiser, 2022). The researchers determined that an average of 12–13 interviews reached saturation (Hennink & Kaiser, 2022).

A researcher is more likely to reach data saturation if the data collection is purposeful (Suri, 2011). Therefore, 22 participants were recruited to participate in the study. By sending email requests that contain an open-ended structured survey requesting typed responses to four questions. Suri (2011) offered that open-ended questions create the opportunity for additional information, unlike focused questions. Furthermore, the preciseness of the question creates data saturation (Suri, 2011). Continuously, pharmacists were chosen by random selection using the Excel RAND function. The list of 4,813 retail pharmacists' first and last names were removed, and the personal email addresses were randomized. Once the pharmacists were sorted into a randomized list, 12 separate randomized invitations were sent out. The 12 batches contained a different number of recipients. I started out sending 100 invitations a week but consistently received zero-to-one responses. Due to this I increased the number of invitations over time to increase the likelihood of receiving a response. Sending out more invitations in a week increased the number of responses I received. A total of 4,777 invitations were sent out. Some emails were no longer active or inaccurate and the invitations bounced back.

### **Instrumentation**

An open-ended structured survey was created for two reasons: (a) it is an effective qualitative approach, and (b) it allows for response convenience by invited retail pharmacists. Survey questions were created to align with the research question and the TPB (Appendix A). The questions enable the researcher to capture pharmacists'

behavioral beliefs and attitudes as they relate to participating in offering prenatal care.

The open-ended structured surveys were sent, and all recipients were given four or more days to respond. The open-ended structured survey remained open for all recipients until I reached saturation. Once all open-ended structured surveys were collected, they were reviewed for completion and analysis.

### **Procedures for Recruitment, Participation, and Data Collection**

Data were collected from actively licensed retail pharmacists who met the inclusion criteria described above. Using the RAND function in Excel, I randomly sorted all email addresses and chose the first set of randomized email addresses to receive the invitation. Then, I sent the open-ended structured surveys to each set of chosen recipients. The open-ended structured survey was created in SurveyMonkey. All open-ended structured surveys were sent out using SurveyMonkey. I chose the first set of randomized email addresses and placed them into the SurveyMonkey engine. I titled the batch and set the date and time for the invitations to be sent. Invitations were sent at least once a week. When I decided to send out larger batches to increase responses, I sent out multiple batches in a week. All recipients received at least four days or more to respond. The open-ended structured survey remained open for all recipients until I reached saturation. Upon closing the open-ended structured survey in SurveyMonkey, I received 22 usable responses for data analyses.

### **Data Collection**

I collected the data by downloading a report of all currently licensed Ohio pharmacists. The report contains a total of 22,921 licensed Ohio pharmacists. The report

was filtered to remove nonretail pharmacists and inactive pharmacists. Additionally, all professional emails that might indicate a corporate employer, such as “.com” domains was excluded. All remaining pharmacists were randomized using the Excel RAND function. Once the remaining pharmacists were sorted into a randomized list the first batch of 100 licensed Ohio pharmacists were selected to send invitations to participate. The invitation (Appendix B) contained an introductory statement about me, the researcher, and the research study. If the pharmacist wished to participate, they were asked to click the link that states “Begin Survey” (Appendix B). Upon opening the survey an informed consent statement appeared on the screen (Appendix B). If the pharmacists agreed to the terms, they were asked to click “Next” to view the survey questions (Appendix B).

The invitation did not contain a completion date, but all recipients were given at least four or more days to respond. The open-ended structured survey remained open for all recipients until I reached saturation. Due to a low number of responses during the first several weeks, I increased the number of invitations sent each week over time, which increased the number of responses I received. Additionally, all participants were thanked for their time and participation.

### **Data Analysis Plan**

I used SurveyMonkey to create open-ended structured surveys to collect data. Following Braun and Clarke’s (2006) methodology, all open-ended structured survey responses were placed into an Excel spreadsheet to initiate a visual thematic overview and to analyze and identify themes. I chose thematic analysis because it is a method that

enables you to report people's experiences, the meaning of things, and the reality of participants (Braun & Clarke, 2006). A detailed discussion on my data analyses using thematic coding is presented in Chapter 4.

### **Issues of Trustworthiness**

Patton (1999) pointed out that credibility for qualitative inquiry depends on key elements such as the application of rigorous techniques and methods for gathering quality data. Purposeful sampling supports quality data gathering. Purposeful sampling provides in-depth and information-rich details, enabling the reader to draw their conclusions from the data. Additionally, Patton (1999) noted credibility includes the careful analysis of data. Data was analyzed objectively using thematic analysis. Additionally, FitzPatrick (2019) noted, that to trust in the validity of the data, one must accept the trustworthiness of qualitative research in general.

Lincoln and Guba (1982) created specific techniques to establish dependability and ensure sound performance. One of these techniques consists of conducting an educational audit. The audit is intended to assess the process of inquiry and the product of inquiry for the absence of bias by examining the process to ensure results create trustworthiness (Lincoln & Guba).

Lincoln and Guba (1982) determined that variables, procedures, and conclusions can follow from a problem or research statement and in essence, create its audit trail. The established audit trail should then enable another researcher following the same path, to replicate the findings. Lincoln and Guba also created techniques to establish confirmability and determined that to ensure confirmability an education audit can be

performed. This audit consists of examining a study's results by comparing analyzed data to original data items such as surveys and interview notes (Lincoln & Guba, 1982).

