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Preventative Strategies to Improve Birth Outcomes Among African American Women in Rhode Island

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Abstract

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MS, University of Rhode Island, 2007

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Despite increased access to prenatal care, birth outcomes continue to be a major source of disparity among women in the United States. The focus on lifestyle choices and negative behaviors prior to a pregnancy to reduce adverse birth outcomes has become a well-documented strategy. The purpose of this study was to determine if preparing for a pregnancy in advance improves birth outcomes for African American women of childbearing age between the ages of 12 and 45 years in the State of Rhode Island (RI). The theoretical foundation for this study was based on Prochaska's model of change, which is also known as the readiness to change model. This study was conducted using secondary data from the Rhode Island Department of Health PRAMS data set. The research questions determined if African American women received preconception care education at the same rate as White women, if African American women had a higher rate of infant mortality than other races, and if African American women had a higher rate of unintended pregnancies than White women in the state of Rhode Island. Independent *t* tests and chi square tests were used to answer the research questions. The results indicated a difference between the infant mortality rates for African American women compared to other races as well as a difference between African American women compared to White women with regard to unintentional pregnancies in Rhode Island. However, there was no difference in African American women compared to White women receiving preconception education in the state of Rhode Island. The implications for positive social change include micro- and macro-level changes in support of how planning for a pregnancy in advance can reduce poor birth outcomes.

Identifying preventative strategies to improve birth outcomes Among African American Women in the State of Rhode Island

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Dedication

First and foremost this degree is dedicated to the most high. I give honor, praise and glory to you father God, and you are truly my provider and protector. Jehovah Jira/Jehovah Nissi. It is your blessings, grace and favor that has allowed me to accomplish all that I have and all that is yet to come. Jeremiah 29:11 “For I know the plans I have for you,” declares the LORD, “plans to prosper you and not to harm you, plans to give you hope and a future.”

“I can do all things through Christ who strengthens me.”

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Chapter 1: Introduction to the Study

Introduction

Preparing for a healthy pregnancy increases the chances of a favorable birth outcome (Center for Disease Control [CDC], 2012). In the United States, a significant number of babies die each year as a result of either being born too soon or with low birth weights (LBW) (Goldenberg & Culhane, 2007). One of the key components associated with the trend of being born too early or LBW are unplanned pregnancies. Unplanned pregnancies are defined as those pregnancies that are unwanted, untimed, or poorly-timed (CDC, 2013b). These pregnancies have an increased chance of a poor outcome, death, or disability for both the mother and the fetus (CDC, 2011). The main causes for poor birth outcomes associated with unplanned pregnancies are negative lifestyles, bad behavior choices, and unmanaged chronic medical conditions (CDC, 2013b). All the above elements are preventable areas that if addressed could foster a positive pregnancy outcome.

In the state of Rhode Island, unintended pregnancies were noted to be associated with negative outcomes for both LBW and premature births (Rhode Island Department of Health [RIDOH], n.d.). Furthermore, the infant mortality rate in RI has also increased over the last 4 years, while other states have seen a dramatic decrease (RIDOH, n.d.). In particular, for 2010 and 2011, babies born LBW and premature in Rhode Island were noted to be associated with factors that were preventable. Lifestyle choices such as exposure to tobacco, alcohol, drugs, unmanaged chronic health conditions, poor nutrition,

as well as unmanaged mental health issues were the elements that contributed to the negative birth outcomes.

According to Finer and Zolner (2006), African American women in the United States had the highest rates for unintended pregnancies than other racial or ethnic group. African American women also had a higher incidence of poor birth outcomes involving preventable lifestyle and behavioral choices. The rate of unintended pregnancies for African American women in the state of RI from 2004-2008 was 54.9% (RIDOH, 2012).

Problem Statement

The problem that I addressed in the study involved how pregnancies that are not planned have a high incidence of negative birth outcomes. The risks for an adverse birth outcome include a pregnancy that is unplanned or untimed. For example, unplanned pregnancies result in low birth weight and premature births and they further contribute to potential infant mortality, financial, social, and psychological issues (Hodek, Von der Schulenberg, & Mittendorf, 2011). In particular, pregnancies that are unplanned involve significant challenges especially when there are chronic health conditions that are unmanaged or negative lifestyle and behaviors that have yet to be addressed (CDC, 2012). For 2010, 8.1% of the births in the United States were low birth weight and 7.9% born premature (CDC, 2013a). Many of these poor birth outcomes were a result of pregnancies that were unplanned. Preparation for a future pregnancy provides a strong foundation for achieving an optimal birth outcome.

Nature of the Study

A quantitative approach was used for this study to examine if there is a relationship between preparing for a pregnancy and its impact on improved birth outcomes for African American women residing in the state of Rhode Island. Preparing for a pregnancy includes knowing the medical risks, monitoring negative lifestyle and behavior choices, and then changing the adverse risks to yield a future positive birth outcome. Data utilized for this study were obtained from the Rhode Island Pregnancy Risk Assessment Monitoring System, which consists of state specific data on elements of maternal attitudes, experiences, and behaviors before, during, and shortly after pregnancy.

Research Questions and Hypotheses

This research will be directed by the following questions and hypotheses:

RQ1: Is there a significant difference between the rates of unintended pregnancies for African American women versus White women in the state of Rhode Island?

H_o^1: There is no difference between the rates of unintended pregnancies for African American women versus White women in the state of Rhode Island.

H_o^2: There is a difference between the rates of unintended pregnancies for African American women versus White women in the state of Rhode Island.

RQ2: Is there a difference between the rates of receiving preconception care information for African American women compared to White women in Rhode Island?

H_o^3: There is no difference between the rates of receiving preconception care information for African American women compared to White women in the state of Rhode Island.

H_o^4: There is a difference between the rates of receiving preconception care information for African American women compared to White women in the state of Rhode Island.

RQ3: Is the infant mortality rate of African Americans higher than other races in Rhode Island?

H_o^5: The infant mortality rate amongst African Americans is not higher than other races in Rhode Island.

H_o^6: The infant mortality rate amongst African Americans is higher than other races in Rhode Island.

Purpose of the Study

The purpose of this retrospective study was to examine if there is a relationship between preparing for a successful pregnancy and improved birth outcomes for women residing in the state of Rhode Island. There is wide body of knowledge based on research regarding the effects of behavior and lifestyle choices resulting on birth outcome. However, there is a gap in research regarding the relationship between poor birth outcomes for African American women and lack of preparation for a future pregnancy. Preconception care involves a set of strategies and resources aimed at improving birth outcomes prior to conception. If preparing for a pregnancy early improves birth outcomes, the significance could advance social, psychological, and financial success.

Theoretical Framework

The theoretical framework that guided this study was the behavioral theory by Prochaska (1997). Prochaska's transtheorectical model (TTM) of change indicates that change is process that involves stages toward readiness. In the TTM, there are five stages in the process to achieve change. Each stage contains a different approach involving movement through the different processes, which results in achieving positive behavioral change (Di Noia & Prochaska, 2010).

The first stage of the TTM is *precontemplation*. The precontemplation stage involves no intention of taking action in the near future. This stage indicates being uninformed or under informed about the consequences of the negative behavior existing. An example of precontemplation for this research would involve a female of childbearing age who uses tobacco does not have knowledge of the fetal impact that tobacco has on a growing fetus. The second stage of TTM is *contemplation*. An example of contemplation for this research would involve a female of childbearing age recognizing the significance of illicit drug use on a future pregnancy and gathering of information on the negative impact. This stage involves having an intention towards change. An awareness of needing to change exists as well as the knowledge of the consequences of not changing. The third stage of TTM is *preparation*. An example of preparation for this research would involve a female of childbearing age identifying the resources needed to abstain from alcohol consumption prior to pregnancy. This stage indicates an intention of taking action in the near future. The premise of preparation is about having a plan of action. The fourth stage is *action*. An example of action for this research involves a woman of childbearing age to

actively engage in the monitoring of a chronic medical condition as well as take appropriate steps to continue to do so. This stage contains modifications in lifestyle and behaviors. The overall process of change is associated with action. The fifth and final stage is *maintenance*. An example of maintenance for this research involves a female of childbearing age to adopt without thought healthy behaviors and choices. This stage indicates confidence and evidence of lifestyle changes. During maintenance there is less likelihood for relapses and more probability of sustained change. At this stage self-efficacy is the goal. Adoption of sustained positive behavior becomes automatic and ongoing.

Definitions and Terms

Low birth weight: Low birth weight (LBW) is when a baby is born weighing less than 5 pounds, 8 ounces (March of Dimes, 2014).

Prematurity: The result of a baby born between 20 and 37 weeks of pregnancy (American College of Obstetrics and Gynecology, 2014).

Unplanned pregnancy: A pregnancy that is mistimed, unplanned, or unwanted at the time of conception (Center for Disease Control and Prevention, 2013b).

Preconception care: Preconception care involves steps taking now to protect the health of a baby in the future (Center for Disease Control and Prevention, 2014).

Chronic medical conditions: Chronic medical conditions include those conditions that are non-self-limited in nature, the association with persistent and recurring health problems, and a duration measured in months and years, not days and weeks (Center for Disease Control and Prevention, 2013b).

Pre-eclampsia: A complication characterized by high blood pressure and signs of damage to another organ system (March of Dimes, 2014).

Eclampsia: An acute and life-threatening complication characterized by the appearance of tonic-clonic seizures or convulsions (March of Dimes, 2014).

Behavioral health: Another term for mental health inclusive of a holistic approach (Insight, 2014).

Health disparities: The differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific population groups in the United States (Center to Reduce Cancer Health Disparities, 2014).

Preterm birth: A Preterm birth is defined as baby born at less than 36 completed weeks of gestation (National Vital Statistics System, 2009).

Pregnancy Risk Assessment Monitoring System (PRAMS): A PRAMS is a surveillance project of the CDC and state health departments (Center for Disease Control and Prevention, 2014).

Adverse pregnancy outcome: Categorized as maternal morbidity complications, illness, or injury, maternal mortality (death), infant morbidity, and infant mortality (Center for Disease Control and Prevention, 2014).

Pregnancy induced hypertension: a form of hypertension occurring during pregnancy (American College of Obstetrics and Gynecology, 2014).

Gestational diabetes: A condition of diabetes found during pregnancy (March of Dimes, 2014).

Significance of Study

In this study I examined whether or not preparing for a pregnancy and/or when a pregnancy is intended improves the birth outcome is both significant and meaningful. In particular, African Americans are noted to have a higher risk of delivering babies both low birth and preterm births than any other race (Borders, Grobman, Amsden & Holl, 2007).

Researchers have discovered in many studies how an unplanned pregnancy is linked to adverse pregnancy outcomes. For example, Shah et al. (2011) and Postlethwaite (2010) outlined how unplanned pregnancies contribute to poor birth outcomes by way of LBW, prematurity, and infant mortality. Other researchers such as Hodek et al (2011), outlined the financial and social impacts of poor birth outcomes. Biermann, Dunlop, Brady, Dubin, and Brann (2006); Haas et al. (2005); and Shaw, Pickett, and Wilkinson (2010) outlined the benefits of preparing for a future pregnancy. Other significant and important factors to consider with regard to improving birth outcomes are risky health behaviors. Risky health behaviors are those behaviors that include the use of tobacco, marijuana, and other illegal drugs, drinking, as well as poor nutrition. Chung, Nurmohamed, Matthew, Elo, Coyne and Culhane (2010) noted that tobacco, marijuana use, and alcohol use were behaviors displayed more frequently by African American women than other races.

Studies have shown an increase in these behaviors among African American women during pregnancy (Glynn et al, 2008; Hobel et al, 2008; Reagen & Salsberry, 2005). These studies found that social issues such as dilapidated housing, impoverished

neighborhoods, poverty, preexisting chronic diseases, lack of social support, lead to elevated stress levels that have adverse effects on birth outcomes. These studies all focused on racial and ethnic differences and found that these elevated conditions were more prevalent among African American women.

Chapter 2: Literature Review

Introduction

Improving birth outcomes requires a multifaceted approach inclusive of strategies such as those aimed at increasing the chance of a successful birth. This involves critical components such as reproductive planning as well as policy changes. As previously noted, nearly half of the pregnancies in the United States are unplanned which further outlines and supports the need for strategies involving preconception care (CDC, 2013d).

This literature review contains articles involving unplanned pregnancies, chronic health condition management, lifestyle, behaviors, and their respective impact on improving birth outcomes related to preconception care is explored. The literature for this review was retrieved through the following databases: Academic Search Complete, CINAHL Plus with full text, ProQuest Health and, Google Scholar, PsycARTICLES, PsycINFO and Center for Disease Control and Prevention website. The following key words were used to locate articles: *African Americans and poor birth outcomes, infant mortality, low birth weight, preconception care, pregnancy outcomes, tobacco before and during pregnancy, alcohol and drug use before pregnancy and during pregnancy, unplanned/unintended pregnancies, chronic medical conditions, pregnancy outcomes, chronic conditions and preconception strategies.* The articles utilized in this literature review were chosen based on their relevance and contents related to the impact of pre-pregnancy risks and its relationship towards achieving positive birth outcomes.

