Let's Get Healthy

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Abstract

Obesity is a prevalent disease and of growing concern. Preventative medicine by weight loss can help in the improvement of body mass index (BMI), weight, lipid (total cholesterol), and A1c levels. This paper discusses the implementation of a 12-week weight-loss program in a primary care office setting for participants agreeing to take part in the program. The weight-loss program provided an educational toolkit, daily tracking logs, measurements of their BMI, weight, lipid (total cholesterol), and A1c levels, and monthly "check-in" appointments. Education core components included a 1600 calorie diet, five days per week of at least 30 minutes of a cardio-type activity, a minimum of at least eight hours of sleep per night, consumption of least six 8 oz. glasses of water, and use of a GLP-1 agonist (Wegovy) if not contraindicated. Daily tracking logs were reviewed with the participants at one- and two-month intervals to evaluate the participants' progress. All 30 participants who completed had an improvement in their BMI, weight, lipid (total cholesterol), and A1c levels.

Keywords: weight loss, weight-loss program, lipids, A1c, GLP-1 agonist, sleep health, 1600 calorie diet

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Section I. Introduction

Background

The practice site is a private, independently owned family and internal medicine practice owned by a single-internal medicine physician. The practice was founded over 30 years ago and provides a wide range of services such as chronic disease management, immunizations, advanced care planning education, smoking cessation education, on-site x-ray and ultrasound, Commercial Driver's License (CDL) physicals, school and work physicals, and preventative medicine ([redacted], n.d.). The practice is "dedicated to providing quality health care to the citizens of Columbus County North Carolina and surrounding areas" ([redacted], n.d.).

Organizational Needs Statement

The practice focuses on preventative medicine. Obesity is a disease that has caused many comorbidities such as premature disability and death due to cardiac, metabolic, arthritic, mental health, and certain cancers (Blüher, 2019). Obesity has become so prevalent since 1980, that a third of the population can be identified as overweight or obese (Chooi et al., 2019). The management of obesity can improve overall health (National Institute of Diabetes and Digestive and Kidney Diseases [NIH], 2021). Improvement in patients' body mass index (BMI) will improve the overall health of the patients as well as help them meet quality measures. Obesity is a worldwide problem but especially in the practice site county, where the county has evidence of having poorer health outcomes than 93 other counties in the state (UWPHI, 2020).

The practice identified the need for the development of a program for adult patients 18 years and older with a body mass index (BMI) of 30 and above. Currently, there was no weight loss program related to this population to address obesity and weight loss at the practice. The

Institute of Healthcare Improvement (IHI) Triple Aim framework consists of three goals in the improvement of healthcare with one being the health of populations (Institute of Healthcare Improvement [IHI], 2020). A weight-loss program was planned with an aim toward the improvement of health and consisted of measuring body mass index (BMI), weight, lipid (total cholesterol), A1c levels as well as monthly "check-ins" to assess for barriers and to identify problems and/or successes. Participants were asked to bring their daily tracking log to the monthly appointments to review their adherence and to identify any barriers to participation. The daily log was used to verify their participation in the program's core components of a 1600-calorie diet, five days per week of at least 30 minutes of a cardio-type activity, a minimum of at least eight hours of sleep per night, consumption of least six 8 oz. glasses of water, and use of a GLP-1 agonist medication (Wegovy) if not contraindicated.

Problem Statement

Improvement in BMI has been shown to improve blood pressure, hemoglobin A1c, lipid (total cholesterol) levels as well as improve depression, longevity, and overall quality of life (NIH, 2021). Healthy People 2030 have identified obesity as an area of concern naming one of its objectives to "reduce the proportion of adults with obesity", (U.S. Department of Health and Human Services, 2021, para. 2). Helping patients to improve their weight by providing a weight-loss program is essential in this fight against obesity and overall quality of life and satisfaction. The project site did not have a weight-loss program in place.

Purpose Statement

The purpose of the project was to develop and provide a weight loss program for patients 18 years or older with a BMI equal to or greater than 30. Upon completion of this 12-week program, patients will have an improvement in their body mass index (BMI), weight, lipid (total

cholesterol), and A1c levels. By doing so they will have an improvement in health outcomes, and their overall quality of life.

Section II. Evidence

Literature Review

The current search strategy related to the project was completing a literature review using the Cumulative Index to Nursing and Allied Health Literature Database (CINAHL) accessed through the University Library's databases. Google Scholar and PubMed search engines were also utilized in the literature review. The MeSH terms used included: weight loss, weight loss program, lipids, A1c, GLP-1 agonist, sleep health, and 1600-calorie diet. The literature reviewed was published between 2017-2021. The search yielded 894,209 articles. The inclusion criteria included a search with only nursing and healthcare journals that have been published within the last five years, Levels of Evidence 1-V, peer-reviewed, and written in English. Exclusion criteria included studies or journals not written in English, older than 5 years, and no peer review. After searching through the 932 most relevant articles, additional inclusion criteria were applied (scholarly journals) and specific relevance to weight loss. Filters were applied to list only articles about weight loss or weight loss programs. A full-text review of the remaining 61 articles was read, and 17 were kept that ranged from Levels of Evidence I-III as relevant to the core components of the weight loss program utilized for this project.

Evidence-based practice research is based on the quality of evidence presented for a subject matter and is presented in a hierarchy of evidence (Walden University, 2021). The weaker forms of evidence are placed at the bottom of the hierarchy with evidence of more substance is placed higher up in the hierarchy (Walden University, 2021). Evidence-based research that is of greatest validity are systematic reviews and meta-analyses (Walden University, 2021). Walden's adaptation of John Hopkins Levels of Evidence was used in evaluating the articles for the project. Only Level I-III articles were retained.

Current State of Knowledge

The current literature regarding obesity and weight loss focus on both best practice and guidelines for guidance in the treatment of obesity. The prevalence of obesity has continued to rise dramatically over the past 50 years to pandemic measures (Blüher, 2019). Obesity treatments are based on lifestyle, pharmacotherapy, and bariatric surgery (Patel & Smith, 2021). Improvement in cardiovascular vulnerabilities can be achieved by losing a 5-10% of your initial weight which is what the national and international guidelines view as meaningful weight loss (Patel & Smith, 2021). Making healthy choices is one step toward the improvement of one's health but when partnered with weight loss, the risk for cardiovascular problems is lowered.

Nutrition therapy has been proven effective in the management of overweight/obesity through modest weight loss (Franz, 2017). Reduced calorie diets are an effective way to lose weight along with increased water intake (Franz, 2017). Obesity and metabolic disorders are improved by reducing weight (Franz, 2017). Obese and overweight patients may also require pharmacological intervention to ensure weight loss management in addition to diet and increased physical activity or exercise (Cercato & Fonseca, 2019).

Current Approaches to Solving Population Problem(s)

There were multiple interventions and approaches found that are appropriate in addressing obesity by creating a weight loss program. "When individuals participate in a complete lifestyle intervention program that provides a low-calorie diet, increased physical activity, and behavioral modifications, research indicates that people lose the most weight" (Coaker et al., 2020, para. 1). Techniques such as caloric intake, monitoring the activity levels, and discovering weight-loss roadblocks are key in behavioral therapies used to develop strategies to overcome weight loss challenges (Coaker et al., 2020). Other strategies that are helpful with

weight loss management are eating a well-balanced, nutritious diet while decreasing overall caloric intake (Coaker et al., 2020). Caloric intake that influences weight loss for women is a 1200-1500 calorie diet and a 1500-1800 calorie diet for men (Coaker et al., 2020). Other ways of managing caloric intake for weight loss include increasing water intake while avoiding high caloric drinks such as fruit juices, sodas, or alcoholic beverages (Coaker et al., 2020).

Evidence indicates weighing or monitoring one's weight is correlated with successful weight loss with the greatest weight loss being achieved with the keeping of a food log or diary (Robertson et al., 2021). Success weight loss programs should incorporate and promote self-monitoring of weight and logging of diet and exercise (Robertson et al., 2021). Sleep is essential but especially when dieting. Not getting an adequate amount of sleep while dieting can be a huge barrier to weight loss success (Kline et al., 2021).

Heart disease may be reduced by diet changes as well as lower low-density lipoprotein (LDL) cholesterol and triglyceride levels (Clifton, 2019). Minimal changes can make a big difference, for example, increasing fiber can positively influence cholesterol levels. While dietary changes are essential in living a healthier lifestyle, increasing physical activity can provide benefits that some dietary modifications cannot. A diet low in fat and high in fiber will also improve LDL cholesterol, but to lower triglycerides weight loss and exercise are proven to be of better benefit (Clifton, 2019).

Approval has been given by the United States Food and Drug Administration (FDA) for treating obesity long-term with glucagon-like peptide-1 receptor agonist (GLP-1 RA), which is a lipase inhibitor (Patel & Smith, 2021). These drugs have been proven to treat type II Diabetes and are extremely promising in treating obesity (Patel & Smith, 2021). Evidence supports meaningful weight loss by using Liraglutide, a once-daily subcutaneous GLP-1 RA injection

(Patel & Smith, 2021). Liraglutide not only provides success with weight loss but has also shown improvements in blood pressure, cholesterol, and blood sugar levels (Patel & Smith, 2021).

Evidence to Support the Intervention

Weight loss is essential in lowering body mass index (BMI), weight, lipid (total cholesterol), and A1c levels. Success in the management of obesity should not be measured by only the amount of weight loss (Hall & Kahan, 2018). Patients should be encouraged by their Healthcare Providers (HCP) to make improvements to both their diet and physical activity levels (Hall & Kahan, 2018). Eating healthier and exercising as a way of life will improve quality and health even if patients do not experience significant weight loss, (Hall & Kahan, 2018).