Amankwaa (2016) described transferability as offering a thick description that tells a story with enough details that the reader can create their naturalistic picture of the events. Purposeful sampling helps to build an accurate picture for readers. First, it focuses only on individuals that have firsthand knowledge, second, it illuminates details that come from subject matter experts.

### **Ethical Procedures**

The first and most important ethical procedure that was conducted was to obtain approval to move forward with the study from Walden University's IRB. Once approval was received from the IRB the research began. Participation in the study was voluntary. All participants were made aware through a provided electronic informed consent process that participation is voluntary, and they can decline to respond or exit the online survey at any time. Data collection was stored on a password-protected primary and redundant source file and all paper documents were securely filed and accessible only by me. All data will be retained for a period of 5 years and securely destroyed by data file encryption and deletion and shredding of any paper notations.

### **Summary**

A generic qualitative inquiry was used to address the research question. Generic qualitative inquiry examines people's opinions, attitudes, and beliefs, and reflects on their experiences (Percy et al., 2015). To gain an accurate understanding of the behavioral beliefs and attitudes of retail pharmacists towards offering prenatal care as a

reimbursed service, an open-ended structured survey was completed by licensed retail pharmacists in Ohio. The open-ended structured survey was sent out to licensed retail pharmacists in Ohio. All participants were given at least four or more days to complete. Upon receiving the completed surveys, thematic analyses was completed for data interpretation. Chapter 4 will present the study findings.

## Chapter 4: Results

### **Introduction**

This generic qualitative inquiry aimed to explore pharmacists' behavioral beliefs and attitudes toward providing prenatal care as a reimbursed service in Ohio. A common cause of infant death among Black women is LBW and VLBW, as associated with PTB (see Chapter 1). As discussed in Chapter 2, research has revealed a positive correlation between the lack of prenatal care and PTB. Therefore, examining pharmacists' behavioral beliefs and attitudes to adopt prenatal care as a billable service demonstrates whether their focus is to provide the service, which may contribute to lowering PTB, thus positively impacting the Black infant mortality rate, or continuing to focus on the traditional practice and production metric of prescription fulfillment only.

This study requested retail pharmacists to provide insight into their beliefs and attitudes toward providing prenatal care in a retail setting. The research question that directed this study was as follows: With the implementation of Ohio Senate Bill 265 expanding access to care by designating pharmacists as healthcare providers, what behavioral beliefs and attitudes towards offering prenatal care as a reimbursed service influence pharmacists' intention to positively impact the infant mortality rate in Ohio?

This chapter provides details about collecting data to conduct the study. It also outlines how the data was analyzed, providing each step taken during the process. Lastly, this chapter provides evidence of trustworthiness and an outline of the results of the data analysis.

### **Setting and Demographics**

The study was conducted from May 14, 2024, to July 7, 2024. There was a total of 22 participants who provided responses to the open-ended structured surveys. All participants received the open-ended structured surveys via SurveyMonkey. The participants received an invitation (Appendix B), which contained an introductory statement about me, the researcher, and the research study. If the participant wished to participate, they were asked to click a link that stated “Begin Survey” (Appendix B). Upon opening the open-ended structured survey, an informed consent statement appeared on the screen (Appendix B). If the participants agreed to the terms, they were asked to click “Next” to view the open-ended structured survey questions (Appendix B). Further, all participants met the inclusion criteria, as anyone who did not meet the requirements for the study did not receive an invitation to participate. Additionally, there were no personal or organizational conditions that could influence participants or their experience during the study.

The participants for this study are retail pharmacists who currently reside and work in Ohio. No other demographic information was obtained from the participants. Participant privacy and confidentiality were maintained during and after the completion of the research. All first and last names and personal email addresses were removed from the data before analyses, and each participant was assigned a pseudonym. However, the original document containing first and last names and personal email addresses was stored on a password-protected computer. It will be retained for a period of 5 years, and then these data will be destroyed by encryption and deletion of the files.

### **Data Collection**

There were 22 participants who responded to and answered all four questions in the open-ended structured survey. The open-ended structured survey was designed and hosted on SurveyMonkey. SurveyMonkey was then used as the data collection platform, where the four posed questions were followed by text boxes permitting up to a 3,500-character typed response.

The SurveyMonkey platform permitted customization, where I was able to add various descriptions and instructions before the questions. The provided description was a non-exhaustive list of potential prenatal care services. The list contained the following information for pharmacist consideration to demonstrate the types of services a pharmacist can expect to provide under Senate Bill 265:

Prenatal visits typically include blood pressure monitoring, weight monitoring, urinalysis, ultrasound, fundal height assessment, finger stick point of care testing, prenatal education, and providing a urine sample; blood pressure monitoring - early assessment for conditions of pre-eclampsia (potential obstetric emergency), eclampsia (actual obstetric emergency), patella (knee jerk) and elbow reflex check - hyper-reflexes are a sign of both conditions; weight monitoring - assessment of normal pregnancy weight gains and a trend indication of excessive fluid retention beyond normal for pregnancy; Urinalysis - abnormal spilling of protein or glucose beyond what is normal for pregnancy; ultrasound - likely impractical and a very skilled technique, however, assessing fetal heart tones could be a substitute - either manually or with a CTG monitor; fundal height assessment – a noninvasive

tool to measure pregnancy growth rates. A value that is off scale (above or below) may indicate pregnancy-related growth issues for the fetus; finger stick point of care testing – a drop of blood - checks for basic chemistries to detect abnormalities such as pregnancy-induced diabetes; and prenatal education - prenatal vitamin compliance education, education on overall medication compliance (often women stop other essential medication for fear it will harm the fetus). Often common with antiseizure medications. Seizures presentation to the Emergency Department for pregnant women are very often associated with non-compliance with antiseizure medications.

