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Running Head: Infant Mortality

# **Examining the High Rate of Infant Mortality Among Minorities in Norristown, PA**

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## ABSTRACT

**Background:** According to the Centers for Disease Control (CDC) (2016), infant mortality is defined as “the death of a baby before his or her first birthday”. The statistics provided by the CDC (2016) state that 23,440 infants died in the US in 2013. Racial and ethnic minorities experience higher rates of infant mortality than White people. In Norristown, PA, between 2008 and 2012, the rate of infant death for African Americans was 25 percent, versus 15 percent for their Caucasian counterparts.

**Purpose:** The purpose of this paper is to examine the reasons for high infant mortality, with the goal of developing an intervention to reduce infant mortality in Norristown, PA. Issues such as what barriers occur for minority women are examined (such as inequalities in education, lack of trust of the medical community, health behaviors), as are major causes of infant death, such as preterm birth and Sudden Infant Death Syndrome. In addition, best practices in the United States are discussed as well as the services that are available to women in Norristown.

**Methods:** A questionnaire will be developed to be administered to minority women of child-bearing age living in Norristown, PA. Examples of questions are regarding awareness of what services are available, attitudes towards these services, whether or not they have been sought out, and elaboration on any experiences of these services. In addition, a focus group of stakeholders will be organized. This group will include health care professionals from local organizations, like Women, Infants, & Children, health clinics, and the Montgomery County Department of Health. The goal of the focus group will be two-fold; to get suggestions on how best to get the community to participate in the survey and also to pre-test the questionnaire. The ultimate goal is to develop a women’s health clinic focusing specifically on the needs of the minority women in the community, using the Maternal and Child Health Services Block Grant Priorities that pertain to infant health, such as breastfeeding support, safe sleep practices, injury prevention assessments, referring women and their families for medical care, and screening women and their families for unhealthy behavioral issues, such as smoking or substance abuse.

**Conclusion:** There are many barriers for minority women, when it comes to accessing health care: poverty, environmental threats, inadequate access to health care, behavioral factors of individuals and inequalities in education. It is crucial to consider all of these barriers when looking at interventions and would be important to talk with the community members directly about how best to improve rates of infant mortality.

## INTRODUCTION

Infant mortality is surprisingly high in the United States (US). The Centers for Disease Control (CDC, 2016), define infant mortality as “the death of a baby before his or her first birthday”. The statistics provided by the CDC (2016) state that 23,440 infants died in the US in 2013. According to the CDC (2016), the main reasons for infant death are “birth defects, preterm birth, maternal complications of pregnancy, Sudden Infant Death Syndrome and injuries.” Birth defects are described by the CDC (2015) as “structural changes present at birth that can affect almost any part or parts of the body (e.g., brain, heart or foot). They may affect how the body looks, works, or both. They can range from mild to severe.” There are 120,000 babies born with birth defects every year (CDC, 2015). Preterm birth, according to the CDC (2016) is the main contributing factor to infant death. Preterm birth is characterized by the CDC (2016) as the birth of an infant before 37 weeks of pregnancy. The CDC (2016) states that “in 2014, preterm birth affected about 1 of every 10 infants born in the US. [And with] most preterm-related deaths occurring among babies who were born very preterm (about 32 weeks)”.

The CDC (2015) explains that maternal complications of pregnancy are health issues that occur during pregnancy or issues with the woman's health that occurred before pregnancy and cause problems during the pregnancy. Gestational diabetes is an example of a health issue that occurs during pregnancy and that can cause problems for the baby. Examples of health issues that may occur before pregnancy and that may continue to cause issues during the pregnancy are hypertension and obesity (CDC, 2015). The CDC (2016) describes SIDS as “the sudden death of an infant less than 1 year of age that cannot be explained after a thorough investigation is conducted”. Approximately 3,500 infants die unexpectedly each year. Sometimes there is no explanation, but often it is due to a “unsafe sleeping environment” (CDC, 2016), where

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suffocation may have occurred due to soft bedding. And usually there are no witnesses to these deaths, and no way to tell exactly what happened, whether the cause is from suffocation or from SIDS, meaning that even though there was an investigation, no cause was found (CDC, 2016). Injuries that cause infant death can be from suffocation, such as mentioned above or caused by burns, falls, or drowning, to name a few. The rate of “unintentional injury” as stated by the CDC (2016), was 1,181 in the US in 2007, for babies under a year old.

In many cases, these causes of infant death are preventable. Receiving regular prenatal care will give the mother the best chance of having a healthy baby. The CDC (2016) recommends women seek prenatal care as soon as she knows she is pregnant. Even more important is preventing or treating health issues prior to becoming pregnant. This can be achieved by eating healthy foods, maintaining a healthy body weight, avoiding tobacco products, not drinking alcohol or using illegal drugs, staying physically active, and by managing chronic diseases by seeing a doctor regularly (CDC, 2016).

Education is important as well- receiving prenatal care is not just about medical care, but women also need to be educated about taking care of themselves during pregnancy. In addition, education is important after the baby is born. It is important for new mothers to learn about how to make sure a baby stays healthy and safe. Making sure that infants are seen at a pediatrician’s office soon after birth is important for several reasons, one is that any health issues that the baby maybe having can be found and hopefully resolved and new mothers can receive important information about topics like home safety and preventing injuries (CDC, 2012).

Infants who are born to families who live in poverty, make up a large percentage of infant mortality in the US. Health disparities often occur in these families. The CDC (2015), defines health disparities as “preventable differences in the burden of disease, injury, violence, or

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opportunities to achieve optimal health that are experienced by socially disadvantaged populations”. The CDC (2015), goes on to say that “health disparities are inequitable and are directly related to the historical and current unequal distribution of social, political, economic, and environmental resources”. These types of disparities occur for several reasons, according to the CDC (2015): poverty, environmental threats, inadequate access to health care, behavioral factors of individuals and inequalities in education. Lack of education can lead to many health issues. People with less education are more likely to have issues with obesity, substance abuse and injury, than those with more education, according to the CDC (2015). Many individuals who are affected by health disparities are minorities. According to the Association of State and Territorial Health Officials (ASTHO, 2012), “racial and ethnic minorities suffer from a disproportionately high burden of diseases and experience higher rates of mortality”. There are about 83,000 preventable deaths each year that occur as a result of disparities, and this includes infant deaths (ASTHO, 2012).

According to the Pennsylvania Department of Public Health (2015), African Americans have the highest mortality rates overall. One of the issues is access to care. There are not many African American physicians and this may be a barrier to seeking care for the African American community. Caucasian doctors may not feel comfortable counseling African American patients about certain health issues (e.g. obesity) for fear of being seen as not sensitive to their health challenges. In addition, there are already issues of trust between African Americans and the medical community. With the increase of immigration, families just arriving in the US face health disparities too. Barriers for immigrants getting appropriate health care include language issues, fear of deportation as well as waiting to be accepted for Medicaid (Pennsylvania Department of Health, 2015).



### **Best Practices in Infant Health**

One of the major government programs that supports infant health is the Title V Maternal and Child Health (MCH) Block Grant. It was implemented as part of the Social Security Act of 1935. There are many MCH programs funded through this grant across the country. Each state has different needs from the Title V grant funding. But all of the programs do try, among other things, to reduce infant mortality, increase immunizations among infants and children, and provide comprehensive prenatal care (Association of Maternal and Child Health, 2010).

