

**An Evidenced-Based Obesity Prevention and Management Protocol for Children in a
Community-Based Organization: A Quality Improvement Project**

DNP Project III: Section 3 Limitations and Dissemination

Vanessa C. Pyram-Milfort

DNP Project Team: Dr. Jessica Grimm and Dr. Julie Astrella

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Abstract

The prevalence of obese and overweight children has increased over the past three decades, which is mostly attributed to lifestyle and rising poverty levels. Globally, there are more than 170 million children that are believed to be overweight, prompting for installing measures necessary in reduction of obesity levels as presented by institutions such as Theophile Outreach Center. Childhood obesity remains a major health challenge because of the related health consequences it poses. For instance, being overweight has been linked to the development of other lifestyle illnesses, such as high blood pressure and cardiovascular diseases. From the beginning of the 21st century, childhood obesity has been considered as one of the population health challenges, leading to policy changes within schools aimed at combating the problem. This paper focuses on the strategies for management and prevention of childhood obesity, with specific reference to the efforts which could be implemented by Institutions such as Theophile Outreach Center.

An Evidenced-Based Obesity Prevention and Management Protocol for School-Aged Children in a Community-Based Organization: A Quality Improvement Project

Childhood obesity is a national health problem (Smith et al., 2020). In 2016, approximately 340 million children and adolescents between 5 and 19 years of age were classified as overweight or obese worldwide (“Obesity and Overweight,” 2021). National statistics from 2017-2018 show high rates of obesity among children between 6 and 19 years of age as well. Obesity prevalence in the United States was 20.3% among 6- to 11-year-olds and 21.2% among 12- to 19-year-olds (“Childhood Obesity Facts,” n.d.). In New York, the rate was 10.7% among children aged between 10 and 17 years (“New York,” n.d.). This project will be implemented in Brooklyn which is a mixed socioeconomic community that exhibits disparate rates of obesity. The community-based organization provides resources to the underserved

population of the Brooklyn Canarsie area, where the childhood obesity rate is one out of every five children (Hinterland et al., 2018).

Childhood obesity is a serious health issue that is linked to higher adult morbidity and mortality (Romanelli et al., 2020). Overweight children have an increased chance of becoming obese in adulthood (Romanelli et al., 2020). This puts them at high risk for premature death as they may develop type 2 diabetes, heart disease, and disability later in life (Smith et al., 2020; “Why It Matters,” n.d.). Childhood obesity is also associated with increased chances of breathing difficulties, fractures, and premature deaths (“Childhood Obesity Facts,” n.d.).

This quality improvement project will enhance the services already being received in the community-based organization and will target the rising childhood obesity rates in the Flatlands and Canarsie area of Brooklyn New York. BMI screening and the implementation of the “5210” clinical guideline developed by the American Academy of Pediatrics will be implemented. The “5210” clinical guideline is a patient-centered technique that encourages families to adopt healthier lifestyles. This guideline is intended to make the concept of lifestyle modifications engaging to motivate young children to participate in healthy behaviors (Kleven et al., 2018).

Background

Childhood obesity is a complicated public health issue that affects first-world countries globally (Ling et al., 2014). It is one of the primary causes of preventable youth mortality, chronic disease, and economic health costs, with poor diet and physical inactivity being significant contributors (Hamilton et al., 2018; Sahoo et al., 2015). Since obese children grow up to be obese adults if they are not treated, they develop severe chronic diseases that not only lead to further health problems and other illnesses but are also expensive to treat (Obesity and Overweight, 2021). For example, people may use their limited resources to address obesity-related conditions, such as diabetes, heart disease, and cancer. Moreover, healthcare expenses

due to obesity have risen to \$147 billion every year and if the problem continues, associated healthcare expenses are projected to reach \$900 billion per year by 2030 (Ling et al., 2014).

The Centers for Disease Control (CDC) attributes childhood obesity to behavior and genetics (2021). Behavior includes high calorie diet, low nutritional foods, inactivity, medication, and inadequate hours of sleep. As of 2019 the World Health Organization developed a guideline focused on sedentary behaviors, physical activity, and sufficient sleep-in children below five years, and a “global action plan on physical activity 2018-2030, which offers policy actions to promote physical exercise worldwide (Obesity and Overweight, 2021).

Obesity and its health repercussions affect many people in the United States; children from disadvantaged racial and socioeconomic backgrounds have a higher frequency (Obesity and Overweight, 2021). Obesity rates are much greater among non-Hispanic black and Hispanic children than among non-Hispanic white children (Hales et al., 2018). The prevention and management of childhood obesity requires the understanding of the contributing factors and the patterns across different social and racial backgrounds to design factor-specific preventive programs (World Health Organization, 2016).

Problem

Childhood obesity is prevalent in the state of New York and at the project site. Many factors contribute to childhood obesity, such as poor diet, sedentary lifestyle, genetics, and family life. Per the CDC, obese children are more likely to become obese adults (2021). Adult obesity is linked to an increased risk of heart disease, type 2 diabetes, and cancer, among other significant health problems. The project site does not currently have a standardized method for prevention and treatment of childhood obesity. The prevention and control of obesity entails screening children to establish if they are low, moderate, or high risk for obesity using a BMI screening tool and creating a supportive environment that promotes healthy lifestyles through

practices, such as healthy eating behaviors and regular physical exercise. The project will focus on the screening children using a BMI tool and implementing the 5210 pediatric obesity initiative.

Project Question

For children that attend the community-based organization in Brooklyn, New York, will implementation of provider education and training on BMI screening and the 5210 initiative and prevent the risk of childhood in a five-week period?

Search Methods

The search strategy aimed to identify published articles and books about evidence-based obesity prevention among children. Thus, the selected online databases were peer-reviewed and entailed nursing journals. The search engines included MEDLINE, EBSCOhost, APA PsycINFO, Google Scholar, and Cochrane Library. Even though all the above search engines were used, some only provided the abstracts of the journals. In such instances, filters were used to locate articles that would provide full text documents. Government and reputable organizations' websites were also used in determining government and intergovernmental statistics on childhood obesity.