Upon receipt of the email invitation, all recipients responded within an average of four days. The open-ended structured survey remained open for all recipients until response saturation was reached. Saturation is reached when no new data emerges, demonstrating full exploration of the data set (Naeem et al., 2024).

A list of 4,813 retail pharmacists' personal email addresses, obtained from the publicly available Ohio licensed pharmacists' data set, was placed into an Excel spreadsheet and randomized using the RAND function. The randomized email addresses were selected and copied/pasted into SurveyMonkey for automated distribution. Across the recruitment period, there were 12 batches of randomized email invitations sent: (a) 99 during week one, (b) 192 during week two, (c) 195 during week three, (d) 197 during week four, (e) 192 during week five, (f) 191 during week six, (g) 581 during week seven, and (h) 2,980 during week eight. Email rejections were returned due to inactive accounts or inaccurate email addresses in the public data set. During the first weeks, few responses

were received. To combat this low response uptake, the number of distributed invitations was accelerated to increase responses. After increasing the number of invitations, the desired response rate uptick was achieved. Each participant submitted a response to the SurveyMonkey platform and generated a notification email to my Walden University email. The open-ended structured survey was closed once response saturation reached 22 valid responses.

### **Data Analysis**

Data analysis was conducted by extracting the questions and responses from SurveyMonkey. SurveyMonkey facilitates downloading all questions and responses into an Excel spreadsheet. Once the spreadsheet was downloaded, response fields were visually scanned for errors, empty response cells, and other formatting issues that may need to be addressed before data analysis. Thematic analyses were conducted using open-response coding, starting with one question at a time. Williams and Moser (2019) described open coding as the initial identification of themes for categorization using broad themes as a starting point. I used color coding for first-level open coding to organize my analysis process by isolating and highlighting repeated words and phrases. This process was iterative across all questions and their accompanying responses. Through this first-level coding process, the following five categories emerged:

- Supports
- Training
- Important
- Access

- Setting

Once the categories were identified and color-coded for all responses, they were extracted and placed into individual Excel spreadsheet tabs. After placing the color-coded categories on each tab, I began to look for themes within the isolated categories. Categories with similar themes were then grouped, and this process was applied across all four question response groups. Once individual question response themes were isolated, I returned these isolated themes to a single spreadsheet to finalize the analysis while examining for similarities and any additional themes. Returning to the color-coding process, I grouped all isolated responses and finalized the thematic responses.

After reviewing the themes, I ensured they aligned with the participants' perspectives and responses. Additionally, during the data analysis process, I consulted with my committee chair to review my thematic data analysis and provide any additional guidance and direction on the analysis process. Once the data review was complete, the data analysis was finalized.

### **Evidence of Trustworthiness**

Patton (1999) posited that credibility for qualitative inquiry depends on key elements such as the application of rigorous techniques and methods for gathering quality data. I conducted purposeful sampling to gather information-rich details from participants who work in retail pharmacies and would be directly impacted by offering prenatal care as a service through Ohio Senate Bill 365. Additionally, Patton (1999) noted that credibility includes careful data analysis. Data were analyzed objectively using thematic analysis.

Lincoln and Guba (1982) created specific techniques to establish dependability, and one of these techniques is conducting an educational audit. Lincoln and Guba (1982) determined that procedures and conclusions can follow from a research statement and create an audit trail. The audit trail allows another researcher to follow the same path and replicate findings. In this chapter, I have provided my specific process for data collection and analysis, enabling the process to be duplicated by others. Lincoln and Guba also determined that confirmability can be established through an educational audit. An education audit examines the results and compares them to the original data (Lincoln & Guba, 1982). To accomplish this activity, I evaluated my study findings with the original 22 individual participant responses to ensure alignment was present and no outlying responses were overlooked.

Amankwaa (2016) described transferability as offering a thick description that tells a story with enough details that the reader can create a naturalistic picture of the events. Purposeful sampling helps to build an accurate picture for readers. First, it focuses only on individuals who have firsthand knowledge, and second, it illuminates details from subject matter experts.

## **Results**

The study results were obtained through open-ended and structured surveys completed by retail pharmacists in Ohio. There were 22 pharmacists who offered individual responses. Overall, four emerging themes were identified:

- Theme 1: Adequate support needed (staffing, space, and time)
- Theme 2: Support for the addition of prenatal care

- Theme 3: Proper training is critical
- Theme 4: Expanded access to care

To provide better insight as to how the themes were developed, I have explored each theme to include supporting participant responses using paraphrasing and direct quotes.