Evidence-Based Practice Framework

Identification of the Framework

The Plan, Do, Study, Act (PDSA) model is the operational framework that was used to implement the Doctorate of Nursing Practice (DNP) project's design and the collection and analysis of data. "The Plan-Do-Study-Act (PDSA) method is a way to test a change that is implemented," (Agency for Healthcare Research & Quality [AHRQ], 2020, para.1). Using the steps outlined by the PDSA model helps to guide ones thinking on how well the change that is being implemented is working and what changes if needed should be made and then repeat the process all over again (AHRQ, 2020). The Plan, Do, Study, Act (PDSA) cycle is an approach to help with learning and the improvement of a process. The Plan step is the first of four steps of this approach. This step involves identifying the purpose and development of a plan. The Do step is the implementation of the plan developed, the Study step is where data is collected, and outcomes are observed to identify problems and/or successes. Finally, the Act step completes

this cycle and synthesizes all the information and data received and can be used to redefine the process as part of a continuum (Institute of Healthcare Improvement [IHI], 2020).

The project planning included the development of an educational toolkit, data tracking log, gaining support for the project, and the invitation to all eligible participants to join the weight-loss program. The "Do" phase of the project was the implementation of the weight loss program which included intake and monthly appointments, initial A1c and lipid (total cholesterol) levels, the monitoring of body mass index (BMI), and weight. Education to eligible participants along with an educational material toolkit and data tracking logs were provided. Upon completion of the 12-week weight loss program, A1c and lipid (total cholesterol) levels were re-drawn, data tracking logs were collected for data analysis, and final body mass index (BMI) and weight were measured. The "Study" phase of the project included analysis of monthly data collected from patient's data tracking logs, identification of barriers or problems, what potential changes could be made in the process, materials to improve the project, and summation of the findings. During the "Act" phase, data was collected monthly and throughout the weight loss program and were reviewed to monitor the progression toward success during project implementation. Identified issues were discussed with the project team and changes needed in the process were modified during this time. This allowed for the greatest success during the weight loss program at reducing A1c and lipid (total cholesterol) levels as well as body mass index (BMI) and weight.

Ethical Consideration & Protection of Human Subjects

The ethical considerations for this project through the University included informed consent, voluntary participation, confidentiality, and beneficence. The project did not pose any harm or take advantage of its participants. The University required the project lead to complete

the following education modules: Essentials of Public Health Research, Social and Behavioral Research Investigators and Key Personnel, Social and Behavioral Responsible Conduct of Research (CITI Program, 2020). The interventions of the project's weight-loss program were equitious to everyone who were eligible for the program by including all individuals at the practice site that were 18 years or older and having a body mass index (BMI) of 30 or greater. While the project did not pose any harm to its participants, there were identified social determinants that could impact the ability to participate fully in the weight-loss program. These included transportation issues, lack of ability to take time from work, and the inability to afford co-pays for both their medical office visit and medication.

There was no Institutional Review Board (IRB) process with the project's site, however, the University had a process in place that was utilized for review. Completion of the Collaborative Institutional Training Initiative (CITI) modules was a requirement by the University DNP program. As part of the review process, the project lead completed the University Quality/Institutional Review Self Certification Review process, where the project was deemed as quality improvement and no formal IRB was required (See Appendix A).

Section III. Project Design

Project Site and Population

The project site is located in a rural southeastern North Carolina County and is a private, independently owned family and internal medicine practice. The owner of the practice, an internal medicine physician, is the site champion and helped to facilitate the project. The patient mix consists of Medicare, Medicaid, commercial and private insurance. There are two gyms located in the town where the project site is located. There are also five Department of Aging facilities throughout the county that offer gym access to their seniors. Potential barriers to the project included COVID-19 pandemic, transportation issues (rural area), economic problems due to rising gas prices, co-pays for medical appointments, and medication.

Description of the Setting

The office is located in the county seat in a small town. Nearby are the community hospital and the health department. The county includes a large population of chronic diseases including diabetes, hypertension, and obesity. Local community leaders are working to increase gyms, parks, recreational activities, and walking trails to encourage a healthier lifestyle.

The office includes a total of 16 patient rooms. In-house laboratory, phlebotomy, on-site x-ray, and ultrasound services are available during regular office hours. Staff members at the project site consists of two registered nurses (RN), three licensed practical nurses (LPN's), two Family Nurse Practitioners (FNP), and an Internal Medicine physician. There are ten additional non-clinical staff providing support at the clinic.

Description of the Population

The population for the project included all patients at the practice site that are between the ages of 18 or older and have a body mass index (BMI) of 30 or greater. Patients meeting the

criteria were invited to participate in the weight-loss program. The project site has over 5,000 active patients in the database with a payer mix mostly comprised of Private, Medicare, and Medicaid insurance payers.

Project Team

The project team included a project lead, project site champion, and a nurse for implementing the project at the site. The project lead is a Family Nurse Practitioner (FNP) at the project site and who managed the weight loss program. The project lead was responsible for planning, implementing, developing, evaluating and dissemination of the findings.

Project team members consisted of a registered nurse who assisted with contacting and inviting eligible patients of the practice to participate in the weight loss program. The nurse assisted with the collection of body mass index (BMI) and weight measurements. She also performed venipuncture for A1c and lipid laboratory levels at the initial appointment and upon completion of the 12-week weight loss program.

The project site champion provided guidance on what educational materials to include in the toolkit, the creation of the data tracking log, and the dynamics and frequency of the visits needed for adequate data collection from the participants. The project site champion and nurse met monthly or more frequently as needed with the project lead to discuss data collected, identify any barriers or issues, and assessed the need to make changes to improve the project. The University provided a DNP Project Faculty to ensure all guidelines are followed during the implementation of the project and to provide support, feedback, and suggestions.

Project Goals and Outcome Measures

The purpose of the project was to develop and provide a weight loss program for participants 18 years or older with a BMI equal to or greater than 30. An improvement in body

mass index (BMI), weight, lipid (total cholesterol), and A1c levels will positively influence the health outcomes and overall quality of life. The goal upon completion of the weight loss program was that participants will have an improvement in their body mass index (BMI), weight, lipid (total cholesterol), and A1c levels.

Description of the Methods and Measurement

A 12-week weight loss program was offered to patients at the project site that were 18 years and over with a body mass index (BMI) greater than 30. The 12-week program consisted of gathering laboratory values (A1c, lipid), initially and at the completion of the program. Measurement of body mass index (BMI) and weight were also obtained initially, at monthly appointments, and upon completion of the program. A toolkit was provided to participants at the initial appointment and education was provided on all the materials provided.

The toolkit included the daily tracking logs and educational materials for the weight-loss program. Permission was obtained from the Veterans Administration to utilize materials for the toolkits (See Appendix B). Educational materials in the toolkit consisted of a 1600-calorie diet sheet, cardiovascular activities sheet, educational sheet on sleep, drinking water benefits, and an information and administration guide for Wegovy. (GLP-1 medication) (see Appendix C). Daily tracking logs were provided to participants to track weight loss activities (see Appendix D). Participants were asked to bring the completed daily log to monthly appointments with the project lead. The tracking logs allowed participants to log a daily number of calories consumed that day, the number of minutes of a cardio type of physical activity completed, the number of hours slept that night, the number of 8 oz. glasses of water drank, and administration and dose of their GLP-1 agonist medication.

Discussion of the Data Collection Process

Patients participating in the weight loss program had measurements of their body mass index (BMI), lipid, and A1c levels at the initial visit. Participants were provided a daily tracking log with the following headings: calories-consumed minutes of cardio activity, hours of sleep, glasses of water drank, and GLP-1 medication dose or administration (if applicable) (see Appendix D). Participants were asked to complete the daily tracking logs and bring with them to monthly "check-in" appointments. Upon the completion of the 12-week weight loss program, final measurements were obtained. Body mass index (BMI), lipid (total cholesterol), and A1c levels were reviewed and compared to participant's initial levels. Daily tracking logs were also reviewed to verify and monitor progress with dietary, sleep, water consumption, GLP-1 administration, and cardiovascular activity compliance.

During the monthly check-ins, the project lead gathered multiple data. Participants were asked to bring their daily tracking logs, information was reviewed and entered into the data collection tool (Appendix E). The data collection tool included a unique identifier assigned to each participant to help with the protection of patient information. Weights were logged on the data collection tool as well as the number of days that the participant self-reported on the daily tracking logs activity related to diet, water consumption, sleep hours, administration of GLP-1 medication, cardio-type activity, and the number of days the daily tracking log was completed.

Implementation Plan

The Plan, Do, Study, Act (PDSA) model was used as a guide for project implementation. The 12-week program consisted of initial, monthly, and at the completion of the 12-week program "check-ins", measurements of body mass index (BMI) and weight. Lipid (total cholesterol) and A1c levels were collected initially at the start of the program and upon completion of the weight-loss program. Office staff were educated on the 12-week weight loss

program, how to identify and enroll eligible participants and what information needed to be tracked.

Current patients at the project site who were 18 years and older and have a body mass index of 30 or greater were invited to participate in the 12-week weight loss program. Patients meeting these criteria were asked by the nurses during their routine appointments if they were interested in participating. Eligible and interested patients were given an appointment with the project lead for an intake visit for the weight-loss program.