The use of search terms helped in the diversification of search results. Search terms included the PICOT question "For children that attend the community-based organization in Brooklyn, New York, will implementation of provider education/training on BMI screening and the 5210 initiative and prevent the risk of childhood in a five-week period?", obesity management, BMI rates among infants, prevention of obesity, obesity prevention protocol, 5210 obesity management initiative, and school program obesity management. Further, truncation was used in the search process, an asterisk (*) helped in identifying related concepts (Patino & Ferreira, 2018). For instance, (therap*) could provide articles on therapies, therapists, or

therapeutic procedures. The combination of search terms using Boolean logic (not, and, or) provided more accurate responses (Scells et al., 2020) Citation searching was also effective in identifying relevant articles cited by other studies.

Exclusion and inclusion criteria guided the selection of the articles. Articles had to be about obesity management or prevention, and the participants had to be children. The publication years had to be within ten years, with the oldest being published in 2009, which satisfied the inclusion criteria. Emphasis was placed on the articles published in the last five years. Apart from the peer-reviewed journals, other studies were those from the recognized organizations such as CDC and WHO. Exclusion criteria included irrelevancy, inaccessibility, and publication dates later than ten years.

Review Synthesis

Different types of studies were used in the literature review. The first article by Berkowitz and Borchard (2009) was a systematic review that reviewed numerous themes in obesity to create a comprehensive work. The article was necessary because it provided basic information required in explaining different determinants of obesity prevalence. The documents by the Centers for Disease Control and Prevention (CDC) states obesity have more than quadrupled among children and adolescents in the United States since the 1970s (Patino & Ferreira, 2018). According to 2015–2016 data, almost one in every five school-age children and young adults aged 6 to 19 years in the United States is obese (Centers for Disease Control and Prevention et al., 2021). Such publications provide authentic information because they are government-supported organizations.

Hales et al. (2018) conducted a cross-sectional survey on the prevalence of obesity among youth and adults in the United States. The results indicated that obesity persisted among the adults while the youths had minimal cases of severity. Also, Hamilton et al. (2018) conducted

a systematic review to assess the cost of obesity among childhood and adolescents. The results showed that the cost of obesity was high among girls. Jang et al. (2015) also used systematic analysis to determine the effectiveness of obesity management by parents. The results showed that trained parents helped in the management of obesity. Further still, Smith et al. (2020) used experimental studies to assess how the management and prevention of obesity limit health morbidity. Through obesity management, depression, nonalcoholic liver diseases, and psychological problems are limited.

Common themes that emerged from the articles were the environmental influence of obesity, the role of parents and their knowledge, the relationship between obesity and race, possible interventions, and implications for public health. The studies agreed-upon common concepts; for instance, morbidity and mortality rates are prevalent among children with obesity. Additionally, parents play a central role in the lifestyle modification and encouragement of children with obesity. Also, parents offer psychological support to children who might be experiencing peer bully due to their bodies (Robinson et al., 2017).

The articles also explored the relationship between ethnicity and obesity; minority groups with poor health and have higher rates of obesity. Women rarely engage in physical activities; therefore, cases of obesity among women are higher than that of men. The review of literature identified the existence of healthcare quality gaps (Robinson et al., 2017). Contemporary practices are not producing the required results, especially related to childhood obesity. However, the articles ascertain that the healthcare system can address the deficiency. Hamilton et al. (2018) identified solutions including education to parents and patients, self-management promotions, funding for further research, and interventions by policymakers.

Literature Theme Development

5210 Guideline

The 5210-guideline developed by” The American Academy of Pediatrics “is an initiative implemented to combat childhood obesity. It is apparent throughout the literature that children, regardless of age, do not have the same level of control over their behaviors as adults. Children are solely dependent on their caregivers regarding diet and healthcare choices. Children also rely on caregivers to provide a good example in terms of healthy practices (Welia Health et al.,2020). As reported by Welia Health (2020), children rely on caregivers to do their grocery shopping, make meals, have snacks on hand, arrange their calendars, and establish screen time limits. Positively the “practice what you preach” method is the most effective way to obtain success in the combat of childhood obesity. The battle of childhood obesity is not a battle of the child alone but includes the caregiver in all aspects. The initiative seeks to have children eat five servings of fruits and vegetables daily, reduce leisure television time to 2 hours or fewer each day, participate in a minimum one hour of physical play, and avoid sugar-sweetened drinks (CDC, 2018).

The 5-2-1-0 family tool aid was found to be utilized by 82 percent of practitioners working with families (CDC 2018). Per the CDC (2018), after implementation of the 5210 initiatives, data from before and after the intervention were examined, which revealed considerable and statistically significant changes in physicians' documentation of body mass index (BMI) and BMI percentile (from 38% to 94%). Physicians' understanding of optimum weight and their ability to detect children at risk of becoming overweight improved as well (Sanyaolu et al., 2019). Primary care providers indicated a positive response to this program stating they felt a more effortlessness discussing diet, physical activity, screen time, and sweetened drinks with patients, as well as assisting overweight patients and their families in setting behavioral goals (2018).

Childhood Fresh Food Accessibility and Obesity

Yet the increase in pragmatic examination in areas with conservational features and their impact on children's diets, physical activity, and obesity, much remains to be learned, as few studies have looked specifically at the relationship between neighborhood food availability and children's dietary behavior (Futrell Dunaway et al., 2017). An analysis performed by Dunaway et al. (2017), used a cross-sectional sample of children which included a dataset that was combined with food environment data to determine the influence of neighborhood food access, as well as household and parent variables, on children's diets. Except for fast food, where children who had access to fast food within 500 meters of their house were substantially less likely (OR = 0.35, 95 percent CI: 0.1, 0.8) to consume vegetables, the neighborhood food environment had great effect on children's diets (Futrell Dunaway et al., 2017).

Diet is influenced by several parental and household variables, including receipt of public assistance and the ability to prepare meals at home (CDC et al., 2021). When compared to children who did not get public help, children receiving public assistance were 2.5 times (95 percent CI: 1.1, 5.4) more likely to consume fruit more than twice per day (Futrell Dunaway et al., 2017). Fruit and vegetable intake was considerably higher (64% vs. 58%) and soda consumption was lower (55% vs. 39%) among children whose families cooked supper at home more than 5 times per week (27 percent vs. 43 percent) (Futrell Dunaway et al., 2017).

Screen Time and Obesity

Obesity is a well-documented adverse effect of screen media usage. Numerous observational studies have shown connections between screen media use and an increased risk of obesity (Robinson et al., 2017). In randomized controlled studies of restricting screen time in community settings, children's weight gain was reduced, suggesting a cause-and-effect relationship (Robinson et al., 2017). According to current evidence, screen media exposure causes childhood and adolescent obesity by increasing eating while watching, exposing children

to high-calorie, low-nutrient food and beverage marketing that influences their preferences, purchase requests, and consumption habits, and decreasing sleep duration (Robinson et al., 2017).