Unplanned Pregnancies

The social and financial burden of an unplanned pregnancy fosters a multitude of negative consequences (Sonfield et al, 2002). The significance of unplanned pregnancies consist of adverse outcomes that can result in long-term infant and child medical issues as well as lead to early infant death within the first year (Singh, Singh, & Mahapatra, 2012; Tsui, McDonald-Mosley, & Burke, 2010). Studies conducted that have sought to explain and define the basis of why pregnancies are unplanned or unintended are multifactorial. For example, there have been multiple studies conducted to determine if lack of access to effective contraceptives is a primary component of unintended pregnancies. Other researchers have sought to determine if knowledge of, as well as access to, effective contraceptives has an impact on unintended pregnancies. Winner et al. (2012) outlined how unplanned pregnancies have a direct link to the choice of contraceptive. Sexually active females of childbearing age are at risk for an unplanned pregnancy if the choice of contraceptive is inconsistent or incorrectly used.

Many reproductive health professionals counsel females of childbearing age about the importance of choosing an appropriate birth control method to delay pregnancy. However, if the contraceptive method chosen is not an ideal choice, adherence and compliance decreases and most times results in unintended pregnancy. For example, compliance with oral contraceptives for adolescents presents challenges with long-term use. Blumenthal, Voedischi, and Gemzell-Danielsson (2011) studied the effectiveness of a long-term contraceptive and its relation to an unintended pregnancy. They found that a selection of a contraceptive with a longer term effect such as an injection can provide the

best results for effective birth control. However, contraceptive methods with the longer term effects have known side effects for adolescents.

Studies evaluating effective birth control use to decrease unintended pregnancies related to race, culture, and socioeconomic status have been expanding. A study by Phares, Cui, and Baldwin (2012), investigated whether race and culture had an impact on the use of an effective birth control method. The results from the study indicated that women who used a more effective birth control method were less likely to be African American, have less than a high school education and have public insurance. Other researchers have investigated the contraceptive choices of specific minority populations. Yee and Simon, (2010) concluded that the social network, including friends, mothers, and partners, were key sources of contraception myths, misconceptions, and vicarious experiences. Women also utilized media, including the internet, as an additional source of information. Information relayed by the social network had a direct influence on contraceptive decisions for many women. McQuillan, Greil, and Shreffer (2011) focused on intentions of pregnancy versus non intentions and found that contraceptive choice varied with family planning counseling. The intent of being pregnant fostered a stronger relationship between contraceptive choices than nonintent.

More recent studies on contraceptive choices related to unplanned pregnancies have involved whether gender differences play a role in contraceptive decision making. Historically, the focus of contraceptive choices involved females and their attitudes towards the use and effectiveness of birth control. However, the role of males in the reproductive decisions involving contraceptives is growing. Thornburn (2012) and

Borrero (2013) studied male knowledge and understanding of the effectiveness of contraceptives.

A similar study by Yee and Simon (2010) found that men's and women's perceptions of contraceptive methods were very different with regard to effectiveness and efficacy. For example, in the study women rated the pill more favorably, and the condom less favorably, than did men in terms of preventing pregnancy. This indicates more education is needed in order to increase both female and male perception. Family planning education is another area researchers have indicated value to decrease unintended pregnancies. Many studies involving family planning have sought to understand whether or not a family planning approach has positive impacts unintended pregnancies (WHO, 2009).

Tsui (2010) found that there was a strong relationship between family planning and improved birth outcomes. For example, family planning contributed to adequate birth spacing, reduced infant mortality as well as decreased unintended pregnancy. A significant amount of the literature reviewed related to family planning activities noted the importance of preparing for a pregnancy in advance as a mechanism for improving birth outcomes as well as decreasing unintended pregnancies (Stephenson et al, 2014).

Lifestyle Factors

Tobacco Use

The use of tobacco and its association with poor health outcomes consists is well-documented. In particular, the Center for Disease Control and Prevention (CDC) estimated that more than 88 million individuals exposed to tobacco have a respiratory

challenge (CDC, 2012). Other adverse reproductive health outcomes related to tobacco use involve sterility, delayed conception, and infertility (Rosenthal, Melvin, & Barker, 2006). The use of tobacco during pregnancy has a strong association with adverse birth outcomes. It is estimated that approximately 10.7% females reported smoking during the last three months of pregnancy in 2010 (CDC, 2013c). Women who use tobacco during pregnancy have a higher risk of premature birth, low birth weight, sudden infant death syndrome, and respiratory diseases postpregnancy. In particular, LBW is noted to be one of the direct negative results of tobacco use during pregnancy. Low birth weight alone has associated factors with poor birth outcomes and infant mortality (March of Dimes, 2012). Studies evaluating the physiological implication of tobacco use and its overall impact on fetal development have found adverse consequences involving in utero defects (Aliyu, et al, 2011). These in utero risks include spontaneous abortion as well as placental complications (Aliyu et al, 2011). Other research related to tobacco use indicates an association with stillbirths and further childhood diseases. Smith and Collins (2007) concluded that tobacco exposure during pregnancy has a risk factor for a fetal demise. Tobacco cessation programs are noted to be the most modifiable risk factor to improve birth outcomes. These types of programs need to be introduced prior to pregnancy in order to result in a greater impact.

Environmental Tobacco Exposure

Research involving environmental tobacco exposure and its risk to adverse birth outcomes has grown significantly. Recent studies have concluded that indirect exposure to tobacco during pregnancy has negative effects on birth outcomes. For example,

according to Leonardi-Bee, Britton, and Venn (2011), exposure to secondhand smoke increased a pregnant woman's chances of having a stillborn by 23%, and increased the risk of delivering a baby with birth defects by 13%.

The birth outcomes for babies exposed to environmental tobacco compared babies without environmental tobacco exposure are poor. The pre- and post-natal impact of environmental tobacco exposure involves lower birth weights than those pregnant women who are unexposed. Lower birth weight can cause multiple adverse birth outcomes such as infant mortality as well as medical complications such as respiratory distress syndrome (March of Dimes, 2014). Environmental exposure to tobacco can indicate postnatal behavioral and developmental problems (Liu, Leung, McCauley, Ai, & Pinto- Martin, 2013). A study by Swamy, Edwards, Gelfand, James, and Miranda (2012) outlined the risks of preterm birth with further complications of childhood anomalies. Women of childbearing age should be made aware of the potential harm that active and environmental exposure has on a pregnancy outcome. Both education and resources are significant to improving the outcomes of future births. For women with lower socioeconomic status, the exposure to environmental tobacco exposure is higher due to their living conditions and inability to impact their environment.

One in every 10 pregnant African American women reports smoking during pregnancy (Tobacco Free Kids, n.d.). This is a significant number that requires review and strategy. Data from studies involving African Americans have indicated a lower rate of cessation for tobacco use. Andrews, Felton, Wewers, Waller, and Tingen (2007) found that African American women residing in urban subsidized housing developments report

prevalence rates of 40–60% of tobacco use and cessation. This study also indicated that for African American women the use of tobacco was therapeutic and was utilized to stabilize mood and decrease depressive symptoms. It is noteworthy and critical that strategies are needed as an alternative to improve the health status of African American women of childbearing age.

Alcohol Use

The pattern for use of alcohol in women is different than for men (National Institute for Health, 2014). Women face particular health risks from alcohol. These health risks include but are not limited to a higher risk for the development of breast cancer.

There is documented evidence involving the number of females of childbearing age who reported drinking alcohol. According to the CDC (2014) 1 in 2 women of childbearing age use alcohol. Alcohol use during pregnancy has been linked to adverse birth outcomes. According to Cheng, Kettinger, Uduiri, and Hurt (2011), alcohol use during pregnancy is the leading cause of preventable mental retardation. In (2010), the National Drug Strategy Household Survey found that 47% of women reported alcohol use. The greatest opportunity to improve birth outcomes related to alcohol use is before a pregnancy begins.

Fetal alcohol syndrome (FAS) involves mental and physical defects associated with high levels of alcohol consumption during pregnancy (CDC, 2013c). It is estimated that about 1 in 2 women of childbearing use alcohol (CDC, 2013c). There is well-established research that indicates a positive relationship with alcohol use on the growth and development of a fetus. For example, Paoletti et al. (2013) outlined how metabolites

of alcohol when consumed during pregnancy modify DNA synthesis that further affects the cells. This modification of DNA and effect on cell can have a profound neurological, psychological, and physiological impact.

Recent evidence related to alcohol consumption in relation to birth outcomes indicates moderate levels of alcohol have a damaging effect on a growing fetus. This would indicate the need for education and resources prior pregnancy for females of childbearing age. A study by Smith and Trooter (2011) outlined strategies for preventing alcohol-related poor birth outcomes by the initiation of preconception care education.

Research involving African Americans and alcohol use indicates a cultural context of tolerance. For example, many individuals from this culture do not view underage drinking or moderate drinking as an issue (Indiana University, 2013). This would suggest that African American women of childbearing age would not note alcohol consumption as an adverse risk to their current or future status related to pregnancy.

Other researchers found that the type of alcohol consumed indicated critical risk for both adverse health and pregnancy outcome. For example, evidence obtained from a qualitative study involving focus groups indicated the use and consumption a variety of alcoholic beverages as normal (Graves & Kaskutas, 2002). Beverages consumed by African Americans included malt liquor, fortified wine, and wine coolers. Malt liquor and fortified wine contain more absolute alcohol per ounce than beer or wine alone. Also malt liquor is stronger than regular beer as it contains more alcohol per ounce than does a regular beer.

Webb and Jaffe (2013) studied the use of alcohol and its association with neighborhood affiliation. In particular, whether having a disadvantaged living in certain neighborhoods had an impact on alcohol consumption, norms, and content. African Americans had a higher consumption of alcohol than other population based on the cultural customs of their neighborhood. Participants in the study viewed alcohol use as normal and did not recognize the risks associated with alcohol consumption.

Illicit Drug Use

The term illicit drug describes medicines under international control, which may or may not have licit medical purposes (United Nations on Drugs and Crime, 2014). These drugs involve the illegal production, trafficking, and consumption. There are a fair number of illicit drugs consumed by individuals both within the United States and abroad. The rate of illicit drug use for women in the United States in particular is 34 % (US Department of Health and Human Services, 2012).

Women of childbearing age in the United States have a higher incidence of illicit drug use than men (US Department of Health and Human Services, 2011). The consequences of illicit drugs involve both serious social and health impacts.

The social effect of illicit drug use consists of incarceration as well as poor educational performance and antisocial behaviors (Murray, Farrington, & Sekol, 2012). Of note is how the use of marijuana contains a greater amount of carcinogens than tobacco smoke (American Lung Association, 2014). In addition, they inhale more deeply and hold their breath longer than tobacco smokers do, further increasing the lungs

exposure to carcinogenic smoke. Marijuana use is not only associated with adverse physical effects, but also mental, emotional, and behavioral changes.

The use of illicit drugs during a pregnancy increases the chances of an unhealthy birth outcome (March of Dimes, 2012). Many babies born that have been exposed to illicit drugs during pregnancy experience multiple medical issues. Significant outcomes noted to be involved with illicit drug use include the nervous system and physiological defects. The use of illicit drugs can also cause death in both the mother and unborn child. During a pregnancy, the risk to the unborn baby includes preterm labor, pre-eclampsia and still birth. Post pregnancy medical and behavioral negative consequences are associated with illicit drug use. For example, babies often experience withdrawal symptoms when born to mothers who used drugs during pregnancy. These babies also are at risk for potential metabolic disorders due to their withdrawal. Minnes, Lang, and Singer (2011) and Singer et al. (2012) indicated the long-term consequences of illicit drug included poor motor and gross motor skills as well as poor body regulation and low cognitive development.

African American women and their use of illicit drug use research is not as saturated with evidence as with other populations. However, according to Wechsberg, Zule, Riehman, Luseno, and Lam (2007), African American women have the highest rates of cocaine use, mainly *crack*, during pregnancy than other races. A study involving African American women and illicit drug use outlined barriers to treatment involving such elements as fear of the justice system, as well as fear of disclosing drug addiction

and potentially risking losing custody of children (US Department of Health and Human Services, 2011).

Preconception care strategies and resources must consider coordination with mental health, justice department and the medical healthcare system in order to achieve improved birth outcomes. The barriers that exist for treatment outline threats to improving birth outcomes. In particular, the African American population will need a culturally sensitive approach to achieve success.

Nutrition Status

An optimal nutritional status is critical for the human body as it provides a mechanism for both cell growth and development (March of Dimes, 2014). Adequate nutrition is fundamental to any individual's health but more essential for women because it can have a direct impact on hormones as well as birth outcomes. Obesity and high rates of eating disorders have led to many nutritional deficiencies for women. For example, during childbearing years, nutritional status becomes more important for uterine integrity and overall health status. For example, poor nutrition can be directly linked to the newborn having lower resistance to fight infections as well as causing a higher risk for disease resulting in early death.

Nutritional status is not always considered to be an important element for improving birth outcomes. However, poor maternal nutritional status has been related to adverse birth outcomes (Abu-Saad & Fraser, 2010). Nutritional status involves both maintaining a healthy diet and maintaining a healthy weight. A healthy weight is directly linked to the other important systems in the body. For example, a healthy weight helps to

control diseases and conditions. A non-healthy weight promotes risks for heart disease, diabetes and other serious chronic medical conditions that are noted to negatively affect birth outcomes.

