A Telephonic Nutrition Program Plan and Evaluation Plan for the Reduction of Cardiovascular Disease Risk Factors in African American Mothers

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OVERVIEW OF THE PLAN

This program plan is a risk factor and nutrition educational program targeting African American mothers of school-aged children in Martin County, North Carolina. It consists of weekly communications between health coaches and participants, during which topics on the cardiovascular disease (CVD) risk that the participants face as well as ways to nutritionally combat them will be covered. The heart disease death rate in Martin County is more than twice that of the entire state of North Carolina and heart disease is the leading cause of death in Martin County (Martin-Tyrrell-Washington District Health Department, 2014). Utilizing the constructs of the Health Belief Model, our program will target the risk factors of obesity and hypertension through modifying nutritional decisions as well as educating participants on their susceptibility and the severity of CVD.

Health coaching sessions will focus on educating participants on the risk factors that contribute to CVD, specifically obesity and hypertension. During each 30 minute session, participants will work with their coaches to set goals and develop a meal plan to follow to lower their risks. The American Heart Association recommends limiting salt intake to reduce the risk of CVD (American Heart Association, n.d.). Using pre and post surveys, our team will be able to assess changes in knowledge levels and dietary changes. The incentive quizzes will also aid in this effort.

Over a 5-year period, the 12-month program will run three times in 6 week intervals. The first and final years of the program will be used for the planning and evaluation stages, while a less formal and continuous evaluation will be performed throughout the duration of the
program. We aim to have 30 women per cohort. The administrative team will lead the planning stages, while they will work with health coaches to implement the program. The expected budget for the entire program from initiation to implementation to evaluation will be about $203,925.
CONTEXT OF THE PLAN

Needs Assessment

Heart disease, also known as CVD, is the number one cause of death in the United States (CDC, 2017a). Research suggests that the primary mechanism which contributes to heart disease differs between men and women. While women are primarily affected by ischemia, a condition where blood flow and oxygen to the heart are lacking due to issues with constriction and dilation of their smaller coronary blood vessels, men suffering from heart disease exhibit problems with their major arteries containing plaque build-up (Cedars-Sinai, n.d.). The WHO lists ischemia heart disease, along with stroke, as “the world's biggest killers” (WHO, 2017). Additionally, it is worth noting that women are more likely to die after suffering a heart attack than men and that women of color tend to have more risk factors for heart disease (OWH, 2012). These factors combined suggest that rigorous intervention efforts need to target women, more specifically women of color.

Heart disease is the leading cause of death in Martin County, with death rates stemming from the diseases of the heart being higher in Martin County than the state of North Carolina (Martin-Tyrrell-Washington District Health Department, 2014). African American women are at much higher risk of having CVD than Caucasian women (Williams, 2009). Nearly 49% of African American women ages 20 and older have some form of heart disease, however, out of five only one of them believes that she is personally at risk (AHA, n.d.). Furthermore, statistics show that many African American women are lacking awareness of the signs and symptoms of heart disease and the fact that it poses the greatest threat to them. With only 52% aware of the signs
and 36% aware of the magnitude of the risk, there is an urgent need to educate African American women on not only heart disease itself, but the risk factors associated with it (AHA, n.d.). Although the number of African Americans in Martin County has decreased, they still constitute over 43% of the population making them an excellent target for this intervention (Martin-Tyrrell-Washington District Health Department, 2014). An interesting point noted in the Martin County Community Health Assessment 2014, African American males had lower heart disease mortality rates than non-Hispanic white males, while African American women had higher heart disease mortality rates than non-Hispanic white females (Martin-Tyrrell-Washington District Health Department, 2014).

A variety of factors may influence this disparity one of which may be their nutritional decisions. Many African American women struggle to balance their needs with the needs of others so choosing food items, such as those found in Western diets consisting of red meats and processed foods, are quick and easy solutions to preparing meals. These dietary choices are associated with increased all-cause mortality rates in African American women (Boggs, Ban, Palmer, & Rosenberg, 2015). Genetics are also thought to play a role in the predisposition of African Americans to hypertension, a major risk factor of heart disease, via an increase in salt sensitivity (Svetkey, Chen, McKeown, Preis, & Wilson, 1997). These facts highlight the need for nutritional interventions in the community of African American women.

Currently, there are numerous ongoing efforts to address the risk factors associated with heart disease all across the global and more specifically in the United States. Most notable is the Centers for Disease Control and Prevention (CDC) WISEWOMAN program, which is a part
of the CDC’s Division for Heart Disease and Stroke Prevention. This project spans 19 states and two, tribal organizations and is geared towards low-income, uninsured and underinsured women aged 40 to 64 years (CDC, 2017b). It includes 21 programs that consist of intervention efforts including free screenings, health coaching and counseling (CDC, 2017b). Another program of interest is a community-based intervention funded through the Racial and Ethnic Approaches to Community Health (REACH) 2010 by the CDC called the Charlotte REACH program in which diet was one of the targets being used to address cardiovascular disease in the African American community (Plescia, Herrick, & Chavis, 2008).

