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CARE Program:
Compassionate and Rewarding Education for Expectant African American Mothers in Prince George's County, Maryland. A Program Plan and Evaluation

By

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TABLE OF CONTENTS

Introduction……………………………………………………………………....…...2
Systematic Review……………………………………………………….................5
Introduction………………………………………………………...………5
Methods………………………………………………………………………6
Summary of Promising Programs……………………………………………..7
Analysis……………………………………………………………………15
Conclusions……………………………………………………………………...17
Summary of Promising Programs Evidence Table………………………………...18
Program Plan………………………………………………………………………21
Program Overview and Rationale……………………………………………21
Program Context………………………………...23
Application of Program Theories……………………………………………..27
Goals and Objectives……………………………………………….................29
Implementation Plan……………………………….......................................32
Program Plan Timeline……………………………………………………..34
Detailed Estimated Budget…………………………….................................34
Logic Model…………………………………………………………………..35
Strategies for Sustainability…………………………………………………...36
Evaluation Plan………………………………………………………………………..38
Rationale for the Evaluation………………………………………………......39
Approach to the Evaluation ……………………..40
Evaluation Study Design……………………………….................................41
Evaluation Methods……………………………………………......................43
Evaluation Planning Tables…………………………………………………44
Dissemination Plans……………………………………………………….......47
Discussion……………………………………………………………………………..48
Acknowledgements……………………………………………………………………...49
References……………………………………………………………………….....50

INTRODUCTION

A country's success or progress is often marked by its health care status. One such marker of nationwide health status is infant mortality [1]. Infant mortality rate is defined as the number of infants that pass away within one year of life for every 1000 live births. From the year 1980 to 2000, rates of infants born with low birth weight rose to 12 percent in the United States [1]. However, over the same time period, improvements were seen in preventing infant deaths, with infant mortality rates declining by 46 percent [1]. Whereas these improvements in maternal and child health are successes to the United States health care system, there are still wide racial disparities in infant mortality rates. The relative infant mortality rate for African American women increased from 2.04 times that of Caucasian women in the year 1980 to 2.46 in the year 2000 [1]. These statistics poignantly demonstrate an example of how health disparities in the United States dramatically affect Black Americans.

In the year 2000, the five leading causes of infant deaths in the United States were: 1.) congenital malformations; 2.) complications of the cord, placenta, or membranes; 3.) sudden infant death syndrome, 4.) complications during the mother's pregnancy; and 5. disorders associated with a short gestational period [2]. When comparing African American and White American women, the greatest rate ratios were in the maternal pregnancy complications (3.1) and short gestational disorders (3.9) [2]. Therefore, greater education and social support during the pregnancy months might be a significant method to help lower these causes of infant death. Studies have also found that African American women with a college education and adequate prenatal care have greater than two times the likelihood of having a low birth weight infant than their Caucasian counterparts [2]. This data shows that the problem of higher infant mortality rates in African American women is not solely attributable to socioeconomic status.

Higher rates of infant mortality are also evident in African American women in my hometown of Prince George's County, Maryland. It is a predominantly African-American county (64.5 percent African American) [3] and has an infant mortality rate of 11.7 deaths per 1000 births. This rate is greater than the state average of 8 deaths per 1000 births [4]. Therefore, there is a wide health disparity seen in African American women in regards to infant mortality.

There is a great need to address infant mortality in African American women through public health programming, especially in places like Prince George's County, Maryland. On systematic review, several articles were found containing different approaches to prenatal education programming. Some focused solely on education, such as proper nutrition or smoking abstinence during pregnancy. Others included social support sessions, prenatal care coordination, case management, education for fathers, and exploration of social determinants of health in the African American community. This masters paper will discuss an original program entitled, "Compassionate and Rewarding Education Program for Expectant African American Mothers (CARE)." The CARE Program will integrate some of the previously mentioned educational programs and add other new elements to bring a unique program to Prince George's County, Maryland. Core components will include an educational curriculum, group therapy, mental support sessions, and Lamaze classes, free of charge.

There are four primary sections of this paper on the CARE Program. First, the literature review will analyze research studies that look into the causes of the infant mortality health disparity in African Americans, and strategies and programs that target this population. The program plan will describe the goals, objectives, design, and overall plan for the intervention. Next, the evaluation plan will explain how I intend to examine and report the program's progress, as well as detailing the evaluation methods and design. Lastly, the discussion section

will provide conclusions, reflections, and future implications of this program plan and evaluation.

SYSTEMATIC REVIEW

Introduction

The purpose of this review of the literature is to analyze existing programs with similar goals and objectives to the CARE Program. The goal is to examine components of these programs for strengths and weaknesses, as well as considering how these components might be integrated into the CARE Program or excluded from consideration. The primary aspects of the CARE Program consist of the following:

1.) Provide prenatal education to African American and underserved women in Prince George's County, Maryland who are between conception and 40 weeks of pregnancy. The educational curriculum will have a goal to improve prenatal and infant health in this population.

2.) Educate concerning prenatal vitamin guidelines; the importance of abstaining from smoking, alcohol, and drugs during pregnancy; what to expect during pregnancy; and how to properly care for a newborn child.

3.) Refer program participants to a local community center or obstetrician to receive prenatal health care, to encourage these individuals to visit their physician regularly, and to follow-up with each participant about their medical visits.

4.) Provide counseling and support in roundtable discussion format where participants will discuss their own experiences and learn from one another. The mental health support component will also consist of relaxation sessions similar to Lamaze, which will be provided free of charge since they may not be otherwise affordable to program participants.

After identification of similar prenatal programs, the elements of each program plan and its evaluation will be analyzed. Lastly, an analysis of these programs and a comparison to the CARE Program will conclude the systematic review.

Methods

Research Question. The research questions for this literature search were: what are the causes of infant mortality health disparities in African American women and what programs geared towards prenatal care for these populations already exist?

Search Strategy. The author initially searched Google Scholar and Pubmed using the following search terms: *infant mortality/African American*, *infant mortality/African American/ Prince George's County Maryland*, *prenatal health program*, *prenatal health program models*, and *centering pregnancy*. The author hand searched the reference lists and abstracts for relevant material to the research questions. Articles were included in the search if published during or after the year 2005.

The author conducted a second search using Pubmed (Medline) using the following search strategy: Search *(prenatal) AND (African-American) AND (education OR training OR program) AND (infant mortality OR low birth weight OR low birth weight OR preterm birth OR premature birth)*. 163 scholarly articles were generated. The author hand searched through these reference lists for articles in the inclusion criteria as listed below.

Inclusion criteria consisted of:

1.) Prenatal programs which included an educational curriculum and/or a support component, not solely nurse home visits.

2.) The article should refer to a prenatal program with components similar to the primary elements of the CARE Program (see point 1-4 above).

2.) Articles should be written in English.

3.) Programs already exist or are in the process of evaluation based on a pilot study.