Eating healthy also has positive effects on the body. For example, eating healthy provides fuel, which in turn provides energy. Other benefits for eating healthy: Eating healthy before becoming pregnant positively supports maternal wellness, further supporting fetal growth. Improper nutrition can negatively affect the growth and development of a fetus. Improper nutrition can lead to obesity, which can result in multiple chronic medical conditions.

The use of vitamin supplements promotes positive nutritional status and add additional defense against poor health. Another mechanism for the use of vitamin supplements involves the cell support and development such as with folic acid. There is well-documented evidence supporting the use of folic acid for decreasing the chance of a baby being born with neural tube defects (March of Dimes, 2014).

The use of folic acid prior to conception provides for the most significant benefits for improving birth outcomes involving multiple birth defects such as neural tube defect (NTDs). The neural tube is the embryonic precursor to the brain and spinal column. NTDs include very serious defects like spinal bifida and anencephaly, birth without part of the brain (March of Dimes, 2013).

March of Dimes (2011) indicated that birth defects occur between the 20th and the 28th day after conception. As previously noted there is a high incidence of unplanned pregnancy. Therefore, to include at least 0.4 milligrams of folic acid in every childbearing

age woman's diet is vitally important. Studies using women who reported receiving the messages about taking vitamins with folic acid before pregnancy reported taking vitamins more often in the month before pregnancy compared with women who did not receive the message.

Nutrition and vitamin supplements augment the chances of a positive future pregnancy. This said, ongoing education as well as access to folic acid supplements be made an essential part of reproductive health encounters for all women of childbearing age. Social media opportunities for younger females of childbearing age should be a priority as a mechanism for education**.**

Medical and Behavioral Health Impacts

Chronic Conditions

Most women of reproductive age have a diagnosis of one of the major chronic conditions such as depression, hypertension, and diabetes (Association of Maternal Child Health Programs, 2008). These chronic conditions, if not controlled, can have a negative impact on the outcome of a pregnancy. It is recommended that all females of childbearing age with chronic medical conditions be under the care of a healthcare provider prior to becoming pregnant (Dunlop et al, 2008). There are specific chronic conditions that have been identified as being more at risk for adverse birth outcomes than others as well as being identified as being a condition that if controlled can result in a favorable outcome. For example, diabetes, high blood pressure, depression, and asthma are chronic medical conditions that if managed properly can result in a positive birth outcome (Min-Young et al, 2014).

Women of childbearing age with chronic medical conditions must also managed the medications they take. There are medications that are used to treat medical conditions that can be adverse to a pregnancy. For example, some medicines used to treat medical conditions are contraindicated during pregnancy. This means that if taking during pregnancy, the fetus can be at risk. This is critical for women of childbearing age due to the high number of unplanned pregnancies in the United States.

Overall, all women of childbearing age with chronic medical conditions should be under the care of a primary care provider. Preconception care strategies related to chronic medical conditions indicate positive birth outcomes if conditions are closely monitored and controlled. Access to resources and education involving chronic medical conditions promote adherence to plans of care in support of improved birth outcomes (Association of Maternal & Child Health Programs, 2012).

Diabetes

Diabetes has a far worse impact on a woman versus a man according to the American Diabetes Association (2013). In particular, the burden of diabetes on women is unique because the disease can affect both mothers and their unborn children. Women with diabetes are also more likely to have a heart attack, and at a younger age, than women without diabetes. Glycemic control is an important element for maintaining a healthy metabolic system.

Uncontrolled diabetes in particular is noted to be a major medical cause of adverse pregnancy outcome and further being the cause of congenital anomalies (Eidem, et al, 2011). Diabetes can cause difficulties during pregnancy such as a miscarriage or a

baby born with birth defects. Control of diabetes before pregnancy supports positive birth outcomes by decreasing risks for preterm births as well as neurological issues (CDC, 2012). There are multiple risks that can manifest when high blood glucose levels are present before and during a pregnancy. For example, due to the multi system involvement of diabetes, eye problems, heart disease, and kidney disease are the most troublesome consequences involving maternal risks.

Gestational diabetes is a condition in which the glucose level is elevated during pregnancy (March of Dimes, 2012). Most times diabetic symptoms disappear after delivery. However, there have been instances of gestational diabetes being present after the delivery of the baby. Most women who are diagnosed with gestational diabetes are considered pre-diabetic and are asked to closely monitor their diets, exercise and obtain weight control.

Close monitoring of glucose levels during pregnancy is vital to avoid adverse risks. The risks of uncontrolled diabetes in pregnancy involve a baby being born macrosomic (weighing too much) as well as the risk of a baby being born with breathing problems and/or low glucose levels (National Diabetes Information Clearinghouse, 2013). Recommendations for women who have diabetes include: maintaining optimal blood sugar levels, as well following up with specialists such as nephrologists, podiatrist, and endocrinologist as appropriate. These interventions have known associations with improving birth outcomes (American Association of Clinical Endocrinologists, 2011).

Hunt and Shuller (2007) found that the prevalence of diabetes among women of childbearing age is rising, especially in the populations of ethnic minorities. As noted

previously there exists strong evidence that links diabetes to adverse maternal, infant, and adult health outcomes. It is critical to identify educational opportunities early and incorporate the cultural and linguistic challenges that are noted barriers to improving birth outcomes (Collins-McNeil et al, 2012).

Preconception care strategies for women with diabetes must be made as a priority for support, resources and awareness of the devastating impact of diabetes and its complications on the maternal and infant outcomes. It is recommended that interventions reach reproductive-aged women with or at risk for diabetes. In addition, it is highly recommended that a concerted effort be made to target populations most at risk for negative impact for diabetes and birth outcomes. This would include the African American population by which specific objectives aimed at improving overall risk for diabetes and management of diabetes would be explored.

High Blood Pressure

High blood pressure is defined as the pressure of the blood against the blood vessel walls each time the heart contracts to pump the blood through the body as with a reading of systolic of 140 and diastolic of 90 or higher (American College of Obstetrics and Gynecology, 2014 a).

The monitoring and control of high blood pressure (HBP) is essential for an ideal cardiac status. There are critical life threatening consequences for uncontrolled blood pressure, which include stroke and myocardial infarction. High blood pressure is also known as the *silent killer (*CDC, 2014). There is well-documented evidence regarding women and HBP risks. For example, oral contraceptives have been linked in some studies

to an increase blood pressure in some women. These links were noted to be in women that were overweight and had other risk factors such as tobacco and alcohol use. Women with HBP and get pregnant have an increased risk for adverse outcome. Medications taken to control HBP are noted to be dangerous to the fetus during pregnancy (Bakker, Steegers, Hofman, Vincent, & Jaddoe, 2011). Women of childbearing with HBP need to practice different strategies to keep their blood pressure under control. For example, limiting salt and sodium will lower fluid buildup, which is one of the major factors impacting HBP (Coffman, 2011).

Weight control is also an area that impacts HBP control. Weight control aids in keeping blood pressure under control by maintaining the proper Body Mass Index (BMI). The negative outcomes associated with HBP involve harm to the mother's kidneys and other organs as well as LBW and early delivery of the infant.

All types of HBP can impact pregnancy outcomes. For example, HBP has detrimental effects on the fetus during pregnancy. The most significant effect is that with HBP there is a reduction of oxygen supply and nutrients being delivered to the fetus that results in delayed growth. The delayed growth further causes LBW. Pregnancy induced hypertension is a condition found during pregnancy which disappears after delivery. According to the National Heart, Lung, and Blood Institute (NHLBI), 70% of PIH cases are in first-time pregnancies. This indicates a need to determine risks, management, and support for first time pregnancies.

Individuals from the African American population have a higher incidence and risk for having or developing HBP than other populations (American Heart Association,

2013). There are many theories as to why African Americans are at a greater risk for developing HBP. For example, obesity, diet, and other chronic medical conditions are noted to increase the risks for African Americans. This presents a greater risk for this population for heart disease and death.

African American women of childbearing age with the risk factors of HBP would propose targeted educational strategies to decrease risk as well as to obtain optimal control. Preventing risk supports reducing adverse outcomes. This is the goal for women with HBP before and during pregnancy. This involves recognizing and understanding the risk factors for preeclampsia and eclampsia. It is recommended that all women of childbearing age have hypertension and are planning a pregnancy, schedule a visit with their health care provider for a preconception discussion. Being overweight, weight loss usually is advised before pregnancy. A medical condition such as diabetes should be well-controlled before becoming pregnant. The overall benefit of control HBP is that it supports the chance of having a positive pregnancy outcome.

Asthma

Asthma is a condition that involves the respiratory system by which oxygen is carried. Respiratory status is an important element for sustaining life. Asthma is one of the many chronic medical conditions that can be stabilized. The US Department of Health and Human Services (2011) reported that in 2009, 8.2% of the U.S. population was asthmatic. Women were diagnosed more with asthma than men as well as minorities versus their White counterparts.

The Center for Disease Control (2013b) found that women with asthmatic conditions suffer more symptomatically due to menstrual cycle, pregnancy, and menopause. The link between poorly controlled asthma and adverse birth outcomes has well-established evidence (Lim, Hussainy & Abramson, 2013). The adverse outcomes associated with poorly controlled asthma include LBW, prematurity, and fetal death. Asthma has been reported to affect 3.7 to 8.4% of pregnant women, making it potentially the most common serious medical problem to complicate pregnancy (CDC, 2012). Women of childbearing age diagnosed with asthma must learn to recognize when exacerbations are manifesting to avoid attacks. For example, triggers from dust, mold, pets, and vermin can be avoided and support positive asthmatic control.

It is recommended that women who have asthma and are pregnant continue to be under the close attention of their primary care provider or specialist. Close attention must be given to the environment and other elements of exacerbation to evade triggers. Women of childbearing age should also know that pregnancy can increase the likelihood of asthmatic event if the asthma is not monitored or controlled properly.

Other recommendations for women with asthma prior to pregnancy include maintenance of medications such as Albuterol. However, pregnant women with asthma should have this medication available at all times and avoid stopping the usage of asthma-controlling drugs when pregnant because this increases the risk for attacks.

The American College of Allergy, Asthma & Immunology (2014) found that the severity of asthma during pregnancy varies depending on the pregnant woman. Studies have shown that women whose asthma worsens have an increase in symptoms seen

between weeks 29 and 36 of pregnancy. Additionally, asthma is generally less severe during the last month of pregnancy. Overall, the severity of asthma symptoms during the first pregnancy is often similar in subsequent pregnancies (American College of Allergy, Asthma & Immunology, 2014).

The American College of Obstetrics and Gynecology (American College of Obstetrics and Gynecology, 2014 b) indicated that it is equally important for pregnant women with asthma to discuss their labor and delivery plans with their healthcare provider. This is due to provider's choice of medications commonly used during labor, delivery, and the postpartum period that could have a negative impact for women with Asthma.

Asthma & Allergy Foundation of America (n.d) found that in particular, African Americans are three times more likely to die from asthma than other races. African American women have the highest asthma mortality rate of all groups, more than 2.5 times higher than White women. In addition, African Americans are three times more likely to be hospitalized from asthma. This said, African American women of childbearing age need targeted strategies to reduce morbidity and mortality related to asthma (March of Dimes, 2014).

Overall, it is important for women of childbearing age to recognize and understand the link between asthmatic events and the increased risk for adverse birth outcome.

Behavioral Health

Psychological well-being has direct links to physical well-being (US Department of Health & Human Services, 2014). It is essential to have a balance of good psychological and physical health. Mental health disorders are noted to be the leading cause of disability in the United States and is further noted to account for 25% of disabilities and premature mortality (US Department of Health & Human Services, 2014).

Psychosocial factors during pregnancy such as anxiety and depression outline a significant association with poor birth outcomes (Dunkel Schetter, 2011). In particular, women of reproductive age have a higher incidence of depression and anxiety by self-report (Kaiser Family Foundation, 2011). Psychological well-being also plays a pivotal role in the development and outcome of a pregnancy. There are many adverse outcomes associated with mental health in pregnancy. For example, the role of maternal depression and the outcome of LBW has been studied with results indicating a strong association. Other research involving maternal mental status and birth outcomes found evidence suggesting that poor development of the fetal nervous system and alterations in neuro fetal functioning results from negative maternal mental health dysfunction.

Witt, Wisk, Cheng, Hampton, and Hagen (2013) found that poor preconception of mental health was a significant risk factor for pregnancy complications. The study indicated a possible link between non-live birth and LBW. This would suggest an association with positive mental health status and improved birth outcomes.

The evidence is unclear whether racial disparities in depressive symptoms can be explained by cultural or socioeconomic factors. However, there is ample evidence that important differences exist in depression care. For example, African Americans are significantly less likely than their counterparts to receive appropriate depression care (Watson, Roberts & Saunders, 2012).

Researchers have shown that primary care physicians are less likely to detect, treat, refer, or actively manage depression in minority patients than in other patients (Miranda & Cooper, 2004). Also, African Americans are less likely than their counterparts to seek specialty mental health care, accept recommendations to take antidepressants, or view counseling as an acceptable option.