An example of how this grant has helped make a difference is in Alabama, where many women were not receiving adequate prenatal care and as a result there was a high rate of babies born with low birth weights. As a result of the Title V grant, the Alabama Department of Public Health has been able to fund programs to help reduce the rates of low birth weight babies from 9.5 per 1,000 to 8.2 per 1,000 infant deaths. Another example is in Delaware, where they have implemented an Infant Mortality Task Force to help reduce infant mortality. The goal is to “reduce infant mortality through collaborative research, program implementation, and evaluation”. The program that was implemented targets women who are considered high-risk during prenatal and postpartum care. It was estimated that 23 percent of all live births were impacted and of that number, only 9 infant deaths occurred (Association of Maternal and Child Health, 2010).

Another example of a best practice in the US are the “Patient Safety Bundles” (Council on Patient Safety in Women's Health Care, 2015). These are described as “small, straightforward sets of evidence-based practices that, when performed collectively and reliably, have proven to improve patient outcomes”. They are not meant to introduce new practices, but instead reinforce

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what is already being done and provide organized materials on the best way to treat a patient with a serious prenatal issue, such as obstetric hemorrhage (Council on Patient Safety in Women's Health Care, 2015).

### **Infant Mortality in Montgomery County, PA**

Montgomery County, Pennsylvania is the third largest county in the state, with 800,000 people making it their home. It is also the second wealthiest in PA (Montgomery County Government website, 2014). Norristown, PA is the county seat and has 34,484 people living there (US Census, 2014). According to the US Census (2014), the percentage of Caucasian people is 40 percent, African Americans living in Norristown make up 35.9 percent and the Hispanic population is 28.3 percent. Those whose first language is not English make up 24.8 percent of the population. The median household income is \$43,586 and the percentage of people who live below the poverty level is 18.1 percent (US Census, 2014).

As far as infant mortality in Montgomery County, 240 infants died Montgomery County in 2012 (Community Commons, 2014). In Norristown, between the years 2010 and 2012, 60.5 percent of pregnant women did not receive prenatal care in the first trimester of pregnancy. Preterm births were 10.1 percent during those years. And infant death rates were 13.8 percent (Pennsylvania Department of Health, 2012).

When we take into account the health disparities among minorities, we see that of the women who did not receive prenatal care in the first trimester in Norristown, 59.2 percent were African American, 73.9 percent were Hispanic and 67.7 percent were Asian (38.8 percent were Caucasian). The percentages for preterm births were 13.5 percent for African Americans, 7.3 for

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Hispanic women, and only 9.2 for Caucasian women. And the infant death rate was the highest for African American infants at 25.1 percent (Pennsylvania Department of Health, 2012).

### **Maternal and Child Health Programs in Montgomery County, PA**

The Montgomery County Health Department offers two programs for pregnant women and new mothers. The first is the Maternal Child Health Home Visiting Program, where women and their families can sign up for a public health nurse to visit them. The nurse can help them with issues like breastfeeding, infant care, home safety and family planning. The Nurse Family Partnership helps women to have healthier pregnancies and healthier interactions with their families, such as with parenting and being more self-sufficient (Montgomery County Department of Health).

In addition, families in Montgomery County are able to access services through the Maternity Care Coalition. They also provide home-based services for pregnant women and new mothers, but it is more geared toward women who are incarcerated, or have been, or have had substance abuse issues. Some other services available to women in Montgomery County is WIC (Women, Infants and Children), which is “the special supplemental nutrition program [that] provides Federal grants to states for supplemental foods, health care referrals, and nutrition education for low-income women who are pregnant or breastfeeding” (WIC, 2015). There is a free text message program called “Text4baby” where women can sign up to receive healthy messages about their pregnancies and infants (Zero to Three, 2015). Also, there is the Prenatal Service Program, located in Norristown, PA for low-income women who do not qualify for Medical Assistance (Montgomery County Department of Health).

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### **Needs Assessment**

In Pennsylvania, the Title V Block Grant, the government program for MCH that was mentioned earlier, is managed by the Bureau of Family Health (BFH) (Pennsylvania Department of Health, 2015). Every 5 years, the Title V Block Grant requires that there is a Needs and Capacity Assessment done. This is a full study of the needs of the MCH population in Pennsylvania and the ability of the BFH to meet those needs. The most current needs assessment for the MCH population in Pennsylvania was completed in 2015. These needs included the need to live in a safe environment, have access to health services, to be able to process and understand the health information they are given, pregnant and new mothers need to have access to information on breastfeeding, women, new mothers and their families need to have access to preconception and interconception (between pregnancies) health support, families need to have access to safe sleep practices, and to be screened for behavioral health issues and referred for appropriate assessment when required (Pennsylvania Department of Health, 2015).

### **Interventions**

The purpose of this project is to improve infant mortality rates in families living in poverty in Norristown, Pennsylvania. There are many services available to residents in Norristown, as there are in the rest of the country. However, the infant mortality rate remains high, in the US as well as in Norristown, particularly for minorities. I would like to develop a questionnaire to be administered face-to-face to minority women of child-bearing age in the Norristown borough. The goal of the questionnaire would be to find out, among other issues, what the barriers are that exist for these women with health care. I would ask questions about whether they are aware of what services are available, what their attitudes are towards these

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services and if they have sought them out, what has their experience been during their visit. I would also organize a focus group of stakeholders, such as health care professionals from local organizations, like Women, Infants, Children, health clinics, and the Montgomery County Department of Health. The goal of the focus group would be two-fold; to get suggestions on how best to reach these women, in terms of how to get them to participate in the survey and also to pre-test the questionnaire. The goal of this whole process is to create a women's health center that meets the needs of women in Norristown, focusing particularly on the specific needs of minority women living in poverty.

## LITERATURE REVIEW

### Infant Mortality Rates in the United States

Infant death in the United States is at a high rate currently. In fact, according to the Kaiser Family Foundation (KFF) (2016), the infant mortality rate for the US is 6 deaths per 1,000 live births. This is higher than Canada, Britain and several other European countries (KFF, 2016). The CDC reported that the number of infants who died in 2013 was 23,440. These deaths were due to preterm birth, low birth weight, birth defects and Sudden Infant Death Syndrome (SIDS) (CDC, 2015). In addition, factors such as ethnicity and SES play a large role. According to the CDC (2016), the mortality rate for non-Hispanic black infants is more than twice that of non-Hispanic white infants. In fact, in a study by MacDorman and Mathews (2011), they show that most minorities have higher rates of infant death caused by preterm birth, low birth weight, birth defects and SIDS. Another factor is the state of health insurance. Up until recently, many people were uninsured in the US and this affected infant mortality, since not many women could afford prenatal care without health insurance, and this led to women being sicker during pregnancy, and more infant mortality. When the Affordable Care Act (ACA) was implemented, this put in place “comprehensive health reforms that put consumers back in charge of their health care”, according to the U.S. Department of Health and Human Services (2014). In addition, this law brought the expansion of Medicaid, and now more people than ever have access to health insurance. However, this expansion has not been accepted by all states, according to the Kaiser Family Foundation (2015). There are 19 states who have not accepted this expansion.