Summary of Promising Programs

Centering Pregnancy

One of the largest and most well-known prenatal programs is Centering Pregnancy. Starting in 1998, it provides prenatal health education in a group structure to 8-12 women with approximately the same delivery date [5]. Centering Pregnancy offers 10 sessions, one every 4 weeks starting at 12 weeks gestation. These sessions are intended to coincide with the traditional prenatal care visit times [6]. Some principle elements of this program include: circle format seating, participant empowerment by taking one's own weight, blood pressure, and urine sample (with nurse guidance); planned prenatal education sessions, and facilitative leadership [6]. Family or friends who support the participants may attend and socialization opportunities are available through the Centering Pregnancy Program [6].

The following are strengths of the Centering Pregnancy Program. The program is convenient because prior to the group meetings, the women visit their primary care provider for a prenatal appointment at the same location [5]. The circle format of the sessions increases socialization and provides for a more supportive environment [6]. Research has shown that Centering Pregnancy improves: social support; patient compliance; the mother's comprehension of pregnancy; and lowers the incidence of preterm deliveries, low birth weight and infant deaths [5]. Ongoing evaluations exist to assess the outcomes of Centering Pregnancy [6]. Data from a prospective matched cohort study from Emory and Yale Universities demonstrated longer gestation and subsequent greater birth weights for women in group prenatal care compared to those in individual care [7]. Their research also showed that group prenatal care helped to prevent low birth weight, preterm delivery, and neonatal death [7]. Grady and Bloom obtained similar results in their study examining a population of teenage girls. They found that the teenage girls in the Centering Pregnancy group had a lower likelihood of having low birth weight babies (defined as less than 2500 grams), compared to those in the individual care group [7]. Centering Pregnancy is a well-established prenatal program with several distinctive benefits.

While Centering Pregnancy has been shown to improve infant birth weight, patient compliance, and participant's sources of mental and/or social support, research has also shown that this program has some limitations. Shakespear et al compared Centering Pregnancy and traditional individual care in regards to health behavior practices in a cross-sectional, correlational study enrolling 125 pregnant women [5]. They obtained health behavior index scores using the Lindgren's Health Practices Questionnaire II, which scores the extent to which pregnant women conduct health promotion activities. Such activities include using prenatal

dietary and vitamin recommendations and avoiding drugs, alcohol, and/or smoking during pregnancy [5].

Shakespear et al found that on their health behavior index, women in the Centering Pregnancy group attained lower scores than those in the traditional care group. They concluded that the lack of adequate individual attention by a health care professional may play a role in these results [5]. The researchers suggested that a greater emphasis on weight control and smoking cessation could improve the health behavior outcomes of Centering Pregnancy participants [5]. This study was limited because of its self-report survey design. As an example, the authors implied that women in Centering Pregnancy may be more educated and therefore more critical of their behaviors, potentially skewing the results more unfavorably for this group [5].

HealthVisions, Midwest, Inc.

Another program with a unique setting is HealthVisions, Midwest Inc., a faith-based program based in Indiana and funded by the Centers for Disease Control and Prevention. This program includes a prenatal care coordination intervention where women receive instructional classes and are linked to resources in their community [8]. HealthVisions, Midwest Inc. also provides for the growing Latino population in Indiana by providing extensive bilingual interpreter support for their participants [8]. The program is open to pregnant women of various underserved racial backgrounds. Prior to starting in the program, physicians evaluate the patients participating in the program by their level of need for coordination of prenatal care [8]. Data is lacking on evaluation of HealthVisions, Midwest, Inc. outcomes [8].

Healthy Pregnancy: Step by Step

Health information technology is an emerging innovative strategy to improve prenatal care for minority populations. Health technology can aid in health education, enhance coordination of care, and provide mass information to patients about prenatal care [9]. Computer-tailored prenatal education is a new approach to prenatal health programs. One such program is Healthy Pregnancy: Step by Step which Pro Change Behavior Systems, Inc. created for underserved, low income populations [10]. The format of the education consists of computer modules. The program offers behavioral change therapy and gives methods on how the mothers can sustain these changes. The behavioral therapy focuses on stress management, healthy eating (especially fruits and vegetables), and smoking cessation [10]. Healthy Pregnancy: Step by Step is different from other computer educational programs offered through Women, Infant, and Child (WIC) Centers because Step by Step focuses on health behavior change, not solely nutrition education. This program was pilot tested in three Community Health Centers in Connecticut [10].

According to the case study by Mauriello et al, there is both successful feasibility and acceptability data for the Healthy Pregnancy: Step by Step program data. The program sought to recruit a full group of participants within 12 weeks, and exceeded this goal by recruiting a group of 87 within 3 weeks [10]. They credit this recruitment success to enthusiasm of both program participants and staff [10]. Since the program does not require significant staff training and employment, the potential for low cost maintenance makes the program quite feasible. Additionally, a large majority of the participants (95 percent) gave positive evaluations for the program and believed that it would assist them to have a healthier lifestyle [10]. Preliminary behavior change data showed that in comparison to data obtained at program initiation,

participants' reported, on average, desiring to eat 1.7 more fruits or vegetables daily, smoke 3.07 less cigarettes each day, and devote 33 additional minutes each day to managing their stress [10]. Limitations of this initial pilot study include its small scale. There is only one computer session available at three stations within a sole community health center. This small scale may lower the generalizability of the outcomes data to other populations. The Healthy Pregnancy: Step by Step program demonstrates several clear advantages for its participants, with some limitations in regards to its pilot study design.

Family Maternal and Child Health Progams of Contra Costa Health Services- Life Course Initiative

This prenatal program is based out of the Contra Costa County, California Health Department as an effort to reduce infant and maternal adverse outcome health disparities in their African American population. In Contra Costa County, 15.4 percent of African American women had preterm deliveries and 13.7 percent of this population had low birthweight infants. In contrast, the corresponding statistics for Caucasian newborns were 9.5 percent for preterm births and 5.6 percent for low birth [11]. Prenatal care entrance in this county was quite high at 90 percent, thus, public health officials felt they needed to utilize a different approach than assuring access to improve these outcomes, since the penetration was already quite high [11].

They developed a system to integrate the Life Course Perspective, as developed by Lu and Halfon, into their prenatal care programs [11]. This perspective involves concentrating on the social determinants of health and how changing these influences can improve birth outcomes. Their goal is to not only increase access to prenatal care, but also address social factors in the

African American community and health inequities that play a role in fetal development, and subsequent adverse outcomes [11]. The Family Maternal and Child Health Programs (FMCH) developed a 12 point plan based on the Life Course Perspective. The 12-point plan is divided into three subdivisions of: building up the Black family and community, enhancing women's health care, and tackling social inequalities [11]. Points included with strengthening the Black community factors are: improving how family support services are organized and incorporated with health care, and improving the participation of fathers in the Black family. Improving access and quality of preconception, interconception, prenatal, and lifetime health care for African American women are other points included in this plan [11]. Lastly, they hope to target economic and social inequalities in the Black community by eliminating racism, eliminating the education gap, decreasing poverty, and assisting mothers who are working with their families [11].