The above presents barriers for African American women of childbearing age to receive the appropriate treatment for mental health. Studies coupled with outlined information indicates that for African American women of childbearing age, trust and appropriate assessment and appropriate treatment options must first be addressed.

There has been a recent body of knowledge that outlines how African American women see mental health as a stigmatizing diagnosis. Mental health among the African American community as a whole is considered taboo. Staton-Tindall, Duvall, Stevens-Watkins and Oser (2013) found that African Americans use spiritual strategies to cope with most illnesses. A study conducted to identify strategies for African Americans with mental health, drug use, and traumatic life events indicated a higher use of faith based strategies versus traditional counseling methods Staton-Tindall et al, 2013. In particular, African American older women versus younger adult women were noted to have a higher

level of spirituality with regard to coping with mental health issues. This would suggest that the use of faith-based strategies would have a higher impact for this population than the traditional approach to mental health care.

Preconception care approach involving mental status needs a focus on identification of those with indication of psychiatric disorders. Once identification of mental status is established, stabilization of psychological status is critical. Medications utilized to stabilize psychological status must also be reviewed and considered for both risks and benefits. African American women of childbearing age will need to have specific areas of noted challenged addressed in order for African American women to entertain the outlined strategies presented. This includes appropriate assessment and treatment options as well as collaboration with faith based organizations within the African American community.

Summary

The review of literature explored research on risk factors involving negative birth outcomes. The articles provided support outlining the impact of Preconception strategies and its fundamental role in improving birth outcomes. Some studies reviewed noted the negative consequences that exist for modifiable interventions. Overall, the literature review outlined evidence based approaches to increasing the chance of positive pregnancy outcome. Studies noted how both lifestyle and behavior changes are colossal to preparing for a pregnancy in the future.

Preconception care strategies and education specific to African Americans related to improving birth outcomes was one of the gaps found in the research. As noted

previously, African Americans have the poorest birth outcomes, which is why studies that specifically explore race and birth outcome are essential for focused interventional planning.

Chapter 3: Research Method

Introduction

This study used a quantitative approach to determine if preparing for a pregnancy early improved birth outcomes among African American women of childbearing age. Secondary data analysis will be conducted of an existing database collected and maintained by the Rhode Island Department of Health. The research design and approach, sample, instrumentation and materials, data collection and analyses, and ethical considerations will be discussed in this chapter.

Purpose of the Study

The purpose of this study was to determine if there is a relationship between preparing for a pregnancy early and improved birth outcomes. Preparation for a pregnancy involves lifestyle and behavioral changes. Both lifestyle and behavioral changes have the ability to improve overall health status. Research has indicated how evidence-based interventions are critical before a woman becomes pregnant or early in her pregnancy to improve the health of the pregnancy outcomes. Improving the health and well-being prior to pregnancy is foundational to eliminating disparities in maternal and infant morbidity and mortality (CDC, 2013b).

This study sought to explore the potential relationship with improving birth outcomes prior to pregnancy in support of preconception strategies.

Research Design and Approach

The purpose of this quantitative study was to outline whether or not preparing for a pregnancy early improves the birth outcomes among African American females of

childbearing age. This study used a correlational approach to determine whether or not preparing for a pregnancy early improves birth outcomes. Specifically, it outlined if there was a relationship between preconception care education and future positive reproductive outcomes.

The plan used a chi square statistic to investigate the relationships between preparing for a pregnancy early and improving birth outcomes. A chi square statistic was the appropriate method to be used for this study. Participants in this study reported their experiences and knowledge about preparing for a pregnancy.

PRAMS participants were not randomly assigned to any particular group. They were deemed as participants by returning the survey. The responses to the survey questions were manipulated and indicated the experiences of women of childbearing age.

Preconception care has begun to be the gold standard for improving birth outcomes (American College of Obstetrics and Gynecology, 2014 a). Birth outcome research is a well-documented with regard to using quantitative methodology to determine reproductive risks and the resulting outcomes. There are numerous preconception health components that impact pregnancy outcomes. However, leading public health agencies poised to develop and implement preconception health education and policies have failed to come to a consensus regarding the necessary components for inclusion in preconception health. This inconsistency hinders further development of the preconception health movement. The aim of preconception health is to reduce infant morbidity and mortality above and beyond the preventive impact of prenatal care.

Correlational studies are used frequently when studying the effect that independent variables have on the probability of obtaining a particular value of the dependent variable (Frankfort-Nachmias & Nachmias, 2008). The advantages of this approach include allowing researchers to: (a) look at relationships between variables, (b) quantify the relationship between variables, (c) determine the links between the independent and dependent variables, and (d) provide a powerful test of significance (Frankfort-Nachmias et. al, 2008).

Qualitative or mixed methods could have also been used. However, qualitative methods are timely and the costs can be expensive (Creswell, 2009). Also, due to the researcher's close involvement in the study, the results often have a subjective view, which can be seen as biased. Mixed method studies also have many challenges associated with their use. For example, resources are a major challenge. Mixed method design use multiple forms of collected data sources. The mixed method research approach requires resources involving multiple steps and also takes extensive time to complete (Creswell, 2009). A significant amount of time is also required for data collection and analysis.

Research Setting and Population Sample

For all research questions in the study, the source of the data was from the Rhode Island PRAMS survey for 2011 and 2012. Rhode Island PRAMS surveys all mothers who deliver a low birth weight infant and additionally over-sample women with births occurring in the core cities of Central Falls, Newport, Pawtucket, Providence, West Warwick and Woonsocket.

Participants

The participants of the study were those surveyed by the state of Rhode Island PRAMS program collected for the years 2011 and 2012 that delivered a baby in the state. The criteria for women surveyed are those who delivered a live birth. Women who deliver a still born or intra uterus fetal demise are not included in the PRAMS data set. Permission is received based on survey returned (see letter and informed document appendix B). The participants in the PRAMS survey were between the ages of 10 to 46 years and were classified as African American, White, Hispanic, Asian, or other.

The PRAMS survey is a tool that randomly chooses females who recently delivered a live newborn to receive the survey by mail (RIDOH, 2014). If no response is given a second survey is mailed out and if no response is yielded after the second survey is sent, a third survey is mailed. Participants met PRAMS criteria for the following reasons: (a) delivered a live newborn; (b) gave birth in the state of RI (c) they were presumed to have experienced a variety of life events both positive and negative in nature; (d) their educational background provided them with the necessary reading comprehension skills to complete the questionnaires; (e) this school district employs a diversity of teachers from varying ethnic and age backgrounds.

The purpose of the PRAMS survey is to improve the health of pregnant women and their babies (RIDOH, 2014). Another purpose of the PRAMS survey is identify participants that are high risk for health problems, monitor for unintended pregnancy, access to prenatal care as well as measure progress towards public health goals for improving the health of mothers and infants (RIDOH, 2014).

Procedures

The PRAMS questions are both tested before they are implemented, and evaluated after they are implemented (B. Morrow, personal communication, September 15, 2014). No retest reliability testing was included in PRAMS questionnaire. It was noted that before the questions are implemented, they are tested by focus groups for clarity. The questions are also evaluated for proper skip pattern adherence, and consistency (B. Morrow, personal communication, September 15, 2014).

The PRAMS sample size is designed to yield a desired precision with a desired confidence level in association with sampling stratum (B. Morrow, personal communication, September 15, 2014). In particular, Rhode Island results in 100% sampling for Low Birth Weight births, and between 1 in 5 and 1 in 9 sampling for Normal Birth Weight births (B. Morrow, personal communication, September 15, 2014.) The formal power calculations and software are not written for complex sample designs such as that which PRAMS employs (B. Morrow, personal communication, September 15, 2014).

The participants in the PRAMS Rhode Island receive the survey via mail. The state of RI department of individuals who indicate that they are in agreement to the conditions for participation in the study will receive a coded packet of forms that will include an instruction sheet for completing all enclosed forms as well as designating a completion date for mailing all information back to the researcher. A brief demographic form will inquire as to the gender, age, educational background, and ethnicity of participants. The questionnaire collects information, a self-addressed stamped envelope is

provided with study packet so that all completed information can be returned to the researcher at their home address.

Instrumentation/Analysis

This research involved secondary data from the PRAMS Rhode Island and involved women surveyed from 2011-2012. The PRAMS questionnaire was first developed in 1987 and the instrument was edited and revised by the Center for Disease Control and Prevention and continues to undergo refinement with state review (B. Morrow, personal communication, September 15, 2014). Each state has specific questions that are directly linked to their specific reproductive issues.

PRAMS survey is an effective scale to identify if preparing for a pregnancy early improves birth outcomes. The PRAMS survey is an 81 question Likert-type self-report questionnaire. The researcher secured a copy of the PRAMS survey after directly contacting Rachel Cain via email inquiring as to the Rhode Island PRAMS survey. Permission to use the data in this study was granted by The Rhode Island Department of Health as can be evidenced by email consent. A copy of all correspondence between the researcher, Rachel Cain and Brian Morrow are available in Appendix E.

Data was extracted from surveys that were noted as completed. The participants' data was coded to calculate participant responses to the PRAMS data set and was entered into SPSS for analysis. Other demographic information was also collected such as: age, marital status, insurance, para/gravida, zip code, education, planned pregnancy, smoking status, as well as if medical or behavioral conditions exist.

Data collection for this study involved reviewing data from the PRAMS Rhode Island database and extracting the participants' data. The data collection process involved de-identification with the information to be formatted onto a Microsoft Excel sheet. The information from the Microsoft Excel sheet was stored on a personal computer that only the researcher had access to that was password protected. Appropriate skip patterns will be noted and explained as indicated and as applicable.

The statistical analyses used in this study, and all of the data analysis was conducted through SPSS (version 21) and consisted of two components. There will be descriptive analysis that will calculate and describe the demographic variables, such as age range, marital status, smoking, alcohol use and conception plans. The second component will consist of testing the hypotheses by using chi square analysis and a *t* test. The *t* test assesses whether the means of two groups are statistically different from each other (Trochim, 2006).

Research Questions

The following research questions and hypotheses will be tested.

Research question 1.

Is there a significant difference between the rates of unintended pregnancies for African American women versus White women in the state of Rhode Island?

H_o^1: There is no difference between the rates of unintended pregnancies for African American women versus White women in the state of Rhode Island.

Research question 2.

Is there a difference between the rates for African American women compared to White women in Rhode Island receiving preconception care information?

H_o^2: There is no difference between the rates for African Americans compared to White women in Rhode Island receiving preconception care information.

Research question 3.

Is the infant mortality rate of African Americans higher than other races in Rhode Island?

H_o^3: The infant mortality rate amongst African Americans is not higher than other races in Rhode Island.

H_o^4: The infant mortality rate for African Americans is lower than the Hispanic population in Rhode Island.

Description of Variables

The variables involved in this study will be classified into two categories. The dependent variables include birth outcome (Normal, preterm delivery, LBW). The independent variables include race, age, pregnancy planned/unplanned, preconception information provided/not provided and infant mortality rates across race. See table below:

Table 1

Dependent Variable

Category	Variable	Measure
Birth outcome	Previous normal delivery	Rate of normal delivery
Birth outcome	Previous preterm delivery	Rate of preterm birth
Birth outcome	Previous normal birth weight	Rate of normal birth weight
Birth outcome	Infant mortality	Rate within 1st year of birth

Table 2

Independent Variable

Category	Independent Variable	Measure
Characteristic	Race	Black/White
Characteristic	Age	Years
Characteristic	Pregnancy intention	Planned/unplanned

Ethical Considerations

This study was conducted using the highest level of ethical standards. The original survey participants had the right to refuse participation by not returning the survey after receiving it (RIDOH, 2014). Participants' names were not included in any reports of this research. No identifiable information was reported about participants or released. All information obtained for this the study was held to strict confidentiality. The original survey participants volunteered. A review of the survey by researcher indicated no unusual risks to participants were identified. All participants had the right to withdraw from the survey at any time without negative consequences as indicated in the PRAMS survey instructions. There were no risks for harm to participants related to the study participation.

For the purpose of this study, approval was obtained by Walden University Institutional Review Boards prior to conducting this study. The researcher was the only person with access to the database for this study. No names were used in this study and participants were given a numerical code for identification purposes.

Chapter 4: Results

Introduction

This chapter examines whether preparing for a pregnancy in advance improves birth outcomes in the state of Rhode Island, for African American women of childbearing age. The findings from the study are presented along with the theoretical approach, dependent and independent variables. In addition, this chapter describes the characteristics of the study participants, which includes age, marital status, highest grade range completed, pregnancy intention, and WIC status and preconception care education elements. The final part of the chapter describes the different types of analysis utilized such as descriptive statistics, chi square and *t*-tests.

The Statistical Package for the Social Sciences (SPSS) was used for all analyses. It is noteworthy to outline that the data obtained from the RIDOH needed to be cleaned and recoded in order to run statistical analysis for this study. Means, frequencies, and percentages were used to describe the demographic characteristics of the study participants.

Results

Descriptive Statistics

This study included a sample of women (n = 3030) from 2010-2011 of childbearing age ranging from (14 to 50) with a mean age of 28.6 years. Results revealed that 40.9% of the participants were single, 50.1% were married, and 4% were unknown.

Other statistical findings indicated that more than 40.7% of the women that participated in the survey indicated receiving WIC services.