Physical Activity in Children and Obesity

A report from the World Health organization, documented by Hong et al. (2016), identified obesity as the leading cause of physical and mental health issues in the United States, including metabolic disorders, Type 2 diabetes, colon cancer, cardiovascular disease, mortality, and depression. It is critical to avoid childhood obesity since it is closely linked to adult obesity. Aside from the consequences of childhood obesity on motor function and impairment, it may also lead to victimization, stigmatization, and prejudice. According to the American Occupational Therapy Association, occupational therapy treatments in the field of weight control for children may be beneficial. Early occupational therapy treatments for childhood obesity may help prevent delays in motor development, negative psychological effects, and a variety of other health issues associated with adult obesity (Hong et al., 2016). Experts in occupational therapy have suggested creating customized treatments that engage children in interesting and pleasant activities, which is compatible with the use of motivating techniques (Sanyaolu et al., 2019).

Sugar Sweetened Beverages and Obesity in Children

According to Keller and Bucher sugar-sweetened beverage (SSB) consumption appears to have grown in lockstep with obesity and overweight trends. SSBs now account for 10% to 15% of adolescent caloric intake and are the primary source of added sugar in children's and adolescents' diets (Keller & Bucher Della Torre, 2015). In the United States, about 25% of adolescents consume more than 750 mL of SSBs per day, which is equal to more than 350 calories (Keller and Bucher Della Torre, 2015).

Health Risks Associated with Childhood Obesity

Obesity is one of the causes of death among children in the United States. People with obesity are at higher risks of serious illnesses. Studies have shown that obesity among children lead to increased dyslipidemia and osteoarthritis (Keller & Bucher Della Torre, 2015). Gall bladder diseases, hypertension, and coronary health diseases are associated with childhood obesity (Sanyaolu et al., 2019). Sleep apnea and several cancers have also been linked to obesity (Welia Health et al., 2020). Children suffering from such conditions experience low quality of life and depression due to body shaming by peers (Keller & Bucher Della Torre, 2015).

Environmental Consequences

The literature also indicated that there is a relationship between the environment and childhood obesity (Welia Health et al., 2020). Energy intake and energy output among children play a central role in the process; most importantly, the accessibility to healthy food. When children live in areas without fresh agricultural foods, they are prone to unhealthy diets. Ecological studies have also shown that chronic diseases are caused by neighborhood socioeconomic status (Sanyaolu et al., 2019). The BMI of the locals is inversely proportional to the socioeconomic status of the community. Diets from food stores rather than from restaurants are healthier. When families rely on agricultural foods from the stores, cases of obesity in such families are minimal (Sanyaolu et al., 2019).

Parental Knowledge

The success of the child in the fight against obesity depends on parental support. The “5210 Children’s Health and Nutrition Initiative” events guideline incorporates a family centered approach in which the parent and/or caregiver is responsible for participating in a process geared at improving children health outcomes and setting limitations in which adherence determines the success or failure of weight loss (Welia Health et al., 2020). Families that have a health-centered approach to combating obesity demonstrate minimal cases of obesity. Most importantly, parents

influence behaviors on children that later become habits; for example, the reliance on processed food is a behavior that parents can regulate among children. The “5210 Children’s Health and Nutrition Initiative” events guideline supports healthy eating and ensures daily implementation of five servings of fruits and vegetables. Parent and/or caregiver involvement in the guideline eliminates the possibility of unhealthy food consumption (Welia Health et al., 2020). The “5210 Children’s Health and Nutrition” events guideline allows parents to impact the culture of physical exercise and healthy eating for children as early as possible; therefore, the knowledge of parents on obesity is helpful to the family (Welia Health et al., 2020).

Ethnicity and Race

The literature revealed that ethnicity plays a vital role in the prevalence of obesity and risk factors were more prevalent in people of different races and ethnicities. Significant risk factors were found in African American children, whereas the lowest incidence was seen in Asian children (Isong et al., 2018). Using different smoothing techniques, 10 percentiles of BMI between the third and 97th were calculated in these growth charts. The percentage of infant weight increases through the initial 9 months of life, which was a significant analyst of BMI z score at playschool admission, was a substantial contribution to the BMI z score disparity. Amongst 14.9% and 70.5% of the enlightened differences amid Caucasian adolescents and their cultural and traditional minority classmates were due to newborn weight growth (Isong et al., 2018). Socioeconomic differences were another key factor in explaining inequalities, particularly between white and Hispanic children (Isong et al., 2018). Early childhood risk variables, like fruit and vegetable eating and television viewing, played less significance in explaining racial and ethnic variations in BMI z scores in children (Isong et al., 2018). The perceptions of societies towards obesity differ; some societies believe that high body mass is an indication of wealth and good health.

Review of Study Methods

The articles used different methods to compare the variables. Such methods are specific procedures for data collection and analysis. Consequently, study methods entail data collection and analysis methods. Some of the data collection methods that aim at answering questions include quantitative study, qualitative study, primary and secondary data, descriptive and experimental, or statistical analysis and thematic analysis (Neuendorf, 2018). The articles by the CDC (2018) and the WHO (2016) were experimental and used quantitative study and relied on primary data. The relationship between the variables was assessed using statistical analysis methods.

According to the Center for Disease Control and Prevention (2018), articles that used systematic reviews and analysis as search methods used secondary data, descriptive, qualitative study methods. The researchers did not collect data from primary sources; instead, they relied on previous findings. Also, they interpreted the results based on thematic analysis. For example, Hamilton et al. (2018) used various themes such as cost of healthcare, lifetime health effects, gender and obesity, and income penalty. Some of the themes used in the articles are in the thematic literature sections of this document. They interpreted patterns in the variables that were used in various studies.

Articles that used experimental, such as Smith et al. (2020), and cross-sectional educations, such as Hales et al. (2018), applied statistical analysis. The quantitative studies used statistics to relate the variable; for example, Smith et al. (2020) related the data of health comorbidities among children with obesity. The study focused on the relationship between the two variables.