The Political Environment and Consistency with Local, State and National Priorities

Cardiovascular disease accounts for a substantial portion of all health care spending. In 2012, of the total medical services expenditures, approximately 13% was on the treatment of circulatory system diseases (Kamal, Cox and Sroczynski, 2016). Under the Affordable Care Act (ACA), cardiovascular disease is one of the covered preventative services that private insurance plans must cover without a cost-sharing burden being placed on patients (KFF, 2016). Currently, Congress along with the new White House administration is working on repealing and replacing the ACA, which may cause some issues concerning the ability to receive and afford health care for millions of Americans (Fox and Walsh, 2017). Local, state and national governmental priorities are drivers of the success of intervention programs. With the future of health insurance coverage and access to health care on the line, it is imperative that public health efforts are put into place to prevent the diseases that patients may not be able to afford to treat.
Financial Resources and Technical Feasibility

The program will require a budget of approximately $200,800 over a period of five years. The program staff, supplies and educational materials constitute the bulk of the budget. Should the need arise for additional funding, the organizations have been identified as possible sources: the Blue Cross Blue Shield of North Carolina Foundation and the Kate B. Reynolds Charitable Trust. Both of these organizations helped fund other North Carolina obesity prevention initiatives (Eat Smart Move More NC, n.d.). The budget will include a staff that consists of the investigation team, the health coaches and the internal evaluator. The health coaches will be trained in taking vital signs. It will also encompass the small office space for weight and blood pressure checks. Supplies included in the budget are phones, computers, blood pressure cuffs, scales, and office supplies such as pens, paper, staples and staplers, etc. Incentives will constitute a smaller portion of the budget and will include items such as gift cards, cookware and a Fitbit.

The implementation of this program is designed to address factors that may hinder the target population of African American mothers in their effort to eat healthier and become more educated on factors that influence their health. Studies have shown that health coaching, especially considering the goal setting component, is an effective tool in achieving improvements in health outcomes (Olsen & Nesbitt, 2010). The program will be of no cost to participants and will be delivered in a mostly telephonic and virtual format to enable greater participation of those who may lack traditional transportation. The only in-person components that will require participants to be physically present at a specific location will be the weigh-in
and check-up. The allotted time of 30-minute sessions is designed to address the time constraints that our target population faces. Busy mothers may not be able to spend an hour or more at specific times focusing on their own health needs and the program recognizes this and intends to make things simpler for them to do so. The design is not without challenges. While the transportation issue may be somewhat alleviated, it may still exist for some. Additionally, program participants will need access to phones and computers to participate which may exclude some key members of the target population. The education level and possibly the comfort level with technology of the mothers may pose a concern. However, we do not anticipate this being a substantial issue. Overall, we feel that the program will allow busy mothers to participate in a way that does not increase stress and thus, will hopefully be more achievable.

**Stakeholders, Acceptability to Providers and Recipients, and Other Factors**

Due to the invisibility of its efforts, stakeholders may be unaware of the overwhelming need for public health interventions. With heart disease killing more people, especially women, than any other cause of death, targeted health interventions that engage stakeholders and truly hold their interests will be vital to saving the lives of women. There will be three main categories of stakeholders: the funders, the participants and partners. Working together with all of these groups, we hope to make a lasting impact in the target population and the risk factors that contribute to CVD in it. The funders will play a crucial role in supporting our efforts to implement and continue the program. This category may include any level of government as well as non-government organizations. Our hope is that as a result of the program, the health
care system will see a decrease in the burden that CVD causes. Ultimately though, we intend to improve the lives of these women and the communities in which they live and work. The participants will also contribute immensely to this program’s success. We need to ensure that we engage and support them to promote success. Lastly, the partners who such as non-profits who are looking to address this specific issue in African American women, will be key in our efforts. The stakeholders, as a whole, should find the program to be beneficial. As a society, we should promote health among all individuals and this program is a way to support that initiative.
PROGRAM THEORY

In developing a successful intervention, it is important to understand what drives the success. Borrowing from the five drivers of a successful disease-management program would be an interesting and possibly rewarding approach to increase the efficacy of intervention efforts. Brandt, Hartmann, and Hehner (2010) describe the following as the five traits: “program size, simplicity of design, a focus on patients’ needs, the ability to collect data easily and analyze results, and the presence of incentives that encourage all stakeholders to comply with the program”. Using the Health Belief Model is beneficial to deciding what should be considered in creating an effective program. The Health Belief Model consists of six constructs: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action and self-efficacy. Focusing on these six concepts may provide a better understanding on which activities will yield the best results. In considering how perceived susceptibility operates in this context, it is imperative that those who are unaware of their risk are convinced that they are susceptible to heart disease. Furthermore, addressing the perceived severity domain means participants must be convinced that left untreated, risk factors that they can control will ultimately lead to heart disease and could even be fatal. The perceived benefits construct would mean that participants must be convinced that participation in intervention program will reduce their risk of heart disease. However, an effort to address the issue of perceived barriers would require data on the road blocks people may face in trying to participate. This is where specific information, possibly from surveys or focus groups, would be needed. The women in our cohorts would be of childbearing age (15-44 years old) or so, and would have minor children at home. This would likely mean that they have unique issues needing to be addressed
such as child care. Cost, time commitment, availability of program (i.e. program hours or location) could also be perceived barriers to being able to participate. Cues to action could include complimentary screenings such as blood pressure and/or weight checks as well as enlisting providers to help encourage participation. Personal stories would work well here. It is particularly powerful for women to hear other women similar to them share their experience, whether through some type of media or in person, from someone experiencing heart disease. It can put things into perspective and make it more real to them. If stories from random participants are less influential, partnering with primary care or other physicians who interact with patients regularly and with whom they are more familiar may be beneficial to successful recruitment. Lastly, in focusing on self-efficacy, participants need to feel confident that they will be able to fulfill the requirements of the intervention. Including incentives could help participants have a stronger desire to reach goals that they set. They may be more confident in their ability to successfully participate and see results if they are working for and toward something tangible. The intervention strategy should include an educational piece on prevention efforts including topics on what the strategies are, how to do them and how they help, as well as the importance of these efforts. Participants as well as potential participants need to know how serious the consequences are in leaving themselves at risk or high risk. The educational component would allow participants to take short quizzes to demonstrate that they have read and understood the materials in exchange for incentives such as gift cards.
GOALS AND OBJECTIVES

Goal: Reduce the risk of cardiovascular disease in African American women in Martin County by implementing a nutrition-based educational program.