Table 3

WIC Services by Marital Status

Variable	Number	Percentage
WIC (married)	1302	64.6%
WIC (single)	715	35.4%
Total		100%

Table 3 above depicts the number of WIC participants based on marital status (i.e. married versus single). As noted previously, WIC is a supplemental nutrition program for women and children found to be at risk nutritionally. There is an additional component of the program that is based on income. The results were opposite of what were expected with more married WIC participants than single. These results may indicate that the married households met the income criteria to participate as well as the sample being randomized to include more women that were married.

Among the participants, 53.4% reported having an education post high school and the rest of the participant's reported an elementary, middle or some high school education. Further, only 62.3% of respondents reported using a birth control method post-delivery. The other survey respondents indicated not using any type of birth control method post-delivery (see Table 4).

Table 4

Birth Control Use Post Delivery

Birth Control	Frequency	Percentage
No	667	17.9%
Yes	1104	29.6%
Not answered	1958	52.5%
Total	3729	100%

The literature suggests a high incidence of unintended pregnancies is correlated with birth outcomes (CDC, 2014). This suggests that more women would use birth control in order to impact birth outcomes. As noted in Table 4 above, participants that indicated they were using a birth control method post-delivery was higher (29.6%) than participants reporting not using birth control post-delivery (17.9%). Less than half of the women surveyed completed this question making this finding less significant overall. However, these findings do support the need for more education both pre and inter-conception regarding appropriate birth spacing for improved birth outcomes.

Tests of Hypotheses and Research Questions

Unintended pregnancy. Differences in unintended pregnancy rates were evaluated between African Americans and all other races in Rhode Island Survey respondents were asked whether their current pregnancy was intended or unintended. A chi square statistic was used to assess the difference between the two groups. See Table 5 Pregnancy Intention below. It is important to note that 66.5% of respondents left the survey unanswered, leaving the remaining n = 1,251.

Table 5

Unintentional Pregnancy Versus Intentional Pregnancy

Race	Unintentional Percentage	Intentional Percentage
White	35%	65%
African American	59%	41%

Results show that there is a statistically significant difference between the unintended pregnancy rates for African American versus White women in the state of Rhode Island, $\chi^2 = 31.391$, $p \leq 01$. Similar to other research (CDC, 2010) these data show

that African American women of childbearing age have a higher percentage of unintended pregnancies than do other races in the state of Rhode Island.

Preconception Education

Research Question 2. A t-test was used to investigate preconception education differences between African Americans and other races. Preconception Care education consisted of smoking, diabetes, alcohol use, folic acid information. Results show that preconception care education is not significantly different between the African Americans and the White population.

Infant Mortality Rates in Rhode Island

Research Question 3. To investigate differences in infant mortality rates among African American women and women of other races in Rhode Island a *t*-test was performed. The results indicate that there was a significant difference in the infant mortality rate for African American women. This difference indicated a rate more than three times higher than women of other races in Rhode Island. Important to note is that although the number of births for women of other races was higher than for African Americans, the rate of infant mortality was tripled for African American women in Rhode Island (see Table below).

Table 6

Infant Mortality Rate Between African American Women and Other Races (2010-2011)

Years: 2010/2011	Infant Deaths	Births	Percentage
African American	18	976	1.84
All other	61	10190	0.59

Test of Variables

The dependent and independent variables for the study included current and previous birth outcomes such as a previous live birth, a previous normal delivery, a previous preterm delivery, current premature rupture of placental membranes (PROM) and current status of newborn if infant was placed in the ICU. The results are investigated between African Americans and Whites for birth outcomes with the current and previous pregnancy. (See Table 7 below.)

Table 7

Previous and Current Birth Outcomes

Variable	African American		White		Total N
	Yes	No	Yes	No	
Infant ICU (2010-2011)	95	70	405	794	1364
Preterm Labor (2010-2011)	29	144	227	999	1399
PROM (2010-2011)	30	143	220	1004	1397
Previous Normal Birth Weight	42	54	446	164	726
Previous Live Birth	80	45	590	513	1228

The table depicts the race in comparison to whether or not the participants answered yes or no for the outcome variables. The Infant ICU at birth outlines that the African American infants in comparison to the White infants had a higher number of admission. There was however, a lower number of African Americans in comparison to Whites who answered the question. Also of note is that there was over 63% of the cases missing for this test statistic. These results are not representative of the population. For preterm labor, White women had a higher number than African American women did. Again, the number of Whites in comparison to African Americans that answered the question was higher. There were 62.5% of the cases missing which would not be

representative of the entire population. African American women had a lower number of PROM compared to White women. It is noteworthy to point out that over 62% of the cases were missing as well as the number of Whites that answered this question was higher than African Americans. The population for this statistic is not represented entirely. For previous live birth and previous normal birth weight, the results indicate that although African American women had a lower number of participants than Whites, the previous live birth and previous normal birth weight for this population was significantly poorer than Whites. For the previous normal delivery, there were over 80% of the cases missing and for previous live birth, there were over 67% of missing cases. This indicates that the results are not representative of the entire population for this statistic.

Table 8

Previous/Current Pregnancy Outcomes

Variable	2	*p* Value
Infant ICU (Birth)	35.375	.000
Preterm Labor	.311	.577
PROM	.041	.839
Previous Normal Birth Weight	36.205	.000
Previous Live Birth	5.002	.025

The above table 8 results outline the *p*-value is 0.000 for infants ICU at birth. Because the *p*-value is less than the significance level of 0.05, you reject the null hypothesis. Therefore, you can conclude that there is a difference in the birth outcome of the infants in the ICU for African American infants compared to White infants. Also the result for the above table outline the *p*-value is 0.00 for previous normal birth weight. Because the *p*-value is less than the significance level of 0.05, you reject the null hypothesis. Therefore, it can be conclude that there is a difference in previous normal

birth weights for African American women and White women compared. The results above outline the *p*-value as .025 for previous premature birth. Because the *p*-value is less than the significance level of 0.05, the null hypothesis is rejected. Therefore, it can be concluded that there is a difference in previous preterm births for African American women compared to White women. The statistic for preterm labor and PROM was not statistically significant.

Summary

This study sought to determine whether preparing for a pregnancy in advance improved birth outcomes for women in Rhode Island. Using the SPSS v21 statistical package, this research accepted 1 but rejected 2 of the null hypotheses.

- There was a difference between the rates of unintended pregnancies for African Americans women versus White women in the state of Rhode Island.
- There was no difference found between African American women and White women receiving preconception care information in Rhode Island?
- The infant mortality rate of African Americans was higher than other races in Rhode Island?

This chapter presented the findings from the analysis involving the research questions and test of variables from the Rhode Island PRAMS data set from 2010-2011. Many of the findings yielded results that were expected along with results that were surprising. It is also noteworthy to point out that some of the data analyzed from Rhode Island PRAMS was missing, the population of African Americans in comparison to the

other races in the state of Rhode Island for births were lower as well as there were questions that were skipped due to questions not being relevant to the survey participant.

The next chapter will summarize the study and outline conclusions for the data presented in Chapter 4 and, as a result, explaining the research questions, hypotheses, and comparisons of the current study findings with data from past research presented in Chapter 2. Chapter 5 will discuss social change implications and provide recommendations for action. Chapter 5 will also review the limitations of the study, and the possible implications for future study and researcher conclusion.

Chapter 5: Discussion, Conclusions, and Recommendations

Overview

A pregnancy that is planned increases the chances of a positive birth outcome. Past and present research indicates that preparing for a pregnancy reduces the incidence of a poor birth outcome.

This study was conducted to determine whether or not preparing for a pregnancy in advance improves birth outcomes for African American women in the state of Rhode Island. An additional purpose of the study was to outline the impact of lifestyle and behavioral choices in relation to birth outcomes in the lives of African American women. Previous studies focused on how both lifestyle and behaviors impact birth outcomes as well as how access to prenatal care improves the outcome of a pregnancy.

This retrospective study was done by utilizing secondary data collected by the RIDOH, which consisted of women ages 14 to 50 from Rhode Island who delivered a live infant during the years 2010 through 2011.

Interpretation of the Findings

The null hypotheses was rejected for 2 out of the 3 research questions in this study involving whether or not preparing for a pregnancy in advance improves birth outcomes. In particular, the analysis in this study for African American women receiving preconception information was similar to the women of other races. However, previous studies conducted on pregnancy outcomes indicate African American women of childbearing age have significantly the poorest birth outcomes than that of other races particularly when these women have other factors that can negatively impact the

outcome. A study by Lu, Kotelchuck, Hogan, Jones, Wright, et al, (2010) outlined how behaviors and lifestyle choices impact birth outcomes but do not adequately account for the gaps that exist for negative birth outcomes for African Americans. Other studies involving preconception education identify disparities in birth outcomes noted social disparities with regard to equity and inequity of health services to have an impact on African Americans and birth outcomes (Smith, 2013). Preconception care and counseling continues to be the key recommendation for practice to improve birth outcomes. The goal of preconception care is to ensure that a future pregnancy is healthy to achieve a positive birth outcome.

The rates of unintended pregnancies for African Americans versus White women in this study were slightly higher with regard to intent to become pregnant. This is consistent with and supports the outcomes of the literature currently. Previous and current research on pregnancy intention indicates that African Americans have higher rate of unintended pregnancies than other races. Cohen, (2008) outlined how African Americans have a higher abortion rate than other races and equate termination of pregnancy as an unintended pregnancy. In (2010) according to the Center for Disease Control and Prevention, non-Hispanic black women had the highest abortion rates (31.8 abortions per 1,000 women) than other races (CDC, 2013d). A study by Dehlendorf, Rodriquez, Levy, Borrero, and Steinauer, (2010) outlined the impact of social and cultural factors on the issue of unintended pregnancies. Dehlendorf et al, (2010) further supports that African Americans are the group that suffers the poorest birth outcomes when an unintended pregnancy results in a birth.

The researcher did expect a higher rate of unintended pregnancy for African Americans than found. However, given the number of births for this population, the findings were not completely different from what was predicted. The evidence from previous studies indicated a higher rate of unintended pregnancies than found in this study.

The infant mortality rate for African Americans resulted in a higher rate than other races in this study. Previous studies are consistent with these findings. There are multifaceted causes that have been studied as to why the African American infant mortality rate is higher than other races. March of Dimes outlines that African American women are more than one and a half times as likely to have a preterm, which is the leading cause of infant mortality compared to White women (March of Dimes, 2013). This disparity exists even when age, education and other demographics are considered. Infant mortality is also caused by LBW babies. A study by Love, David, Rankin, and Collins, 2010, described how economic barriers for African American women are closely associated with LBW and further promotes poor birth outcomes compared to White women. The information from this study did not outline the economic barriers for African Americans of childbearing age. However, there is vast evidence in the current literature that supports that poor birth outcomes are partly associated with low socioeconomic status.

Another perplexing result discovered from this study was the survey respondents receiving WIC during pregnancy. There were more married women that reported receiving WIC services than that of single women. As previously noted, WIC services is

a nutritional supplemental program for women and children. According to the USDA, 2015 eligibility for WIC services are based on categorical, nutritional status, income and residence. There are states that have WIC agencies that don't have enough funding to serve all its population. When this occurs these WIC agencies must put pregnant women on waiting lists. The state of RI is not a state that faces this type of issue.

This researcher expected the WIC services recipients to be higher for single women versus married. The data did not have follow-up questions that outlined whether or not the spouses of the respondents were unemployed or working part-time, which could partly explain the results.

Lastly, many of the survey respondents indicated having an education level at high school or greater. This was a surprising result due to the recent Rhode Island Kid Count report for 2015 that indicated that over 44% of single females in Rhode Island between 2011 and 2013 had less than a high school diploma and were poor. The report also indicated that only 8% of single females had a bachelor's degree or higher. The only explanation to support this information is that perhaps in 2010 the educational level was higher and started to decline in 2011 and beyond. There were no follow-up questions noted in the PRAMS survey to draw other conclusions.

Transtheoretical Model

The TTM, also known as readiness to change model, was the lens by which this study was based. I hypothesized that the results would indicate that African American women of childbearing age would not have equal access to or have an understanding of the importance of preconception care education as that of other races due to the poor

outcomes of African Americans. The TTM would be an appropriate model for changing the behaviors of African American women of childbearing age if there a gap in accessing preconception education and resources was an issue.

There is well-documented evidence that higher rates of unintended pregnancies are more often found to be individuals living in poverty and also of African American descent (Finer & Henshaw, 2006). The TTM applied to pregnancy intention for African American women of childbearing age would be an appropriate strategy. The stages of change would allow for targeted education for the African American population inclusive of culture and literacy. As noted previously, the stages of change has milestones for application that would support specific education at each stage. This study in particular indicated that African American women had a slightly higher unintended pregnancy rate than the other races. The TTM would support the strategy of reducing unintended pregnancy by increasing awareness of the risk of not planning a pregnancy in advance as well as outlining the benefits of postponement and contraceptive protection. Furthermore the focus of the TTM for pregnancy intention is also to motivate and encourage in order to make plans for risk reduction for a future pregnancy, i.e. planned versus unintended. The TTM supports developing goals for postponement until planned.