### **Theme 1: Adequate Support Needed (Staffing, Space, and Time)**

A major theme that was presented centered on adequate support. After reviewing all the responses and emerging themes, most pharmacists were open to incorporating prenatal care into their daily practice. However, they identified additional support required in staffing, space allocation, and time to provide the service. Participant xxx707 stated, “If pharmacies are required to be staffed to appropriately provided [sic] the aforementioned reimbursed services, I think this could be very beneficial.” Participant xxx281 added, “I don't see how we could incorporate it, as we are short-staffed enough as it is.” Further, Participant xxx707 noted, “Once again, if staffed appropriately, pharmacists are a wealth of knowledge and compassion that could likely impact infant mortality in Ohio very positively.”

Other pharmacists noted the importance of time and efficiency. Participant xxx463 stated,

I would love to provide additional care to these patients. As a community pharmacist, I am asked many questions about prenatal, OTC meds regarding the pregnancy, etc. I do also feel that time is a huge factor. Community pharmacies are very busy and adding an additional task would require additional resources such as additional tech or pharmacist hrs, training, and equipment.

Further, Participant xxx447 stated, “fully dependent on the types of care authorized. Retail pharmacy does not lend itself well to appointments, so whatever could be done in a quick and efficient manner would be considered and anything else would likely not be implemented.” Other pharmacists also noted the importance of appointments. Participant xxx320 provided an example of how to manage the additional service; the pharmacists stated, “Designate one pharmacist and time block on the schedule (Tuesdays and Thursdays from 9-3, etc.) for consistency. Can add or change if demand requires.”

Finally, the need for proper space was reported. Participant xxx463 stated:

If added I would feel confident providing some of these additional screenings, but not all of them. Most community pharmacies are not located near a restroom to provide a proper sterile place to do a urinalysis. In addition a fetal height assessment would also be difficult to perform as today we have no exam room to lay a patient down to take this measurement. In addition to this - what would the pharmacist do if a measurement or screening tool is taken and is out of range for a normal value? A pharmacist unable to prescribe would not be able to increase or add blood pressure medicine if needed, etc. I would love to provide a clinical service, however in our current model and timeframe this particular endeavor does not seem realistic.

## **Theme 2: Support for the Addition of Prenatal Care**

Another theme that was consistent throughout the responses was the support for adding prenatal care as a service in the pharmacy setting. Participant xxx463 stated:

This would be incredible! In Ohio specifically pharmacists are being underutilized! We are the most accessible healthcare provider, yet we barely provide the community with the knowledge we have gained from numerous years of training. How can we help our Ohio providers to best take care of patients together?! If these results from our appointments would be automatically sent to their provider we could truly make a huge impact! If pharmacists had the ability to prescribe this would also have a positive effect on the infant mortality rate.

Additionally, Participant xxx589 noted,

We should be part of the health care fabric that takes care of expecting Moms.

They need support from everyone in the healthcare chain. We can provide education on medications both over the counter and their prescription medications. We can help them navigate ailments that come up during pregnancy- how to safely treat themselves without harming baby. We can do blood pressure checks, provide their flu vaccine, and others as indicated. There is so much focus on the pro-life movement and banning abortion which is one discussion- but as a healthcare provider in the community- I wish we put as much energy and attention toward improving our outcomes for pregnant moms/infant mortality.

Giving every mom a healthy pregnancy and the best start for them and their baby.

In addition, Participant xxx803 added, "I believe pharmacists can and do play a major role in helping to improve the infant survival rate." Finally, Participant xxx273 also stated, "I think that it would be professionally rewarding and provide some non-overhead income much like the vaccine."

### **Theme 3: Proper Training is Critical**

It was apparent in analyzing the responses that proper training was critical to incorporating prenatal care into the pharmacy setting. Many discussed their level of comfort around the topic but some mentioned their lack training in this area. Some pharmacists added that they would welcome the additional service, but only if proper training would be provided. Participant xxx447 stated, “I have no objections to providing any form of care that falls within my scope of practice. Some aspects of prenatal care would, however, likely require additional training or certification.” Additionally, Participant xxx374 added, “Doesn’t seem appropriate in my work setting (large chain) I would need lots of training before I felt comfortable.” Additionally, Participant xxx374 stated, “I’m comfortable with finger prick testing and providing info and DI but that’s it.” Lastly, Participant xxx734 stated:

I would hope the company will create a fair and balanced policy with procedures and protections in place for the pharmacist and patient. Incorporating the services likely would be ideal at facilities that already offer “walk-in” clinics staffed by licensed nurse practitioners. But to add pharmacists who get trained, respective CE, hands-on assessments and signing waivers of non-liability would be paramount. The pregnancy outcomes could not be responsible [sic] of the pharmacist if patients aren’t compliant to the recommendations made post-point of care visit.

**Theme 4: Expanded Access to Care**

Presented throughout the data was the expansion of access to care. Many pharmacists outlined their relationship with the community and their patients. It was pointed out that patients may feel more comfortable speaking to and asking a pharmacist questions versus a physician. Participant xxx320 stated:

More access to care is always better. It is also possible that patients may have a better rapport with their local pharmacist and may feel more comfortable asking questions. Less formal and they can bring their other children, hopefully faster too and closer to their home.

Additionally, Participant xxx810 stated, “I think pharmacists are one of the most accessible healthcare professionals and could be a very positive influence.” Further, Participant xxx589 stated:

I think this topic is so important and personally think it gets lost in the broader more sensational conversation about abortion. Taking better care of pregnant mothers, improving access to care and improving education and awareness during pregnancy is not only lifesaving but very doable.

Lastly, Participant xxx176 stated, “...would love to be able to as some areas need more providers.”