Short Term Objectives and Strategies:

1. By the end of month six, recruit and train four health coaches to hold telephonic educational sessions and provide structured meal plans and mentoring to participants.

   Activities: The program team will place advertisements online and in local newspapers looking for qualified, part-time health coaches. Local candidates will be preferred, as they may have a better idea of the barriers that residents of Martin County face. Additionally, the health coaches may need to be in the general area to perform check-up activities. The project team will conduct interviews and select the top applicants.

2. By the end of month six, recruit 30 African American women in Martin County to participate in weekly nutrition and risk factor education classes along with health coaching.

   Activities: The program team will send home pamphlets advertising the specifics of the program with school children in Martin County.
3. **By the end of year one, decrease weight by 5% in program participants.**

**Activities:** Through implementing a program based on health coaching and meal planning, we intend to help program participants lose 5% of their body weight during the duration of the program. Goal setting with coaches will help target key nutrition decisions that participants need to make in order to lose weight.

4. **By the end of year one, reduce hypertension risk through a reported decrease in salt usage by 25% as well as other dietary changes by program participants.**

**Activities:** Through the use of educational materials, the health coach will help program participants make wise choices regarding their salt intake. Meal plans will utilize healthier alternatives to traditional iodized salt like pink Himalayan salt as well as use lower salt amounts in suggested recipes.
Long-Term Objectives

1. By the end of year three, increase the percentage of African American women in Martin County following the AMA dietary recommendations of moderating salt intake by 30% (currently 67% for all African Americans in Eastern NC) (North Carolina State Center for Health Statistics, 2016a).

Activities: The health coaching sessions on nutrition, as well as the how-to videos on preparing meals, should teach participants to be cognizant of how much salt they use during cooking and how much they are eating. This increase in awareness should yield an increase in the number of people reporting that they are watching and/or reducing the amount of salt that they consume.

2. By the end of year three, decrease the percentage of African American women in Eastern NC who are classified as obese, based on BMI, to 40% (currently 44.3% for all African Americans in Eastern NC, compared to 28.4% for white Americans in Eastern NC) (North Carolina State Center for Health Statistics, 2016b).

Activities: One of the most important factors promoting weight loss will be education about how to prepare meals at home using healthier ingredients. The meals are going to be designed to quick and easy to prepare to help overcome the barrier of lack of time to prepare home-cooked meals. Our hope is that these interventions can become habits that will eventually erode the disparity in obesity between African American and white individuals in Martin County.
PROGRAM IMPLEMENTATION

Introduction

Cardiovascular disease, being the leading cause of death, is especially hitting the African American community hard (CDC, 2015). For this reason, addressing risk factors associated with it is so imperative. Our team aims to reduce the risk of cardiovascular disease in African American women in Martin County by implementing a program that will both provide education about cardiovascular risk factors as well as the role nutrition plays in them. Through the use of weekly sessions with health coaches, we plan to inform program participants of how they can lower their risk of having cardiovascular disease.

The program will consist of two parts: education and health coaching. The educational component of the program will be divided into two main areas: nutrition and CVD risk. Under nutrition, we will cover how nutrition affects the participants’ risk of CVD via obesity and hypertension. We will also educate participants on how to use nutrition to combat CVD risk. The focus of the CVD education will be to inform participants of how much they are at risk as well as the severity of leaving their risk factors untreated. Health coaching will serve to re-enforce what they are taught about nutrition. The health coaching component will create and deliver meal plans as well as provide a support system for the participants. Each health coach will be assigned 10 participants and will have a 30 minute call with them weekly to discuss their meal plan options. The participants will be able to receive their meal plans via email or may write them down themselves.
Location, Partnerships and Recruitment

Our program will be centered in Martin County and will utilize the Martin County public school system to recruit participants. Our team will meet with local organizations that may have access to local lay health advisors who may be able to help promote the program and weigh-in on ways to overcome barriers. Local program participants are more likely to trust lay health advisors due to their ability to provide a reassuring environment since they are members of the community, and this strategy is particularly suitable for engaging minority populations (Fleury, Keller, Perez, & Lee, 2009). We will partner with the local schools and lay health advisors with community organizations to recruit 30 African American women of school-aged children or younger to begin our pilot program. Pamphlets will be sent home with students with details on the criteria for inclusion: African American moms. As a part of our short-term objectives, we plan to recruit and train four health coaches; they will also be from within the community. Recruiting health coaches that help create meal plans for participants is a source of accountability as well as a source for information. With the health coaches coming from the community, they will have much more credibility with the participants.