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The U.S. Department of Health and Human Services (2013), states that two-thirds of infant deaths occur within the first 28 days of an infant's life, with the remaining third occurring between 28 days and their first year. The U.S. Department of Health and Human Services (2013) also states that “when multiple causes related to prematurity were grouped, preterm birth becomes the leading cause”.

### *Causes of Infant Mortality in the United States*

The CDC (2015) defines preterm birth as the birth of an infant occurring before the 37<sup>th</sup> week of pregnancy. The CDC (2015), also states that most preterm-related deaths occur before 32 weeks of pregnancy and are the leading cause of “long-term neurological disabilities in children”. A lot of important growth occurs in a fetus during the last weeks of pregnancy, including in the brain, liver, and lungs (CDC, 2015). When a baby is born prematurely, these organs likely have not developed as much as they should have in order for the baby to be born healthy (CDC, 2015). Cabrera-Garcia, Cruz-Melguizo, [...] (2015), did a study on treatment strategies for preterm birth. Cabrera-Garcia et al., (2015) state that even though there have been significant medical advances, the rate of prematurity has not declined over the past 40 years, but continues to rise”. Cabrera-Garcia et al., (2015) give several reasons for the high rate of preterm birth: women are having babies later in life and also have health issues such as diabetes and hypertension. Both of these issues can lead to preterm birth. In addition, more women are utilizing fertility drugs to get pregnant, and these drugs can lead to higher rates of twins, triplets, etc. which can also lead to preterm birth. Both the CDC (2015) and Cabrera-Garcia et al., (2015) agree that seeking prenatal care is crucial in order to prevent preterm birth. Cabrera-Garcia et al., (2015) discusses how important it is “to identify the women who are at risk”. In addition, the

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CDC (2015) promotes healthy behaviors such as stopping smoking, illicit drugs and drinking alcohol as other ways to prevent preterm birth.

Although preterm birth is the leading cause of infant mortality in the US, there are other causes as well; Sudden Infant Death Syndrome (SIDS), Sudden Unexplained Infant Death Syndrome (SUIDS), and birth defects. SUIDS occurs when an infant dies unexpectedly, as its name implies (CDC, 2016). However, most of these deaths occur in an unsafe sleep environment. Unsafe sleeping environments refer to blankets or pillows in a baby's crib that cause suffocation. They can also refer to when a baby sleeps with their caregiver in their bed, and the caregiver rolls over on top of the baby and causes suffocation. This is referred to as "overlay" (CDC, 2016). The CDC defines SIDS as "the sudden death of an infant less than one year of age that can not be explained even after a thorough investigation is conducted, including a complete autopsy, examination of the death scene, and a review of the clinical history" (CDC, 2016). SUIDS and SIDS cause 3,500 infants to die each year. Seeking prenatal care is one way of preventing SUIDS or SIDS. At prenatal care visits, as well as pediatric visits once the baby is born, expecting and new parents are given educational materials on how to prevent infant death from SIDS and SUIDS. One of the main ways to prevent infant death is by making sure the baby has a safe sleeping environment- there should not be any pillows or blankets in the crib, and babies should always be put to sleep on their backs. In addition, the CDC (2016) recommends that no one smoke around the baby.

The CDC (2015) states that birth defects affect 1 out of every 33 babies born in the US. Birth defects are defined "as any structural change present at birth that can affect almost any part of the body. Some of the more well-known birth defects are Down Syndrome, Fetal Alcohol Syndrome and cleft palate. Some defects can be prevented; such as Fetal Alcohol Syndrome, by



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not drinking alcohol during pregnancy. Down Syndrome and Cleft Palate can be discovered by going to regular prenatal care visits, where routine blood tests and ultrasounds can discover if the baby has any issues such as these (CDC, 2015).

As stated previously, women who are minorities are more likely to experience infant mortality and also situations that may cause infant mortality such as those mentioned earlier; preterm birth, SIDS and birth defects. MacDorman and Mathews (2011) state that approximately one in five infants of non-Hispanic black women were born preterm. This was the highest level among all of the racial and ethnic groups; 60 percent higher than non-Hispanic white women (MacDorman and Mathews, 2011). In addition, the percentage of preterm births for women who were Mexican, Central and South American, Cuban, and Puerto Rican was 3 – 26 percent higher than non-Hispanic white women. Those of Asian/Pacific Islander descent had the lowest percentage of preterm births, only 5 percent, compared to non-Hispanic white women. Infant mortality rates for SIDS and birth defects were also substantially higher for minorities than for Caucasian women. However, MacDorman and Mathews (2011) do state that “preterm birth related causes accounted for more than 55 percent of infant mortality between non-Hispanic black women and non-Hispanic white women”. SIDS related infant deaths accounted for only 6 percent of infant mortality in minorities and birth defects accounted for 5 percent.

### *Prevention of Infant Mortality in the US*

The Health Resources and Services Administration (HRSA), a division of the US Department of Health and Human Services recommends the following steps to women and their families to prevent infant mortality: “Stop smoking, especially during pregnancy. Get recommended well-woman visits, prenatal care and well-baby check-ups. Every woman needs

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400 micrograms of folic acid everyday. Breastfeed for the health of you and your baby. Put babies to sleep safely: on their backs, on a firm surface with no soft objects in the sleeping area". To promote these important prevention tactics, HRSA funds several programs that operate in different parts of the country whose goal is to prevent infant mortality. They are the Collaborative Improvement and Innovation Network to Reduce Infant Mortality (CoIIN), Healthy Start and The Title V Maternal and Child Health Block Grant. The first program, CoIIN was "designed to facilitate collaborative learning and adoption of proven quality improvement principles and practices among participating states to reduce infant mortality and improve birth outcomes" (HRSA). A team of people from 13 different states met at the 2012 Infant Mortality Summit to discuss how to reduce infant mortality in the US. Representatives from state health officers, Medicaid directors, and staff from the different governor's offices were included. The 5 priority strategies they came up with were: reducing elective surgery at less than 39 weeks of pregnancy, offer more options for education on interconception care (time between pregnancies), promote smoking cessation programs to pregnant women, and promote safe sleep practices for infants.

The second program, the Healthy Start program, works to prevent infant mortality in 87 communities in the US. They work with women who live in low SES communities. Healthy Start works to help women get the resources they need during pregnancy and up until their children are 2 years old. This program helps to reduce birth defects, low birth weight, preterm birth and SIDS. They also help women and their families deal with issues such as social and economic factors, stressful situations that can occur in low SES communities, women having babies at a young or advanced maternal age, low income and lack of education. All of these factors can affect the health of an infant (HRSA). Some of the services they offer are case management,

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home visiting, adolescent pregnancy prevention, childbirth education, parenting classes, transportation, nutrition education, housing assistance, and job training (HRSA).