The infant mortality rate would be decreased for African Americans for childbearing age using the TTM as the foundation for readiness to change behaviors as applicable. The overall premise of TTM is to promote behavior change. The findings of the study outlined how the TTM did not fit for all the research questions but would be instrumental in changing the behaviors of unintended pregnancies. I believe the Health

Belief Model (HBM) in conjunction with TTM would provide a larger lens and provide a more robust framework for identifying strategies to improve birth outcomes.

Recommendations for Further Study

This study outlined the importance of Preconception Care education and its link to decreasing adverse birth outcomes. The infant mortality rate amongst the African American population continues to be higher despite preconception education and access to prenatal care. This said, future studies should seek to outline and address other factors that could possibly contribute to the poor birth outcomes and infant mortality of this population such as the physiological and environmental factors.

Further study should also consider the social determinants of health and its impact on birth outcomes. It is noteworthy to mention that racism itself may be a significant factor in negatively impacting birth outcomes. The HBM is another recommended model that should be considered for future studies involving improving birth outcomes for African American women of childbearing age. This model could help explain "the what" and "the why" African Americans don't change when negative behaviors exist. Assessing the health beliefs of African American women of childbearing age would be qualitative in nature and could possibly provide the necessary understanding needed for promoting positive healthful behavior change as well as be instrumental in developing culturally appropriate educational materials.

Of note, there is also a growing body of knowledge that proposes that the placenta of African American women may be genetically different than that of other races. Further future research should be explored in this area and in greater detail to determine its

relevance. If these further studies prove true then it may be necessary to seek biophysical interventions.

This study was focused on the African American population and the birth number was smaller than the other races surveyed in the state of Rhode Island. As a result, further research is needed to determine if the outcomes of African Americans would be the same if the population was larger.

A final recommendation of this study involves policy level studies. Studies that involve reviewing interventional costs and cost related outcomes at the local, state and national levels involving programs aimed at improving birth outcomes. This would be a paradigm shift from reactive care to preventative care. These studies alone would outline whether or not the return on investment (ROI) of new programs is worthy of changing such as with practice guidelines. The practice guidelines must focus on preconception education as well as interconception and postpartum education. Policy level changes to make preventative care part of ongoing practice guidelines will change how care is delivered and will change how funding is allocated. Studies would need to be done to support this change in operations.

Implication for Social Change

Improving birth outcomes through preconception care strategies has implications for social change at various social/ medical levels. The results from this research study indicated that African Americans in the state of Rhode Island have a higher infant mortality rate than other races, and have less preconception care education than their counterparts. For that reason, having a voice at an individual, family and community

perspective will be instrumental in fostering positive social change. At the individual level African American women of childbearing age in Rhode Island should be empowered to seek the necessary information and education about preparing for a pregnancy early in order to give birth to a normal weight infant that is able to thrive and be healthy which will avoid poor birth outcomes. Healthcare providers need to be reminded of the importance of these necessary conversations. At the individual level, this would involve changing behaviors and lifestyle choices known to impact birth outcomes. At the family and community level, reinforcement of adopting healthy behaviors will be essential to maintain the positive behaviors. This would involve open discussions in the communities and neighborhoods about preparing for a pregnancy and the negative behaviors that must be addressed. Overall this would promote a positive social, healthy and financial future for the community.

Specific strategies to jump start the social change would involve social media campaigns. These strategies would be specifically directed at the African American population that are culturally and linguistically appropriate. Policy level changes across all health/social disciplines would be an additional reinforcement and sustainability component. This would allow for improving birth outcomes and reduction of health disparities. Policy changes in Rhode Island must begin with making preventative care for women of childbearing age an important agenda item. Although Rhode Island has multiple coalitions and committees dedicated to this issue such as the Prematurity Task Force, Preconception Care work group and other smaller organizations within the minority community, the outcomes are still poor for African Americans.

The economic implications could be costly for taxpayers if unsuccessful and may lead to a huge return on investment (ROI) if successful. The net cost of hospitalizations and long-term care of very sick infants is just a small portion of the implications. For example, the cost associated with caring for preterm and LBW infants is very expensive for those insured through both private and public insurance (Marc Hodek, Von der Schulenberg, & Mittendorf, 2011). According to the Institute of Medicine (IOM), the total cost of a poor birth outcome is $26.2 billion each year (IOM, 2007). The medical costs itself nets to about $16.9 billion for poor birth outcomes. If the infant survives, the programs and services needed will cost 1.1 billion (March of Dimes, 2015).

The emotional and psychological implications are significant to individuals, families and communities. Emotionally individuals and families fear the mortality of the new born. This fear promotes behavioral health sequel. The overall health disparity is a societal problem. The mortality of any population has severe implications for all populations.

Limitations of the Findings

The data sent from the RI Department of Health had data points that The PRAMS survey itself for 2010-2011 had high potential for recall bias. The women who participated in the study were asked to recall information related to their preconception history as well as the prenatal period. Survey participants may have chosen answers that were not fully understood. The survey is mailed with instructions and has phone contact information for individuals who speak other languages that need help completing the survey. In addition, the survey was carried out post-partum, at a time when new mothers

are preoccupied with caring for their newborns, and thus may have been distracted at the time of completing the survey. A new mother is most times attentive to her new infant and may have rushed to complete the survey.

Another major limitation of the study was the number of African American women surveyed versus the other populations. As noted earlier, the number of births for African Americans was much smaller than that of Hispanics and White women. This does not allow for the results to be applied to a larger population.

Finally, in interpreting this study's findings, it is important to note that the data is from the state of Rhode Island. The birth rate for Rhode Island is smaller than most states. This limits the generalizability of the results.

It is also important to outline that the PRAMS survey has skip patterns. For example, there are questions that were not applicable to the respondents and therefore were skipped and not answered. This can greatly affect the number of questions answered.

Conclusion

Previous research indicated how access to early prenatal care positively impacts birth outcomes. Research indicates that African American women experience the poorest birth outcomes than other races despite access to early prenatal care. Other strategies such as behavior and lifestyle changes are noted to be instrumental in improving birth outcomes. However, current evidence conducted indicates that for African American women this is not the primary cause of poor birth outcomes. This study did not present any information that supports the impact of preparing for a pregnancy early on birth

outcomes. The researcher believes that further explanation involving social determinants of health is needed to better address and identify causal factors.

Removing the racial disparities that exist in the area of health will require strong commitment and a better identification of the social determinants of health known to have negative impacts on birth outcomes. Connections must be drawn between the racial patterning of health and disease and the racial patterning of economic, educational, political, housing, and employment opportunities. Emphasizing race as a marker of differential privilege and access is critical for focusing the health disparities discourse on the broader contextual factors that underlie racial variations in health. Scientific inquiry into the health consequences of racism and social inequality may provide new insights into the myriad factors linking society to biology. Such knowledge may prove instrumental in raising public awareness and in cultivating the political will needed to enact laws that may lead to a fundamental social change.

Recommendation for Action

Improving birth outcomes is an important health care and public health issue. The approach to achieving positive birth outcomes is multi-disciplinary. Ensuring that preconception care education is available to everyone as well as access to resources in support of behavior and life style changes is colossal to achieving a positive birth outcome. This would involve the development of programs that are inclusive of cultural and linguistic understanding as well as be available in the communities identified as having the poorest birth outcomes.

Identification of the risks of birth outcomes and the processes needed to reduce poor birth outcomes will need to have policy level involvement. In particular, preventative care will need to integrate into how care is delivered across the health care system. Access to these services will require policy level changes particularly for health insurance carriers to make available in their benefit package preventative care options that consider maternal strategies prior to pregnancy and access to nontraditional resources/services related to the social determinants of health.

There is also a role for academic institutions towards the improvement of birth outcomes. The schools of public health, medicine, nursing, social services and psychology need to ensure that their curriculum is inclusive of the components that address importance of cultural specific assessment, treatment and ongoing evaluation of vulnerable populations. It will be critical that the next generation of researchers, healthcare providers (behavioral and medical) be considerate of the changing needs of the population it will serve. An example of this is how academia can build partnerships with community support agencies as a strategic approach for engaging patients within settings where the patient is most comfortable. In the state of Rhode Island, primary care programs using unique approaches for delivering care in the communities versus the traditional clinic setting are emerging. This is the beginning of healthcare system changing it model of care by recognizing the importance of the meeting the community where they are versus where the providers are. Overall, the outcomes will be positive and will be demonstrated by the changes noted in individual, family, community and societal health status.

Who Will Benefit from the Results of this Study?

The results of the study will be valuable for both men and women of childbearing age, individuals in public health, all medical healthcare and behavioral health providers, educators and policy makers. Identification of risk early with the ability to reduce poor birth outcomes is epic to families, communities and all societies. Historically, the focus has been on improving access to prenatal services as a mechanism to improve birth outcomes. It is well documented that access is not the only factor contributing to poor birth outcomes. Community Health Workers interested in newer approaches for engaging the community through evidence-based strategies would also benefit from the results of this study.

Dissemination of Study Results

The results of this study will be disseminated to a larger audience utilizing a multi prong approach. This approach will begin with sharing the results with the Rhode Island Department of Health at their Maternal Child Health monthly meeting. Next the results would be shared with specific stakeholder organizations who are currently working on strategies to improve birth outcomes. An example is Rhode Island's Task Force on prematurity. This group involves stakeholders from multi sectors within the community whose mission is to outline strategies to address the issues of preterm births in the state of Rhode Island. A town hall style meeting would be the approach to share the results inclusive of a question and answer time.

After sharing the results with the stakeholders and partners within the Rhode Island community, another area to be sought is publication in journals and newsletters.

For example, the American Public Health Association (APHA) has multiple opportunities for public health professionals to write as well as present research. In addition, American Public Health Association (APHA) has an annual meeting where all areas in public health are represented. I would send my abstract along with key recommendations in hope of being able to present my findings at this venue.

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Appendix A: Pregnancy Risk Assessment Monitoring System (PRAMS)

Phase 6 Core Questionnaire

First, we would like to ask a few questions about you and the time before you got pregnant with your new baby.

1. At any time during the 12 months before you got pregnant with your new baby, did you do any of the following things? For each item, circle Y (Yes) if you did it or N (No) if you did not.

   a. I was dieting (changing my eating habits) to lose weight ..... N Y

   b. I was exercising 3 or more days of the week ..... N Y

   c. I was regularly taking prescription medicines other than birth control ..... N Y

   d. I visited a health care worker to be checked or treated for diabetes ..... N Y

   e. I visited a health care worker to be checked or treated for high blood pressure ..... N Y

   f. I visited a health care worker to be checked or treated for depression or anxiety ..... N Y

   g. I talked to a health care worker about my family medical history ..... N Y

   h. I had my teeth cleaned by a dentist or dental hygienist ..... N Y

2. During the month before you got pregnant with your new baby, were you covered by any of these health insurance plans? Check all that apply

   ___Health insurance from your job or the job of your husband, partner, or parents

   ___Health insurance that you or someone else paid for (not from a job) Medicaid (or state Medicaid name)

   ___TRICARE or other military health care

   ___State-specific option (IHS, etc.)

   ___State-specific option (state name for indigent care)

   ___State-specific option (SCHIP or CHIP program name)

   ___Other source(s) => Please tell us

___I did not have any health insurance before I got pregnant

3. During the month before you got pregnant with your new baby, how many times a week did you take a multivitamin, a prenatal vitamin, or a folic acid vitamin?

___I didn't take a multivitamins, prenatal vitamins, or folic acid vitamins at all

___1 to 3 times a week

___4 to 6 times a week

___Every day of the week

Insertion point for Standard question(s) G8

4. Just before you got pregnant with your new baby, how much did you weigh?

_____ Pounds OR _____ Kilos

5. How tall are you without shoes?

_____ Feet _____ Inches OR _____ Meters

6. What is your date of birth?

_____/_____/_____

Month Day Year

Insertion point for Standard question(s) L10

Insertion point for Standard question(s) L17, L18

7. Before you got pregnant with your new baby, were you ever told by a doctor, nurse, or other health care worker that you had Type 1 or Type 2 diabetes? This is not the same as gestational diabetes or diabetes that starts during pregnancy..... N Y

Insertion point for Standard question(s) L11

8. Before you got pregnant with your new baby, did you ever have any other babies who were born alive?..... N Y

If No, go to Question 11

9. Did the baby born just before your new one weigh more than 5 pounds, 8 ounces (2.5 kilos) at birth?..... N Y

10. Was the baby just before your new one born more than 3 weeks before his or her due date? ..... N Y

Insertion point for Standard question FF4

Insertion point for Standard question K1

The next questions are about the time when you got pregnant with your new baby.

11. Thinking back to just before you got pregnant with your new baby, how did you feel about becoming pregnant? Check one answer.

___I wanted to be pregnant sooner

___I wanted to be pregnant later

___I wanted to be pregnant then

___I didn't want to be pregnant then or at any time in the future

Insertion point for Standard question(s) Q4

12. When you got pregnant with your new baby, were you trying to get pregnant? ..... N Y

If Yes, go to Question 15

Insertion point for Standard question(s) Q7

13. When you got pregnant with your new baby, were you or your husband or partner doing anything to keep from getting pregnant? (Some things people do to keep from getting pregnant include not having sex at certain times [natural family planning or rhythm] or withdrawal, and using birth control methods such as the pill, condoms, vaginal ring, IUD, having their tubes tied, or their partner having a vasectomy.) ..... N Y

If Yes, go to Question 15

14. What were your reasons or your husband's or partner's reasons for not doing anything to keep from getting pregnant? Check all that apply.