Health Outcomes

Our overall goal for this intervention is to reduce the risk of cardiovascular disease in African American women in Martin County by implementing a nutrition-based educational program. We aim to reduce the incidence of CVD in African American women and the incidence and prevalence of obesity in African American women in Martin County starting with our
program participants. The program’s short-term goals consist of decreasing the weight of participants by 5% and reducing their hypertension risk through a reported decrease in salt usage and other dietary changes. The long-term goals are to increase the percentage of African American women in Martin County following the AMA dietary recommendations of moderating salt intake by 30% and decrease the percentage of African American women who are classified as obese, based on BMI, to 35% by the end of year three. Through the use of structured and semi-tailored health coaching and educational components, program participants will be given the tools they need to reduce their risk of CVD and live healthier lives.

**Income**

This program will require a budget of just under $200,800 for a 5-year period. We have identified possible sources of funding including the Blue Cross Blue Shield of North Carolina Foundation and the Kate B. Reynolds Charitable Trust which have helped fund other North Carolina obesity prevention initiatives (Eat Smart Move More NC, n.d.).

**Property**

The program would require a small office space to be rented where weigh-ins and blood pressure checks could take place. The office space would be fully furnished and include internet for $395 per month. The total expenditure for property is $395 x 12 = $4,740 per year.
Supplies

Supplies needed for the program are office supplies and clinical supplies. Included in these categories are items such as pens, paper, staplers, staples, blood pressure cuffs, scales, phones and computers among others. The budget for office supplies will be $1500. The statistical package used to record and analyze data will be $1,200. Clinical supplies will include 3 blood pressure monitors ($40 each) and 6 scales for monitoring weight loss ($20 each). The total cost of clinical supplies is $240. We also create a website and post videos for participants. The total cost of the supplies is $1,740.

Personnel

The personnel for this program will include an outreach coordinator, a financial administrator, a program manager, four health coaches and an internal program evaluator. The outreach coordinator will be responsible for locating and contacting any lay health advisors and community partners to aid in recruitment efforts. Additionally, the outreach coordinator will be responsible for the recruitment of participants. This effort will be part-time (.25 FTE) and will receive a stipend of $6,000 per year. The financial administrator, who will be responsible for the funding component of the program from grant writing to money management, will also be part-time (.25 FTE) and receive a stipend of $6,000 per year. The program manager will oversee the entire program and be responsible implementing the program and facilitating communication amongst personnel. The program manager’s effort will require more hours (.5 FTE) and will receive a stipend of $18,000 per year. Each health coach will receive of $3,000
each per year at approximately $23/hour. Health coaches will provide information on risk factors and how nutrition plays a role in them. They are also responsible for setting goals at the beginning with participants. How-to YouTube videos of cooking that are 30 minutes or less will be provided in order to aid participants in preparing healthier meals for themselves and their families and meal plans will be semi-tailored to participants using general guidelines and food options that the participants may use to customize for themselves. Lastly, the program evaluator will take care of the pre/post surveys, data collection as well as the program evaluation and receive a $3,900 stipend per year and will be considered part-time but less than .25 FTE. Pre/post survey data will be used to assess level of knowledge and current habits while blood pressure and weight for each participant will be collected at beginning, in the middle and at the end to document physical changes. The total amount allotted for personnel within the budget is $169,500.

Advertising

The advertising budget will encompass the cost of printing recruitment pamphlets to send home with students. Small pamphlets with intervention details will be printed and distributed at local Martin County schools at the cost per year of $130 for 500 flyers which we will fold into pamphlets (Vistaprint, n.d.). After identifying and selecting schools with a substantial amount of African American students, at least 30%, the outreach coordinator will facilitate the distribution of the pamphlets.
Incentives

Participants will have the opportunity to received incentives upon completion of small assessments to determine how well they have retained the educational information. To encourage accountability, they may also be rewarded based on reaching the goals they set with their health coaches with regard to weight and blood pressure measurements. All participants will have the opportunity to complete assessments to earn gift cards including: Target® gift cards $10/ gift card x 15 gift cards = $150 and Walmart® gift cards $10/ gift card x 15 gift cards = $150. The total expenditure for gift cards will be $300. As further incentive to reach their goals, participants will be given the opportunity to win either a Fitbit® or cookware. The cost for the Fitbit® Zip Fitness Tracker is as follows: $59.95/fitness tracker x 3 Fitness Tracker = $179.85. Rachel Ray® cookware will also be a prize and will constitute this portion of the incentive budget: Rachel Ray® Cucina Hard Porcelain Enamel Nonstick Cookware Set, 12-piece, Agave Blue $104/set x 3 sets = $312. The total cost for incentives is $791.85.

Summary

The total amount of the program’s budget for the 5-year period is approximately $200,800. Located in the appendix is the detailed budget in the Appendix.
RATIONALE AND APPROACH TO THE EVALUATION

EVALUATION PURPOSE

Both formative and impact evaluations are key in evaluating a program’s overall success (Issel, 2014). The primary purpose of the evaluations will be to assess the quality of implementation of the program as well as whether or not the program produced the intended outcomes. For example, was the program effective as an intervention for cardiovascular disease and did it help reduce risk factors? It is also useful in determining what improvements can be and need to be made to the program for it to be sustainable and/or replicable. Additionally, funders will want to see an evaluation done as a requirement for future funding or possibly as a stipulation for the funding received (NIH, n.d.). It may also help secure funding from additional sources. Lastly, we will need to evaluate the program to be able to expand it.