At the initial visit, a complete history and physical exam of participants were obtained. Patients were given a toolkit that contains the data tracking sheets, a 1600-calorie diet sheet, cardiovascular activities sheet, educational sheet on the importance of adequate sleep, and the benefits of drinking water. To determine if a participant was a candidate for GLP-1 agonist use, they were asked if they wish to use a pharmacological method in their weight loss program. Consideration was also based on insurance coverage of the medication, contraindications from their past medical history, potential side effects, or interactions with their existing medications. Patients who opted in using GLP-1 agonist as part of their weight loss program had in their toolkit a medication pamphlet that lists the common side effects as well as an administration quick guide. Extra time for education on how to properly administer the subcutaneous injections was allotted for the patients who used the GLP-1 agonist medication. Patients were asked to perform their initial dose in the office so if improper administration or questions arise, they were answered and corrected at that time. Participants were asked to bring their daily log to the monthly "check-ins" for review with the project lead of their adherence and to identify any barriers to participation.

The daily log was used to evaluate participants compliance with the program's core components of a 1600-calorie diet, 5 days per week of at least 30 minutes of a cardio-type activity, a minimum of 8 hours of sleep per night, minimum of six 8 oz. glasses of water consumption, and use of a GLP-1 agonist (Wegovy) if not contraindicated. Participants were educated at the initial visit on all educational materials in the "toolkit" and time was provided for any questions or concerns that they had. Participants were educated on the importance of bringing their daily log sheets to their monthly appointments to verify participation in the program and their progress.

Monthly appointments with the project lead provided an opportunity to evaluate how participants were working toward success in the weight loss program. Measurements of their weight and body mass index (BMI) were obtained and compared to previous levels. Daily tracking logs completed by the participants provided additional information on participant adherence throughout the month and were reviewed by the project lead. This helped to identify and target potential problem areas or barriers that were tracked through the comments section of the data tracking log. The identified barriers were addressed with the participants which allowed the project lead to provide education and support to help with improvement in identified areas. During the project implementation phase, the nurse, project site's administrator, and the project site champion met monthly with the project lead to review data collected, identify any barriers or issues that had arisen and assess the need to make changes to improve the program. Once the program began, a problem was identified, and the project team worked together to meet to solve the issue outside of the regularly scheduled monthly meetings. This allowed identified areas of concern with the project to be handled in a timely manner.

Timeline

All patients at the project site were educated about the project and their interest to participate once implemented. These patients were contacted starting January 24, 2022 and notified of the project start date and an initial intake appointment was made for the week of January 31, 2022. The participants met monthly during the project implementation. The 12-week weight-loss program began on January 24, 2022 through April, 29 2022 (Appendix H).

Section IV. Results and Findings

Results

This weight loss program was implemented over a period of 12 weeks beginning on January 24th, 2022, through April 29th, 2022. The program enrolled 33 participants with 30 (91%) completing the 12 weeks. Of the participants who did not complete the program, one had expressed an interest in the use of GLP-1 agonist but due to insurance coverage was unable to afford this medication, therefore decided not to continue with the program. One participant dropped out due to a loss of interest and did not have the time to devote to the program and the other patient never came to their follow-up appointment and project team members were unable to reach them via their contact information. An initial intake appointment was completed on the participants and then monthly "check-in" appointments were completed every four weeks followed by a final appointment at the end of the 12-week program. All the 30 participants (100%) lost weight, had a reduction in body mass index (BMI), weight, lipid (total cholesterol), and A1c levels. Of the 30 participants who completed the program, 100% brought their daily tracking logs to monthly "check-in" appointments for review by the project lead.

Patients verified their compliance to the weight loss program by completing their data tracking logs daily on GLP-1 agonist medication use (if applicable), sleep, water consumption, exercise, and daily calories consumed. The data tracking logs provided insight into patient compliance which seemed to coincide with higher rates of weight loss. Of the 30 participants upon completion of the program, on average 22 (73%) drank 8 glasses of water daily, 18 (60%) exercised more than 5 days a week, 21 (70%) got at least 8 hours of sleep per night, and 23 (77%) abided by the 1600 calorie diet (Appendix F). From the data reviewed, participants who used the GLP-1 agonist medication had the greatest weight loss. Of the 30 participants, five

(17%) were on the GLP-1 agonist medication and five (100%) lost at least 20 pounds or more during the 12-week program. Exercise and adhering to a low-calorie diet deemed successful in weight loss as well. All 30 (100%) participants lost weight during the program and decreased their body mass index (BMI), A1c, and lipid levels (total cholesterol) (Appendix G).

Discussion of Major Findings

The purpose of this project was to provide a weight-loss program for patients 18 years or older with a body mass index (BMI) equal to or greater than 30 kg/m2. Major findings support what the literature indicated that with healthy choices, and diet modification weight loss is attainable. Techniques such as caloric intake, monitoring activity levels, and discovering weight-loss roadblocks are key in behavioral therapies used to develop strategies to overcome weight loss challenges (Coaker et al., 2020). While weight loss was obtained by all participants, it was easily noticed from the participants using the GLP-1 agonist medication. These medications are known to be effective for the management of diabetes, but they have also demonstrated similar success in the treatment of obesity (Patel & Smith, 2021). Combining both exercise and a low-calorie diet can be used as a treatment method to reduce BMI and weight, (Lutfi et al., 2021). All participants contributed to the program and adhered to the education regimen, experienced weight loss, reduction of BMI, A1c, and lipid levels (total cholesterol).

Section V. Interpretation and Implications

Cost Benefit and Resource Management

The direct costs associated with the development of this weight loss program were minimal. The financial cost consisted of printing copies of educational materials for notebooks, purchasing of notebooks, and printing of daily tracking logs and the data collection tool. The supplies used to complete the weight loss program included ink cartridges, paper, notebooks, educational materials, and GLP-1 medication (purchased by participants).

Ink cartridges cost approximately $24.40 and three were used during the program. Two packs of paper with 500 sheets per pack were used at a cost of $12.99 per pack. Notebooks were purchased at a cost of $2.49 per notebook and 33 notebooks were bought and provided to the participants of the weight loss program. Finally, educational materials were compiled as a packet and placed in each notebook. The cost per packet totaled $2.14 and 33 were constructed and provided to the participants. The total costs overall for materials for the project were $251.97.

The process of the weight loss program did add additional work for nursing and the project lead, however, no additional work hours or staff were needed to complete the project. These staff members were already employed by the project site so there were no additional costs to the program. Employee work hours were calculated to give an estimate of costs associated with the program (See Appendix I). Weight loss program visits included the initial intake appointment, monthly follow-up appointments, and the final appointment at end of the 12 weeks. These visits were completed by the team lead who was a non-paid employee (completing student clinical project hours) and capped at 45 minutes. A detailed breakdown of all of the costs associated with the weight-loss program including lab costs can be found in Appendix I.

The cost of the weight-loss program was minimal, especially when compared to the potential benefits. Many diseases such as diabetes and heart disease are better controlled or prevented by improving weight and making healthier dietary choices. These diseases burden the healthcare system with their costs in treating them as well as the costs associated with complications associated with these diseases. The estimated cost of this weight-loss program was $6,848.55 over 12 weeks for 30 participants compared to "one out of every four dollars in the United States health care costs is spent on caring for people with diabetes for a total of $327 billion total annual costs of diabetes," (Centers for Disease Control and Prevention [CDC], 2022, Table 1). In thinking from a cost perspective, this weight loss program can help to improve costs to the healthcare system associated with diabetes and other obesity-related diseases.

Implications of the Findings

Overall, the participants who completed the weight-loss program based on the data collected had an improvement in BMI, weight, lipid (total cholesterol), and A1c levels. The participants indicated to the project lead on their final "check-in" appointment that the project helped them to better manage their weight and make healthier choices. Weight loss is associated with improved health outcomes, and an improvement in lipid (total cholesterol) and A1c lab levels and can have a positive impact on health outcomes and quality of life, (NIH, 2021).

Even though this weight-loss program lasted for 12 weeks, weight management should be a lifelong process. Participating in a program helps to foster compliance and improved outcomes. The project site would be most impactful if they continue the weight-loss program for their current and future patients.

Implications for Patients

Obesity is a worldwide problem and is associated with poor outcomes. Management of weight can improve both the quality and quantity of life. Being an active participant in a weight-loss program can assist in engaging in the decision-making of healthier choices toward obtaining a healthy weight. Patients who participate in these types of programs will have an improvement in health, weight, body mass index (BMI), A1c, and lipid (total cholesterol) levels. Improvement in health can benefit patients by preventing certain diseases such as diabetes, hypertension, and elevated cholesterol levels. Management of these conditions can be costly not only to the healthcare system but to the patient. Increased frequency of medical appointments, referral to specialists for better management, and medication costs are just a few examples. Weight-loss programs can facilitate patients in the optimal understanding of how to better manage obesity.

Implications for Nursing Practice

This project can impact nursing practice, especially regarding education. Education is at the center of the nursing field. A weight-loss program is primarily driven by educating its participants on how to create a healthier lifestyle through diet, exercise, and behavior modifications. Whether this is by providing education on a 1600-calorie diet, getting at least 30 minutes of physical activity five days a week, or other healthy modifications such as getting enough sleep and drinking plenty of water, education is essential.

One of the Doctor of Nursing practice essentials is to design, implement, and evaluate nursing interventions to promote quality (AACN, 2022). This weight-loss program encompassed this practice essential by the promotion of health education for a healthier weight, body mass index (BMI), improved lipid (total cholesterol), and A1c lab levels. As a result, the goal of improvement in health outcomes and quality of life is more likely to be obtained.