Aims of the Project

Based on the primary question and the problem statement, this project draws specific aims and objectives. In the timeframe of the DNP Project, the following objectives will be achieved:

- To apply the Donabedian Framework at the project site as a tool for implementing the “5210 Children’s Health and Nutrition Initiative”.
- To implement the “5210 Children’s Health and Nutrition Initiative” at the project site.

Objectives

- To cover 70% education of staff (Physicians, Nurses on the 5210 guidelines), including the program director and a stakeholder, two physician assistants, two medical doctors, and five nurse practitioners.
- To implement a BMI screening and 5210 initiative protocol to achieve obesity prevention and management.
- To capture the number of children that come to the “5210 Children’s Health and Nutrition initiative” events.
- To audit the number of children that attended the “5210 Children’s Health and Nutrition initiative” events and the number of children that were given appropriate handouts and materials.
- To identify children with elevated BMI and refer accordingly to PCP.
- To enhance family/guardian involvement in managing child obesity. Through a chart review process conducted by project lead to ensure providers are complying, this objective aims to enhance the implementation of the 5210 initiatives by educating at least 70% of the attending families/parents. Audit tools will be reviewed will be conducted to determine whether the providers achieve this goal.

Theoretical Model: The Donabedian Framework

Avedis Donabedian developed a theoretical model for the assessment of care quality with enough flexibility to be adopted and implemented in multiple settings. The framework is based on three correlated concepts, the structures of care, the processes of care, and health outcomes (see *Appendix 1*) (McDonald et al., 2007). Firstly, the structures of care entail the diverse organizational and physical aspects that define different healthcare settings, such as personnel/practitioners, financial and operational processes, and facilities and infrastructure (LoPorto, 2020; McDonald et al., 2007). Secondly, patient care processes are the mediating factors between the structures of care and health outcomes since they are reliant on the healthcare setting (i.e., structures of care) to ensure effective care coordination and delivery using the appropriate mechanisms and resources (McDonald et al., 2007). Moreover, processes enable the improvement of patient health via approaches such as functional restoration, recovery promotion, patient satisfaction, and survival, which constitute health outcomes (Berwick & Fox, 2016; LoPorto, 2020; McDonald et al., 2007). Accordingly, these processes of care utilize healthcare settings (structures of care) to deliver optimal health outcomes.

History and Application of the Model

The Donabedian framework was developed as an attempt to define and appraise the approaches that were employed to assess care quality and to propose future directions of study (McDonald et al., 2007). Donabedian initially defined the three concepts in his framework in a 1966 publication titled “Evaluating the Quality of Medical Care”. Donabedian (1966) focused on the evaluation of healthcare processes at the physician-patient interactive level, thereby excluding mechanisms associated with quality care delivery at the community/population level. Additionally, the author’s initial publication on the framework did not primarily investigate the administrative attributes of quality control in care delivery. Accordingly, he perceived quality of

care as a broad concept that is influenced by a wide range of factors and can change over time (Donabedian, 1966). He defined the term as a reflection of the current goals and values in a healthcare system as well as in the broader society in which the system is a constituent part (Donabedian, 1966). Donabedian later developed an analytical preface to his research methods, identifying the three dimensions that he considered pivotal to the effective evaluation of the quality of healthcare delivery (that is, structures and processes of care, and the related health outcomes) (McDonald et al., 2007). The Donabedian Model gained popularity in public health throughout the latter half of the 20th century, and the framework is still pivotal in assessing today's care delivery systems and processes.

Donabedian later published a book in 1980, further expounding on the three framework concepts. In the book, Donabedian (1980) gives an in-depth definition of the care structures and processes, and the associated outcomes, while reiterating that these concepts/categories should never be considered as quality attributes, but rather as taxonomies of information types that are obtainable for inference on the level of healthcare quality delivery (i.e., good, fair, or poor). Additionally, the author stipulates that drawing such inferences on quality should be coupled with a definitive interrelationship between the three concepts/classes, and that such correlations must be considered as a likelihood rather than a certainty.

Applying the Model to the DNP Project

Structures of Care

Structures of care entail the diverse organizational and physical aspects that define different healthcare settings, such as personnel/practitioners, financial and operational processes, and facilities and infrastructure. The Donabedian Model was developed with aspects of flexibility to allow its application in diverse settings of care delivery (McDonald et al., 2007). At the elementary level, the model can be employed for structural and process modification within

any care delivery unit, for instance, ambulatory centers of care or small practice groups, to enhance the flow or exchange of information or patients (Jang et al., 2015). In terms of structure, the care setting could be external or internal, while the resources include technologies to keep progress records and access them on demand (Penedo et al., 2020; Tossaint-Schoenmakers et al., 2021).

Process of Care

The theoretical framework can also be applied to the processes and structures involved in childhood obesity management at the project site. The lack of tailored care delivery protocols is a contributing component, at the Brooklyn Community Based Organization for this DNP project, in the prevalence of childhood obesity cases in the immediate community. The poorly coordinated and fragmented nature of care for obese children (or those at risk), alongside the evidence indicating that healthcare system aspects are linked with the improvement of child obesity outcomes, are rectifiable, thereby highlighting opportunities for process improvement via mechanisms such as effective self-care, and preventive care (LoPorto, 2020; Voyce et al., 2015). Regarding the process, healthcare, and interpersonal actions (such as creating better rapport with the patients to gain trust and embrace the initiative's goals) were considered for the framework (Tossaint-Schoenmakers et al., 2021).

Accordingly, analyzing the current child obesity care structure at the Brooklyn CBO could indicate linkages between financing and access to healthcare for children from different socioeconomic and cultural backgrounds to quality-of-care outcomes observed in this setting.

Health Outcomes: Enhancing Outcomes via Framework Implementation

The Donabedian concepts of quality care delivery forms a foundation for the successful implementation of this approach. Firstly, the CBO needs to incorporate the core roles of the care receivers (i.e., obese children and their families) into the daily processes of care and the

organizational structure (Tossaint-Schoenmakers et al., 2021). Secondly, any adopted technologies must be optimized to the daily process of care and the overall organizational structure to improve care delivery efficiency and effectiveness. Thirdly, all human resources/practitioners/physicians associated with the process of care delivery must be conversant with the initiative's overall goals regarding the intended health outcomes for the demographic (Tossaint-Schoenmakers et al., 2021). The model also augments an improved focus on the individual patient to improve health outcomes (i.e., in terms of health status, care delivery efficiency, and care receiver experiences when receiving education on BMI Screening and the 5210 initiative or when undergoing treatment/therapy for obesity/overweight). The health outcomes are directly linked to the structure and process adoption, whereby the health status, care receiver experiences, and efficiency in the adoption of the "5210 Children's health and Nutrition Initiative" were evaluated. To augment the structure-process-outcome evaluation process, CDC (2018) recommends the integration of low-cost mechanisms that can help practitioners tackle more cases of child overweight, such as BMI screening tests at the CBO, flip children's audit tools to establish child's risk level as a reference on individual progress, tailored education for child, parent and or guardian techniques of intervention, and the collection and documentation of BMI data. Combining these approaches within the structure and process of the "5210 Children's Health and Nutrition initiative" implementation could significantly improve the overall health outcomes of the CBO children.