As an evaluator, the investigation team will be determining the whether or not the implementation was done successfully as well as whether or not the short-term and long-term objectives were met. Successful implementation may not translate into intended outcomes and as evaluators, we need to be able to evaluate the two independently. An objective evaluation of the implementation and outcomes of the program by the investigation team, would be our primary role. Using this information, we can further improve or build upon the existing program. As this would be a small-budget pilot program, an internal evaluator would be our best option. The internal evaluator would be involved in the program from the planning until the final evaluation stage. This would allow the evaluator to gather information at the start of the program that might be valuable in making adjustments as the program progresses to make
the implementation a success. While an internal evaluator may struggle to be object and external evaluator might be more impartial, hiring someone outside of the organization would not fit into the current budget.

Among the many skills that will be needed by the evaluator, communication skills are at the top of the list of skills that the evaluator would need. Additionally, there will be several members of the program team, including the investigation team and health coaches, which will require the evaluator to be proficient in team-building, and managing differences of opinion (W.K. Kellogg Foundation, 2004). These are all characteristics that the evaluator will need to be successful in completing the evaluation.

STAKEHOLDERS

Robust evaluations are based on multiple perspectives that include those of the people intended to be served by the intervention (W.K. Kellogg Foundation, 2004). Keeping that in mind, it is key that the evaluation process includes members of the community which we intend to serve. In considering which stakeholders would need to be involved in the evaluation, there are three main categories. The first is the affected individuals and groups. This would include the program participants themselves as well as their families and the community at large. The second would be those individuals involved in operations. The program team would encompass this group. The third and final consists of the individuals and groups who will utilize the results of the evaluations. Other organizations and groups may want to start similar
programs up. Additionally, the intervention’s outcomes may cause policy changes at the local, state or federal level.

Each stakeholder group will have key questions that will need to be addressed. Common questioned may centered around the same topics such as how the program works, what risks are present, what outcomes can be expected, how will success of the program be measured and is the program sustainable. Program outcomes documentation and detailed financial reports will be disseminated to the appropriate stakeholder groups in order to maintain their engagement as well as keep them informed along the way.

Involving stakeholders will require the program staff and evaluation team to create an open environment where everyone feels safe to share, respected and listened to (W.K. Kellogg Foundation, 2004). Strategies will need to be put into place to address differences as there may be more than one “right” answer (W.K. Kellogg Foundation, 2004). We will need to be open to other perspectives and be intentional in seeking feedback from program participants, project staff and other stakeholders.

As with any public health intervention, there may be challenges. These can range from issues with participants and recruitment to unexpected expenditures. Our program’s success will hinge upon the health coaches’ abilities to effectively work with program participants as well as the participants’ adherence to the protocols. Life happens and that may hinder some of the participants’ ability to fully commit or properly adhere to the program. Without all of the pertinent data, evaluation may be difficult. Additionally, engaging stakeholders in discussions to
gain their insights into the program as well as where it could be improved may be challenging.

We need to ensure that all stakeholders know that they are a valuable piece of the puzzle.
EVALUATION STUDY DESIGN

Evaluation Design

The evaluation design will consist of both qualitative and quantitative methods. We will use the one-group pretest/posttest design to assess changes over the course of the program. Through this design we will collect data that can be used for assessing changes in the participants’ attitudes toward nutrition and risk factors. Although this design has some imperfections including concerns about variability within the instrumentation and influences that data collection methods or testing effects may have on results, we believe standardizing the surveys and calibrating the scales and blood pressure monitors will help circumvent them (Issel, 2014).

Formative Evaluation

Formative Evaluation Questions

1. *Were aspects of the educational component of the program easy for participants to comprehend?*

The focus of the program is to educate program participants on the risks of cardiovascular disease as well as the role that nutrition plays in those risks. Focus groups and open-ended surveys will be utilized to qualitatively evaluate whether or not the educational materials, especially those geared to educating participants on cardiovascular disease and risk, are comprehensible. Possible questions could be the
following: Has your interest in your heart health increased? Do you wish coaching sessions were longer or shorter? Do the coaches take the time to understand you?

2. **Which recipes were the most useful and which recipes were the least useful for participants?**

One of our primary goals for the program is to introduce program participants to simple recipes that allow them to improve their nutrition by reducing salt intake. Using open-ended surveys will be an efficient way to obtain feedback on which recipes are the most useful. Questions like these may be beneficial: What did you enjoy about the recipes? What did you not enjoy about the recipes? Were there any recipes that were too difficult or too easy? Were you able to follow the meal plans? Why or why not? Was creating the meal plans difficult? Which recipes had the most views?

3. **Which communications activities and strategies were the most effective?**

In order to fully engage our stakeholders, we need to assess the effectiveness and appeal of our communication activities and strategies. We intend to partner with local schools and engage the community in encouraging participation in our program. It will be imperative that we start our efforts early and gain the trust and respect of the community that we intend to serve. We need to be sure that our efforts are of interest to our target population and that we can garner support of these efforts from key stakeholders, especially partners. Through the use of focus groups, we may include questions like the following: What did you think of the marketing strategy? Did it appeal to you? Was our mission clear? What could be changed to make our mission clearer?
Impact Evaluation

Impact Evaluation Questions

1. **How have individuals’ perceptions of their nutritional decisions changed after completion of the program?**

   As a primary goal of this program, we intend to address the behaviors of the participants using the Health Belief Model. How they perceive their view of their self-efficacy in sustaining healthy nutrition decisions. Qualitatively, we want to assess how their attitudes toward nutrition have changed and whether or not they believe they are capable of making healthier choices for themselves. Through in-depth individual interviews, we will use questions like the following to assess this: Do you feel comfortable preparing heart healthy meals for yourself and your family? How confident are you in your ability to maintain a heart healthy diet after the program has ended? How important do you think nutrition is for your overall heart health?