**Noteworthy Responses for Future Investigation**

Minor themes emerged from one or a few of the respondents throughout the data coding and review process. These themes did not reach an element of content saturation,

but a brief illustration provides context for the additional Chapter 5 discussion. The following are the minor themes:

- Additional income pharmacy
- Corporate decisions
- Large retail chain versus small community pharmacy
- Rural pharmacies
- Marketing (making patients aware of the service)

### **Summary**

This section includes the process used to collect information-rich data.

Additionally, I outlined the step-by-step process of conducting a thematic analysis on the data set. Finally, the findings from the research were presented. The 22 study participants offered in-depth insights into their beliefs and attitudes toward offering prenatal care as a service within the pharmacy setting. Pharmacists' responses illustrated a positive attitude toward providing prenatal care successfully with adequate support. The pharmacists provided valuable information on the possibilities of providing prenatal care while also taking into consideration barriers and additional needs. Four major themes emerged: (a) adequate support needed (staffing, space, and time); (b) support for the addition of prenatal care; (c) proper training is critical; and (d) expanded access to care. Chapter 5 presents a discussion of findings relative to the reviewed literature, discusses study limitations, offers recommendations for future research, overall implications to include measures of positive social change, and research conclusions.

## Chapter 5: Discussion, Conclusions, and Recommendations

### **Introduction**

This generic qualitative inquiry aimed to explore pharmacists' behavioral beliefs and attitudes toward providing prenatal care as a reimbursed service in Ohio. A common cause of infant death among Black women is LBW and VLBW, as associated with PTB (see Chapter 1). As discussed in Chapter 2, research has revealed a positive correlation between the lack of prenatal care and PTB. Therefore, examining pharmacists' behavioral beliefs and attitudes to adopt prenatal care as a billable service demonstrates whether their focus is to provide the service, which may contribute to lowering PTB, thus positively impacting the Black infant mortality rate, or continuing to focus on the traditional practice and production metric of prescription fulfillment only.

The literature review revealed no research studies on pharmacists' behavioral beliefs or attitudes toward providing prenatal care. My study's findings demonstrate a positive attitude toward providing prenatal care and its positive impact on improving the infant mortality rate. Retail pharmacists champion expanding access to care, providing additional services, and being a part of the solution to lowering the infant mortality rate. They welcome adding prenatal care as a service. Information from this research may be used to expand current legislation. More specifically, the research can expand Ohio Senate Bill 265 to include prenatal care as a billable service that pharmacists can provide. In this chapter, I present an interpretation of the findings, limitations of the findings, recommendations, implications, and a conclusion that captures the study's essence.

### **Interpretation of the Findings**

Currently, no studies examine retail pharmacists' behavioral beliefs and attitudes in adding prenatal care as a billable service. Therefore, the findings within my study add to current information by revealing additional avenues to improve birth outcomes. As outlined in Chapter 2, researchers have investigated causes of infant death, such as social determinants of health, maternal health, geographic location, parental education, employment status, marital status, and smoking status. Additionally, many studies have investigated the disparities between the Black and White infant mortality rates by exploring the differences between Black and White mothers and how these social differences have impacted infant health.

Previous research has not revealed a determinate root cause for higher infant mortality rates among Black women. However, research has shown that receiving prenatal care can help improve birth outcomes, thus positively impacting the overall infant mortality rate. Xaverius et al. (2016) found a positive correlation between mothers receiving inadequate prenatal care and delivering an infant with VLBW versus a mother receiving adequate prenatal care. Mothers receiving adequate prenatal care were less likely to deliver an infant with VLBW. Further, Xaverius et al. (2016) noted Black women's chances of having a baby with VLBW increased by 85% when receiving inadequate prenatal care. Gourevitch and Hatfield (2023) offered that women who receive early prenatal care benefit from quicker identification and management of complications, receive additional support, and have improved neonatal outcomes.

The TPB assumes that an individual's intentions are directly influenced by their behavior and are determined by attitudes, subjective norms, and perceived behavioral control (Zielińska-Tomczak et al., 2021). Boslaugh (2022) described TPB as being based on the principle that people use information and reasoning to determine their actions, thereby predicting behavioral intentions and actions. Furthermore, positive attitudes, greater perceived control, and stronger intentions positively relate to performing a specific behavior (Boslaugh, 2022). My study provides information from exploring Ohio-based retail pharmacists' behavioral beliefs and attitudes regarding the provision of prenatal care if reimbursed. The study aimed to investigate whether expanding legislation to include reimbursement for retail pharmacists providing prenatal care would prompt these pharmacists to offer this level of service in their daily practices.

The study findings show that pharmacists have a positive attitude towards providing prenatal care and believe they can successfully provide the additional service with adequate support. Four themes emerged from the open-ended structured survey questions addressing the following research question: With the implementation of Ohio Senate Bill 265 expanding access to care by designating pharmacists as healthcare providers, what behavioral beliefs and attitudes towards offering prenatal care as a reimbursed service influence pharmacists' intention to positively impact the infant mortality rate in Ohio?

Based on my thematic data analyses of 22 retail pharmacists in Ohio, I found that their behavioral beliefs and attitudes toward providing prenatal care and their willingness to do so are positive. The findings reveal that my participant retail pharmacists are open

to expanding their services to include prenatal care, representing a positive legislative step forward in support of Ohio Senate Bill 265 to help reduce infant mortality in Ohio, with a particular focus on vulnerable, underserved communities.