They incorporate these principles and the 12-point plan into educational materials and training curriculum for program staff and stakeholders, such as community partners, local policy leaders, and public health officals. Program leaders created fact sheets about the 12-point plan and Life Course Perspective and led in-depth discussions with program stakeholders about these principles [11]. They also created an instructional device called the Life Course Game where stakeholders walked through examples of social determinants of health in the Black community and were able to connect concepts of the Life Course Perspective to real-life experiences [11]. During the evaluation of this program component, they found through an internet qualitative survey that 45 percent of these 65 participants correctly described Life Course Perspective [11].

They developed the Building Economic Security Today (BEST) pilot project through this inititative along with other means of qualitative analysis, including photovoice projects [11].

From their initial work, they determined that financial instability and/or poverty was a strong determinant of poor health that was not being addressed in their prenatal programs. Therefore, through the BEST program, Contra Costa residents with low income received financial advising and new tactics to manage their money, capitalize on their family earnings to provide more for daily living, and sustain their assets [11]. Women in the the Women, Infant, and Child programs participated in educational classes on financial planning and women in the prenatal home visit programs received one-on-one financial counseling, too. Pies et al will evaluate the BEST program in a forthcoming publication [11].

The Life Course Perspective used in Contra Costa County prenatal program offers a very innovative approach to prenatal care. It addresses the gap that exists, showing how even with adequate prenatal care, poor birth outcomes are still quite prevalent within the Black community. A major challenge such an approach will face is educating stakeholders and program staff about the Life Course Perspective and obtaining their buy-in [11]. However, addressing the social and community factors that influence poor health is a very promising method to prenatal health disparities in African Americans.

California Black Infant Health Program

The California Black Infant Health Program is a prenatal education and women self-empowerment program initially funded in California in the year 1989. The goal of the program is to prevent poor birth outcomes in African Americans through behavioral health change approaches under the context of both social and community factors [12]. They offer the California Black Infant Health Program in addition to prenatal health care. Program elements include enhanced prenatal services, case management, home visits, community based prenatal

health education, risk screening, and behavior change/preventive education [12]. They use four best practice models, consisting of: the social support and empowerment model, the prenatal outreach model, role of men model and the case management model. (The role of men model is a component of the program where fathers are taught about the meaning of being a father, both legal and personal rights, education options and skills regarding parenting and occupation [12]). Each program site must integrate at least one of these models, in addition to the Prenatal Outreach model, into their implementation [12]. Unique features of the program include: lay health workers teaching in the program, not solely medical health professionals and the role of men model.

The program exists at 17 sites and 4 sites were screened for evaluation purposes. The evaluation took place by a prospective observational study design to investigate how the California Black Infant Health Program played a role in low birthweight and preterm birth outcomes [12]. Researchers included female program participants in the study if they gave birth between the July 1996 and September 1998 and there was record of their birth outcomes. They compared this group with a general population of women in the California Medicaid program. Women were only included in the comparison group if they lived in the same zip codes of Black Infant Health programs [12]. The two groups were matched on insurance status, race, and address. On evaluation, they found that there was no statistically significant difference in outcomes when looking into preterm births and low birth weight [12]. However, the program demonstrated lower rates of preterm births and very low birth weights infants. Very preterm birth is defined as less than 32 weeks gestation and very low birth weight is considered less than 1500 grams. 3.5 percent of participants in the program had very preterm births, compared to 4.3 percent in the comparison group [12]. Moreover, 1.9 percent of participants in the program had

very low birth weight infants, compared to 3 percent in the comparison group [12]. Evaluators also found that the Black Infant Health Program had more high risk pregnancy participants, but they still had better health outcomes [12].

Analysis

The health programs discussed in this systematic review have several unifying features in addition to unique components. Each program approached prenatal education differently, but they still fit within the inclusion criteria outlined above. Prenatal education, female self-empowerment, family involvement, and prenatal care coordination were common features among these programs. Prenatal education, especially instruction on proper nutrition, is a main component throughout each of these programs. Delivery of educational material varies between programs. For example, Centering Pregnancy education occurs in a group circle format [6] and the Healthy Pregnancy: Step by Step was a computer-tailored program [10].

Centering Pregnancy, the Life Course Initiative Program, and Black Infant Health Program focus on female empowerment [6, 11, 12]. Centering Pregnancy gives the expectant mothers an opportunity to evaluate their own personal goals, while taking a role in their care through activities, such as weighing themselves or taking their own blood pressure [6]. Social empowerment is also the model used in the California Black Infant Health Program. Through education about social determinants on poor health outcomes and preventive means to these determinants, such as financial planning, the Life Course Initiative Project also self-empowered its participants [11]. Family involvement, the importance of social support to pregnant mothers, and paternal support are primary elements to both Centering Pregnancy and the Black Infant

Health Program [6, 12]. Coordinating prenatal care with a health professional, facilitating access to community resources, home visits, and case management are features that are common to HealthVisions, Midwest Inc. and the Black Infant Health Program [8, 12]. The Life Course Initiative program is quite unique because it is the only program to focus on social determinants of health [11].

The most common element of implementation throughout these programs is the inclusion of an educational curriculum. Shared features include prenatal education concentrating on proper nutrition, how to have a healthy pregnancy, self-empowerment, and even financial planning. Information from the Life Course Initiative and California Black Infant Health Programs is particularly useful because their literature targets the African American population, similar to the CARE Program [11, 12].

Substantial evaluation data is not available for the HealthVisions, Midwest, Inc. and the Life Course Initiative programs. The comparison of likelihood of low birth weight newborns or preterm births between a cohort of group participants and non-group participants was a common evaluation measure for both Centering Pregnancy and the California Black Infant Program [7, 12]. The studies on Centering Pregnancy and Healthy Pregnancy: Step by Step also evaluated behavioral change activity. Specifically, it evaluated the Step by Step Program participants for amount of fruit and vegetable intake and smoking habits before and after the program [10]. Lastly, staff from the Life Course Perspective Project and staff and participants from Healthy Pregnancy: Step by Step were evaluated for acceptability and feasibility [10, 11].

Conclusions

Several important characteristics exist in these programs that I hope to similarly integrate in the CARE Program. The CARE Program will be a group format, where expectant mothers will receive an educational component including information such on nutrition, vitamins, and the effects of stress, smoking, alcohol, and illicit substances on pregnancy and infant outcomes. The social component of the program will allow the women to discuss their experiences and family and father involvement will be encouraged. During these sessions, we will discuss factors in the community that may have adverse consequences on their health and pregnancy, such as racism, financial planning and/or community safety. Using this information we will plan future sessions focusing on these issues. The use of lay community health workers in the California Black Infant Health Program [12] serves as a promising option for the CARE Program in order to increase its workforce. A new concept I hope to include in the CARE Program is access to relaxation classes free of charge, such as Lamaze, which may otherwise be quite expensive for participants. This systematic review provides an abundant source of information to develop an innovative prenatal program to Prince George's County, Maryland.