Impact for Healthcare System(s)

A weight-loss program can help in the improvement of overall health but also in the healthcare system. The development and implementation of this structured weight-loss program in a primary practice setting can be used as a guide or resource for other practices that would like to provide this service to their patients. The Institute of Healthcare Improvement (IHI) Triple Aim framework focuses on the improvement and optimization of the healthcare system yet also on reducing its costs (Institute of Healthcare Improvement [IHI], 2020).

A structured weight-loss program can help with reducing the development of certain chronic and costly conditions associated with obesity such as diabetes and hyperlipidemia. This can also help in reducing unnecessary hospital utilization due to improved health outcomes and therefore less need to seek these services. Healthy People 2030 have identified obesity as an area of concern (U.S. Department of Health and Human Services, 2021, para. 2). Management of obesity by weight reduction and by obtaining a healthy BMI decrease hospital utilization and improve patient outcomes. Primary prevention by having a healthy weight help to reduce costs to the healthcare system.

Sustainability

This weight-loss program could easily be continued at the project site. The educational toolkit and daily tracking logs are in place at the project site and could easily be replicated by interested practices or providers in providing a structured weight-loss program for their patients. The sustainability of this weight-loss program depends on the willingness of other providers at the project site to engage or implement the project.

The project lead presented to the project site champion and office manager a summary of the project data results in May 2022. Upon conclusion of the meeting, it was determined that the weight-loss program would continue at the project site. Since the weight-loss program was

approved to continue, education will be provided to the other providers on how to implement the program for their patients. This is scheduled to begin at the monthly office staff meeting in August 2022.

Dissemination Plan

Results of the weight-loss program were presented in May 2022 to the project site champion and office manager. Plans are being made to contact a local bariatric surgeon in the area to explore interest in implementing the weight-loss program with his patients. A final paper and project poster was submitted to the university faculty and a poster/project presentation was completed at the University's College of Nursing on July 12th, 2022. Upon final approval, the paper was posted in the University Scholarship repository for public access.

Section VI. Conclusion

Limitations and Facilitators

One of the major limitations of the weight loss program was its implementation during the COVID-19 pandemic. Incredibly, this did not have a great impact on the participation rate. Three participants did not complete the 12-week program. The ability for participants either from a financial perspective, not attending their monthly "check-in" appointment, and not having time for the program proved to be the causative factors for their lack of completion.

The ability to afford GLP-1 agonist medication (for participants who express interest in using) caused one participant to drop out of the program. This could be a potential limitation to the program if many of the participants wanted to use the medication and were not able to get coverage. The daily tracking logs were essential to the success of this program. Compliance with these logs and participants remembering to bring their tracking logs to their monthly "check-in" appointments were deemed to be cumbersome at times. Focus was given to measuring the total cholesterol level from the lipid panel and HDL and LDL levels were not monitored. This information could be of great value so limiting our review to only the total cholesterol allowed us to miss the potential benefits weight loss had on these levels.

One of the main facilitators of the weight loss program was the willingness of the project site champion to change current practice and implement the program as a standard for all patients at the project site. Staff willingness to support the project lead with program implementation contributed to the success of the program. Participant engagement and commitment to the program led to a 91% completion rate. The program could not have been successful without active participation and compliance from the participants and support from the project team.

Recommendations for Others

Implementation of this weight-loss program by others could prove beneficial for their patients in providing a structured approach to weight loss. The 12-week program is relatively cost-efficient and easy to implement. Upon implementing the weight-loss program and throughout the process there were a few points that in the future could be tweaked to provide a more efficient and more clear process.

One recommendation that would help in providing a more efficient and clear process would be to ensure participants are educated regarding the importance of follow-up with their initial labs (A1c, lipid). This was not communicated at the initial intake appointment and led to some confusion. Some of the participants called the office the following week which became cumbersome for the practice. This can be especially taxing and resource intensive to an office should their weight loss patients call the office requesting the same information. It was later clarified with all participants that they would be notified by the office should there be an urgent result, otherwise their results would be reviewed with them at their four-week follow-up appointment, or they could sign up for the patient portal offered at the project site and would be able to view their results once they were reviewed by the project lead.

Reaching other interested partnering agencies could prove beneficial in health promotion and improvement of health and quality of life for its participants. Recommendations would be to expand the weight-loss program to other local community agencies and resources. Some examples include the Senior Citizen Outreach Program, local gyms in the area, and the local diabetes education center.

Recommendations Further Study

This weight loss program can be implemented in most primary care practice settings. Weight management and making healthy choices is a lifelong process. For this weight loss

program, a focus was on weight, BMI, A1c, and lipid (total cholesterol) levels, however, there are many areas that could be monitored to see if they mirror the outcomes seen in this program. Such areas could be waist circumference, LDL, HDL cholesterol levels, thyroid function tests, and body fat percentages.

Final Thoughts

Implementation of a 12-week weight loss program focused on engaging patients in daily healthy lifestyle changes can lead to improvement in overall health. The weight-loss program at the project site was perceived as a success with all the participants who completed the program had an improvement in their weight, BMI, A1c, and lipid (total cholesterol) levels. Engagement in the weight loss program by participants was monitored with self-daily data tracking of physical activity, sleep habits, water consumption, and diet. The monthly "check-in" appointments helped to reinforce education on nutrition, exercise, sleep habits, and medications. Prior to implementation, the project site did not provide a structured weight loss program to their patients. Despite implementation during a pandemic participant participation was over 90% with 30 out of 33 participants completing the program.

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Appendix A

University Qualtrics Results

Click "download PDF" to save a copy of this page for your records.
Note: The IRB Office does not maintain copies of your responses.

Below is a summary of your responses

Download PDF

Quality Improvement/Program Evaluation Self-Certification Tool

Purpose:
Projects that do not meet the federal definition of human research pursuant to 45 CFR 46 do not require IRB review. This tool was developed to assist in the determination of when a project falls outside of the IRB's purview.

Instructions:
Please complete the requested project information, as this document may be used for documentation that IRB review is not required. Select the appropriate answers to each question in the order they appear below. Additional questions may appear based on your answers. If you do not receive a STOP HERE message, the form may be printed as certification that the project is "not research", and does not require IRB review. The IRB will not review your responses as part of the self-certification process. For projects being done at Vidant Health, site support will be required. Please email crg.quality@vidanthealth.com to obtain site support from Vidant Health.

Name of Project Leader:

Ashlee G.Allensworth

Project Title:

Let's Get Healthy

Brief description of Project/Goals:

The purpose of this project is to provide a weight loss program at Whiteville Medical Associates to be implemented during a 12-week time frame. The program will consist of measurements of body mass index (BMI), weight, lipid, and A1c levels as well as monthly (4 week) "check-ins" of weight measurement. Participants will also be asked to bring their daily log to the monthly "check-ins" for review of their adherence and to identify any barriers to participation. The daily log will verify their participation in the program's core components of a 1600 calorie diet, 5 days per week of at least 30 minutes of a cardio-type activity, allow for at least 8 hours of sleep per night, drink at least 6-8oz. glasses of water per day and use of a GLP-1 (Saxenda or Wegovy) if not contraindicated. Upon completion of the 12-week weight loss program post measurements of body mass index (BMI), weight, lipid, and a1c levels will be assessed.

Will the project involve testing an experimental drug, device (including medical software or assays), or biologic?

- ○ Yes
- ● No

Has the project received funding (e.g. federal, industry) to be conducted as a human subject research study?

- ○ Yes
- ● No

Is this a multi-site project (e.g. there is a coordinating or lead center, more than one site participating, and/or a study-wide protocol)?

- ○ Yes
- ● No

Is this a systematic investigation designed with the intent to contribute to generalizable knowledge (e.g. testing a hypothesis; randomization of subjects; comparison of case vs. control; observational research; comparative effectiveness research; or comparable criteria in alternative research paradigms)?

- ○ Yes
- ● No

Will the results of the project be published, presented or disseminated outside of the institution or program conducting it?

- ● Yes
- ○ No

Would the project occur regardless of whether individuals conducting it may benefit professionally from it?

- ● Yes
- ○ No

Does the project involve "no more than minimal risk" procedures (meaning the probability and magnitude of harm or discomfort anticipated are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests)?

- ● Yes
- ○ No

Is the project intended to improve or evaluate the practice or process within a particular institution or a specific program, and falls under well-accepted care practices/guidelines?

- ● Yes
- ○ No

Based on your responses, the project appears to constitute QI and/or Program Evaluation and IRB review is not required because, in accordance with federal regulations, your project does not constitute research as defined under 45 CFR 46.102(d). If the project results are disseminated, they should be characterized as QI and/or Program Evaluation findings. Finally, if the project changes in any way that might affect the intent or design, please complete this self-certification again to ensure that IRB review is still not required. Click the button below to view a printable version of this form to save with your files, as it serves as documentation that IRB review is not required for this project. 11/24/2021

Appendix B

Permission on Education Materials

Baunack, Luke M. <Luke.Baunack@va.gov> Mon, Dec 6, 2021, 12:08 PM

to me

Good morning!

First, I hope you are well! Thank you for reaching out to our facility through the Ask VA website. I have an answer from our MOVE! Coordinator below and placed her contact information below as well. Please feel free to give Amy a call if you have any further questions.

Best,

Luke Baunack
Supervisor of Patient Experience

Hello, Given that our materials are available to the public, I think it would be fine to share them as long as credit is given appropriately.