### **Adequate Support Needed (Staffing, Space, & Time)**

Study findings indicated that pharmacists require adequate support, including additional staffing, space, and time to successfully expand their services to include prenatal care. Participant 694 advised that the pharmacy does not have enough staff. In contrast, Participant 707 advised that if pharmacies are required to be staffed to provide reimbursed services appropriately, they believe this prenatal care program could be very beneficial. Participant 707 added that, if staffed appropriately, pharmacists are a wealth of knowledge and compassion that could likely impact infant mortality in Ohio very positively. Further, Participant 734 noted that incorporating the services likely would be ideal at facilities that already offer “walk-in” clinics staffed by licensed nurse practitioners.

On the other hand, some retail pharmacists indicated that staffing will not be an issue in their pharmacy. Participant 803 stated that adding prenatal care would be another service offered to their patients and would not burden their staff extra, since they already assist many prenatal care patients. Participant 330 mentioned that they excel at providing support for patients, especially in rural areas. Additionally, the need for sufficient space to accommodate extra care was highlighted. Participant 463 noted that most community pharmacies are not near a restroom, which is necessary to establish a proper sterile environment for conducting a urinalysis. Furthermore, performing a fetal height

assessment would also be challenging, as we currently lack an exam room to lay a patient down for this measurement.

Participant 447 noted that vitamin and medication counseling would be a useful and feasible addition to pharmacy care, falling within the pharmacist's scope of practice. Participant 273 remarked that their pharmacy currently serves many pregnant customers and is prepared for such services. Participant 589 mentioned they have space and an existing setup for vaccines, blood pressure checks, and more. Finally, pharmacists indicated that time would be crucial in successfully implementing prenatal care.

Participant 463 shared that, as community pharmacists, they would love to provide additional care to these patients, adding that time would be a huge factor due to the pharmacy's busy schedule. Participant 463 also included that they are currently asked many questions about prenatal vitamins and over-the-counter medications regarding pregnancy, etc. Participant 320 pointed out the importance of designating one pharmacist and a time block on the schedule, while Participant 374 outlined the use of appointments to provide the additional service.

### **Support for the Addition of Prenatal Care**

Study findings indicated that pharmacists support the addition of prenatal care. When asked for their thoughts on adding prenatal care as a reimbursed service in their pharmacy, Participant 320 stated, "I think if time is adequately compensated, it would be a great service to offer the community, especially in rural areas with less access to OBGYN offices." Further, Participant 810 added that they believe this is a great idea and are 100% on board. Additionally, Participant 589 mentioned that they would be very

interested in participating in this initiative and currently work in a small independent community pharmacy, adding that this is the type of personalized care they enjoy and aim to provide. Participant 455 remarked, “I would welcome the opportunity to participate in these assessments.” Participant 330 shared that this is well within the realm of what a pharmacist can provide, and they believe pharmacists should be compensated for it. Participant 273 expressed that they think this presents a good opportunity for pharmacists to expand their horizons. Participant 303 stated that this is necessary and will be a great advantage for our patients. Participant 176 noted, “If reimbursed correctly, and if we have the facilities, why not?” Participant 975 commented, “I like the idea.” Participant 346 added that they believe it is a service that should be studied and would greatly benefit the community.

### **Proper Training is Critical**

Study findings indicated that pharmacists believe that proper training is critical. Participant 374 noted that I would need lots of training before I felt comfortable. Participant 447 stated, “I have no objections to providing any form of care that falls within my scope of practice. However, some aspects of prenatal care would likely require additional training or certification.” Participant 374 shared that they are comfortable with finger-prick testing and providing information and DI (diabetes insipidus), but that’s it. Participant 463 noted that if added, I would feel confident providing some of these additional screenings, but not all of them. Participant 734 included the importance of pharmacists being trained.

### **Expand Access to Care**

Study findings indicate that pharmacists support expanding access to care.

Participant 463 expressed:

... This would be incredible! In Ohio specifically, pharmacists are underutilized! We are the most accessible healthcare providers, yet we barely share the knowledge we have gained from years of training. How can we help our Ohio providers best take care of patients together? If the results from our appointments were automatically sent to their providers, we could truly make a significant impact! If pharmacists could prescribe, this would also positively affect the infant mortality rate.

Participant 320 stated that increased access to care is always beneficial. Patients might also have a stronger rapport with their local pharmacist, making them feel more at ease when asking questions. The informal setting allows them to bring their other children, and it could be quicker and more convenient since it's closer to home.

Additionally, Participant 810 remarked, "I believe pharmacists are among the most accessible healthcare professionals and can have a very positive impact." Furthermore, Participant 320 expressed, "I would be happy to do it. I work in an independent pharmacy. If we can bill for it, that's even better!" Participant 346 observed, "I think it would be a great service to provide earlier prenatal care to the community.