Summary of Promising Programs- Evidence Table

Program	Goal(s)	Shared Elements *	Implementation	Evaluation	Outcomes
Centering Pregnancy [5-7]	To provide group prenatal care focusing on prenatal education, relationships, and mutual support.	1, 2, 4	10 sessions [6];meet in groups of similar gestational age; participant empowerment; planned prenatal education sessions, facilitative leadership, and socialization opportunities [6].	Comparison with control group for social support; patient compliance; the mother's comprehension of pregnancy; health behavior practices and incidence of preterm, low birth weight and infant deaths [5].	Improves: social support; patient compliance; the mother's comprehension of pregnancy; and lowers incidence of preterm, low birth weight and infant deaths [5]. Lower scores on the health behavior index [5].
HealthVisions, Midwest, Inc. [8]	Provide prenatal education and care coordination to underserved pregnant women.	1, 3	Prenatal care instructional classes, links participants to resources in their community, and provides extensive bilingual Spanish interpreter support [8].	Not reported	Not reported
Healthy Pregnancy: Step by Step [10]	Provide behavioral change therapy and the methods how the mothers can sustain these changes to underserved, low income populations [10].	1, 2	Computer modules which offer behavioral change therapy focusing on stress management, healthy eating (especially fruits and vegetables), and smoking cessation [10].	Feasibility and acceptability; measured number of participants recruited; behavior change in comparison to data from program initiation [10].	Exceeded recruitment goal. On average: participants reported desiring to eat 1.7 more fruits or vegetables daily, smoke 3.07 less cigarettes each day, and devoting 33 additional minutes per day to managing their stress. 95 percent of participants gave positive evaluations for the program

					and believed that it would assist them to have a healthier lifestyle [10].
Family Maternal and Child Health Progams of Contra Costa Health Services-Life Course Initiative [11]	Provide a prenatal education program that also concentrates on the social determinants of health and how changing these influences can improve birth outcomes [11].	1,4	Incorporated principles and 12-point plan of the Life Course Perspective into educational materials and training curriculum for program staff and stakeholders, [11]. The Building Economic Security Today (BEST) pilot project offered women in the WIC Programs educational classes on financial planning and women in the prenatal home visit programs one-one one financial counseling [11].	Evaluated stakeholders' understanding of the Life Course Perspective and the BEST program will be evaluated in a future publication [11].	Through an internet qualitative survey, 45 percent of the 65 participants correctly described the Life Course Perspective. Evaluation on the BEST program will occur in a future publication [11].
California Black Infant Health Program [12]	To provide prenatal education, social support and self-empowerment education [12].	*1, 2, 3, 4	Enhanced prenatal services, case management, home visits, community based prenatal health education, risk screening, and behavior change/preventive education [12]. Four best practice models: social support and empowerment model, the prenatal outreach model, role of men model and the case management	Compared rates of low birthweight and preterm births between program participants and a group of women not in the program, but were enrolled in the California Medicaid program with the same zip codes as program participants [12].	3.5 percent of participants in the program had very preterm births, compared to 4.3 percent in the comparison group [12]. 1.9 percent of participants in the program had very low birth weight infants, compared to 3 percent in the comparison group [12].

			model. Each program site had to integrate at least one of these models in addition to the Prenatal Outreach model into their implementation [12].		

*Shared Elements with the CARE Program. The core components of the CARE Program are:
1.) Provide prenatal education to African American and underserved women in Prince George's County, Maryland who are between conception and 40 weeks of pregnancy. The educational curriculum goal is to improve prenatal and infant health in this population.
2.) Educate about prenatal vitamin guidelines; the importance of abstaining from smoking, alcohol, and drugs during pregnancy; what to expect during pregnancy; and how to properly care for a newborn child.
3.) Refer program participants to local community center or obstetrician in order to receive prenatal health care, encourage these individuals to visit their physician regularly, and follow-up with each participant about their medical visits.
4.) Provide counseling and support in roundtable discussion format where participants will discuss their own experiences and learn from one another. The mental health support component will also consist of relaxation sessions similar to Lamaze, which will be free of charge

PROGRAM PLAN

Program Overview & Rationale

Even with the advancement of the United States health care system, African Americans still suffer 2.4 times greater infant mortality than non-Latino Caucasian newborns [2]. Data within the last few years have shown that Maryland has an infant mortality rate that is greater than the national average. The counties that contribute most to these statistics are Baltimore City and my hometown of Prince George's County [4]. 42 percent of infant deaths in Maryland come from these two counties alone [4]. Prince George's County's infant mortality rate is much higher than the state's rate, at 11.7 deaths per 1000 births, with Maryland's infant mortality rate only 8 deaths per 1000 births [4]. These statistics are staggering and they also reflect a national health disparity because Prince George's County is predominantly African American (64.5 percent) [3]. In light of these issues, this public health program will educate and support pregnant women, primarily of African American and underserved backgrounds, during their prenatal months in order to prevent pregnancy and infant adverse outcomes.

The Maryland Babies Born Healthy Initiative is a health policy created to address these health disparities. Its goal is to improve quality of health care and provide preventive services at the prenatal and infant stages of life [4]. The policy concentrates on fixing problems at the family, local, and health systems levels that contribute to infant mortality [4]. In Prince George's County, the Maryland Babies Born Healthy Initiative is being used to refer patients to the Greater Baden Medical Services, located in Upper Marlboro, Maryland for preventive services, as well as to help re-establish a women's wellness center in Cheverly, Maryland [4]. The

Greater Baden Medical Services facility provides family planning, women's health services, and chronic disease management to women of child-bearing years and at risk pregnant women [4].

This health problem is also a priority on the national level. One of the four primary goals of Healthy People 2020 is to eliminate health disparities [13]. Its first objective under Maternal, Infant, and Child Health is to decrease the rate of fetal and infant deaths in the United States [14]. The goal is to reduce all infant deaths within one year to 6.0 out of 1000 births from the 2006 baseline rate of 6.7 out of 1000 [14]. Another Maternal, Infant, and Child Health objective of Healthy People 2020 is to expand the number of women receiving early and adequate prenatal care starting in the first trimester to 77.9 percent from the 2007 baseline of 70.8 [14]. Additionally, a goal of this agenda is to raise the number of women who participate in childbirth classes during pregnancy [14]. Health disparities and infant mortality prevention through prenatal education are both national health concerns and the federal government seeks to address these issues through Healthy People 2020.

Program Context

Political Environment

Prince George's County, MD is located in central Maryland and shares its western border with Washington, D.C. The county has a council/executive government (executive, legislative, and judicial) structure with the county executive at the head position [15]. The Prince Georges' County Health Department is considered an agency under the executive branch, with county funding and control [16]. The challenge will be to get prior approval from the health department and to make sure the program is under its standards of care. Therefore, it will be important to gain support from the Prince George's County Health Department and integrate our program within other women's programs, such as the Women, Infant, and Children's (WIC) Program or the Infant at Risk Program or Healthy Start Program at the Prince George's Hospital Center.

Consistency with local priorities

The CARE Program will be consistent with local priorities. Prince George's County provides numerous services for women and children. Of the prenatal services, there is the Healthy Start Program and the Infant-at-Risk Program [17]. The Healthy Start Program consists of nurse home visits and case management for at-risk pregnant women and new mothers. The Infant-at Risk Program primarily provides health and preventive services to pregnant and new mothers who are substance abusers, HIV positive, and teenagers [17]. The CARE program will face the challenge of not duplicating already existing programs in Prince George's County. Therefore, I must make the program unique and provide services not already existing, such as group therapy where participants will explore social issues facing the African American community that might be linked to poor pregnancy outcomes and subsequently, teach ways to overcome these determinants of health.