Here is the link: MOVE! Weight Management Program Home (va.gov)

Amy Thompto, MS, RD/N
She/Her/Hers What does this mean?
WNCVAHCS MOVE! Coordinator
Whole Health and Wellness Co-Chair
Health Equity Champion
(828) 298-7911 x2107

Appendix C

Toolkit Materials

S07

MOVE! Weight Management Program for Veterans

FITT – Frequency, Intensity, Time, and Type of Activity

When you put a lot of effort into increasing physical activity, you want results! Whether you are a beginner or have experience, FITT will help you build your physical activity program. By following FITT, you are striving to manage your weight and improve your health.

FREQUENCY

How often are you active?

Everyone:

- Be active 5 or more days of the week.
- Start slowly and gradually increase your physical activity.

Beginners:

- Start with 2–3 days of aerobic activity (activity that increases your heart rate). Gradually increase to at least 5 days/week.

Experienced:

- Continue with aerobic activity 5+ days/week.
- Add in 2 days (Tuesday, Thursday) of strength training.

INTENSITY

How hard are your heart and muscles working?

Everyone (including Beginners):

- Always warm-up, cool-down, and stretch.
- Be active at a moderate intensity (like a brisk walk or gardening).
- Be active at a rate that allows you to talk.
- Slow down if you have trouble breathing or if you can't catch your breath.
- You should stretch after aerobic or strength training. A stretch should never be painful. Some discomfort is normal. You want to feel a slight pull of the muscle.

Experienced:

- Build intensity for aerobic exercise by increasing speed (fast/sprint walk for 30 seconds followed by 1 minute brisk walk) and/or incline/resistance (hills on treadmill, greater workload on bike).
- Increase intensity for strength training by adding weight or only resting 30 seconds between sets.

MOVE!

FITT – Frequency, Intensity, Time, and Type of Activity

TIME

How long are you active?

Everyone:

- Try to stay active for at least 10 minutes without stopping. Remember, some activity is better than no activity. It is okay to build up to 10 minutes.
- Aim for a total of at least 30 minutes of activity throughout the day. For weight loss, increase this to 60 minutes per day.
- Set a goal for the week based on total minutes of physical activity.
- Increase the length of time you are active before increasing the intensity of the activity.
- There are no time goals for strength training.
- You should stretch after aerobic or strength activity. For muscles that were used, hold each stretch for 15–30 seconds. Repeating stretches will increase flexibility.

TYPE

What are you doing?

Everyone:

- All types of physical activity are important...so mix it up.
- Aerobic–walking, bicycling, dancing, swimming, mowing the lawn.
- Strength–carrying wood, lifting dumbbells.
- Flexibility–seated stretches, yoga.

DEFINITIONS

Aerobic activity is when the body's large muscles move together and your heart beats faster than usual. This type of activity burns the most calories and promotes weight loss. Examples include aerobics, swimming, running, walking, kickboxing, dancing, and cycling.

Strengthening activity is when the body's muscles work against a force or weight. Examples include elastic bands, weights, or body weight.

Flexibility lengthens a muscle while increasing range of motion. Examples include self-stretch, yoga, Pilates, and chair stretching routines.

Lifestyle activity occurs during normal, everyday activity such as vacuuming, walking the dog, mowing the lawn, participating in a walking meeting at work, or dancing.


THE SCIENCE BEHIND
SLEEP AND WEIGHT LOSS
Sleeping fewer than the recommended 7 hours each night may increase the risk of weight gain and obesity.
A lack of sleep may increase your desire to eat more high calorie foods and decrease your ability to resist them.
When you're sleep-deprived, the body responds by making more ghrelin and less leptin (your appetite hormones), causing


you to overeat.
Inadequate sleep is associated with an increased risk of obesity, and obesity may lead to reduced sleep quality.
Sleep hygiene tips
Follow a nightly routine.
Reduce stress levels through mindfulness meditation, deep breathing, and other relaxation exercises.
Avoid caffeine, alcohol, and large meals in the evening hours.
Turn off electronics at least 60 minutes before bedtime.
healthline
weightwatchers reimagined

S01

MOVE! Weight Management Program for Veterans

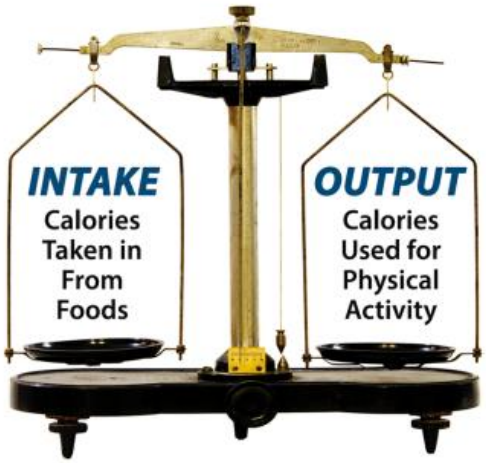
The Basics of Weight Control

A calorie is a unit of energy. Most foods and beverages contain calories.

To lose weight you need to:

- *Eat and drink fewer calories*
- *Increase physical activity*
- *Combine the two for the best results*

The foods you eat and the beverages you drink provide energy and nutrients. The basic required nutrients are water,



The Energy Balance

The calories you do not use are stored as

carbohydrates, proteins, fats, dietary fibers, vitamins, and minerals. Carbohydrates, proteins, and fats provide energy in the form of calories. Alcohol (beer, wine, liquor) adds calories without providing nutrition.

When you take in more calories than you use, you gain weight.

body fat. This is true whether these calories came from fats, carbohydrates, proteins, or alcohol.

Use more calories by increasing physical activity. Manage your weight by balancing what you eat and drink with how active you are. Maintain by balancing. Tip the scale to lose or gain!

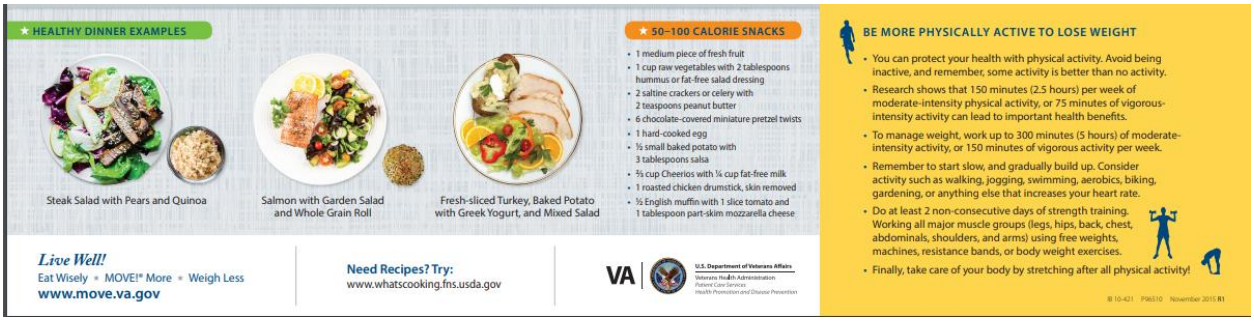
Current Weight	***Daily Calorie Goal***

Under 200 pounds	**1,200 – 1,500 calories/day**
200 – 225 pounds	**1,500 – 1,800 calories/day**
226 – 250 pounds	**1,800 – 2,000 calories/day**
251 – 300 pounds	**2,000 – 2,500 calories/day**
301 – 350 pounds	**2,500 – 3,000 calories/day**
Over 350 pounds	**See a MOVE! Dietitian**

How do you lose weight?

- Set your daily calorie goal using the table above.
- Find your current weight in the left column. Your daily calorie goal for that weight range is listed in the right column. These calorie goals are designed to help you lose about 1/2 to 2 pounds per week.
- Expect better results if you use the lower number from the daily calorie goal in the table.
- Use a book or online calorie counter to accurately track your calories. Handout *S08, Daily Food and Physical Activity Diary*, can be used to track foods and activities.
- When you make it to the next weight range (for instance, you start at 280 pounds and you now weigh 245 pounds), you will need to reduce your daily calorie goal to that lower level.
- If you weigh over 350 pounds or have diet concerns, talk with the dietitian to help set your daily calorie goal.
- Review your *Daily Food and Physical Activity Diary*. Celebrate successful days. On days when goals were not met, think about what got in the way and consider solutions.
- Remember, you need to have clear, daily calorie and physical activity goals to lose weight.

CURRENT WEIGHT	DAILY CALORIE GOAL
Under 200 lbs.	1200 – 1500 calories/day
200 – 225 lbs.	1500 – 1800 calories/day
226 – 250 lbs.	1800 – 2000 calories/day
251 – 300 lbs.	2000 – 2500 calories/day
301 – 350 lbs.	2500 – 3000 calories/day
Over 350 lbs.	See a MOVE! Dietitian



wegovy™
semaglutide injection 2.4 mg

Your next step begins here

This guide will help you:

- Learn how to use your pen
- Understand the dosing schedule
- Know what to expect
- Access support and savings

Please see additional Important Safety Information throughout and Prescribing Information, including Medication Guide, at https://www.novo-pi.com/wegovy.pdf.

Use Wegovy™ one time each week

Before using your pen for the first time, read the Instructions for Use and Medication Guide that come with your pen pack, and talk to your health care provider about how to use Wegovy™ correctly. You can also always call a **WeGo*Together*™** Coach at **1-833-4-WEGOVY**.

You'll take the 0.25 mg dose you received in this pack for the first 4 weeks.

FIRST 4 WEEKS

Store Wegovy™ in the refrigerator and keep it in the original box to protect it from light. If needed, Wegovy™ can be kept outside of the refrigerator with the pen cap still on for up to 28 days (46°F to 86°F).