___I didn't mind if I got pregnant

___I thought I could not get pregnant at that time

___I had side effects from the birth control method I was using

___I had problems getting birth control when I needed it

___I thought my husband or partner or I was sterile (could not get pregnant at all)

___My husband or partner didn't want to use anything

___Other => Please tell us:

Insertion point for Standard question(s) E3

Insertion point for Standard question(s) A1–A2, A4-A5

The next questions are about the prenatal care you received during your most recent pregnancy. Prenatal care includes visits to a doctor, nurse, or other health care worker before your baby was born to get checkups and advice about pregnancy. (It may help to look at the calendar when you answer these questions.)

15. How many weeks or months pregnant were you when you were sure you were pregnant? (For example, you had a pregnancy test or a doctor or nurse said you were pregnant.)

_____ Weeks OR _____ Months

_____ I don't remember

16. How many weeks or months pregnant were you when you had your first visit for prenatal care? Do not count a visit that was only for a pregnancy test or only for WIC (the Special Supplemental Nutrition Program for Women, Infants, and Children).

_____ Weeks OR _____ Months

_____ I didn't go for prenatal care => Go to Question 18

17. Did you get prenatal care as early in your pregnancy as you wanted? ..... N Y

If Yes, go to Question 19

18. Did any of these things keep you from getting prenatal care at all or as early as you wanted? For each item, circle T (True) if it was a reason that you didn't get prenatal care when you wanted or circle F (False) if it was not a reason for you or if something does not apply to you.

a. I couldn't get an appointment when I wanted one ..... T F

b. I didn't have enough money or insurance to pay for my visits ..... T F

c. I had no transportation to get to the clinic or doctor's office ..... T F

d. The doctor or my health plan would not start care as early as I wanted..... T F

e. I had too many other things going on..... T F

f. I couldn't take time off from work or school ..... T F

g. I didn't have my Medicaid (or state Medicaid name) card..... T F

h. I had no one to take care of my children ..... T F

i. I didn't know that I was pregnant..... T F

j. I didn't want anyone else to know I was pregnant ..... T F

k. I didn't want prenatal care..... T F

If you did not go for prenatal care, go to Page #, Question 21.

Insertion point for Standard question(s) R15

19. Did any of these health insurance plans help you pay for your prenatal care? Check all that apply.

___Health insurance from your job or the job of your husband, partner, or parents

___Health insurance that you or someone else paid for (not from a job) Medicaid (or state Medicaid name)

___TRICARE or other military health care

___State-specific option (IHS, or tribal/state name)

___State-specific option (state name for indigent care) State-specific option (CHIP or SCHIP program)

__Other source(s) => Please tell us:

___I did not have health insurance to help pay for my prenatal care

20. During any of your prenatal care visits, did a doctor, nurse, or other health care worker talk with you about any of the things listed below? Please count only discussions, not reading materials or videos. For each item, circle Y (Yes) if someone talked with you about it or circle N (No) if no one talked with you about it.

a. How smoking during pregnancy could affect my baby..... N Y

b. Breastfeeding my baby..... N Y

c. How drinking alcohol during pregnancy could affect my baby ..... N Y

d. Using a seat belt during my pregnancy ..... N Y

e. Medicines that are safe to take during my pregnancy ..... N Y

f. How using illegal drugs could affect my baby ..... N Y

g. Doing tests to screen for birth defects or diseases that run in my family ..... N Y

h. The signs and symptoms of preterm labor (labor more than 3 weeks before the baby is due) ..... N Y

i. What to do if my labor starts early ..... N Y

j. Getting tested for HIV (the virus that causes AIDS) ..... N Y

k. What to do if I feel depressed during my pregnancy or after my baby is born ..... N Y

l. Physical abuse to women by their husbands or partners ..... N Y

Insertion point for Standard question(s) R1

Insertion point for Standard question(s) R3, R4, R18, R5

Insertion point for Standard question(s) R12, R2, R17, R16

Insertion point for Standard question(s) K4, R13

Insertion point for Standard question(s) R14

Insertion point for Standard question(s) R9–R11

Insertion point for Standard question(s) R6–R8

21. At any time during your most recent pregnancy or delivery, did you have a test for HIV (the virus that causes AIDS)?

___No ___Yes ___I don't know

Insertion point for Standard question(s) I7

Insertion point for Standard question(s) I4–I6

Insertion point for Standard question(s) I2–I3

Insertion point for Standard question(s) G5

Insertion point for Standard question(s) G1–G4

Insertion point for Standard question(s) L12–L15

22. During your most recent pregnancy, were you on WIC (the Special Supplemental Nutrition Program for Women, Infants, and Children)? ..... N Y

Insertion point for Standard question(s) B7-B8

23. During your most recent pregnancy, were you told by a doctor, nurse, or other health care worker that you had gestational diabetes (diabetes that started during this pregnancy)? ..... N Y

Insertion point for Standard question(s) N7, N6

24. Did you have any of the following problems during your most recent pregnancy? For each item, circle Y (Yes) if you had the problem or circle N (No) if you did not.

a. Vaginal bleeding ..... N Y

b. Kidney or bladder (urinary tract) infection ..... N Y

c. Severe nausea, vomiting, or dehydration ..... N Y

d. Cervix had to be sewn shut (cerclage for incompetent cervix) ..... N Y

e. High blood pressure, hypertension (including pregnancy-induced hypertension [PIH]), preeclampsia, or toxemia..... N Y

f. Problems with the placenta (such as *abruptio placentae* or *placenta previa*)..... N Y

g. Labor pains more than 3 weeks before my baby was due (preterm or early labor) ..... N Y

h. Water broke more than 3 weeks before my baby was due (premature rupture of membranes [PROM])..... N Y

i. I had to have a blood transfusion..... N Y

j. I was hurt in a car accident..... N Y

Insertion point for Standard Question(s) N8, N5

Insertion point for Standard question(s) N1–N4

Insertion point for Standard question(s) L4–L7

The next questions are about smoking cigarettes around the time of pregnancy (before, during, and after).

25. Have you smoked any cigarettes in the past 2 years?..... N Y

If No, go to Question 29

26. In the 3 months before you got pregnant, how many cigarettes did you smoke on an average day? (A pack has 20 cigarettes.)

___41 cigarettes or more

___21 to 40 cigarettes

___11 to 20 cigarettes

___6 to 10 cigarettes

___1 to 5 cigarettes

___Less than 1 cigarette

___I didn't smoke then

27. In the last 3 months of your pregnancy, how many cigarettes did you smoke on an average day? (A pack has 20 cigarettes.)

___41 cigarettes or more

___21 to 40 cigarettes

___11 to 20 cigarettes

___6 to 10 cigarettes

___1 to 5 cigarettes

___Less than 1 cigarette

___I didn't smoke then

Insertion point for Standard question AFRICAN AMERICAN6

Insertion point for Standard question AFRICAN AMERICAN1

28. How many cigarettes do you smoke on an average day now? (A pack has 20 cigarettes.)

___41 cigarettes or more

___21 to 40 cigarettes

___11 to 20 cigarettes

___6 to 10 cigarettes

___1 to 5 cigarettes

___Less than 1 cigarette I don't smoke now

29. Which of the following statements best describes the rules about smoking inside your home now? Check one answer.

___No one is allowed to smoke anywhere inside my home

___Smoking is allowed in some rooms or at some times

___Smoking is permitted anywhere inside my home

Insertion point for Standard question U1-U2

The next questions are about drinking alcohol around the time of pregnancy (before, during, and after).

30. Have you had any alcoholic drinks in the past 2 years? A drink is 1 glass of wine, wine cooler, can or bottle of beer, shot of liquor, or mixed drink. ..... N Y

If No, go to Question 33

31a. During the 3 months before you got pregnant, how many alcoholic drinks did you have in an average week?

___14 drinks or more a week

___7 to 13 drinks a week

___4 to 6 drinks a week

___1 to 3 drinks a week

___Less than 1 drink a week

___I didn't drink then => Go to Question 32a

31b. During the 3 months before you got pregnant, how many times did you drink 4 alcoholic drinks or more in one sitting? A sitting is a two-hour time span.

___6 or more times

___4 to 5 times

___2 to 3 times

___1 time

___I didn't have 4 drinks or more in 1 sitting

32a. During the last 3 months of your pregnancy, how many alcoholic drinks did you have in an average week?

___14 drinks or more a week

___7 to 13 drinks a week

___4 to 6 drinks a week

___1 to 3 drinks a week

___Less than 1 drink a week

___I didn't drink then => Go to Question 33

32b. During the last 3 months of your pregnancy, how many times did you drink 4 alcoholic drinks or more in one sitting? A sitting is a two-hour time span.

___6 or more times

___4 to 5 times

___2 to 3 times

___1 time

___I didn't have 4 drinks or more in 1 sitting

Pregnancy can be a difficult time for some women. These next questions are about things that may have happened before and during your most recent pregnancy.

33. This question is about things that may have happened during the 12 months before your new baby was born. For each item, circle Y (Yes) if it happened to you or circle N (No) if it did not. (It may help to look at the calendar when you answer these questions.)

a. A close family member was very sick and had to go into the hospital ..... N Y

b. I got separated or divorced from my husband or partner ..... N Y

c. I moved to a new address ..... N Y

d. I was homeless ..... N Y

e. My husband or partner lost his job ..... N Y

f. I lost my job even though I wanted to go on working..... N Y

g. I argued with my husband or partner more than usual ..... N Y

h. My husband or partner said he didn't want me to be pregnant ..... N Y

i. I had a lot of bills I couldn't pay ..... N Y

j. I was in a physical fight..... N Y

k. My husband or partner or I went to jail..... N Y

l. Someone very close to me had a problem with drinking or drugs ..... N Y

m. Someone very close to me died..... N Y

Insertion point for Standard question(s) P14, P17, P15–P16

Insertion point for Standard question(s) BB1

34. During the 12 months before you got pregnant with your new baby, did your husband or partner push, hit, slap, kick, choke, or physically hurt you in any other way..... N Y

Insertion point for Standard question(s) Z5, Z3, Z7

35. During your most recent pregnancy, did your husband or partner push, hit, slap, kick, choke, or physically hurt you in any other way? ..... N Y

Insertion point for Standard question(s) Z6, Z4

The next questions are about your labor and delivery. (It may help to look at the calendar when you answer these questions.)

36. When was your baby due?

_____/_____/_____

Month Day Year

37. When did you go into the hospital to have your baby?

_____/_____/_____

Month Day Year

___I didn't have my baby in a hospital

Insertion point for Standard question(s) K5

38. When was your baby born?

_____/_____/_____

Month Day Year

Insertion point for Standard question(s) K9-K10

Insertion point for Standard question(s) K8, K3, K7, K6

39. When were you discharged from the hospital after your baby was born?

_____/_____/_____

Month Day Year

___I didn't have my baby in a hospital

Insertion point for Standard question(s) II1

40. Did any of these health insurance plans help you pay for the delivery of your new baby? Check all that apply.

___Health insurance from your job or the job of your husband, partner, or parents

___Health insurance that you or someone else paid for (not from a job) Medicaid (or state Medicaid name)

___TRICARE or other military health care

___State-specific option (IHS, or tribal/state name)

___State-specific option (state name for indigent care) State-specific option (SCHIP or CHIP program)

__Other source(s) => Please tell us:

___I did not have health insurance to help pay for my delivery

The next questions are about the time since your new baby was born.

41. After your baby was born, was he or she put in an intensive care unit?

___No ___Yes ___I don't know

42. After your baby was born, how long did he or she stay in the hospital?

___Less than 24 hours (less than 1 day)

___24 to 48 hours (1 to 2 days)

___3 to 5 days

___6 to 14 days

___More than 14 days

___My baby was not born in a hospital

___My baby is still in the hospital => Go to Question 45

Insertion point for Standard question(s) K11, K12

43. Is your baby alive now? ..... N Y

If No, go to Question 51

44. Is your baby living with you now? ..... N Y

If No, go to Question 51

Insertion point for Standard question(s) B4

45. Did you ever breastfeed or pump breast milk to feed your new baby after delivery, even for a short period of time? ..... N Y

If No, go to Question 48b

Insertion point for Standard question(s) B1

46. Are you currently breastfeeding or feeding pumped milk to your new baby? ..... N Y

If Yes, go to Question 48a

47. How many weeks or months did you breastfeed or pump milk to feed your baby?

_____ Weeks OR _____ Months

_____ Less than 1 week

Insertion point for Standard question(s) B2

Insertion point for Standard question(s) B3

48a. How old was your new baby the first time he or she drank liquids other than breast milk (such as formula, water, juice, tea, or cow's milk)?

_____ Weeks OR _____ Months

_____ My baby was less than 1 week old

_____ My baby has not had any liquids other than breast milk

48b. How old was your new baby the first time he or she ate food (such as baby cereal, baby food, or any other food)?

_____ Weeks OR _____ Months

_____ My baby was less than 1 week old

_____ My baby has not eaten any foods

Insertion point for Standard question(s) B5–B6

If your baby is still in the hospital, go to Page ##, Question 51.