The third program is the Title V Maternal and Child Health Block Grant Program (HRSA). This program is the “nation’s oldest federal-state partnership” and “aims to improve the health and well-being of women, particularly mothers, and children” (HRSA). Funds are dispersed to 59 states and jurisdictions (including Pennsylvania). The funds are used primarily for low income families to help with issues like gaining access to care, such as prenatal visits or pediatric visits, and help for pregnant women and women with infants in applying for Medical Assistance. In addition, aid is offered as far as follow-up appointments and health assessments (HRSA). State maternal and child health agencies are required to submit an application on a yearly basis and annual report as well as complete a statewide comprehensive needs assessment every 5 years. Congress sets aside funding each year and each state is allocated a certain amount of funding, which is determined by a formula that takes into consideration how many low income children live in the state, comparing that total to the total in the US (HRSA). In addition, states and jurisdictions must match every \$4.00 of the Title V money they receive by at least \$3.00 of state/local money (i.e. non-federal dollars). Most states “overmatch”, and this results in \$5 billion being available each year for maternal and child health programs (HRSA).

In addition, there is a program through the CDC, called Pregnancy Risk Assessment Monitoring System or PRAMS (CDC, 2013). This program has been in existence for over 25 years. Congress gave funds to the CDC to run state-based programs in order to collect data that would help in reducing infant mortality (CDC, 2013). More than 40 states participate in this program. PRAMS receives information by surveying women by a mailed questionnaire and if they do not get a response, the women are contacted by phone to complete the survey. The data

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that has been received through the program has been very helpful in identifying infant mortality risk in the various states (CDC, 2013). This data has helped states decide what interventions need to be put in place and what issues need to be addressed. For example, from the PRAMS data, it was discovered that West Virginia had the largest percentage of women who smoked cigarettes during the last 3 months of their pregnancy. This information helped West Virginia to start a “Tobacco Free Pregnancy Initiative”, which resulted in calls to “quitlines” by pregnant women and their families. Also, in Michigan, black non-Hispanic mothers were “20% less likely than mothers of other races/ethnicities to place infants on their backs to sleep.” This information helped create the “Infant Safe Sleep Campaign”.

### **Health Disparities in Infant Mortality**

The CDC (2015) defines health disparities as “preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations”. The CDC (2015) goes on to say that “health disparities are inequitable and are directly related to the historical and current unequal distribution of social, political, economic and environmental factors”. In relation to infant mortality, women and their families who fall into the category of being “socially disadvantaged” and are affected by “current unequal distribution” of multiple factors are those that we are discussing in this paper. As a result of these issues, these women are less likely to have adequate health care before or during their pregnancies (CDC, 2015). Another factor that the CDC (2015) discusses is that this population is more likely to be less educated as well as unhealthy and experience health issues such as obesity and substance abuse. According to the CDC (2015), issues like teenage pregnancy, poor

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nutrition, and physical and emotional abuse have a significant impact on how individuals do in school.

The Association of State and Territorial Health Officials (ASTHO) (2012) research has had similar findings when it comes to health disparities. Their research also shows that racial and ethnic minorities are less healthy than their White counterparts and experience mortality at a higher rate. The ASTHO (2012) goes on to state that “83,000 preventable deaths occur each year as a result of racial and ethnic health disparities including high infant mortality rates”. In addition, they state that African American and Hispanic women experience worse outcomes when it comes to their health, compared to White women (ASTHO, 2012). Another factor is language barriers. For many minorities, English is not their first language. The ASTHO (2012) reports that infants whose parents were not “primary” English speakers, were only half as likely to have had prenatal care. The ASTHO (2012) goes on to say that individuals with low SES, are more likely to have poor nutrition, housing that is not adequate, as well as more likely to have been exposed to environmental hazards, which are all factors that contribute to one’s overall health. As in other research addressed earlier, the ASTHO (2012) also concurs that SES plays an essential role in overall health, access to healthcare and quality of care. People living in poorer communities are more likely to develop preventable diseases, have physical and cognitive issues, and higher mortality rates (ASTHO, 2012).

In addition, as the CDC has found in their studies, the ASTHO (2012) has also found that education is associated with SES and is often an indicator of health status. The ASTHO (2012) states that “studies have shown that infants with less educated parents are more likely to experience adverse health outcomes”. In addition, they state that the infant mortality rate is

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higher for individuals with less than a high school education, when compared to those who have graduated from high school, and this is regardless of race or ethnicity (ASTHO, 2012).

Braveman, Cubbin, Egerter, Williams, and Pamuk (2010) conducted a study on SES disparities in the US, which took a different approach, but also found similar results to other literature we have discussed. In their study, Braveman et al. (2010) used 5 child indicators, infant mortality being one of them. They also found that those with the least amount of income and who were the least healthy, and who had the least amount of education, were the least physically healthy. The difference with this study, as Braveman et al. (2010) describe it, is that they looked at income and education as well as race and ethnicity. Braveman et al. (2010) state that most public health studies look at health disparities and focus only on race and ethnicity. In their study, Braveman et al. (2010) state that one of their limitations was that they were not able to use a higher cutoff for income. If they had, they felt that they may have found even greater disparities. Another limitation was that if the authors had included more factors that affected the population adversely, such as the SES of the neighborhoods where the participants lived (Braveman et al., 2010). This, Braveman et al. (2010) felt, would most likely have affected how the results particularly for Blacks and Hispanics, instead of just looking at income and education alone.

However, Braveman et al. (2010) defend their reasoning for doing the study the way they did by stating that Blacks did definitely do worse than Whites at each income level and education level. This suggests “that these systematic racial or ethnic differences are unlikely to respond to purely SES strategies”, but require that other crucial factors are addressed, such as residential segregation between Blacks and Whites (Braveman et al., 2010). The authors go on to say that their findings show that while most people in the US are not as healthy as they could be, some of

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the reasons for this could be modified, such as social conditions (Braveman et al., 2010). And that policies are needed to reduce SES and racial and ethnic health disparities (Braveman et al., 2010).

### *Health Disparities, Medicaid and The Affordable Care Act*

An important issue to discuss when it comes to health disparities and infant mortality, is health insurance. Medicaid has long been the health insurance for individuals who live below a certain poverty level in the US. In addition, the Children's Health Insurance Program (CHIP) has been very helpful to families in this country. The Centers for Medicare and Medicaid Services define CHIP as a program that "provides health coverage to eligible children, through both Medicaid and separate CHIP programs". However, not everyone who lived in poverty was eligible for Medicaid, due to laws regarding eligibility and income levels. Lack of health insurance was and continues to be a major barrier to getting prenatal care and pediatric care, as stated by Hayes, Riley, Radley, and McCarthy (2015). Although with the Affordable Care Act (ACA) and the expansion of Medicaid, it is now possible for more people to be insured and therefore have access to care (Hayes et al., 2015). The ACA was put into place to allow more Americans to have more affordable, accessible and better quality health care. Previously uninsured Americans and Americans with inadequate health insurance can now have full access to health care (Hayes et al., 2015). This includes minorities and racial and ethnic groups experiencing health disparities, who historically have been uninsured. According to Hayes et al., (2015), having health insurance definitely reduces racial and ethnic disparities, increasing access to health care and making it more affordable. However, Hayes et al., (2015) also state that even with coverage Hispanics are less likely than both Blacks and Whites to have a usual source of

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care. Hays et al. (2015) state that disparities still exist and that having health insurance alone is not going to eliminate the issues of having access to health care completely.