After your first 4 weeks, you'll begin to increase your dose. Learn more about the full dosing schedule on page 8.

What is Wegovy™?

Wegovy™ (semaglutide) injection 2.4 mg is an injectable prescription medicine used for adults with obesity (BMI ≥30) or overweight (excess weight) (BMI ≥27) who also have weight-related medical problems to help them lose weight and keep the weight off.

- Wegovy™ should be used with a reduced calorie meal plan and increased physical activity.

wegovy™ semaglutide injection 2.4 mg

2

Get to know your Wegovy™ pen

ONCE WEEKLY

ONE-TIME USE ONLY:
- Use a new pen every time

PRESET DOSE:
- The dose is already set on your pen

HIDDEN NEEDLE:
- The needle is covered and will not be seen

Each dose of Wegovy™ comes in 1 pack of 4 pens, like you see here.

1 PACK = 4 WEEKS OF TREATMENT

Your first 4 weeks of Wegovy™ (0.25 mg dose) is included in this starter kit.

What is Wegovy™? (cont'd)

- Wegovy™ contains semaglutide and should not be used with other semaglutide-containing products or other GLP-1 receptor agonist medicines.
- It is not known if Wegovy™ is safe and effective when taken with other prescription, over-the-counter, or herbal weight loss products.
- It is not known if Wegovy™ can be used safely in people with a history of pancreatitis.
- It is not known if Wegovy™ is safe and effective for use in children under 18 years of age.

Please see additional Important Safety Information throughout and Prescribing Information, including Medication Guide, at https://www.novo-pi.com/wegovy.pdf.

3

How to take Wegovy™

Preparation

Now that you're familiar with your pen, let's learn about preparation, injection, and disposal.

1. **GATHER YOUR SUPPLIES:**
   Your Wegovy™ pen, 1 gauze pad or cotton ball, 1 alcohol swab or soap and water, and 1 disposal container for your pen. See page 7 for more information on how to dispose of your pen.
2. **WASH YOUR HANDS**
3. **CHECK YOUR WEGOVY™ PEN AND DO NOT USE IT IF:**
   - The pen appears to have been used, or any part of the pen appears broken; for example, if it has been dropped
   - The medicine is not clear and colorless through the pen window
   - The expiration date (EXP) on the back of the pen has passed

If you notice any of the above, call Novo Nordisk at 1-833-934-6891.

Read the Instructions for Use and Important Safety Information before using your pen.

wegovy™ semaglutide injection 2.4 mg

4

How to take Wegovy™

Preparation

Your health care provider can help you choose one of the areas listed below to inject Wegovy™. You can inject in the same part of your body each week, but make sure it is not in the exact same spot each time.

CHOOSE YOUR INJECTION SITE

- **Upper arms** (to be injected by another person)
- **Stomach** (keep 2 inches away from your belly button)
- **Upper legs** (front of thighs)

DO NOT INJECT INTO:

- An area where the skin is tender, bruised, red, warm, or hard
- Areas with scars or stretch marks

Make sure to clean the injection site with an alcohol swab or soap and water and to not touch the area after cleaning.

Important Safety Information

What is the most important information I should know about Wegovy™?
Wegovy™ may cause serious side effects, including:

- **Possible thyroid tumors, including cancer.** Tell your health care provider if you get a lump or swelling in your neck, hoarseness, trouble swallowing, or shortness of breath. These may be symptoms of thyroid cancer. In studies with rodents, Wegovy™ and medicines that work like Wegovy™ caused thyroid tumors, including thyroid cancer. It is not known if Wegovy™ will cause thyroid tumors or a type of thyroid cancer called medullary thyroid carcinoma (MTC) in people.

Please see additional Important Safety Information throughout and Prescribing Information, including Medication Guide, at https://www.novo-pi.com/wegovy.pdf.

5

How to take Wegovy™

Injection

First, pull the pen cap straight off of the pen. Then push the pen firmly against your skin to start the injection.

- You will hear 2 clicks during the injection, which takes about 10 seconds.
  - Click 1: Injection has started
  - Click 2: Injection is ongoing
- If you do not hear the first click and the yellow bar in the window does not start moving, press the pen more firmly against your skin
- When you hear the second click, keep holding down until the yellow bar stops moving and you reach 10 seconds

Click 1: Injection has started

Click 2: Keep holding until yellow bar stops moving

Yellow bar has stopped moving: Injection is complete. Slowly lift the pen away from your skin

The injection takes about 10 seconds from the start of the first click.

wegovy™ semaglutide injection 2.4 mg

6

How to take Wegovy™

Disposal

SAFELY THROW AWAY THE PEN RIGHT AFTER USE

Do not throw the pen away in your household trash. Instead, use an FDA-cleared sharps disposal container or a sturdy household container with a tight-fitting lid, like a heavy-duty plastic container.

If blood appears at the injection site, press lightly with a gauze pad or cotton ball.

Watch the Instructions for Use video at **StartWegovy.com** or speak with a **WeGoTogether™** Coach for more help.

Important Safety Information (cont'd)

What is the most important information I should know about Wegovy™?
Wegovy™ may cause serious side effects, including: (cont'd)

- Do not use Wegovy™ if you or any of your family have ever had a type of thyroid cancer called medullary thyroid carcinoma (MTC) or if you have an endocrine system condition called Multiple Endocrine Neoplasia syndrome type 2 (MEN 2).

Please see additional Important Safety Information throughout and Prescribing Information, including Medication Guide, at https://www.novo-pi.com/wegovy.pdf.

7

Dosing with Wegovy™

You'll take Wegovy™ on the same day each week, at any time of day, with or without food

START

- Start Wegovy™ with a dose of **0.25 mg** (the dose you received in this kit) once per week in your **first month**

INCREASE

- In your **second month**, increase your weekly dose to **0.5 mg**
- In your **third month**, increase your weekly dose to **1 mg**
- In your **fourth month**, increase your weekly dose to **1.7 mg**

FULL DOSE

- In your **fifth month**, you'll increase your weekly dose to **2.4 mg**. From then onward, you'll continue taking that dose each week

If you need to change the day of the week, you may do so as long as your last dose of Wegovy™ was given 2 or more days before.

Check in with your health care provider while increasing your dose to track what's working for you and when you're ready to fill your next dose.

wegovy™ semaglutide injection 2.4 mg

8

Wegovy™ dosing schedule

Wegovy™ has 5 preset doses (also known as strengths), and each has its own color.

If you miss a dose of Wegovy™ and the next scheduled dose is more than 2 days away (48 hours), take the missed dose as soon as possible. If you miss a dose and the next scheduled dose is less than 2 days away, do not take the dose. Instead, take your next dose on the regularly scheduled day.

If you have questions about dosing, please call your health care provider.

Important Safety Information (cont'd)

Do not use Wegovy™ if:

- you or any of your family have ever had a type of thyroid cancer called medullary thyroid carcinoma (MTC) or if you have an endocrine system condition called Multiple Endocrine Neoplasia syndrome type 2 (MEN 2).

Please see additional Important Safety Information throughout and Prescribing Information, including Medication Guide, at https://www.novo-pi.com/wegovy.pdf.

9

Common side effects

Side effects of Wegovy™ may include:

nausea	upset stomach
diarrhea	dizziness
vomiting	feeling bloated
constipation	belching
stomach (abdomen) pain	gas
headache	stomach flu
tiredness (fatigue)	heartburn

wegovy™ semaglutide injection 2.4 mg

10

Helpful tips

If you experience nausea, here are some tips that may help:

- Eat bland, low-fat foods such as crackers, toast, and rice
- Eat foods that contain water, such as soup and gelatin
- Don't lie down after you eat
- Go outside and get some fresh air
- Eat more slowly

Talk to your health care provider if you experience any side effects, including nausea, while taking Wegovy™.

Important Safety Information (cont'd)

Do not use Wegovy™ if: (cont'd)

- you have had a serious allergic reaction to semaglutide or any of the ingredients in Wegovy™.

Please see additional Important Safety Information throughout and Prescribing Information, including Medication Guide, at https://www.novo-pi.com/wegovy.pdf.

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Get personalized support with WeGo*Together*™

With **WeGo*Together*™**, you'll get free access to:

- **A live or digital coach** who stays connected with you throughout treatment
- **The WeGo*Together*™ portal** to help you set tiny steps and track your progress
- **Ongoing support** to keep you motivated

Scan the QR code to enroll in WeGo*Together*™

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Save on Wegovy™

You could pay $25* for a 28-day supply of Wegovy™

If eligible, you'll be provided with savings offer details to activate.

If you have not been provided with the offer, call **1-833-4-WEGOVY** and press 2 to determine your eligibility for the program.

*Eligibility and restrictions apply. For six 28-day fills for eligible commercially insured patients with coverage for branded prescription weight-loss medications, whose coverage is confirmed. Novo Nordisk reserves the right to modify or cancel this program at any time. See terms and conditions at WegovyTerms2021.com.

Once you have your savings offer, go to **SaveOnWegovy.com** to activate.

Important Safety Information (cont'd)

Before using Wegovy™, tell your health care provider if you have any other medical conditions, including if you:

- have or have had problems with your pancreas or kidneys.
- have type 2 diabetes and a history of diabetic retinopathy.
- have or have had depression, suicidal thoughts, or mental health issues.
- are pregnant or plan to become pregnant. Wegovy™ may harm your unborn baby. You should stop using Wegovy™ 2 months before you plan to become pregnant.
- are breastfeeding or plan to breastfeed. It is not known if Wegovy™ passes into your breast milk.

Please see additional Important Safety Information throughout and Prescribing Information, including Medication Guide, at https://www.novo-pi.com/wegovy.pdf.