2. **How have individuals perceptions of weight loss changed after completion of the program?**

   While quantitative measurements will be important in determining the overall effectiveness of the program in achieving our goal of reducing cardiovascular risk in African American mothers in Martin County, we want to also assess their perception of weight loss. Focus groups, at the start and end of the program, will be the most efficient
and effective way to assess this and may include questions such as the following: Have you attempted to lose weight in the past? What challenges have you faced attempting to lose weight? How do you currently feel about losing weight?

3. **Did improvements in blood pressure occur?**

   As hypertension is known to be a risk factor of cardiovascular disease, it is important to maintain a healthy blood pressure in order to reduce the risk of CVD. Blood pressure will quantitatively be measured using blood pressure cuffs and monitors, but it will also be key in determining the level that participants have of interest in and knowledge of improvements in blood pressure. We would want to know if they are actively paying attention to their blood pressure and seeking care to maintain it. Questions would include: Over the past month, has your doctor told you that you needed to lower your blood pressure? Over the past month, have you checked to see if your blood pressure decreased?

**Quantitative Questions**

   This section of the evaluation will be centered on the physical metrics such as weight, salt intake and blood pressure. Due to the possibility that Body Mass Index (BMI) measurements may not depict an accurate picture of the health of African Americans, we will not use them in this evaluation (Bhanoo, 2009). Quantitative questions like the following would be included. How much weight have you lost? What was your initial blood pressure? What is your blood pressure following your participation in the program? How much salt do you use during the week (possibly in milligrams)?
EVALUATION METHODS

Our evaluation methods include focus groups, open-ended surveys and in-depth interviews. Evaluation will be a continuous process throughout the life of the program and will differ slightly in methods for the formative and impact evaluations. Focus groups and open-ended surveys will be used during the formative evaluation, while individual in-depth interviews, focus groups, close and open-ended surveys will all be utilized for the impact evaluation.

Focus Groups

Focus groups will be utilize in both evaluations: formative and impact. In the formative evaluations, we will assess which aspects of the educational component of the program were easy for participants to comprehend as well as which communications activities and strategies were the most effective. We want to know if the tools we use in the implementation of the program such as the online tools like the how-to videos along with the meal plans, and the printed tools like the recruitment pamphlets are instrumental in making it successful. In the impact evaluations, focus groups will help to determine how the individuals’ perceptions of weight loss have changed after completion of the program. The focus groups will provide instant feedback and may initiate further discussion than individual interviews might (Issel, 2014). Focus groups will be randomly selected from the target population and will include five to six participants. The internal evaluator will be responsible for conducting the focus groups and recording and transcribing the discussions.
**Individual In-depth Interviews**

Individual in-depth interviews will be conducted with program participants during the impact evaluations by the internal evaluator in order to determine how the individuals’ perceptions of their nutritional decisions has changed after completion of the program. Having the evaluator conduct the interviews will allow detailed information to be gathered and evaluation questions to be clearly asked as they may be misunderstood in traditional surveys (Issel, 2014).

**Open-ended surveys**

Open-ended surveys will be used in both evaluations. The formative evaluation will use them to assess what the most beneficial aspects of the education and nutrition components were. The impact evaluation will use them to assess attitudes toward improvements in blood pressure. Surveys will be distributed electronically at different points of the program and will be an inexpensive way of collecting data (Issel, 2014).
DISSEMINATION PLANS

Process or Formative Evaluation

This program will somewhat allow participants to guide the intervention by tailoring certain aspects to themselves which may help our team make adjustments to the program to better serve future participants. Stakeholders will be engaged from the beginning to ensure that the intervention fits the target population. After collecting the results of the focus groups and surveys, we will hold staff meetings to present findings and to confirm that all members of the team are on the same page in terms of the implementation and the expectations of the program. This is essential the successful implementation to achieve the goals and objectives of the program (Issel, 2014).

Other stakeholders, such as funders and community partners, will be informed of the findings via formal as well as informal PowerPoint presentations. We aim to keep the support and interest of these stakeholders. With that in mind, we will present the results of the process evaluations each cycle. Additionally, any changes to the program between cycles will be included in reports to the stakeholders.

Outcome or Impact Evaluation

With our outcome evaluations, we want to assess how well our program is being implemented as well as whether or not it is achieving the objectives we have defined. Those two items will be imperative to our sustainability and replicability which will greatly impact our standing with funders. Considering this fact, we will ensure timely reporting to funders and other stakeholder groups. Formal presentations will be given to funders and informal
presentations will be given to other stakeholders. The funders will also receive a detailed budget. Other modes of dissemination will include electronic versions being posted to the county website along with printed copies being placed in county libraries.

EVALUATION BUDGET

The total budget for the evaluation is $3,125. Many of the costs normally associated with the evaluation are already included in the overall program budget. These costs include the salary for the evaluator and the statistical package for analysis as well as other office supplies such as phones and computers. The complete evaluation budget can be found in the Appendix.
INTERNAL REVIEW BOARD (IRB) CONSIDERATIONS

In order to protect the ethical rights of all participating individuals, it is necessary to obtain informed consent, especially given that the results of the evaluations will be published (Issel, 2014). Research activities for the program evaluation will include participant surveys, clinical measurements and data analysis. Prior to beginning the evaluation, the program manager will file an expedited review for approval with the UNC IRB as there are minimal risks to the participants and their identities will be known (Issel, 2014).