Zhang, Cardarelli, Shim, Ye, Booker and Rust (2013) authored a study around the time the ACA was going into effect. The study's goal was "to explore racial-ethnic disparities in adverse pregnancy outcomes among Medicaid recipients and to estimate excess Medicaid costs with those disparities" (Zhang et al., 2013). This study had also states that even though African American women had the same insurance coverage and met the same guidelines for Medicaid eligibility, there was still a higher rate of adverse pregnancy outcomes for these women (Zhang et al., 2013). The authors go on to state that stressful, ongoing personal experiences, such as those that individuals experience in racism, can cause "prolonged engagement of the body's fight or flight response" and this alone, may cause adverse pregnancy outcomes (Zhang et al., 2013). However, Zhang et al., (2013) also state that with the expansion of Medicaid, through the ACA, that this could be a "powerful public health tool", in that more women would be insured, and receiving prenatal care during their pregnancies, which would result in less complications during pregnancy, and therefore better pregnancy outcomes.

### **Best Practices in the Reduction of Infant Mortality in the US**

In any program or endeavor, it is important to look at best practices as a way to see what has consistently worked and what has given the best results. In looking at best practices in the US when it comes to reducing infant mortality, there are several examples. A very important example is the Title V Maternal Health Block Grant, which was developed to help women and their families who come from low income communities have healthier pregnancies and better pregnancy outcomes. The Title V grant has had many success stories in the US, according to the



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Association of Maternal and Child Health Program (AMCHP), (2010). One example is in Alabama; with the help of the Title V grant, the Alabama Department of Public Health was able to increase the women seeking prenatal care. In doing this, the infant mortality rate was reduced from 9.5 per 1,000 live births to 8.2 (AMCHP, 2010). In addition, the percentage of women smoking during pregnancy dropped. Also, a decrease was seen in babies born with low birth weights. Another example of a best practice is in Oregon. This state has a high rate of breastfeeding- more than 89 percent of women start out with this practice (AMCHP, 2010). However, due to barriers in their workplaces, not many are able to continue (the recommended time is at least 6 months). According to AMCHP (2010), less than 27 percent continue for the full 6 months. As a result of the Title V grant, the AMCHP (2010) reports that “a public-private coalition supported by Oregon’s state Maternal Child Health program worked through two legislative sessions to achieve the passage of landmark legislation on employer requirements for accommodation”.

The Nurse-Family Partnership is a best practice, according to the US Department of Health and Human Services, Home Visiting Evidence of Effectiveness (2013). They state that the Nurse-Family Partnership meets the criteria for “an evidence-based early childhood home visiting service delivery model”. This program involves a public health nurse visiting with the pregnant woman (no more than 28 weeks pregnant) and continues through when the child is two years old (US Department of Health and Human Services, Home Visiting Evidence of Effectiveness, 2013).

The state of Delaware has also had success with their Maternal and Child Health program. The Delaware Healthy Mother and Infant Consortium (2010) developed a program based on the Healthy Women Healthy Babies initiative that targets women who are at the highest

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risk. This “science-based approach” aims to help women achieve a healthier lifestyle prior to pregnancy, with the idea that the healthier they are prior to getting pregnant, the healthier their pregnancies will be and the better the outcome of the pregnancy (Delaware Healthy Mother and Infant Consortium, 2010). There are several programs that are part of this approach. The first is the “Family Practice Team Model”. This helps pregnant women learn from other mothers, and health professionals, such as social workers, nutritionists, and outreach workers. They work with the women involved on how to take care of themselves and continue with them until their babies are two years old. According to Delaware Healthy Mother and Infant Consortium (2010), this program helped 2,264 pregnant women, and 94 percent did not experience any pregnancy complications. Another program is “Preconception Care”. This program works with women prior to their being pregnant, on nutrition, contraception, planning their pregnancy, and immunizations. This program is for all women who have had previous pregnancies that had poor outcomes. There is also the Statewide Education Campaign which distributes resources to women on subjects that relate to infant mortality (Delaware Healthy Mother and Infant Consortium, 2010).

Another approach to improving care during pregnancies of women experiencing health disparities, is “CenteringPregnancy”. This approach began in 1993 and has grown over the years to being implemented in about 300 clinics in the US (Novick, Sadler, Knafl, Groce, and Kennedy, 2013). This approach provides prenatal care to approximately 8 – 10 women at a time, who are at the same place in their pregnancies. Each woman comes to an initial visit and is seen individually, and then they attend 8 – 10 two hour sessions with the group for the duration of their pregnancy (Novick et al., 2013). When they arrive at the group session, they take their own blood pressure, get weighed and then record this information in their health record. After that,

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they are free to chat with the other women in the group as well as fill out self-assessment sheets to be utilized later (Novick et al., 2013). Snacks are also provided. The women are then examined on a mat on the floor, away from the group. After they are all examined, there is a facilitated group discussion by a health care provider, such as a midwife, also other professionals may be present, such as a social worker or a nutritionist (Novick et al., 2013). The discussion is about their pregnancy and other related health topics, and there is opportunity for peer support. This approach has been shown to improve pregnancy outcomes, compared to individual prenatal care (Novick et al., 2013). There were several challenges found though; inadequate administrative staff, lack of group space and also not enough staff support. However, Novick et al., (2013), state that the group leaders felt strongly that this was a helpful and effective way to care for women “with difficult lives”. The benefits of CenteringPregnancy were that the women came at when it was convenient for them, were able to make social connections with other pregnant women and also received prenatal care (Novick et al., 2013).

The Office of Disease Prevention and Health Promotion (2016) put into place the “Healthy People” initiative about 30 years ago. This initiative provides “science-based” objectives every 10 years with the goal of improving the health of Americans (Office of Disease Prevention and Health Promotion, 2016). This program has provided benchmarks and has monitored progress in order to “encourage collaborations across communities and sectors, empower individuals toward making informed healthy decisions and measure the impact of prevention activities” (Office of Disease Prevention and Health Promotion, 2016). For Maternal and Child Health, the goals are to improve the health of women and their families. Issues that are being addressed are pre-pregnancy health behaviors and access to healthcare, health disparities relating to race, ethnicity, income, level of education and health insurance (Office of Disease

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Prevention and Health Promotion, 2016). In addition, a new perspective has emerged called “life course”. This idea deals with preconception health, improving the general health of women and pregnancy planning (Office of Disease Prevention and Health Promotion, 2016).

Some of the goals for Healthy People 2020 in Maternal Child Health: to reduce the rate of all infant deaths to 6 per 1,000 live births, reduce the rate of deaths within the first 28 days of life to 4.1 per 1,000 live births, reduce the rate of SIDS to .50 infant deaths per 1,000 live births and reduce the rate of postneonatal deaths (between 28 days and 1 year) to 2.0 deaths per 1,000 live births. All of these would represent a 10 percent improvement rate (Office of Disease Prevention and Health Promotion, 2016).