The Donabedian model will guide health outcome achievement based on the defined aims and objectives of the project, including effectively reducing the children's BMI and teaching staff and parents/guardians about the guideline. Effective implementation of the "5210 Children's Health and Nutrition initiative" events at the Brooklyn CBO will require the adoption of a tailored Donabedian model that interlinks the structure, process, and health outcome aspects

to adoption to ensure proper prevention, management, and follow-up with PCP mechanisms for the local child population and achieve these health outcomes. *Appendix A and B* illustrates the adjustments made to the original model to suit the implementation requirements for the “5210 Children’s Health and Nutrition Initiative” events within an optimized setup.

Practice Setting

The project site is a Community Based Organization located in Brooklyn. This organization takes initiative in creating opportunities for the community to have access to healthcare screening and checkups by physicians, nurses and np’s at the practice site. The practice setting necessitates four criteria that will be leveraged by the project to deliver the intended outcomes. These include the practice type, location, size, and the implementation of the “5210 Children’s Health and Nutrition Initiative” events and the BMI screening system employed in the project site.

Practice Type

The practice type is a community-based outreach organization (CBO) in Brooklyn, New York. Community outreach is the provision of professional services through expertise to a population who may be lacking adequate access to such services (Van Der Weide & Zlotnikova, 2012). The outreach’s effort through this CBO is utilized to achieve a common interest—the management of childhood obesity in the immediate community by implementing the “5210 Children’s Nutrition and Health Initiative” events. According to Zlotnikova and Van Der Weide (2015), projects framed around community outreach centers are tailored to work alongside the key stakeholders (the project lead, the practitioners, the parents/guardians and the children) to transfer targeted knowledge and skills, thereby benefiting the underprivileged community.

Practice Location

The practice location is made up of middle-aged adults and young people: 25% are between the ages of 0–17, 29% are between 25 and 44, and 24% are between 45 and 64 years old, respectively. There were less college-aged and senior people, with 9% and 13% of the total population, respectively. As of 2019, the typical household income in Community District 18 was \$80,471, according to the most recent available data. In 2018, an estimated 21% of Canarsie and Flatlands inhabitants were poor, compared to 21% of Brooklyn residents and 20% of New York City residents in 2018. One in every eleven people (9%) was jobless, compared to 9% in the rest of Brooklyn and 9% in the rest of New York.

It is estimated that 50% of inhabitants in Canarsie and Flatlands are burdened by rent, compared to 52% and 51%, respectively, for residents across the city and boroughs. According to this estimate, Canarsie and Flatlands are deemed to be higher-income neighborhoods in comparison to the rest of the city as of 2018. According to Harrison et al. (2009), an effective outreach program must be located within the reach of the key stakeholders that is the community where the specific project is being implemented. Therefore, the measurable outcomes, target audience needs, methods of outreach, resources available, and implementation strategies for the initiative should all consider the location of the practice (Harrison et al., 2009; The University of Kansas, 2021).

Practice Size

The project practice size consists of 2 MD; 2 PA's, 1 DNP prepared registered nurse, several nurses and a site manager. These healthcare professionals take part of initiatives promoted by the community-based organization and serves the population to improve overall outcomes. These initiative events can have 50-100 people at a time. For the "5210 Children's Health and Nutrition Initiative" children are expected to participate each week, numbers may vary each day.

Use of Documentation Systems

Documentation systems is tailored to meet the objectives of the “5210 Children’s health and Nutrition Initiative” events while optimizing the available resources. Proper documentation on the audit tool systems can significantly improve provider strategy in BMI screening and 5210 educations at the CBO since the providers have access the required patient information promptly (Nxumalo et al., 2013).

The “5210 Children’s health and Nutrition Initiative” events will utilize a paper charting system which is the use of tools created to track and monitor findings at each event. The system was preferred based on resource availability at the outreach center/CBO and the opportunity to educated and screen the children under observation. With physical charts, the documentation required for each child is established using a tool, whereby each personal record offers essential information base regarding each child’s demographics and BMI health situation, improving care delivery (Ioanna et al., 2014; Yadav et al., 2017). Additionally, the physical charting system will improve communication between practitioners throughout the “5210 Children’s Health and Nutrition initiative”.

Population of Interest

The direct population of interest will be staff at the Community Based Organization. This direct population of interest are the care providers which consist of 2 Medical doctors, 2. Physician assistant, 2 nurse Practitioner, 1 Doctor of nursing practice, several nurses and the Director of the program.

Inclusion criteria include availability in the program throughout the implementation period. The indirect population of interest will be the children who attend the Community Based Organization. The children’s inclusion criteria include demographics (aged between 6 and 19),

geographical (located/living within the Brooklyn area served by the community outreach center), and clinical attributes (living with or at risk of childhood obesity).

On the other hand, the exclusion criteria comprise of attributes by the potential participants fulfilling the inclusion criteria but bear other characteristics capable of interfering with the project's/initiative's success or could contribute to unfavorable outcomes (Patino & Ferreira, 2018; Garg, 2016).

Conversely, for the direct population of interest, physicians, doctors, practitioners, and other relevant stakeholders who are not entirely available at the outreach center throughout the initiative implementation process or lack the requisite knowledge and skills in rolling out the initiative or handling children with obesity will be excluded from the project (Patino & Ferreira, 2018). Based on these inclusion and exclusion criteria for the direct and indirect population of interest, this project will include 50 children as participants, with visits scheduled as discussed.