### **Limitations of the Study**

This study has provided detailed information about retail pharmacists in Ohio and their behavioral beliefs and attitudes toward providing prenatal care in a pharmacy

setting. However, several limitations have been noted. Chapter 1 outlined some anticipated limitations, such as the use of open-ended and structured questions, which have the potential to present data analysis challenges due to various typed response lengths from each question for each interviewee. Additional identified limitations are discussed in Chapter 1. Trustworthiness is used to assess validity in qualitative research. The criteria for trustworthiness include credibility, dependability, transferability, and confirmability as defined by Lincoln and Guba (Korstjens & Moser, 2018). Although the study affirmed its credibility and transferability through purposeful sampling, limitations regarding the generalizability of the results were noted due to the small sample size of 22 retail pharmacists

The pharmacists provided detailed information based on their experience; however, the sample size was limited when compared to the number of retail pharmacists in the available public database and the number of participation invitations sent by email. The study was also constrained because it did not include the years of practice experience as a demographic response question, which could influence pharmacists' perspectives on adding prenatal care as a service in addition to other demographic responses, which could further illuminate trends, similarities, and differences in how participants reacted. Finally, the study was restricted because it did not include follow-up questions or member-checking as a form of content validity testing. Asking follow-up questions might help clarify the meaning behind responses and deepen the understanding of experiences that inform attitudes and beliefs.

## **Recommendations**

This study explored the behavioral beliefs and attitudes of 22 pharmacists regarding the provision of prenatal care as a reimbursed service in Ohio. Based on these attitudes and beliefs, the study aimed to determine whether retail pharmacists were likely to support the addition of prenatal care in their pharmacies. The overall attitude of retail pharmacists was highly positive, and most believed they could positively influence the infant mortality rate in Ohio. While some retail pharmacists are currently equipped to provide prenatal care, others will require additional space. Furthermore, many retail pharmacists have indicated that training, more staff, and effective time management will be essential for success. Future studies of retail pharmacists should include individual demographic questions and a response item to describe the retail setting (national chain, local chain, independent, hospital-based retail, and state or federal-qualified health clinics).

To understand retail pharmacists' attitudes and beliefs regarding prenatal care, I conducted a generic qualitative inquiry using an open-ended structured survey. I suggest that future researchers conduct interviews, as they offer more flexibility than questionnaires or surveys (see Smith, 1995). Furthermore, during an interview, the researcher can follow up on responses and gain a fuller picture of what was shared (Smith, 1995).

## **Implications**

The study findings hold the potential to create positive social change for Black babies born in Ohio by providing additional opportunities at the community level to

lower infant mortality rates, particularly in vulnerable, underserved minority communities. These findings can inform the expansion of current legislation through the enhancement of Ohio Senate Bill 265 to include prenatal care as a reimbursable service for retail pharmacists. Ohio Senate Bill 265 updates the definition of a medical provider to include pharmacists alongside physicians, hospitals, and laboratories. Additionally, language has been incorporated to enable health insurance companies to reimburse pharmacists for specific services. These changes are significant in that they allow pharmacists to receive reimbursement, like other medical providers, for services beyond dispensing medications and simple patient education. However, the bill has been limited to certain services for which pharmacists could be reimbursed. My research has provided an evidence-based foundation to propose adding prenatal care to the list of services that pharmacists can offer and for which health insurance companies can reimburse them through an expanded definition of services and service providers in the Bill.

I plan to share the study results and advocacy efforts through various channels, including local and national presentations, professional conferences, and a strong social media presence on multiple platforms. Furthermore, I aim to present the findings locally to the Ohio House of Representatives, the Ohio Department of Medicaid, the Ohio Department of Health, and the Ohio Department of Children and Youth via direct communication with agency and department staff.

### **Conclusion**

Prenatal care can support a healthy mother and a healthy baby (Owen, 2022). Mothers who do not receive prenatal care until the end of their pregnancies risk

delivering an unhealthy baby (Owens, 2022). According to the U.S. Department of Health and Human Services Office on Women's Health, babies born to mothers who do not receive prenatal care are five times more likely to die. Therefore, expanding current Ohio legislation to include prenatal care as a reimbursed service for retail pharmacists can provide a new safety net for all women to improve infant mortality rates in these vulnerable populations living in at-risk areas. Ortiz et al. (2021) argued that healthcare access remains a widespread issue in the United States, and expanding retail pharmacists' licenses and billable services is a positive step toward closing this access gap.

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### Appendix A: Survey Questions

1. What are your thoughts towards adding prenatal care as a reimbursed service in your pharmacy?
2. If legislation is passed to add prenatal care as a reimbursed service, how might you incorporate this into your services?
3. What are your personal beliefs about providing prenatal care services?
4. What are your personal beliefs towards pharmacists positively impacting the infant mortality rate in Ohio to improve the overall health of the community?

## Appendix B: Invitation to Participate

### Health Policy Change - Ohio

You are invited to take part in a research study about prenatal care offered in a pharmacy setting as a reimbursed service and its potential impact on the infant mortality rate. The researcher is inviting Pharmacists who previously worked or currently works in retail pharmacies to participate. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Lauren Crawford, who is a doctoral student at Walden University. For the study's purpose, I am a student conducting research on the introduction of prenatal care as a reimbursed service into a pharmacy setting. The study's purpose is to explore pharmacist's behavioral beliefs and attitudes towards providing prenatal care as a reimbursed service in Ohio. The survey will involve 4 questions.

I am required to protect your privacy. Your identity will be kept confidential, within the limits of the law. Pseudonyms will be used for all participants and all identifying information kept securely on a password protected source file. I will not use your personal information for any purposes outside of this research project. Also, I will not include your name or anything else that could identify you in the study reports. If the researcher were to share this dataset with another researcher in the future, the dataset would contain no identifiers so this would not involve another round of obtaining informed consent. Data will be kept for a period of at least 5 years, as required by the university.