### **Infant Mortality in Pennsylvania**

According to the Pennsylvania (PA) Department of Health (2015), in 2012, there were 145,394 infants (children less than 1 year old) in Pennsylvania. Of these, 14.5 percent were Black, 3.4 percent were Asian/Pacific Islander and 10 percent were Hispanic. The percentage of children (children under 5 years old) living in poverty was 22.6. The percentage of uninsured infants was 5.3 (PA Dept. of Health, 2015). Between 2010 and 2012, there were 2,952 infants that died in PA. Black children were at the highest risk for death, across all categories (PA Dept. of Health, 2015). Black children comprised 14.5 percent of the infant population, but black infant deaths were 31.1 percent of total deaths. They died at 2.8 times the rate of White infants and 4.8 times the rate of infants of the Asian/Pacific Islands persuasion (PA Dept. of Health, 2015). The leading cause of death was length of gestation and fetal nutrition.

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According to the Montgomery County government website, Montgomery County is the third largest county in the state of Pennsylvania, and the second wealthiest. There are about 800,000 people living in the county. In Norristown, the County Seat, approximately 34,484 people live there, according to the US Census (2014). Some other important statistics include that Norristown is 50 percent female (US Census, 2014). In addition, the percentage of minorities is 35.9 percent African American, 28.3 percent Hispanic with Asians, Native Americans and Pacific Islanders at 2.1 percent or below (US Census, 2014). There are 23.7 percent of the population that speak a language other than English. Regarding health insurance, 23.9 percent are not insured (US Census, 2014). The median household income is \$42,296 and 21.7 percent of the Norristown population lives in poverty (US Census, 2014).

Rates of infant mortality in Norristown from 2008 – 2012 were 13.8 percent for all races, according to the Montgomery County Department of Health (2012). For Blacks, the rate was 25.1 percent, for Hispanics it was 7.1 percent and there was no data for Asian/Pacific Islanders (Montgomery County Department of Health, 2012). The total percentage for those who did not receive prenatal care, which includes all races, was 60.5 percent, between 2010 – 2012. Broken down by race, the percentage of White women who did not receive prenatal care was 38.8, the percentage for Black women was 59.2. For Asian/Pacific Islander the percentage was 67.7 and for Hispanic women, it was 73.9 percent.

### **Maternal and Child Health Programs in Norristown, PA**

The Montgomery County Health Department offers two programs for pregnant women who live in Montgomery County. The first is the Nurse-Family Partnership (NFP) program, as discussed previously. The goal of this program is to help new parents succeed. Nurse home

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visitors come to the home at the request of the new parents (Montgomery County Health Department). The nurse home visitor helps them to become more confident in their new parenting roles. This program focuses on three objectives: “fostering healthier pregnancies, improving the health and development of children, and encouraging self-sufficiency” (Montgomery County Health Department). Women are eligible for this program if they are considered low income, are pregnant with their first child and are less than 28 weeks pregnant (Montgomery County Health Department).

The second program that the Montgomery County Health Department offers is the Maternal Child Home Visiting Program. This program is for mothers, fathers and their babies and any previous children. A public health nurse will visit the home to assist parents in taking care of their infant and any other children in the family (Montgomery County Health Department). The nurse can help with smoking cessation, infant care, immunization information, family planning, and any other health related information the family may need. This program is open to any pregnant woman regardless of how far along in her pregnancy she is, and also it is open to families with previous children (Montgomery County Health Department).

In addition, there is a program called Cribs for Kids. The Montgomery County Health Department has partnered with the National Cribs for Kids program to offer this service to the community. This is a free program for any low income families in Montgomery County. They provide education on safe sleep practices as well as a “pack-n-play” crib for infants under 9 months old, to ensure there is a safe environment for them to sleep in the home (Montgomery County Health Department).

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### **Implementation**

There are several best practices to look to in moving forward to reduce infant mortality in Norristown, PA. Insuring good prenatal care, safe sleep practices, addressing health disparities, as well as health insurance, are all important factors. These are addressed in several of the best practices that we explored. The first is the Maternal Child Health Priorities as outlined in the Maternal and Child Health Services Block Grant Priorities 2015 – 2020. These include, insuring safe sleep practices, women receiving adequate prenatal care, as well as health information and education. Another place to look for best practices in reducing infant mortality is the Healthy People 2020 program. The Office of Population Affairs suggests goals such as “increasing the proportion of pregnancies that are intended and reduce the proportion of pregnancies conceived within 18 months of a previous birth”.

## **THEORETICAL FOUNDATION**

Theories are an important part in helping to structure a planned community intervention. There are many to choose from, and it is helpful to use several to see which one best fits the community's needs. When looking at theories to reduce infant mortality, we will focus on the ecological perspective model, the PRECEDE-PROCEED model and the communication theory model. We will be utilizing these models to first conduct a focus group of health professionals to learn more about the community, and then a needs assessment of minority women of child-birth age. The goal of the needs assessment is to better understand why these women are not seeking prenatal care and other services offered to pregnant women in Norristown. The goal of the focus group, which will be done before the needs assessment, is to find out how best to get the women in the community to participate in the needs assessment and also to pretest the questionnaire used in the needs assessment. And the ultimate goal is to open a women's health clinic, using the results of the needs assessment.

### **Ecological Model**

The ecological perspective model “recognizes that health-related behaviors and conditions are a part of a larger system and can be approached from multiple levels” (McKenzie, Neiger, Thackray, 2009). There are five levels that have been identified: intrapersonal, interpersonal, community level, community factors, and public policy factors (McKenzie et al., 2009). Intrapersonal is defined as how the individual's characteristics affect their behavior (relating to choices affecting their health). The second level, interpersonal, is how family and friends affect the individual's health behaviors. The community level is split into three factors: institutional, community and public policy (McKenzie et al., 2009). The institutional factor is



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how policies, rules and regulations affect health behavior, whether they restrict it or promote healthier ways. Community factors are defined as the social networks in an individual's life that may affect their behavior. And lastly, public policy factors are defined by local, state and federal laws (McKenzie et al., 2009).

In applying the ecological model to reducing infant mortality, at the intrapersonal level, even though most pregnant women know how important prenatal care is, women who are minorities may be afraid to seek care due to a past negative experience or because of a language barrier. As far as reducing infant mortality at this level, this would be the time to conduct a needs assessment to find out the needs of the women at risk and to focus on why they are not seeking out services that are provided. It would be important to ask questions like: what is it about going to see medical professionals that does not encourage you to return? Or why are these services not being sought out at all? In addition, for those women where English is not their first language, it would be important to have an interpreter help to do the needs assessment, as well as having the needs assessment written in different languages, reflective of the minority population in the community.

At the interpersonal level, pregnant women may have friends and family who have had negative experiences with doctors, so they may warn these women and convince them to not seek care. Again, at this level, this is where the needs assessment would be crucial, to understand the experiences these women are having with medical and health professionals in the community and how to have those experiences be more positive. At the institutional level, doctors may not be sensitive to the needs of minorities, particularly those living in low SES. At the community level, the woman's social network may convince her to not seek care, as stated before. Again, this goes back to the needs assessment and changing the perception of medical professionals to a

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more culturally sensitive experience. As far as the public policy level, some pregnant women may not have medical insurance, especially minorities living in low SES, and this barrier would keep them from seeking prenatal care and other services.