The data collected during the evaluation will be de-identified to prevent the identities of participants to be matched with their participation information such as weight, blood pressure and/or survey responses. The program evaluator will be responsible for generating an Excel file which will be password locked and assign random ids to participants. A separate Excel file will contain all survey, interview, focus group, and clinical data corresponding to the randomly generated ids. The program evaluator will be the sole individual with access to the original matching data and participants in order to ensure that participants will not be connected to their data.
References:


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PROGRAM IMPLEMENTATION TIMELINE

One Year Timeline:

- Month 1: Office Location
- Month 2: Office space secured
- Month 4: Partnerships with local schools created
- Month 6: Health Coaches hired
- Month 7: Pamphlets sent home with school-aged children
- Month 8: Participants Recruited
- Month 10: 30 African American mothers recruited

Five Year Timeline:

- Year 1
  - Month 1: Begin 1st year of health coaching
  - Month 6: Evaluation with Surveys
  - Month 10: Enroll 30 new participants

- Year 2
  - Month 1: Begin 2nd year of health coaching
  - Month 6: Evaluation with Surveys
  - Month 10: Enroll 30 new participants

- Year 3
  - Month 1: Begin 3rd year of health coaching
  - Month 6: Evaluation with Surveys
  - Month 10: Enroll 30 new participants

- Year 4
  - Month 1: Begin 4th year of health coaching
  - Month 6: Evaluation with Surveys

- Year 5
  - Month 1: Follow-up with all 90 participants
  - Month 6: Assessment of program's effectiveness
  - Month 10: Final evaluation
### Program Budget Table

<table>
<thead>
<tr>
<th>Category</th>
<th>Item/Position</th>
<th>Yearly Cost</th>
<th>5-Year Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property</td>
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<td>$23,700</td>
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<tr>
<td>Supplies</td>
<td>Office Supplies</td>
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<tr>
<td>Supplies</td>
<td>Clinical supplies</td>
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<td>Supplies</td>
<td>Statistical Software Package</td>
<td>-</td>
<td>$1,200</td>
<td>$2,940</td>
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<tr>
<td>Personnel</td>
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<td>$6,000</td>
<td>$30,000</td>
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<tr>
<td>Personnel</td>
<td>Financial Administrator</td>
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<td>$30,000</td>
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<td>Personnel</td>
<td>Program Manager</td>
<td>$15,000</td>
<td>$30,000</td>
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<tr>
<td>Personnel</td>
<td>Health Coaches</td>
<td>$12,000</td>
<td>$60,000</td>
<td>$169,500</td>
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<tr>
<td>Personnel</td>
<td>Internal Evaluator</td>
<td>$3,900</td>
<td>$19,500</td>
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<tr>
<td>Advertising</td>
<td>Pamphlets</td>
<td>$130</td>
<td>$650</td>
<td>$650</td>
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<tr>
<td>Incentives</td>
<td>Gift Cards</td>
<td>$300.00</td>
<td>$1,500</td>
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<td>Incentives</td>
<td>Fitbit</td>
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<td>$899.25</td>
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<td>Incentives</td>
<td>Cookware</td>
<td>$312.00</td>
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<td><strong>Grand Total</strong></td>
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<td><strong>$200,749.25</strong></td>
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<td></td>
</tr>
</tbody>
</table>
LOGIC MODEL

## Inputs
- **People**
  - Investigation team
  - Program evaluator
  - Health Coaches
  - Program Participants: African American woman
- **Partners**
  - Local schools to help recruit participants
- **Financing**
  - Budget of $185,000 spread over 3 years

## Activities
- **People**
  - Hire health coaches
  - Hire program evaluator
  - Create and distribute flyers
  - Develop meal plan protocol for health coaches and identify topics for nutrition/CVD education as well as recipes
  - 30 minute weekly calls
- **Partners**
  - Visit local doctors offices to encourage them to recruit at-risk patients
  - Visit Martin County Public Schools to ask for their participation in recruitment efforts
  - Identify venues suitable for office work
  - Provide incentives and rewards for participants that meet their goals

## Outputs
- **People**
  - 30 African American mothers in Martin County recruited to participate in weekly nutritional health coaching and nutritional as well as heart health education
  - Staff members recruited and trained, including 4 health coaches to provide meal plans and nutrition/CVD education
  - Flyers fully distributed to Martin County mothers
  - Meal plans and education delivered through weekly calls
  - Community partnerships created
- **Property and Supplies**
  - Office space (health coaches may work from home and need only to come to office for weigh-ins)
  - Education materials for participants
  - Clinical supplies including scales and BP monitors
  - Office and office supplies
  - Incentives: gift cards, reusable shopping bags, gift certificates, etc.