If you are interested in participating, please select the "Survey Link" button below to access the Survey.

[Survey Link](#)

## Health Policy Change - Ohio

### Informed Consent

You are invited to take part in a research study about prenatal care offered in a pharmacy setting as a reimbursed service and its potential impact on the infant mortality rate. This form is part of a process called “informed consent” to allow you to understand this study before deciding whether to take part.

This study seeks 50 volunteers who are:

- Retail Pharmacists who previously worked or currently work in retail pharmacies

This study is being conducted by a researcher named Lauren Crawford, who is a doctoral student at Walden University.

#### **Background Information:**

The study’s purpose is to explore pharmacists’ behavioral beliefs and attitudes toward providing prenatal care as a reimbursed service in Ohio.

#### **Procedures:**

If you agree to participate in this study, you will be asked as a pharmacist who currently works in or has previously worked in a retail pharmacy to answer four questions about offering prenatal care as a reimbursed service. A survey tool will be completed digitally for analysis. The time to complete the survey tool should take you no more than 25 minutes. Each participant will be asked the same questions.

Here are sample questions:

- What are your personal beliefs about providing prenatal care?
- If legislation is passed to add prenatal care as a reimbursed service how might you incorporate this into your services?

**Voluntary Nature of the Study:**

Research should only be done with those who freely volunteer. Everyone involved will respect your decision to join or not. No one will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later. You may stop at any time. I am seeking at least 50 pharmacists to complete the questions on the survey tool.

**Risks and Benefits of Being in the Study:**

Being in this study could involve some risk of the minor discomforts that can be encountered in daily life, such as fatigue and stress of added additional tasks and time to participate. Being in this study would not pose risk to your safety or wellbeing. This study offers no direct benefits to individual volunteers. The aim of this study is to benefit society by leading to policy recommendations to implement initiatives to lower the infant mortality rate.

**Payment:**

Your participation is voluntary.

**Privacy:**

The researcher is required to protect your privacy. Your identity will be kept confidential, within the limits of the law. The researcher is only allowed to share your identity or contact info as needed with Walden University supervisors (who are also required to protect your privacy) or with authorities if court-ordered (very rare).” The researcher will not use your personal information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in the study reports. If the researcher were to share this dataset with another researcher in the future, the dataset would contain no identifiers so this would not involve another round of obtaining informed consent. Data will be kept secure by assigning pseudonyms to the participants and data under that name only. Additionally, all electronic data will be stored in a password-protected primary and redundant source file and all paper documents will be securely filed and accessible only by the researcher. Data will be kept for a period of at least 5 years, as required by the university.

**Contacts and Questions:**

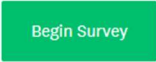
You can ask questions of the researcher by contacting xxx-xxx-xxxx or via email at xxxxxx.xxxxxxx@xxxxxx.xxx. If you want to talk privately about your rights as a participant or any negative parts of the study, you can call Walden University's Research Participant Advocate at 612-312-1210. Walden University's approval number for this study is 05-08-24-0292247 and it expires on May 7, 2025.

You might wish to retain this consent form for your records. You may ask the researcher or Walden University for a copy at any time using the contact info above.

Once the analysis is complete, the researcher will share the overall results by publishing the final dissertation on the Scholarworks website.

**Obtaining Your Consent:**

If you feel you understand the study and wish to volunteer, please click the button labeled "Begin Survey."

A green rectangular button with the text "Begin Survey" in white, centered on the page.

## Health Policy Change - Ohio

### Survey

Prenatal visits typically include blood pressure monitoring, weight monitoring, urinalysis, ultrasound, fundal height assessment, finger stick point of care testing, prenatal education, and providing a urine sample.

- Blood pressure monitoring - early assessment for conditions of pre-eclampsia (potential obstetric emergency), eclampsia (actual obstetric emergency), patella (knee jerk) and elbow reflex check - hyper-reflexes are a sign of both conditions.

- Weight monitoring - assessment of normal pregnancy weight gains and a trend indication of excessive fluid retention beyond normal for pregnancy.

- Urinalysis - abnormal spilling of protein or glucose beyond what is normal for pregnancy.

- Ultrasound - likely impractical and a very skilled technique, however, assessing fetal heart tones could be a substitute - either manually or with a CTG monitor.

- Fundal height assessment - noninvasive tool to measure pregnancy growth rates. Something off the scale (above or below) may indicate pregnancy-related growth issues for the fetus.

- Finger stick point of care testing - drop of blood - checks for basic chemistries to detect abnormalities such as pregnancy-induced diabetes.

- Prenatal education - prenatal vitamin compliance education, education on overall medication compliance (often women stop other essential medication for fear it will harm the fetus). Often common with antiseizure medications. Seizures presenting to the Emergency Department for pregnant women is very often associated with non-compliance of antiseizure medications.

### Survey

1. What are your thoughts towards adding prenatal care as a reimbursed service in your pharmacy?

2. If legislation is passed to add prenatal care as a reimbursed service how might you incorporate this into your services?

3. What are your personal beliefs about providing prenatal care services?

4. What are your personal beliefs towards pharmacists positively impacting the infant mortality rate in Ohio to improve the overall health of the community?

Prev Done