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Important Safety Information (continued)

Tell your health care provider about all the medicines you take, including prescription and over-the-counter medicines, vitamins, and herbal supplements. Wegovy™ may affect the way some medicines work and some medicines may affect the way Wegovy™ works. Tell your health care provider if you are taking other medicines to treat diabetes, including sulfonylureas or insulin. Wegovy™ slows stomach emptying and can affect medicines that need to pass through the stomach quickly.

What are the possible side effects of Wegovy™? Wegovy™ may cause serious side effects, including:

- **inflammation of your pancreas (pancreatitis).** Stop using Wegovy™ and call your health care provider right away if you have severe pain in your stomach area (abdomen) that will not go away, with or without vomiting. You may feel the pain from your abdomen to your back.
- **gallbladder problems.** Wegovy™ may cause gallbladder problems, including gallstones. Some gallstones may need surgery. Call your health care provider if you have symptoms, such as pain in your upper stomach (abdomen), fever, yellowing of the skin or eyes (jaundice), or clay-colored stools.
- **increased risk of low blood sugar (hypoglycemia) in patients with type 2 diabetes, especially those who also take medicines for type 2 diabetes such as sulfonylureas or insulin.** This can be both a serious and common side effect. Talk to your health care provider about how to recognize and treat low blood sugar and check your blood sugar before you start and while you take Wegovy™. Signs and symptoms of low blood sugar may include dizziness or light-headedness, blurred vision, anxiety, irritability or mood changes, sweating, slurred speech, hunger, confusion or drowsiness, shakiness, weakness, headache, fast heartbeat, or feeling jittery.
- **kidney problems (kidney failure).** In people who have kidney problems, diarrhea, nausea, and vomiting may cause a loss of fluids (dehydration) which may cause kidney problems to get worse. It is important for you to drink fluids to help reduce your chance of dehydration.

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Important Safety Information (continued)

What are the possible side effects of Wegovy™? Wegovy™ may cause serious side effects, including: (cont'd)

- **serious allergic reactions.** Stop using Wegovy™ and get medical help right away, if you have any symptoms of a serious allergic reaction, including swelling of your face, lips, tongue, or throat; problems breathing or swallowing; severe rash or itching; fainting or feeling dizzy; or very rapid heartbeat.
- **change in vision in patients with type 2 diabetes.** Tell your health care provider if you have changes in vision during treatment with Wegovy™.
- **increased heart rate.** Wegovy™ can increase your heart rate while you are at rest. Tell your health care provider if you feel your heart racing or pounding in your chest and it lasts for several minutes.
- **depression or thoughts of suicide.** You should pay attention to any mental changes, especially sudden changes in your mood, behaviors, thoughts, or feelings. Call your health care provider right away if you have any mental changes that are new, worse or worry you.

The most common side effects of Wegovy™ may include: nausea, diarrhea, vomiting, constipation, stomach (abdomen) pain, headache, tiredness (fatigue), upset stomach, dizziness, feeling bloated, belching, gas, stomach flu and heartburn.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit **www.fda.gov/medwatch**, or call **1-800-FDA-1088.**

Please see additional Important Safety Information throughout and Prescribing Information, including Medication Guide, at https://www.novo-pi.com/wegovy.pdf.

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Get going with WeGo*Together*™

Explore your web portal and connect with a health coach at **WegovySupport.com**.

Check your Wegovy™ coverage and access savings. Call **1-833-4-WEGOVY** and press 2.

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Please see additional Important Safety Information throughout and Prescribing Information, including Medication Guide, at https://www.novo-pi.com/wegovy.pdf.

Appendix D

Participant Daily Tracking Log

Tracking Log

Date	Hours of Sleep	Glasses of Water (8 oz)	Calories Consumed	GLP-1 Administration (if applicable)	Minutes of Cardio-type Activities	Comments

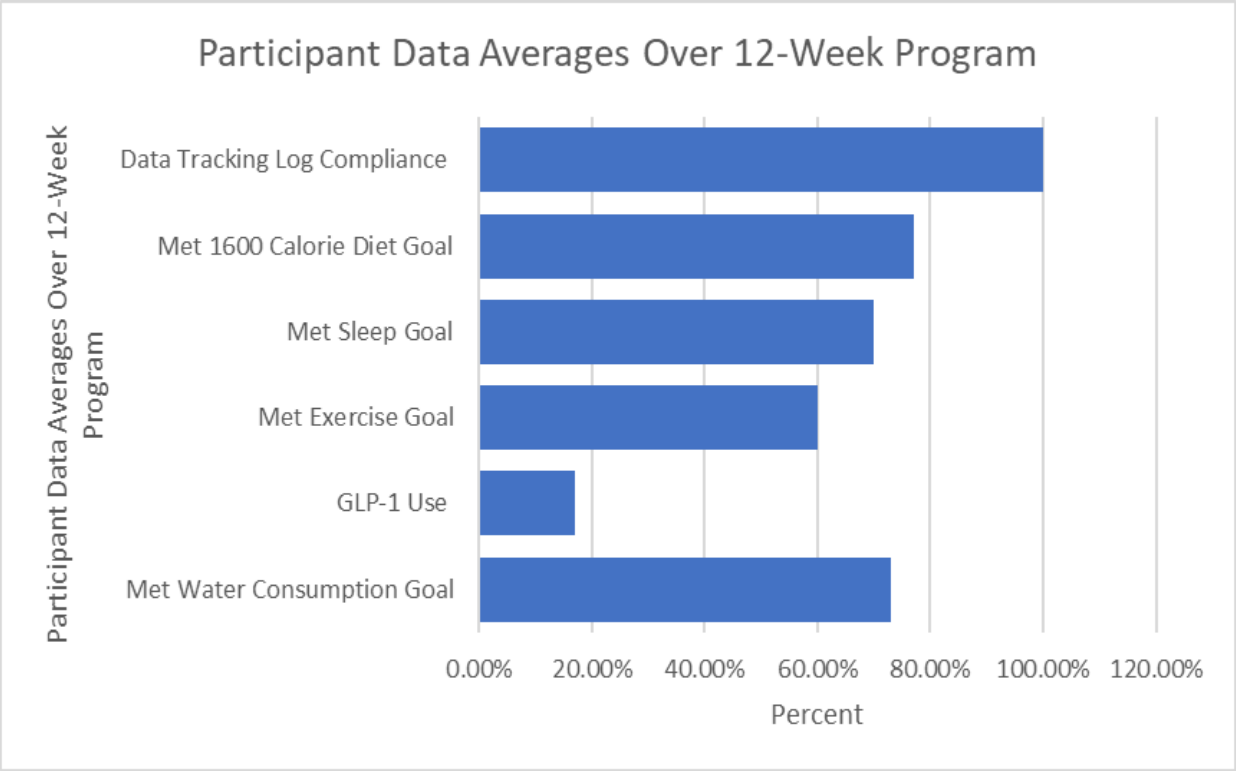
Appendix E

Data Collection Tool

A	B	C	D	E	F	G	H	I	J	K
Key ID	Date	Weight	(BMI) Body Mass Index	# of days log completed (previous 30 days)	# of days water goal was met (previous 30 days)	# of days sleep goal was met (previous 30 days)	# of days calorie goal was met (previous 30 days)	# of days GLP-administration was met-if applicable (previous 30 days)	# of days cardio activity was met (previous 30 days)	Comments