49. In which one position do you most often lay your baby down to sleep now? Check one answer.

___On his or her side

___On his or her back

___On his or her stomach

Insertion point for Standard question(s) F1, F3

50. Was your new baby seen by a doctor, nurse, or other health care worker for a one week check-up after he or she was born? ..... N Y

Insertion point for Standard question(s) X6

Insertion point for Standard question(s) X9

Insertion point for Standard question(s) X7

Insertion point for Standard question(s) X8

Insertion point for Standard question(s) X4

Insertion point for Standard question(s) X1–X2

Insertion point for Standard question(s) X3

Insertion point for Standard question(s) X5

Insertion point for Standard question(s) T4–T5

Insertion point for Standard question(s) T1, T3, T2

Insertion point for Standard question(s) H1–H4

51. Are you or your husband or partner doing anything now to keep from getting pregnant? (Some things people do to keep from getting pregnant include not having sex at certain times [natural family planning or rhythm] or withdrawal, and using birth control methods such as the pill, condoms, vaginal ring, IUD, having their tubes tied, or their partner having a vasectomy.)..... N Y

If Yes, go to Question 53

52. What are your reasons or your husband's or partner's reasons for not doing anything to keep from getting pregnant now? Check all that apply.

___I am not having sex

___I want to get pregnant

___I don't want to use birth control

___My husband or partner doesn't want to use anything

___I don't think I can get pregnant (sterile)

___I can't pay for birth control

___I am pregnant now

__other => please tell us:

Insertion point for Standard question(s) E1

Insertion point for Standard question(s) E2

Insertion point for Standard question(s) L8–L9

Insertion point for Standard question(s) L16

Insertion point for Standard question(s) O1–O3

53. Below is a list of feelings and experiences that women sometimes have after childbirth. Read each item to determine how well it describes your feelings and experiences. Then, write on the line the number of the choice that best describes how often you have felt or experienced things this way since your new baby was born. Use the scale when answering:

1	2	3	4	5
Never	Rarely	Sometimes	Often	Always

a. I felt down, depressed, or sad _____

b. I felt hopeless _____

c. I felt slowed down _____

Insertion point for Standard question(s) M12

The next questions are on a variety of topics.

[STATE-SPECIFIC SECTION (Standards without insertion points and state-developed questions)]

The last questions are about the time during the 12 months before your new baby was born.

Insertion point for Standard Question(s) P18

54. During the 12 months before your new baby was born, what was your yearly total household income before taxes? Include your income, your husband's or partner's income, and any other income you may have received. (All information will be kept private and will not affect any services you are now getting.)

___Less than $10,000

___$10,000 to $14,999

___$15,000 to $19,999

___$20,000 to $24,999

___$25,000 to $34,999

___$35,000 to $49,999

___$50,000 or more

Note: States can add additional categories as long as the categories are collapsible back to the existing core categories (i.e. may add upper or lower ranges beyond what is provided or split out existing categories into sub-categories).

55. During the 12 months before your new baby was born, how many people, including yourself, depended on this income?

_____ People

56. What is today's date?

_____/_____/_____

Month Day Year

Please use this space for any additional comments you would like to make about the health of mothers and babies in *State.*

Appendix B

May 20, 2015

«MomFName» «MomLName»
«Address»
«City», «State» «Zip»

Dear Ms. «MomLName»,
I'm writing to ask for your help with a research project called PRAMS. PRAMS is short for the **P**regnancy **R**isk **A**ssessment **M**onitoring **S**ystem. PRAMS is sponsored by the Centers for Disease Control and Prevention and the Rhode Island Department of Health.

By answering some questions about your recent pregnancy you can help us find out why some babies are born healthy and others are not.

The questions we would like you to answer are in the enclosed booklet. There is more information about the study on the page called "Important Information About PRAMS." Please read through this information before doing the survey.

If you have lost your baby because of death, we are truly sorry about your loss and offer our sympathy to you and your family. We also ask that you fill out the survey because your answers are important, and could help other mothers and babies in the future.

After you finish answering the questions, please send the booklet to us in the enclosed envelope. The postage is already paid.

If you have any questions about PRAMS, or if you want to answer the questions by telephone, please call me at 222-5115 (RI Relay: 711). The call is free.
To thank you for your help, we have included a $5.00 gift card.
Sincerely,
Rachel Cain
Rhode Island PRAMS Project Coordinator

Para recibir ésta carta y estos materials en Español, llame a la Línea de información *del Departamento de Salud de Rhode Island al* 401-222-5960 / RI Relay 711

Important Information About PRAMS
Please Read Before Starting the Survey

- The Pregnancy Risk Assessment Monitoring System (PRAMS) is a research project sponsored by the Centers for Disease Control and Prevention and the Rhode Island Department of Health.

- The purpose of the study is to find out why some babies are born healthy and others are not.

- We are asking one out of every six women in Rhode Island to answer the same questions. All of your names were picked by a computer from recent birth certificates.

- It takes about 20 minutes to answer all questions. Some questions may be sensitive, such as questions about smoking or drinking during pregnancy.

- You are free to do the survey or not. If you don't want to participate at all, or if you don't want to answer a particular question, that's okay. There is no penalty or loss of benefits for not participating or answering all questions.

- Your survey may be combined with information the health department has from other sources.

- If you choose to do the survey, your answers will be kept private to the extent allowed by law and will be used only for research. If you are currently in jail, your participation in the study will have no effect on parole.

- Your name will not be on any reports from PRAMS. The booklet has a number so we will know when it is returned.

- Your answers will be grouped with those from other women. What we learn from PRAMS will be used to plan programs to help mothers and babies in Rhode Island.

- If you have any questions about your rights in the project, please call John Fulton at 401-222-1172.

If you have questions about PRAMS, or if you want to answer the questions by telephone, please call Rachel Cain, Rhode Island PRAMS Project Coordinator, at 222-5115.
The call is free.

Appendix C

From: Rachel Cain [mailto:Rachel.Cain@health.ri.gov]
Sent: Friday, September 12, 2014 11:18 AM
To: Yvonne Heredia
Cc: Hanna Kim
Subject: Re: Thank you in advance
Importance: High

Hi Yvonne,

I am requesting that Hanna Kim, [RI PRAMS' Epi] to answer the first two questions.
Hanna is in meetings and may not be able to get back to you today.

3) Attached is the English letter sent out during Mail1 and the informed document about PRAMS.
The informed document is sent out with all Mailings and is read during phone phase.

When you click on the Mail1Eng document attached below, select 'Yes' for it to open.
Let me know if you have any problems.

Rachel

>>> Yvonne Heredia <YHeredia@nhpri.org> 9/12/2014 8:31 AM >>>

Good morning Rachel,

I hope all is well with you.

I have a few questions that if you can answer will serve to be very helpful for my research.

1. For PRAMS RI what is the Test-Retest Reliability

2. Power analysis for the data set for PRAMS RI was determined by what mechanism

3. Is there an informed consent document that is sent with the survey? (if yes, can you forward for my appendixes)

I appreciate all your support.

Thanks again,

Yvonne

Yvonne Heredia, RN, PhDc, CDOE
Adult Clinical Team Lead, Case Management
(401) 459-6186

YHeredia@nhpri.org
Neighborhood Health Plan of Rhode Island
299 Promenade Street, Providence, RI 02908
www.nhpri.org and on Facebook
General Phone: 1-800-963-1001

Ranked the #5 Medicaid Health Insurance Plan in America by NCQA*

* National Committee for Quality Assurance 2012-2013 Health Insurance Plan Rankings – Medicaid

From: Rachel Cain [mailto:Rachel.Cain@health.ri.gov]
Sent: Friday, June 20, 2014 10:57 AM
To: Yvonne Heredia
Subject: Re: Data

Hi Yvonne,

Please complete the Data sharing agreement and attach you proposal.

Rachel

>>> Yvonne Heredia <YFreeman@nhpri.org> 6/20/2014 10:36 AM >>>

Hi Rachel,

I hope all is well. Do you remember me?

I'm the PhDc public health student who asked for PRAMS data for 2012- 2013.

Can you send me the files?

Thanks,

Yvonne

Yvonne Heredia, RN, PhDc, CDOE
Adult Clinical Team Lead, Case Management
(401) 459-6186

YHeredia@nhpri.org
Neighborhood Health Plan of Rhode Island
299 Promenade Street, Providence, RI 02908
www.nhpri.org and on Facebook
General Phone: 1-800-963-1001

Ranked the #5 Medicaid Health Insurance Plan in America by NCQA*

* National Committee for Quality Assurance 2012-2013 Health Insurance Plan Rankings – Medicaid

From: Rachel Cain <Rachel.Cain@health.ri.gov<mailto:Rachel.Cain@health.ri.gov>>

Date: June 3, 2013 at 7:39:07 AM EDT
To: Yvonne Heredia <YFreeman@nhpri.org<mailto:YFreeman@nhpri.org>>
Subject: Re: PRAMS data for 2012

Hi Ms Heredia,

Yes I can help you. I am RI PRAMS Coordinator and probably have the answers to most of your questions.
I am in most mornings this week and can be reached at 222-5115. You many want to check out RI PRAMS website and CDC PRAMS website.

http://www.health.ri.gov/data/pregnancyriskassessment/index.php

Rachel Cai

Rachel Cain
Senior Public Health Promotion Specialist
RI Department of Health

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>>> Yvonne Heredia <YFreeman@nhpri.org<mailto:YFreeman@nhpri.org>> 5/31/2013 2:06 PM >>>
Hi Ms Cain,
I'm a dissertation student (PHD public) and would like information for PRAMS 2012 RI. Can you assist me?

Thanks,
Yvonne

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General Phone: 1-800-963-1001

Ranked the #5 Medicaid Health Insurance Plan in America by NCQA*
* National Committee for Quality Assurance 2012-2013 Health Insurance Plan Rankings – Medicaid

From:	Yvonne Heredia <YHeredia@nhpri.org>
To:	yfre681231 <yfre681231@aol.com>
Date:	Mon, Nov 17, 2014 10:40 pm

From: Morrow, Brian (CDC/ONDIEH/NCCDPHP) [mailto:bxm0@cdc.gov]
Sent: Monday, September 15, 2014 2:20 PM
To: Yvonne Heredia
Subject: RE: PRAMS

Hi Yvonne,

Although the PRAMS questions are both tested before they are implemented, and evaluated after they are implemented, I am not aware of any specific retest reliability testing done on the PRAMS questionnaire. Before the questions are implemented, they are tested by "focus groups" for clarity. After several months or years of data have been collected (this is often done in conjunction with the design of the new phase of the questionnaire), the answers to the questions (and related written-in comments) are evaluated for non-missingness, proper skip pattern adherence, and consistency. Neither of these testing techniques meets the definition of Test-Retest Reliability, as I understand the term.

PRAMS sample size is ideally designed to yield a desired precision with a desired confidence level, per sampling stratum, in conjunction with state PRAMS staff available resources. In practice, in Rhode Island this has resulted in 100% sampling (take-all) for Low Birth Weight births, and between 1 in 5 and 1 in 9 (depending upon the year) sampling for Normal Birth Weight births. The formal power calculations and software with which I have worked are not written for complex sample designs such as that which PRAMS employs.

As each PRAMS State Health Department administers the questionnaire within their own state, I will refer you to Rhode Island PRAMS Coordinator Rachel Cain (PRAMS@health.ri.gov) for questions regarding any informed consent document.

[Signed],

Brian Morrow

From: Yvonne Heredia [mailto:YHeredia@nhpri.org]
Sent: Monday, September 15, 2014 1:39 PM
To: Morrow, Brian (CDC/ONDIEH/NCCDPHP)
Subject: PRAMS
Importance: High

Good afternoon Brian,

I'm a PhD student at Walden University and will be using PRAMS- RI data.

Can you assist me with the following questions?

1. For PRAMS RI what is the Test-Retest Reliability

2. Power analysis for the data set for PRAMS RI was determined by what mechanism? I

will determine it based on my population 2011- 2012 PRAMS- RI data

3. Is there an informed consent document that is sent with the survey? (if yes, can you forward for my appendixes)

I appreciate all your support

Yvonne Michele Heredia
Curriculum Vitae

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EDUCATION

Ph.D. in Public Health, Walden University, expected September 2015
Formal concentration: Community Health Education
Dissertation: Improving birth outcomes
(Chair, Dr. Patrick Tschida)

MS**,** in science Nursing Administration, University of Rhode Island, December 2007
Thesis**:** Transformational Leadership in Nursing
(Advisor**,** Patricia Burbank**)**

BS in Science Nursing, Rhode Island College 2000

AWARDS

Women of achievement	2009
Women of excellence	2012
Making a difference	2013
Phenomenal woman	2014

CONFERENCE PRESENTATIONS

American Public Health Association	2011	*Health reform Strategies*
American Public Health Association	2012	*Community health worker model*
Health Equity Summit	2015	*Social determinants of health*

PROFESSIONAL AFFILIATIONS

American Public Health Association	Maternal child health section councilor
RI prematurity task force	Committee member
RI Preconception Care	Committee member
Commission for Health Advocacy & equity	Co- chair legislative/policy committee