### **PRECEDE-PROCEED Model**

McKenzie et al., (2009) describe the PRECEDE-PROCEED model as “the most widely known model in program planning”. McKenzie et al., (2009) go on to state that “PRECEDE [stands for] predisposing, reinforcing, and enabling constructs in educational/ecological diagnosis and evaluation” and that the acronym for PROCEED is “policy, regulatory, and organizational constructs in educational and environmental development”. There are eight phases to this model: social assessment, epidemiological assessment, educational and ecological assessment, administrative and policy assessment and intervention alignment, implementation, process evaluation, impact evaluation, and outcome evaluation. McKenzie et al., (2009) state that this model begins by identifying the outcome that is desired, determining what would cause that outcome and figuring out what intervention would create this outcome. This model goes backward, according to McKenzie et al., (2009), instead of looking at the causes first, it identifies the intervention first. The ultimate goal is to open a women's health center with physicians and health professionals who have been trained to meet the needs of minorities with low SES and to ensure through their interactions with their patients that they consistently get care during their pregnancy.

If one were to use the PRECEDE-PROCEED model to build an intervention to reduce infant mortality, when looking at the first phase, social assessment, this is where engaging the community happens. First, we would approach health professionals in the community to

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participate in the focus group. Then we would seek out women in the community to participate in the needs assessment. Then the results of the needs assessment can be passed on to the medical professionals and eventually used to build a women's health center. In phase two, epidemiological assessment, this is where we would access the data on mortality, environmental issues, health behavior of the community, etc. In phase three, educational and ecological assessment, we would be looking at the many factors in the community that might influence health behaviors. McKenzie et al., (2009) discuss how this phase breaks down the factors that can influence behavior into three categories: predisposing factors, enabling factors and reinforcing factors. Predisposing factors refer to a person's "attitude, values, beliefs, and perceptions" (McKenzie et al., 2009). In the case of infant mortality, the focus would be on pregnant women in the community and how they felt about accessing services such as prenatal care. Enabling factors refer to "barriers or vehicles created mainly by societal forces or systems" (McKenzie et al., 2009). It would be important to look at what barriers there are for pregnant women accessing prenatal care; is there reliable transportation? Is insurance an issue? Is there a language barrier? And lastly, reinforcing factors refer to any rewards or feedback that is received as a result of behavior change; would these women in question get a monetary reward for consistently attending prenatal care appointments? How do friends and family act when these women try to take care of themselves (or don't)? Are they supportive?

Phase four is considered to be two-parts: intervention alignment and administrative and policy assessment. McKenzie et al., (2009) describe intervention alignment as "to match appropriate strategies and interventions with projected changes and outcomes identified in earlier phases". The results of the needs assessment would dictate what the strategies would be as far as developing a health center, in order to ensure that it meets the community's needs.

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Administration and policy assessment refer to ensuring the resources are available to make the project happen. It would be important to make sure that there was staff to perform the needs assessment and tally the results, and then of course to get funding for the health center. After phase four, this is when we move on to the PROCEED part of the model.

The PROCEED section of the model begins at phase five with implementation. McKenzie et al., (2009) state that with appropriate resources, planners at this stage would select the methods and strategies for the intervention. At this point the needs assessment would be completed, and the results would be shared with area doctors and health professionals. Then it would be time to move on to our objectives as far as what we needed in the health center. In the last part of the PRECEDE-PROCEED process, during phases six, seven, and eight, we would be putting together our plan for the health center. Phase six is all about the “process”. This refers to whether or not the program is being carried out according to plan (National Cancer Institute, 2005). Phase seven refers to impact. Once the health center has been built and services are being implemented, what is the impact of these services on the population? Have people's behaviors changed? And the last phase is phase eight, which is outcome evaluation. This refers to evaluating health changes and whether, in this case, infant mortality has been reduced in Norristown (National Cancer Institute, 2005).

### **Communication Theory**

The last theory that we are considering is Communication Theory. The National Cancer Institute (2005) defines Communication Theory as “who says what, in which channels, to whom, and with what effects”. The National Cancer Institute (2005) also states that the main question that Communication Theory seeks to answer is how the different processes of communication

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affect behavior changes when it comes to people's health. Obviously, media is a huge part of how people get information. Access to health information is no different. Communication Theory focuses mostly on how people are affected by what they see or hear in the media. The National Cancer Institute (2005) states that there are two questions which are central to understanding the effects of the media on the public: "what factors affect the likelihood that a person will be exposed to a given message?" and "how do media effects vary with the amount of exposure to that message?" With looking to reduce infant mortality rates, we would be focusing mostly on different communication technologies, such as "E-Health", described by the National Cancer Institute (2005) as "an emerging field in the intersection of medical informatics, public health and business". For example, we may use email to administer the needs assessment. We could also develop an "online collaborative community" (National Cancer Institute, 2005) to have a discussion about what women are looking for in a women's health clinic.

In addition, we could use "Telephone Delivered Interventions, or TDI's" (National Cancer Institute, 2005) for automatic reminders to fill out the needs assessment and to remind women of their appointments once the clinic is open. One of the barriers to this theory would be with minorities living in low SES. There are significant gaps in access to the internet in poorer communities. In addition, literacy is also an issue. It would be important to consult community leaders before the needs assessment to see what they suggested as far as administering the assessment. As far as phone reminders though, this would still be a useful tool (National Cancer Institute, 2005).

## METHODS

Although there is no lack of services for pregnant women and women of child-bearing age, infant mortality remains high, particularly among minorities, in Norristown, PA. In order to better understand why this is the case, I think it would be important to talk with women in the community by doing a needs assessment in order to find out their thoughts on the services that are offered. I have developed a questionnaire as part of this process and would like to meet face-to-face with minority women of child-bearing age who reside in Norristown. However, before I would do that, I would like to organize a focus group. The focus group will be comprised of stakeholders- health professionals from the Norristown area who come in contact with this population. This would include professionals from organizations such as Montgomery County Children and Youth, the Montgomery County Department of Health, Women, Infants, and Children, and area health clinics. The purpose of the focus group would be to get suggestions on how best to get women in the community to participate in the survey and also to pretest the questionnaire (American Statistical Association, 2004). The ultimate goal of this process is to create a women's health clinic that specifically focuses on the needs of minority women living in poverty in Norristown.

Prior to the focus group, I would find a meeting place and find several dates and times when this meeting place was available. I would make sure that there was a way to video record the meeting. I would then send out an email to all of the stakeholders and explain in my email what I had in mind and to make sure they knew that I would be video recording the meeting. I would tell them the dates, times and location and ask them to get back to me with their availability. Once a date was set, I would organize refreshments for the meeting. I would email

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the questionnaire to everyone attending the meeting, in order for them to look at it in advance and gather their thoughts about it.

At the start of the meeting, I would thank everyone for participating and once again explain the purpose of the focus group and reiterate that I was video recording the meeting. I would set basic ground rules, including that it is important that everyone gets to speak and be heard (American Statistical Association, 2004). I would also have everyone introduce themselves. I would then guide the discussion using an outline of questions, developed in advance (American Statistical Association, 2004). The group will take about 90 minutes (American Statistical Association, 2004). I would conclude the meeting by giving a summary of what had been discussed, ask for feedback and also ask if there were any questions not asked that should have been asked (American Statistical Association, 2004).