Consistency with state and national priorities

Our program will also be consistent with state and national health priorities. Maryland Babies Born Healthy Initiative is a state policy to reduce infant mortality [4], especially in Prince George's County, ranked second in infant deaths. Maryland congressman Steny Hoyer is currently requesting $443, 200 to expand prenatal services in Prince George's County [18]. The hope is that this funding will make these services more cost-efficient and raise their availability. The proposed model will include midwives, telemedicine, and perinatologists [18]. Additionally, in the "Plan for Reducing Infant Mortality in Maryland" a program of the Maryland Department of Health and Mental Hygiene, the second strategy is to provide earlier prenatal care and the use of community outreach, which is in congruence with my program [19]. On the national level, Healthy People 2020 includes the goals of reducing morbidity and mortality in mothers and infants and improving pregnancy health behaviors as the first and second main objectives for maternal, infant, and child health [14]. Therefore, the issues that my program will address are not only priorities on the local level, but also at the state and national levels. The challenge would again be to stay within the state and national standards of care; with the strategy to follow along with the current initiatives in place.

Acceptability to providers and recipients

In order to make the program acceptable to both providers and recipients, we must make the program well-known in the community. This can be done by advertising the program through pamphlets in physician offices, the county health department, the offices of the WIC program, and through health seminars for physicians and patients.

Possible Financial Resources

Possible financial resources include grant funding and fundraising. Currently, at this time there are no opportunities for grant funding through the Prince George's County Health Department [20]. Therefore, other avenues must be utilized such as through local chapters of the National Medical Association (NMA), the American Medical Association (AMA), the American Academy of Family Physicians (AAFP), and the American Congress of Obstetricians and Gynecologists (ACOG). One possible obstacle would be if the Prince George's County Health Department does not allow the program to fall within its division. Therefore, it will be imperative to meet with the community health division leaders and inquire about this in advance.

Technical Feasibility

For this program to be feasible, we will need a meeting place that is central to the community, such as the Prince George's Hospital Center or Health Department. It will also be necessary to have trained group leaders. These leaders could potentially be volunteer physicians, midwives, and medical students. We will promote the program through the community service initiatives of local chapters of medical associations such as, the Student National Medical Association, the National Medical Association, and American Medical Association. These are community service based organizations and we will promote this program as a potential community service endeavor for its members.

Stakeholders and Other Factors

It will be critical to keep the Prince George's County Health Department aware of the CARE Program, as well as it progresses and evaluation. Other stakeholders should include family medicine physicians and obstetricians in Prince George's County, especially those

affiliated with the local health department, Prince George's Hospital Center, and community health centers, such as Greater Baden Medical Services [4].

Application of Program Theories

There are several theoretical models to use when planning a health program. The program theory consists of the plan and how exactly the program is to work. Within this theory, the process theory and effect theory are both formed. Each of these methodologies functions to create desired outcomes for the health program [21]. The process theory is the organizational plan which plans for the types of resources used to start and sustain the health program, as well as the service utilization plan. The service utilization plan details how and what interventions to provide, as well as how to reach the target population. Effect theory only involves the service utilization plan [21]. The effect model looks at how the program interventions will influence the mediating factors that cause the health problem being addressed and the future influence it will have on the community [21].

I will use the program theory when planning this program. The program theory will be very helpful in setting up the logistics of the program and making sure that it is sustainable. The process theory will be used to outline the necessary resources or logic model to set up the program, such as staff, funding, and technology support. The service utilization plan will be valuable in planning the activities and interventions. I plan to use the following intervention types in the CARE Program: coordinating, educating, counseling, coaching, and treating [21]. Education will be the primary intervention where at every session we will educate the mothers on proper pre-natal care and what to expect after the baby is born. The coordinating intervention will be used to link soon-to-be mothers in the program to other local resources if the need is present. Counseling will take part in the form of group counseling sessions, where the mothers will discuss their own experiences and learn from one another. Coaching will be in the form of stress management sessions throughout the span of the program. Lastly, the treatment

intervention will involve group relaxing exercise and Lamaze classes. The ecological perspective theory of program planning will be very important when outlining the plan and guidelines of the program because it will help us target the health problem from multiple angles and integrate all of these plans into the program.

The Health Belief Model Theory will also be important in this program plan. This theory addresses the following issues: the patient's view of their susceptibility to the health problem, the severity of the health problem, benefits of care, barriers to care, what will prompt the individual to change their behavior, and will the patient be effective at making this health change. All of these issues will be addressed in the CARE Program. For example, we will hold specific mental support sessions on social determinants of poor birth outcomes and the methods to overcome these barriers. Our goal is to improve any adverse prenatal behavior on the individual level that can pose health risks leading to infant mortality [22]. We hope that by using the health belief model theory we can instill long term changes in our participants.

Goals and Objectives

The goal of the CARE Program is to improve prenatal and infant health among underserved African-American women in Prince George's County, Maryland.

The following are short term objectives of the project:

- By May 2012, enroll at least six women into the program. We would like to have six participants for each three month cycle of the program. **Activity:** Promote the program in the community at the Prince George's Health Department through pamphlets and fliers.
- By August 2012, at least 60% of the participants will report feeling that their knowledge on prenatal education has increased. **Activity:** Participants will attend a bi-weekly group therapy session and prenatal education courses and after each session they will complete a survey about the effectiveness of that class.
- By August 2012, at least 40% of expectant African American mothers seeking assistance from the Women, Infant and Children (WIC) Program will be referred to our project. **Activity:** We will distribute pamphlets describing our program at WIC and the Prince George's Health Department. Additionally, we will inform health care professionals working at this facility about our new program.
- By August 2012, recruit at least 6 teaching volunteers. **Activity:** Promote our program at local National Medical Association, Student National Medical Association, and American Medical Association meetings.

- By August 2012, at least 98% of the physician and medical student volunteers will complete a pre-program teaching orientation. **Activity:** All volunteers will be required to attend this power point based orientation prior to teaching.

The following are long term objectives of this project:

- By the end of year three, at least 95% of women in the program will be compliant with prenatal vitamin guidelines and their own medication regimen. **Activity:** Review each participant's medication list and concerns during the first 5 minutes of each session.
- By the end of year three, the program will have at least a 90% attendance rate at each session. **Activity:** Encourage participants to attend every session of their three month cycle by including incentives such as food and Wal-Mart® gift cards.
- By the end of year three, increase the number of women who have an obstetrician and have received prenatal health care within the last 3 months by 10 percent. **Activity:** Connect each participant with prenatal primary care providers, encourage women to visit their physician regularly, and follow-up with each participant about their medical visits.
- By the end of year five, we will raise at least $3000-$5000 yearly to financially support the program. **Activity:** Fundraise and promote the program at local hospitals, local medical associations, and apply for various grants and fellowships.
- By the end of year five, at least 95% of women in the program will have infants of normal birth weight and lower rates (lower than 11.7 deaths per 1000, the current rate in Prince George's County) of infant mortality within the first year of life. **Activity:** Participating women will attend all educational and group therapy sessions. At six months intervals we will evaluate the program for patient outcomes. Through patient interviews and charts we will document the birth weights of program participants'

infants. Low birth weight is identified as less than 2500 grams and normal birth weight is between 2550 and 4000 grams [23]. However, a large infant is not ideal (4000 or more grams) and may signal other pathologies, such as maternal gestational diabetes [23].