## Outcomes
- **Short-term (0 - 12 months)**
  - Decrease weight by 5% or greater in the group of participants consisting of African American women living in Martin County
  - Reduce hypertension risk through a reported decrease in salt usage by 25% by program participants
  - Improve other dietary changes such as increase in whole grain
- **Long-term (5 - 5 years)**
  - Increase the percentage of African American women meeting the American Heart Association dietary recommendations by 30%
  - Decrease the percentage of African American women who are classified as obese, based on BMI, to 35%

## Impacts
- **Cardiovascular Disease**
  - Reduce the incidence of CVD, including stroke and heart attack, in African American women living in Eastern NC
  - Minimize CVD risk factors associated with poor nutritional choices, including hypertension
- **Obesity**
  - Reduce the incidence and prevalence of obesity among African American women living in Eastern NC
  - Generate an improved awareness of obesity as a risk factor of CVD
Evaluation Budget Table

<table>
<thead>
<tr>
<th>Category</th>
<th>Item/Position</th>
<th>Yearly Cost</th>
<th>5-Year Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Supplies</td>
<td>Ink-Jet Printer</td>
<td>-</td>
<td>$400</td>
<td>$400</td>
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<tr>
<td>Equipment</td>
<td>Printer Paper</td>
<td>$50</td>
<td>$250</td>
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<tr>
<td></td>
<td>Office Supplies</td>
<td>$125</td>
<td>$500</td>
<td>$750</td>
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<tr>
<td>Communications</td>
<td>Postage Stamps</td>
<td>$150</td>
<td>$750</td>
<td>$925</td>
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<tr>
<td></td>
<td>Envelopes</td>
<td>$35</td>
<td>$175</td>
<td>$925</td>
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<tr>
<td>Transportation (Outside of regular commute)</td>
<td>Vehicle Travel Reimbursement</td>
<td>$150</td>
<td>$900</td>
<td>$1,050</td>
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<tr>
<td><strong>Grand Total</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$3,125</strong></td>
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</tbody>
</table>

*already included in the detailed program budget
## Formative Evaluation Planning Table

<table>
<thead>
<tr>
<th>Evaluation Questions</th>
<th>Participants</th>
<th>Evaluation Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What aspects of the educational component of the program are most beneficial to participants?</strong></td>
<td>Program Participants</td>
<td>Focus Groups, Open-Ended Surveys</td>
</tr>
<tr>
<td>Has your interest in your heart health increased?</td>
<td>Program Participants</td>
<td>Focus Groups, Open-Ended Surveys</td>
</tr>
<tr>
<td>Do you wish coaching sessions were longer or shorter?</td>
<td>Program Participants</td>
<td>Focus Groups, Open-Ended Surveys</td>
</tr>
<tr>
<td>Do the coaches take the time to understand you?</td>
<td>Program Participants</td>
<td>Focus Groups, Open-Ended Surveys</td>
</tr>
<tr>
<td><strong>Which nutrition components were the most useful and which ones were the least useful for participants?</strong></td>
<td>Program Participants</td>
<td>Open-Ended Surveys</td>
</tr>
<tr>
<td>What did you enjoy about the recipes?</td>
<td>Program Participants</td>
<td>Open-Ended Surveys</td>
</tr>
<tr>
<td>What did you not enjoy about the recipes?</td>
<td>Program Participants</td>
<td>Open-Ended Surveys</td>
</tr>
<tr>
<td>Were there any recipes that were too difficult or too easy?</td>
<td>Program Participants</td>
<td>Open-Ended Surveys</td>
</tr>
<tr>
<td>Were you able to follow the meal plans? Why or why not?</td>
<td>Program Participants</td>
<td>Open-Ended Surveys</td>
</tr>
<tr>
<td>Was creating the meal plans difficult?</td>
<td>Instructors, Program Participants</td>
<td>Open-Ended Surveys</td>
</tr>
<tr>
<td>Which recipes had the most views?</td>
<td>Instructors, Program Participants</td>
<td>Open-Ended Surveys</td>
</tr>
<tr>
<td><strong>What communications activities and strategies were the most effective?</strong></td>
<td>Participants, Stakeholders</td>
<td>Focus Groups</td>
</tr>
<tr>
<td>What did you think of the marketing strategy? Did it appeal to you?</td>
<td>Participants, Stakeholders</td>
<td>Focus Groups</td>
</tr>
<tr>
<td>Was our mission clear?</td>
<td>Participants, Stakeholders</td>
<td>Focus Groups</td>
</tr>
<tr>
<td>What could be changed to make our mission clearer?</td>
<td>Participants, Stakeholders</td>
<td>Focus Groups</td>
</tr>
</tbody>
</table>
## Impact Evaluation Planning Table

<table>
<thead>
<tr>
<th>Evaluation Questions</th>
<th>Participants</th>
<th>Evaluation Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>How have individuals’ perceptions of their nutritional decisions changed after completion of the program?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you feel comfortable preparing heart healthy meals for yourself and your family?</td>
<td>Program</td>
<td>Individual In-depth Interviews</td>
</tr>
<tr>
<td>How confident are you in your ability to maintain a heart healthy diet after the program has ended?</td>
<td>Program</td>
<td>Individual In-depth Interviews</td>
</tr>
<tr>
<td>How important do you think nutrition is for your overall heart health?</td>
<td>Program</td>
<td>Individual In-depth Interviews</td>
</tr>
<tr>
<td><strong>How have Individual Perceptions of weight loss changed after completion of the program?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you attempted to lose weight in the past?</td>
<td>Program</td>
<td>Focus Groups</td>
</tr>
<tr>
<td>What challenges have you faced attempting to lose weight?</td>
<td>Program</td>
<td>Focus Groups</td>
</tr>
<tr>
<td>How do you currently feel about losing weight?</td>
<td>Program</td>
<td>Focus Groups</td>
</tr>
<tr>
<td><strong>Did improvements in blood pressure occur?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over the past month, has your doctor told you that you needed to lower your blood pressure?</td>
<td>Participants</td>
<td>Open-Ended Surveys</td>
</tr>
<tr>
<td>Over the past month, have you checked to see if your blood pressure decreased?</td>
<td>Participants</td>
<td>Open-Ended Surveys</td>
</tr>
</tbody>
</table>