From the feedback that I receive from the focus group, I would decide how to connect with the women in the community to conduct the questionnaire. Depending on what was suggested in the focus group, I would find different ways of talking to the women in the community about having me come to their homes to administer the questionnaire. I might put flyers up in day care centers, churches, health clinics or Women, Infants and Children Offices. Also, I might talk with area social workers who work with the minority population and ask that they speak with their clients about participating. I also could talk to churches about speaking to their congregations. I would potentially offer incentives to participants, such as gift cards to local supermarkets, Walmart or Target.

The purpose of the needs assessment questionnaire is to find out the knowledge the women in the community have of the services offered, also why are services not being accessed, and their level of education regarding what is needed during their pregnancy, as far as their

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understanding of healthy behavior. In addition, I would be looking at attitudes towards healthy behaviors during pregnancy; regarding how they feel about accessing care, and why they might not be comfortable accessing care or services. In addition, I would be looking at past and current health behaviors and why they might choose to practice certain behaviors or not.

After the focus group and the questionnaire are completed and all of the information has been gathered from the women in the community, I would use this information to develop a women's health clinic that specifically meets the needs of minority women who reside in Norristown. In addition to looking at the information from the questionnaires, we would develop an education program for the clinic based on the Maternal and Child Health Services Block Grant Priorities that pertain to infant health. We will offer several types of programs on issues (as outlined in the Maternal and Child Health Services Block Grant Priorities) such as breastfeeding support, safe sleep practices, injury prevention assessments, referring women and their families for medical care, and screening women and their families for unhealthy behavioral issues, such as smoking or substance abuse. In addition, the Center will offer childbirth and parenting classes. We will also have classes on different health literacy topics, such as understanding the Affordable Care Act and Medicaid. The goal of the Center will be to reduce infant mortality through education and resources on healthy behaviors.



### CONCLUSION

As we have discovered in this paper, the infant mortality rate in this country is very high, particularly among minorities. The main reasons for this are birth defects, preterm birth, maternal complications of pregnancy, SIDS and injuries (CDC, 2016). However, preterm birth is the main contributing factor. We learned from Cabrera-Garcia et al., (2015) that even though there have been “significant medical advances, the rate of prematurity has not declined over the past 40 years, but continues to rise”.

Across the country, infants born in poverty and to minority families make up the highest percentage of infant mortality in the US. There are many reasons for this; poverty itself is a big factor, as are environmental threats, inadequate access to health care, behavioral factors and inequalities in education. Cabrera-Garcia et al., (2015) state that it is important “to identify the women who are at risk”. And both the CDC (2015) and Cabrera-Garcia et al., (2015) agree that seeking prenatal care is crucial in order to prevent preterm birth. In addition, we learned that the CDC (2015) promotes healthy behaviors such as the importance of stopping smoking, doing illicit drugs and drinking alcohol as other ways to prevent preterm birth.

Another important issue that needs to be addressed is lack of education- this can be a determining factor in itself. We discussed how the less education a person has, the less likely they are to seek out health care, including care for pregnancy. One of the main causes of high infant mortality is not seeking prenatal care (Braveman et al., 2010).

Also, examined were the best practices in reducing infant mortality that are being implemented in this country. Examples are in Alabama and Delaware, where the Title V grant is used to fund programs that target those women who are high risk and helping to educate them in

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how to best take care of themselves and their babies (Association of Maternal and Child Health, 2010).

In Norristown, the focus of this paper, we learned how the Montgomery County Department of Health is addressing reducing infant mortality. They have two home-based programs, one of which is the evidence-based Nurse Family Partnership Program. This program involves a nurse visiting pregnant women and also women who have just given birth. The nurses help these women with how to stay healthy during their pregnancy and with healthy parenting practices (Montgomery County Department of Health).

Although there are many services offered for pregnant women who are minorities and live in poverty, the infant mortality rate remains high across the country and in Norristown, PA. As we discussed, the intervention that is proposed in this paper is a focus group involving stakeholders with the purpose of getting suggestions on how to access women who are minorities and of child-bearing age in the Norristown community as well as to pretest a questionnaire that will be administered in the homes of these women. The goal of the questionnaire is to find out from these women in the community their feelings on accessing services during pregnancy and afterwards. We want to find out how to make these services more accessible with the goal of developing a women's health clinic that specifically meets the needs of minority women who live in poverty in Norristown, PA. It is important to ensure that these women feel safe, respected and heard when they seek services from health professionals in the community. Hopefully, we can make some progress in this area and we can reduce infant mortality, and as a result, have healthier, happier families.

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## **APPENDIX A**

### **Focus Group Questions**



### **Focus Group Questions**

1. Infant mortality among minorities is high in Norristown, although this is not for a lack of services. Why do you think this is?
  
2. I would like to talk with minority women of child-bearing age in the community to see what their thoughts are about why they decide to access services during their pregnancy or why not. The ultimate goal is to develop a women's health clinic that specifically meets the needs of minority women in the community. I'd emailed you the questionnaire that I developed prior to this meeting. What do you think of the questions?
  
3. Are there questions that you can think of that are not on the questionnaire?
  
4. What do you think is the best way to get minority women to participate in this survey?
  
5. Are there churches, community centers, day care centers or other locations that would be appropriate for me to leave flyers advertising about participating in the survey? What do you think of about me speaking to a church congregation? Are there other ways that you can think of to get women to participate?
  
6. I was considering offering an incentive to participate in the questionnaire, such as a gift card to a local supermarket, Target, or Walmart. What do you think of this idea?

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7. Is it realistic to attempt to do face-to-face meetings in these women's homes?

8. What cultural issues do you think I need to consider?

9. Is there anything else that you think we need to discuss?

**APPENDIX B**

**Questionnaire**

## Questionnaire

Thank you for allowing me to come into your home and ask you these questions. As I explained when we talked on the phone (or in-person, or through email/text), I am doing this survey to find out why infant deaths happen so often in Norristown among people of color. The definition of an infant death is before the baby turns a year old. I want to assure you that your personal information will remain confidential- I will not share anything other than the answers to the questions regarding infant death in Norristown with anyone else. Do you have any questions for me before I begin with the survey? (If not, begin asking questions).

1. How long have you lived in Norristown?
  
2. Do you have friends and family who live here?
  
3. Do you have children? If yes, how many?
  
4. Where were your children born?
  
5. Do you ever hear about health related events or services that are offered in the community? If yes, where do you hear about these things?
  
6. If the participant's children were born in Norristown, ask: did you go to the doctor during your pregnancy?

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7. If the answer is yes, ask when did you start to see the doctor? (If the answer is after the first trimester, ask why) If the answer is no, ask why not?

8. What was the experience like going to that doctor/clinic? Was it positive or negative? Why?

9. Do you utilize the home-based services offered by Montgomery County Department of Health, where a nurse comes to your home?

10. If yes, was that a positive experience? If yes, why?

11. If you have not used these services, why?

12. Have you ever heard of Cribs for Kids?

13. Have you used this service?

14. Do you know anyone who has?

15. What do you think of the services offered by Montgomery County Department of Health?

What do you think could be done better or different?