Implementation Plan

This program will be run through the Prince George's County Health Department with biweekly sessions on a three month cycle. It will be under the direction of a program coordinator with volunteer physician, nurse, and medical student health educators. The activities of the program can be divided into three main areas: recruitment and training of teachers and recruitment of participants; education; and support group.

Recruitment and Training

Volunteers will be recruited through local chapters of the Student National Medical Association, American Medical Association, and Student National Medical Association (This is repetitive – listed SNMA twice). Emails requesting volunteers will be sent to these groups. Additionally, the program coordinator will present this program at these organization's local meetings to garner support and volunteers. Fliers and emails will be circulated through the community service initiatives at Prince George's County area hospitals, including Doctors Community Hospital and Prince George's County Hospital. Participants will be recruited through the Prince George's County Health Department and Women, Infant, and Children programs. We will circulate pamphlets about the program through these locations as well as the Cheverly Health Center and the area hospitals. CARE program coordinators will contact the obstetrics/gynecology providers at these facilities to inquire if any of their patients would be willing to participate. The program will train the volunteer educators during an orientation describing the program, its logistics, and the educational curriculum. The volunteer educators will be responsible to review the materials prior to each session. The orientation will occur in January and multiple other dates during the year, depending on the number of incoming volunteers.

Education

The sessions will take place on Saturday mornings for 3 hours, with participants sitting in a circle format. The session will begin with a checking in with each participant describing how they are currently feeling. The next hour will consist of education. The first two lectures of the three month cycle will focus on what to expect during pregnancy. The next two will educate participants on proper nutrition and the importance of prenatal care. The last two lectures will focus on how to care for a newborn child, the importance of having a pediatric provider, and the importance of attending and complying with routine medical visits. The education will be in lecture and discussion format with visual aids including Power Point presentations, handouts, booklets, and quizzes.

Support Group

The third hour of the program will consist of a roundtable support group, where each participant will discuss their own life experiences and problems, while also listening to the experiences of other participants. The goal is that the participants will learn from each other, as well as from the educators. During these discussions, the participants may learn about the other participants' experiences and how they have overcome adversities. Participants may also find similarities in their family or social experiences with each other. Hopefully, they can then discuss and work together to find possible solutions for some of their challenges revolving their pregnancy, family, and community. Participants will be able to invite partners and family members to these sessions. A Lamaze specialist will be invited to attend two of the sessions to work with the women on relaxation and massage techniques during pregnancy.

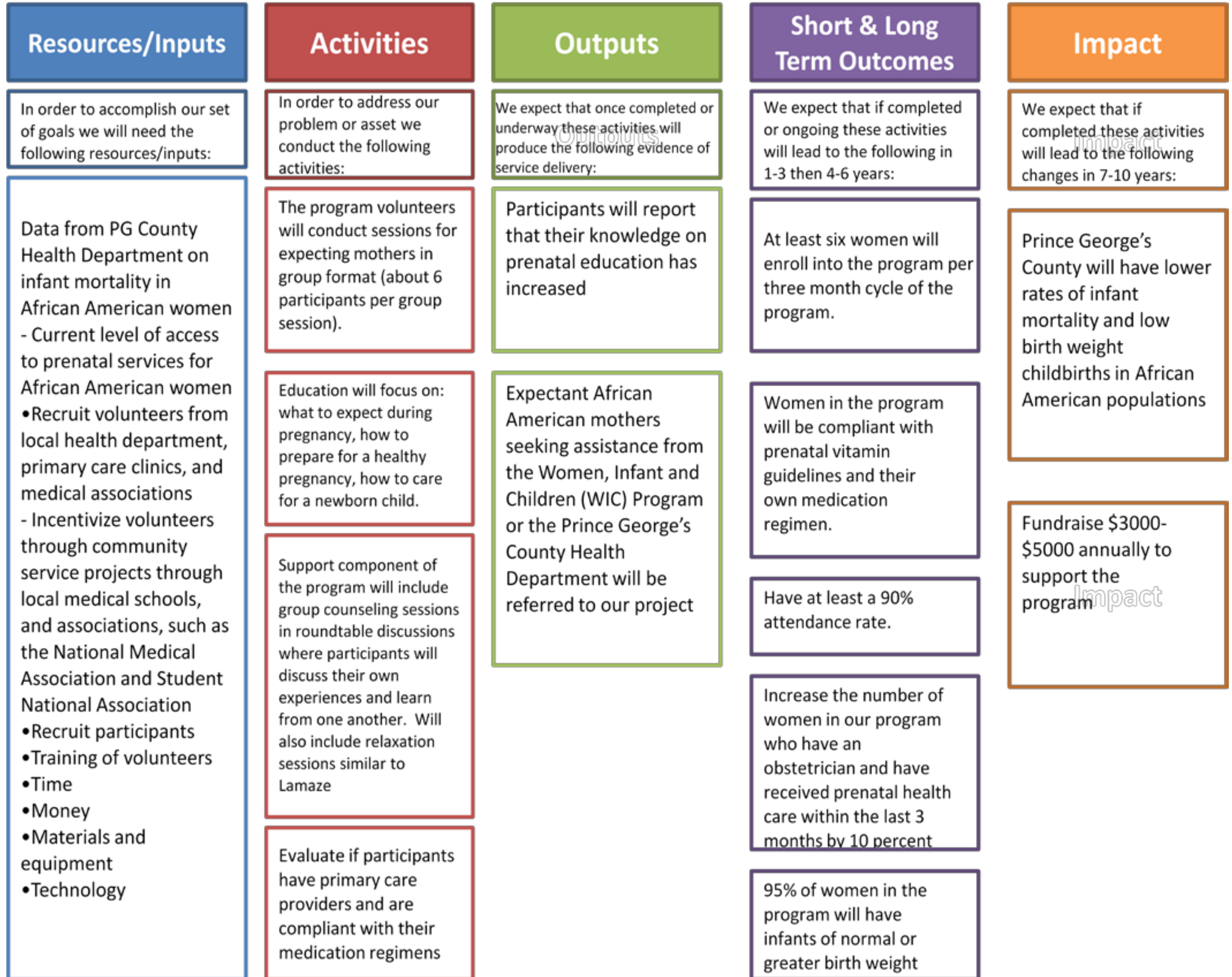
Timeline

Activity	Staff Involved	Dates
Recruit volunteer educators	Program Coordinator	January to December of year prior to program
Recruit participants	Volunteer educators and Program Coordinators	June to December of year prior to program
Train educators	Program coordinator	Ongoing, starting in September of year prior to program
Meet with Prince George's County Health Department representative about running the program at its facility and about garnering their support and funding	Program Coordinator	January to December of year before program is set to start
Prenatal education and support sessions	Volunteer educators and program coordinators	Starting in January
Evaluation of program	Participants, educators, and program coordinator	June and December of each year of program