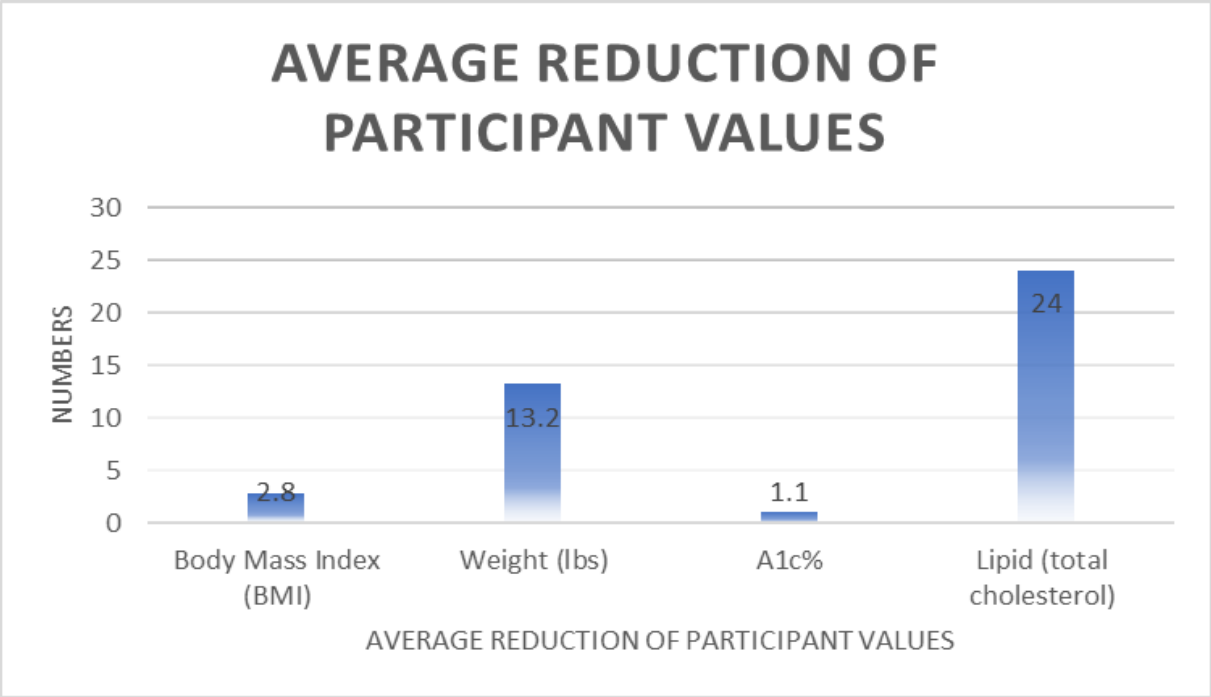
Appendix F

Summary of Compliance Data



Appendix G

Program Results



Appendix H

Project Timeline

	Dates	**Explanation of Events for DNP Project**
	Summer Session 2021 May 14 through August 2, 2021	DNP I: Introduction to DNP Project, brainstorming, creating a general idea of project, research problem for DNP project, collect data, meetings with instructor, and with site that agrees to be in partnership for project.
	Fall Semester 2021 August 23 through December 15, 2021	DNP II: Finalize DNP Project Plan, develop procedures for DNP project, collect information for research for identified problem that support DNP Project, gain formal approval for DNP Project and approval for site.
	Week of January 6, 2022	Review all information. Make necessary changes for implementation of DNP project for final approvement to move to implementation stage of project.
	Spring Semester 2022 January 10 through May 9, 2022	DNP III: Implementation stage of the project. Consists of scheduled meetings, gathering data, utilizing PDSA for evaluation of project.
	January 13, 2022	Meet with project site. Will disseminate the final purpose of the project, introduce the policy/procedure for obese pediatric patients, explain roles for each team member involved, explain the data collection process for project, review educational materials, have a question-and-answer session.
	January 31st through April 29th 2022	Implementation of the weight-loss program. Start on the week of 1/24/22 contacting patients that shared interested in weight-loss program to schedule intake appointment. Begin intake appointments week of 1/31/22 if approval is granted by DNP instructor. At monthly intervals and more frequently if problems arise or are identified a PDSA evaluation will be performed to evaluate data collected and how effective each team member performed their role. After reviewing, the process will be changed based on need.
	February 28th, 2022	This ends the first 4 weeks of the weight-loss program. Patients will be scheduled this week and data gathered from their data tracking logs. Data collection tool will also be completed to aide in the data collection.
	March 7th	Results are shared with team members with suggestions for improvements. This will begin the next month for project implementation. Discuss with instructor progress with implementation of DNP project.
	March 28th	This ends the second 4 weeks of the weight-loss program. Patients will be scheduled this week and data gathered from their data tracking logs. Data collection tool will also be completed to aide in data collection.
	April 4th	Results are shared with team members with suggestions for improvements. Discuss with instructor progress with implementation of DNP project.
	April 24th	This is the end of the 12-week weight-loss program. Patients will be scheduled this week and data gathered from their data tracking logs. Final data will be collected and placed in the collection tool.

	May 2nd	Results are shared with team members with suggestions for improvements based on results of the data collected.
	Week of May 2nd	Discuss with instructor progress with implementation of the DNP project. Will start the process of compiling all data together to present to office staff, instructor for dissemination of findings.
	May 9th	Review suggestions for dissemination. Start preparing for last semester of DNP.
	May-August	DNP IV: Last semester for completion of DNP. This semester will consist of finalizing information, results, for dissemination and presentation.
	Week of May 13th	Meet with DNP instructor, to discuss progress, expectations, revisions. Will meet with clinical site and review with them final findings and get their feedback of policy/procedure. Will record their thoughts to use to find short comings, etc.
	Week of May 23rd	Continue to make revisions based on guidance of instructor/feedback.
	Week of June 1st	Meet with DNP Instructor to report revisions, progress, and expectations.
	Week of June 8th	Continue to make revisions based on guidance of instructor/feedback. Start creating poster for dissemination.
	Week of June 16th	Meet with DNP Instructor to report revisions, progress, and expectations.
	June 24th-July 12th	Prepare for poster presentation. Presented at university on July 12th, 2022.
	July 1st-July 28th	Finalize poster, gain approval, present DNP project/findings/paper/poster for final approval to begin the dissemination of information process.

Appendix I

Project Costs/Budget

Item	Cost	TOTAL
Ink Cartridges X 3	$24.40	=$73.20
Paper X 2 Packs	$12.99	=$25.98
Notebooks X 33	$2.49	=$82.17
Educational Materials X 33 Packets	$2.14	=$70.62
Nurse X 24 hours	$26.00	=$624.00
Nurse Practitioner X 72 hours	$50.00	=$3,600.00
Lipid (total cholesterol) X 63 labs	$28.50	=$1,795.50
A1c X 63 labs	$9.16	=$577.08
	Overall Total	=$6,848.55

Appendix J

Doctor of Nursing Practice Essentials

	Description	Demonstration of Knowledge
Essential I ***Scientific Underpinning for Practice***	**Competency** – Analyzes and uses information to develop practice **Competency** -Integrates knowledge from humanities and science into context of nursing **Competency** -Translates research to improve practice **Competency** -Integrates research, theory, and practice to develop new approaches toward improved practice and outcomes	• Reviewed participants daily tracking logs • Synthesis of the literature • Development of the educational toolkit based on best practices from the Veteran's Administration • Logged data to data collection tool
Essential II ***Organizational & Systems Leadership for Quality Improvement & Systems Thinking***	**Competency** –Develops and evaluates practice based on science and integrates policy and humanities **Competency** –Assumes and ensures accountability for quality care and patient safety **Competency** -Demonstrates critical and reflective thinking **Competency** -Advocates for improved quality, access, and cost of health care; monitors costs and budgets **Competency** -Develops and implements innovations incorporating principles of change **Competency** - Effectively communicates practice knowledge in writing and orally to improve quality **Competency** - Develops and evaluates strategies to manage ethical dilemmas in patient care and within health care delivery systems	• Met with project team at least monthly • Provided education to participants of the weight-loss program • Implemented a weight-loss program
Essential III ***Clinical Scholarship & Analytical Methods for***	**Competency** - Critically analyzes literature to determine best practices **Competency** - Implements evaluation processes to measure process and patient outcomes	• Planning and development of the project plan based on evidence from the literature

Evidence-Based Practice	**Competency** - Designs and implements quality improvement strategies to promote safety, efficiency, and equitable quality care for patients **Competency** - Applies knowledge to develop practice guidelines **Competency** - Uses informatics to identify, analyze, and predict best practice and patient outcomes **Competency** - Collaborate in research and disseminate findings	• Met with practice site to discuss findings after program completion • Upon faulty approval will disseminate findings at the University Scholarship repository for public access
Essential IV ***Information Systems – Technology & Patient Care Technology for the Improvement & Transformation of Health Care***	**Competency** - Design/select and utilize software to analyze practice and consumer information systems that can improve the delivery & quality of care **Competency** - Analyze and operationalize patient care technologies **Competency** - Evaluate technology regarding ethics, efficiency and accuracy **Competency** - Evaluates systems of care using health information technologies	• Used daily tracking logs to collect data • Monthly "check-in" appointments with participants • Use of technology in analyzing and dissemination of findings
	Description	**Demonstration of Knowledge**
Essential V ***Health Care Policy of Advocacy in Health Care***	**Competency**- Analyzes health policy from the perspective of patients, nursing and other stakeholders **Competency** – Provides leadership in developing and implementing health policy **Competency** –Influences policymakers, formally and informally, in local and global settings **Competency** – Educates stakeholders regarding policy **Competency** – Advocates for nursing within the policy arena **Competency**- Participates in policy agendas that assist with finance, regulation and health care delivery	• Created and implemented 12-week weight-loss program • Project site to continue weight-loss program • Plans for meeting with other providers about implementing weight-loss program at their practice

	Competency – Advocates for equitable and ethical health care	
Essential VI ***Interprofessional Collaboration for Improving Patient & Population Health Outcomes***	**Competency**- Uses effective collaboration and communication to develop and implement practice, policy, standards of care, and scholarship **Competency** – Provide leadership to interprofessional care teams **Competency** – Consult intraprofessionally and interprofessionally to develop systems of care in complex settings	• Collaborated with project site champion to develop and implement a structured weight-loss program • Worked as the project lead
Essential VII ***Clinical Prevention & Population Health for Improving the Nation's Health***	**Competency**- Integrates epidemiology, biostatistics, and data to facilitate individual and population health care delivery **Competency** – Synthesizes information & cultural competency to develop & use health promotion/disease prevention strategies to address gaps in care **Competency** – Evaluates and implements change strategies of models of health care delivery to improve quality and address diversity	• Developed & implemented a weight-loss program • Used PDSA evidenced based model for evaluating the program
Essential VIII ***Advanced Nursing Practice***	**Competency**- Melds diversity & cultural sensitivity to conduct systematic assessment of health parameters in varied settings **Competency** – Design, implement & evaluate nursing interventions to promote quality **Competency** – Develop & maintain patient relationships **Competency** –Demonstrate advanced clinical judgment and systematic thoughts to improve patient outcomes **Competency** – Mentor and support fellow nurses **Competency**- Provide support for individuals and systems experiencing change and transitions **Competency** –Use systems analysis to evaluate practice efficiency, care delivery, fiscal responsibility, ethical responsibility, and quality outcomes measures	• Met with project team monthly to evaluate weight-loss program • Identified & enrolled participants to the weight-loss program • Met with participants monthly to evaluate their concerns • Worked with the nurse on the project team to contact interested participants and to remind them of their appointments