Stakeholders

Involving the necessary stakeholders is critical during the implementation of the “5210 health and Nutrition” events. Stakeholders in the community have a direct impact on the success and effectiveness of any initiative, despite how beneficial the project might be to the locals (Stoecker, 2013; WHO, 2010). Therefore, the project lead will liaise with all the key stakeholders to gain the necessary permissions to conduct the project and have a definitive scope of the affiliation agreements formed. The primary stakeholders are the program director, primary physicians, nurse practitioners, physician assistants and nurses at the project site. The Director of the program provided permission to complete the project at this site.

Stakeholder involvement in a project will embody the project's goals. Therefore, the initial step in ensuring the effectiveness of the “5210 Children’s Health and Nutrition Initiative” will involve defining the provider protocol for clarification of provider role before approaching

them (Harrison et al., 2009; Stoecker, 2013). Project lead will engage with the program director at the CBO/community outreach center to establish available dates and time to have the “5210 Children’s Health and Nutrition Initiative”. The project lead will be involved in provider education and organization of the events and will involve the providers in the project efficiently without significantly disrupting their schedules.

Permission to Conduct the Project

Also, all permissions should conform to the latest ethical research guidelines, including the HIPAA rules. An approval to conduct the quality initiative was granted from the Community Based Organization to allow opportunity to obtain information that is needed from the participants.

Affiliation Agreements Formed

This practice site did not require an affiliation agreement.

Interventions

The “5210 Children’s Nutrition and Health Living Initiative” intervention will consist of a provider training followed by an implementation of BMI screening and the 5210 initiatives, targeting obesity in children of the community.

Prior to the first week of implementation, the project manager flyers and a signup sheet for provider training will be posted throughout the community-based organization. The signup method is through usage of a “QR code” that is on the flyer (Appendix F) and is directly linked to my email. With this method of signup, I can obtain provider email in order to send them the zoom training information with meeting ID and password. This will give a total number of signed up providers. This training will be available on Feb 27th at 12 noon and Feb 28th at 1pm for 1 hour each to accommodate provider schedules.

I will train and educate the providers to implement an algorithm at the site. In addition, to adopt and comply with the “5210 Children’s Health and Nutrition Initiative” using the tools provided (see Appendix F and G). This will be executed over a four-to-five-week period beginning in March of 2022. During the provider training, an instructional PowerPoint presentation (Appendix H) will be shared to illustrate details of the “5210 Children’s Nutrition and Health Living Initiative”. This training educates providers on a simple to understand strategy that outlines precisely what is needed to keep children as healthy and physically active as possible. The education will highlight to the providers a focus on the tools which are instrumental to this initiative. The tools that will be utilized will capture the number of children that come to the event, all the children that were given appropriate handouts and materials, and children with elevated BMI that were referred to PCP. The providers will be introduced to the protocol (Appendix K) they will be utilizing for the “5210 Children’s Nutrition and Health Living Initiative” events, which goes as follows:

Step 1:

- Provider will meet with family/child 1:1 and introduce self and “5210 Children’s Health and Nutrition initiative”
- Provider will explain and educate family about BMI screening and “5210 Children’s Health and Nutrition initiative”
- Provider will provide family with “5210 Children’s Health and Nutrition initiative” childhood obesity related materials and handouts
- Providers will educate family and children on the mental and physical consequences of childhood obesity.

Step 2:

- Provider measure child's height and weight and calculate BMI and document on form provided.
- Provider will assist family and child on filling out 5210 worksheets provided in step 1.

Step 3:

- Based off results from step 2 provider will assess child's risk for obesity
- Based off results of step 2 provider will make recommendations for health and nutritional changes, specifically if the child needs more fruits and vegetable intake, more exercise, less screen time and or less soda intake. Provider will refer child to PCP if BMI is high risk for obesity.
- Provider will provide suggestions based off the "5210 Children's Health and Nutrition initiative" events and handout.

Step 4:

- Provider will answer any questions or concern of family and child.
- Provider will provide family and child with flyer of the remaining of health and nutrition event.

The "5210 Children's Nutrition and Health Initiative" events will be held on March 12th, 19th, 26th and April 2nd. Each week, after parents/guardians provide consent (*see Appendix L*) for provider to conduct a BMI screen for each child, provider will identify if child is at low, moderate and high risk for obesity (*see Appendix D*). Children and parents will be educated on the "5210 Children's Nutrition and Health Initiative" and will be provided with 5210 initiative tools (*see Appendix D and E*) and materials that can enhance healthy lifestyle. Any child identified as high risk for obesity will be referred to PCP (*see Appendix D*).

The deployment of the “5210 Children’s Nutrition and Health Initiative” event guidelines will take place during the second week of the project implementing phase. The site manager will be on hand to engage with stakeholders and provide support to participants and to ensure that the events run well, to answer any address any issues that may arise. The institution of these guidelines will continue through the second to fifth weeks of the project.

Project Tools

PowerPoint Presentation/Staff Education

Prior to the first week of the project implementation, to educate the provider on the “5210 Children’s Nutrition and Health Initiative” mission and scheduled dates, a provider training has been developed for teaching purposes. The power point presentation (*see Appendix H*) illustrates the 5210 initiative and how it is utilized to combat childhood obesity. It will be most important as a tool highlighting the prevention and management of childhood obesity. Most importantly, the presentation document will later be modified and included into the brochure that will be made available to the participating parents/guardians and children. The presentation will address the implementation of the BMI screening (*see Appendix D*), provider protocol (*see Appendix L*), 5210 guidelines (*see Appendix C and I*), the tools that will be utilized will capture the number of children that come to the event (*see Appendix D*),

Health and Nutrition Event Attendants/ Risk Level Audit Tool/PCP Referral

This tool will be utilized to track and monitor the number of children that attend the “5210 Children’s Health and Nutrition Initiative” events on each scheduled date. It will also highlight the children and their identified risk level of obesity, if they were given handouts/materials and if they were referred to PCP. The project lead will obtain the percentage of the number of materials and handouts distributed by the number of children that attends the events.

Children's BMI Screening Tool

Parents/Guardian must give consent for child to participate in BMI screening. Once consent is granted by parent or guardian provider at, the event will obtain child's height and weight to calculate children's BMI, which is then documented on the BMI screening/audit tool (*see Appendix L*). Audit tool to audit all patient charts beginning on the first day of the project's deployment. The project lead will utilize this tool to track and monitor provider compliance. This tool will help providers identify the current BMI of each child and classify each child using the BMI index (*see Appendix E*). The chart audit will examine the impact of the "5210 Children's Health and Nutrition Initiative" guideline implementation. Each week project lead will review all tools (*see Appendix D*) for provider compliance. This will take place over a four-to-five-week period.