Budget

Yearly Budget						
Title		Effort	Base	Salary	Fringe	Total
Program Coordinator and Trainer		1	8,000	8000	2000	10000
Volunteer Health Educator Stipends			12,000	12000	3000	15000
Curriculum Developer		0.5	5000	5000	1000	6000
Lamaze specialist			5000	5000	1000	6000
Equipment						
Computer						1000
Projector Screen						500
Projector						600
Office Supplies (pens, paper, printer, stapler, staples, telephone)						1000
Posters, pamphlets and fliers	1000 @ $1 each					1000
Travel (gas mileage)	50 miles per week					1000
Food						1000
Incentives (i.e. gift cards)						1000
Total Cost						44100
Indirect Cost (8%)						3528
Total Cost						47628

Logic Model



Strategies for Sustainability

Sustainability will be fundamental to this program's longevity and success. The goal is to have the program served primarily by volunteer educators. Therefore, the program will potentially not require a substantial amount of funding and will subsequently be more likely to be sustainable because of its lack of required large amounts of funding.

Vision

For the CARE Program to be sustainable, stakeholders at the Prince County Health Department will need to share our vision for preventing prenatal and infant adverse outcomes in African American women. If these stakeholders are not engaged or passionate about these issues, it will be difficult to obtain their support and recruit participants and volunteers to the program. Additionally, without this shared vision it will be difficult to house the program within the health department's facilities. Other possible options for meeting space include the Prince George's Hospital Center or the Greater Baden Medical Services Health Center.

Results Orientation

Data gathered from the evaluation phase of the program will be important in determining the program's sustainability and if the program can achieve positive short and long term outcomes in order to maintain funding and stakeholder support. Evaluation data will also be used to make changes to the program by making it more amenable to the participants' needs, as well as to improve the program's compliance with health department standards. The results will help to evaluate the program's progress and sustainability over time.

Strategic Financing Orientation

The program coordinator will need to apply for grant funding from various sources and promote the program at local medical association meetings for private donations. This financing is essential to support the program logistics, allow expansion, and promote sustainability. It will also be important, due to financial restraints, that health educators be recruited as volunteers. However, if the teaching team is too small, incentives such as stipends may need to be used.

Broad- based Community Support

For the program to be sustainable, we will need community support, especially from the Prince George's County Health Department. Therefore, it will be crucial to reach out to health department stakeholders. Community support and publicity will be needed to recruit participants and volunteers. Forms of publicity may include information about the program in community newsletters, pamphlets, and program informational seminars through the Prince George's Hospital and Greater Baden Medical Services Centers.

Adaptability to changing conditions

In order to be sustainable, the program will need to adapt to changing conditions in the community. Over time, community demographics may change and it will be important to be aware of these changes in order to reach our target populations. Additionally, we will need to change our recruiting methods if we have limited success in our initial attempts.

Sustainability Plan

A plan detailing how to keep the program sustainable and a timeline will be important for the program's ongoing success. The timeline will guide us to make sure the program plan stays

on target in regards to implementation. Similar to the program plan, the sustainability plan will specify how our initiatives will keep the program successful for many years. An initial sustainability plan includes details such as staffing the program with lay community health workers. Opening up the staff to community volunteers will help to increase the number of available program staff, while also decreasing program costs. Ideally, this plan will help to maintain a steady program staff for the long term.

EVALUATION PLAN

Rationale for the Evaluation

The CARE Program for underserved African American pregnant women should be evaluated for several primary reasons. First, it will be necessary to monitor the progress of this program over time. This will be critical in seeing if the program is fulfilling its purpose and it will be necessary to find ways to continue these accomplishments. However, if it is not, an evaluation will be beneficial in finding flaws in the program and providing recommendations for improvement. Thus, a program evaluation would determine if the program activities are producing favorable outcomes in accordance with the program objectives [24]. Another primary reason for evaluation would be to continually improve the quality of the program. As public health professionals, our goal is to provide the utmost level of care, therefore having a high-quality health program is a necessity. Evaluation will also provide evidence to our funders and stakeholders when applying for future grant funding and support. It will be a formal method to inform these stakeholders of the program's successes, challenges, and sustainability. This information will be help guide our stakeholders in making decisions about future support. All of these justifications for evaluation will all improve the longevity and continued support of the program [24].

Approach to the Evaluation

An internal and external evaluator would both provide great assistance to this program. My role will be as an internal evaluator for this program because I will be involved with the program implementation and will also monitor the program's progress. I would also recommend an external evaluator additionally in order prevent a conflict of interest in regards to reporting the program outcomes to funders. The key characteristics that the evaluator would need to evaluate this program include negotiating and listening skills, flexibility, and being skilled at analyzing data and research methods. These qualities will enhance evaluation because it will allow the evaluator to integrate the opinions of stakeholders and program staff, adapt to any potential program changes, and statistically analyze the program outcomes in order to report to stakeholders and grant funders.

The stakeholders that would need to be involved in the evaluation include the Prince George's County Health Department; the program staff; grant funders; the local chapters of the National Medical Association, American Medical Association, and Student National Medical Association; and the program participants. The different stakeholders would likely be most concerned with the effectiveness of the program, if program participants feel that the program is beneficial, and if the program is organized and run with integrity. I would include the stakeholders throughout the entire process by asking for their input, disseminating bi-yearly reports of the program's progress, and continually asking for their feedback through questionnaires. The potential challenges of evaluation include the possible high costs for evaluation and potential conflicts when mediating between stakeholders.

Evaluation Study Design

The study design for evaluation will use an integrated approach with both observational and interventional methods.

Implementation Evaluation

The evaluation of program implementation will be conducted by an observational design, using qualitative and quantitative data gathering. The quantitative measurements will consist of the number of participants recruited and the number of physicians that referred their pregnant patients to the program. The qualitative measures will be accomplished through data gathering via surveys. We will distribute surveys to the program staff and coordinators. Surveys will use open-ended as well as multiple choice responses. Surveys will focus on effectiveness and efficiency of program training logistics, recruitment, and coordination. Pre-intervention surveys with multiple choice and open-ended questions will be given to program participants. However, these questions will focus more on recruitment and program administration. Interviews with both program participants and staff will assess similar questions, including challenges and accomplishments of the program.

Outcomes Evaluation

Program participant outcomes will be evaluated using a quasi-experimental design. Baseline data on program participants' behavior will be gathered at the start of the program. We will use a two-group prospective cohort study design, where the groups will be non-matched and non-randomized [21]. The exposed group will be the program participants and the unexposed group will be women not in the program. Pre-test and post-test data will be collected on topics including participant nutrition, prenatal supplement intake, folic acid usage, exercise, and

attendance at obstetrician appointments. Observational study design methods will be used to evaluate post-program patient satisfaction through surveys.

Evaluation Methods

The evaluation methods for this program will consist of surveys, document reviews, and interviews. Paper surveys will be given to participant prior to starting the program and at exit. Online surveys for the program staff and coordinators will be given also at the start and end of the program. The goal of the pre-program surveys will be to assess baseline data on participants and opinions on implementation of the program. The post-program surveys will be used to evaluate participant satisfaction and outcomes. The main outcome of interest will be number of participants with prenatal guideline compliance and subsequent improved pregnancy outcomes will be evaluated using pre and post program surveys.