By the end of the project, providers are likely to have developed an inherent motivation to use the BMI screening and 5210 Children's Health and Nutrition education to prevent and reduce child obesity in the Brooklyn New York.

Data Collection

The DNP student will begin the initial stages of statistical analysis by collecting data; the information gathered for data collection are derived from tools created to corroborate the project objectives. Data will be collected weekly for a period of four weeks. The tools that were created to collect this data are the: Health and Nutrition Event Attendants/ Risk Level Audit Tool/PCP Referral and the Children's BMI Screening Tool. The Health and Nutrition Event Attendants/ Risk Level Audit Tool/PCP Referral will collect the following information: how many kids attended each event, how many of those children left with appropriate teaching resources and how many of those kids were diagnosed with elevated BMI and, if high risk for obesity, were referred to their PCP. Children that received consent to participate in the Children's

The BMI Screening Tool will be utilized to track and monitor the BMI of the children that attend the “5210 Children’s Health and Nutrition Initiative” events. This event will occur on four schedule dates and will occur once a week. The BMI screening tool will be utilized to identify children’s risk level of obesity, if they were given handouts/materials and if they were referred to their PCP.

The project lead will obtain the percentage of the number of materials and handouts distributed to the children that attend the events. The project lead anticipates this number to be 100% because all providers are expected to distribute handouts to all of the participants that they see. , That is, if 50 children will receive the handouts and 50 children attended the event, this equates to 100%. In addition, the percentage of children being referred to PCP and the percentage of children at high risk for obesity will be calculated. Theoretically if 43 children are referred to PCP from the 43 that are high risk for obesity for example, that same amount is assumed to be referred to the PCP. This percentage will be 100% based on the PCP referral criteria. For statistical analysis, the project lead will calculate the number of distributed handouts and the number people that attend the event. A percentage will be obtained based on the provider participation for the events scheduled and will include the number of providers that participate in the event and the number of providers that completed the training.

Children’s BMI Screening Tool

This audit tool will be utilized to screen each child that received consent from parent and/or guardian to calculate and determine their body mass index (BMI) (*see Appendix E*). From this calculation we will be able to determine the child’s risk level for obesity. The project lead will audit this tool for compliance after each event and determine the percentage of children at high risk for obesity who were referred to PCP by the previous tool (see above). This percentage is anticipated to be 95%.

Attendance Tool (QR Code)

This tool will be utilized to determine provider attendance (*see Appendix F*) to the training for the “5210 Children’s Health and Nutrition Initiative”. This tool will be utilized to determine the percentage of providers who attend the training by the providers that attend and each event, anticipated to be 95%. An audit of the tool’s providers will be carried out each week.

Ethics and Human Subjects Protection

This quality improvement project does not fall into the category of research as per Touro University of Nevada policy and does not require the Institutional Review Board Process. Institutional Review Boards determine the effectiveness of the study controls in guaranteeing ethical standards for the participants (White, 2020). The review boards assess the potential damage that studies could cause to those actively involved and the measures needed in order to protect them. The ethical and human subject protection rights will be upheld during the project application (White, 2020). Parents and guardians are required to complete a consent form prior to child’s participation at the “5210 Health and Nutrition Initiative” events. The children’s right to remain anonymous will be protected and no identifying information will be gathered.

Measures/Plan for Analysis

Each child that received consent to participate in the “5210 Children’s Health and Nutrition Initiative” events will be screened and evaluated and if they present with a high BMI, the child will be referred to their PCP. Over the course of four weeks, the project lead will determine: the number of children that attended the health event and left with appropriate teaching resource, how many kids were diagnosed with elevated BMI, and how many were referred to a PCP. This will occur over the course of four weeks to establish whether they are complying with the protocol.

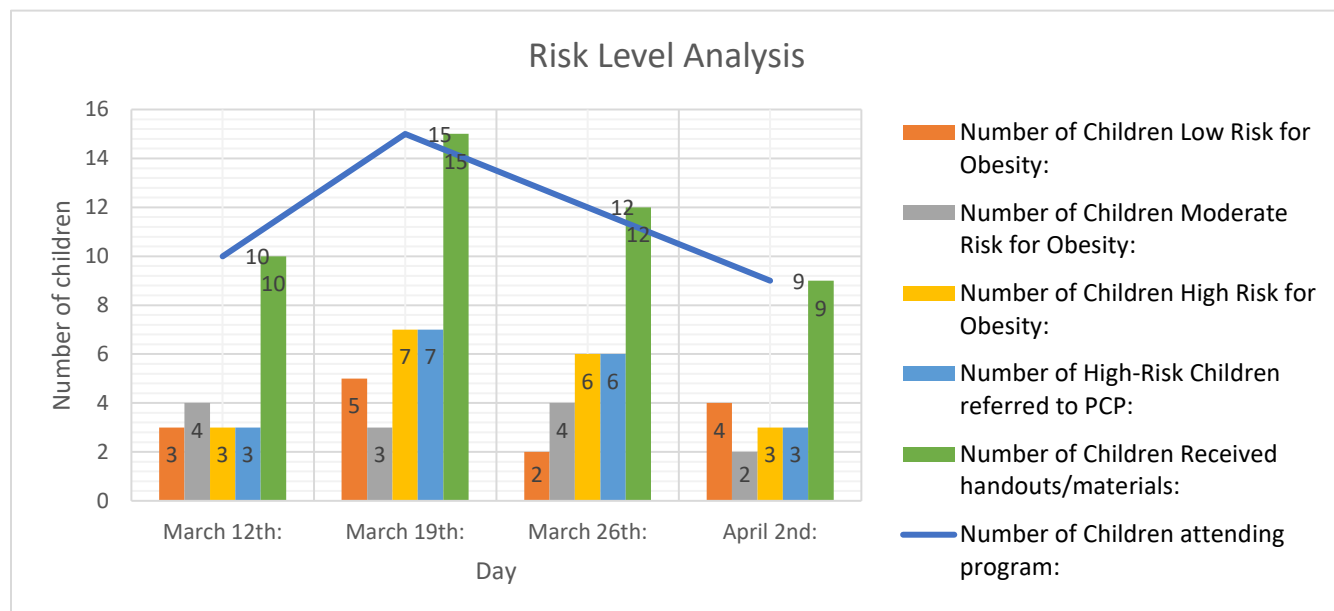
Data Analysis

A total of 15 providers (100%) attended the provider training sessions that were held of February 27th and 28th, 2022 for the 5210 Children's Health and Nutrition initiative (see Appendix N). During the implementation period, 46 children presented to the project site and participated in the 5210 initiative. During the week of March 12th, 10 children participated: 3 were considered low risk; 4 were moderate risk and 3 were considered high risk and were referred to a PCP. In the week of March 19th, 15 children participated: 5 were considered low risk, 7 were moderate risk and 7 were considered high risk and were referred to a PCP. In the week of March 26th, 12 children participated: 2 were considered low risk, 6 were moderate risk and 6 were considered high risk and were referred to a PCP. In the week of April 2nd, 9 children participated: 4 were considered low risk, 2 were moderate risk and 3 were considered high risk and were referred to a PCP. All families received handouts and materials.