Program staff and coordinators will be interviewed to assess the effectiveness of training, successes, and areas for improvement for the program. Participants will be interviewed on topics including: knowledge of prenatal vitamins guidelines, knowledge of a healthy pregnancy lifestyle, successes, and areas for improvement of the program. The interviews will be 15 minutes and will take place on an on-site location. Document reviews will take place in order to verify recruitment process, number of participants, attendance, participant compliance with prenatal guidelines, and participant follow-up with an obstetrician.

Evaluation Planning Tables

Short term Objective 1: (Process Objective)

By May 2012, enroll at least six women into the program. We would like to have six participants for each three month cycle of the program.

Evaluation Questions	**Participant**	**Evaluation Method**
By May 2012, were at least six women enrolled into the program?	Prince George's County Health Department, project manager	Documents reviewed
What methods were used to enroll pregnant women into the program?	Project manager	Documents reviewed, Interviews
What were barriers to recruitment?	Project manager	Open-ended surveys to program staff and participants, Interviews
How could recruitment methods be improved?	Project manager, participants	Open-ended surveys with program staff and participants, Interviews

Short term Objective 2: (Participant Objective)

By August 2012, at least 60% of the participants will increase their knowledge in regards to a healthy lifestyle during pregnancy.

Evaluation Questions	**Participant**	**Evaluation Method**
By August 2012, did at least 60% of the participants report feeling that their knowledge of a healthy lifestyle during pregnancy, what to expect during pregnancy and care of a newborn has increased?	Project manager, participants	Documents and patient surveys reviewed; Pre and post surveys
What were reasons for patient satisfaction or dissatisfaction?	Project manager, participants	Open-ended patient surveys
How could this process be improved?	Project manager, participants	Open-ended interviews and surveys of program staff and participants
Did the new knowledge level change behavior regarding diet, vitamin intake, exercise, smoking, drug use, and alcohol use and was it sustained? [25]	Participants	Pre and post surveys

Short term Objective 3: (Process Objective)

By August 2012, at least 40% of expectant African American mothers seeking assistance from the Women, Infant and Children (WIC) Program will be referred to our project.

Evaluation Questions	**Participant**	**Evaluation Method**
By August 2012, were at least 40% of expectant African American mothers seeking assistance from the Women, Infant and Children (WIC) Program referred to our program?	Project manager, Prince George's County Health Department and WIC Program	Documents and patient charts reviewed
What are the lessons learned from generating referrals?	Program staff and coordinator	Interviews, surveys
What were the barriers to attaining this information?	Project manager, Participants	Documents reviewed
How could this process be improved?	Project manager, Participants, WIC and Prince Georges County Department of Health partners involved with referrals	Open-ended question interviews and surveys with program staff and WIC program staff

Long term Objective 1: (Participant Objective)

By the end of year three, at least 95% of women in the program will be compliant with prenatal vitamin guidelines and their own medication regimen.

Evaluation Questions	**Participant**	**Evaluation Method**
By the end of year three, were at least 95% of women in the program compliant with prenatal vitamin guidelines and their own medication regimen?	Project manager, program participants	Documents and patient charts reviewed, open-ended question interviews with participants; Pre and post surveys
What did participants learn about prenatal vitamin usage?	Participants	Open-ended surveys; Pre and post surveys
What were the challenges with reading or understanding guidelines?	Participants	Open-ended survey; Pre and post surveys
How could this process be improved?	Project manager, program participants	Open-ended question interviews with program staff and participants

Long term Objective 2: (Participant Objective)

By the end of year three, the program will have at least a 90% attendance rate at each session**.**

Evaluation Questions	**Participant**	**Evaluation Method**
By the end of year three, was there at least a 90% attendance rate?	Project manager	Documents and patient charts reviewed
Were there challenges in reaching a 90% attendance rate?	Program staff, participants	Interviews, surveys
Why did some participants attend and others not attend?	Participants	Interviews, surveys
How can attendance be increased?	Project manager, participants	Open-ended question interviews with program staff and participants

Long term Objective 3: (Participant Objective)

By the end of year three, increase the number of women who have an obstetrician and have received prenatal health care within the last 3 months by 10 percent.

Evaluation Questions	**Participant**	**Evaluation Method**
By the end of year three, was the number of women who had an obstetrician and had received prenatal health care within the last 3 months increased by 10 percent.	Project manager	Documents and patient charts reviewed, Review patient surveys
How were you referred to an obstetrician and what were the reasons you continued to make your appointments?	Participants	Interviews and open-ended surveys
Were there any challenges in receiving access to an obstetrician or being able to attend your prenatal appointments?	Participants	Interviews and open-ended surveys
How can the referral process to an obstetrician be improved?	Project manager, program participants, physicians involved with referrals	Open-ended question interviews and surveys of program staff and participants

Dissemination Plans

The proposed plans for dissemination of this prenatal program follow. During the program, a 360-degree feedback strategy will be used to share evaluation findings to program participants for program improvement [25]. Through this method, participants can learn if the program is helping them change any behaviors towards a healthy pregnancy [25]. An evaluation report will be distributed to program stakeholders, funders, staff, and coordinators, especially at the Prince George's County Health Department and Hospital Center. The evaluation report will include the evaluation methods, executive summary, program background information, logic models, and outcome measures. The executive summary will include the evaluation procedures and suggestions for improvement.

Key points from the report will be published in a newsletter to be circulated throughout the Prince George's County Health Department. These key findings may also be published on the health department's website. Program participants and community stakeholders will also like to be informed on the evaluation of the prenatal program. Therefore, a community forum will be held to discuss the findings from the evaluation. At the forum, there will be a presentation and participants and community stakeholders will be able to ask questions of the program coordinators and evaluators.

DISCUSSION

Poor birth outcomes in the United Sates, such as infant mortality and low birth weight, disproportionately affect African Americans. The cause of this health disparity remains unclear with research suggesting that the cause is multi-layered. Lack of access to prenatal care or low socioeconomic status in certain racial groups is not a sufficient answer to this health inequality. We must also integrate prenatal programs with education, social support, and information on social determinants of poor health in the Black community [2].

The systematic review illustrated how similar implementation plans of promising prenatal programs can be integrated within the CARE Program. Specifically, I would like to include: group prenatal education, discussions about community and social factors influencing poor health, and family involvement, female self-empowerment, and prenatal care coordination with a primary care physician or obstetrician

During the program planning, it was discovered that a program encompassing all of these elements is not currently available within one program in Prince George's County, Maryland. With greater than the average national infant mortality rate in Prince George's County, the CARE program would bring an innovative and useful approach to help eliminate this health disparity in African Americans in this region. Though challenges may arise, including garnering funding and achieving sustainability, evaluation planning will hopefully locate solutions for advancement of this program. Prenatal community programming is not a new or novel concept, but the CARE Program brings a new, integrative methodology to address the adverse birth outcomes in the African American community of Prince George's County, Maryland.

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