The number of participating children in the program averaged 11.5 (\pm 2.6) children per session. Based on the collected data (see Appendix O) there were a total of 19 children in total who were determined to be high risk and were referred to PCP. The number of children at high risk of obesity averaged 4.75 (\pm 2.0) children per session for the entire period, with 41% of all participants being high risk and referred to PCPs. Based on these averages, about one in every two children that presented to the project was at risk of developing obesity.

All participants (46/46) took the pamphlets home for future reference and application. BMI screening tools gathered by the practitioners (see samples in Appendix P) and entries in the risk level audit tool (see Appendix O) exemplify practitioner compliance with the training received on the 5210 program. As seen in the graph below, they appropriately maintained entries on the number of children they interacted with during the program. The graph highlights

distribution of the 46 children over the four-day period.



Analysis is based on the primary assumption that the guardians involved in the event understood the message passed on by nurse practitioners. Further, the analysis is based on the assumption that they were willing to take the pamphlet offered with a sincere intention of using it for reference until they adopt a culture that fully embraces the 5210 initiative. Using the assumptions was essential for the effective application of summary statistics to analyze impacts of the four-day event.

Discussion

The quality improvement project was completed by the DNP student in five weeks and achieved all project objectives. After one week of project implementation, the goal of covering 70% of provider education was met, resulting in 100% provider compliance, and the project was determined to be successful. The implementation of a BMI screening and 5210 protocol to accomplish obesity prevention and management was completed, with 100% of the children who attended the event engaging in the BMI Screening process. One hundred percent of the number of children who attended the "5210 Children's Health and Nutrition Initiative" events, as well as

the number of participants who received handouts, were recorded by the DNP student. The use of the 5210 Children's Health and Nutrition Event resulted in the identification of children with increased BMI who were then referred to their PCP for further evaluation. Audit tools were essential in capturing and assessing findings to determine the children's level of risk and refer them to appropriate services.

These results can yield insight into the general population in the study area (Brooklyn, NY) but cannot be extrapolated to other areas without additional review. The percentage of children at high risk of obesity is not to be generalizable beyond the Brooklyn area. Additionally, data collected did not specify the different characteristics of the participants, which limits its applicability in evaluating the defining qualities of populations considered at high risk of obesity. Thus, further studies could be necessary to specify such characteristics and put the intervention measures into better perspective.

Project findings have significant implications for nursing practice involving children. Active nurse involvement in schools with the intention of controlling obesity could have positive outcomes in the fight against child obesity (Shirley et al., 2014; Tucker & Lanningham-Foster, 2015). Tomayko et al. (2021) observed that most obesity-prevention initiatives actively involve school programs. School involvement is essential since children spend significant time in schools, creating the opportunity for teachers and healthcare workers therein to implement obesity-prevention programs. Ultimately, knowledge of programs such as 5210 would make the caregivers and teachers involved in such environments effective in facilitating any envisioned outcome in obesity prevention.

Practitioner training and commitment is integral to sustainable compliance with any change initiative. In particular, effectively implementing the 5210 program in the community depends on how well versed the nurse practitioners are with its principles (Polacsek et al., 2014).

A focus on nurse training on the program and consequent follow-ups to supervise compliance could help create awareness of obesity prevention that requires minimum resource investment in households. A change in behavior and diet would be sufficient to maintain healthy weight for children, without the need for any financial investment.

The training event and data collected therein highlight the pivotal role of care providers in addressing obesity. However, advanced practice nurses have an even more critical role of ensuring that nurse practitioners have the required knowledge and skills to help society in dealing with obesity. Investing in programs, such as training seminars, that will provide the required training to nurse practitioners is one way of guaranteeing change in society by focusing on obesity prevention. Data in the Brooklyn CBO may not reflect the obesity prevalence in the country, but it highlights what could happen if care workers were committed to programs that directly address its existence.

Limitations and Sustainability

The effectiveness of any protocol implementation is often based on the quality of the project design. The quality improvement protocol has an effect of extraneous variables which often impacts the validity of results collected from the improvement plan (Aziz, 2017). The assessment herein used a field that was based in a CBO in Brooklyn. Hence, the respondents were limited to people that sought its services, implying they may not have been an ideal representative of the population in the area. Thus, the project design could have provided significant information on practitioner compliance with training on 5210 but it may not have been an ideal representation of all nurse practitioners in diverse practice areas. A future consideration of the design to include a diverse sample size could help mitigate such limitations in the future.

Additionally, the data collection method used in the quality improvement project presented the possibility of false reporting. Providers were responsible for making entries in the BMI screening tool and reporting the same to the project lead. Tripepi et al. (2010) highlight selection and information bias as some of the potential data collection challenges that accompany project designs that fail to adequately represent the population. The population of children and guardians who received the 5210 training may not adequately exemplify reactions in the larger population. For instance, if there was an unusually high rate of risk of obesity in the sample, then there would be a corresponding rate of interest in the pamphlets available by the caregivers. Thus, the selection bias may have distorted the data gathered from the exercise.

Assumptions used in the analysis also present a limitation in applying the findings. Most notably, the analysis was based on the assumption that all those guardians and parents who took pamphlets with them intended to use them to apply the 5210 programs in their households. It may not be the case as they may have taken the pamphlet as courtesy. A follow-up anonymous questionnaire post interaction would have clarified their intentions for taking the pamphlets.

Caregivers are only one of the different critical stakeholders in managing child obesity rates in society. Despite their compliance with directions to offer education to parents on how best to manage their children's weight, the parents would need to be dedicated in supporting healthy lifestyle changes for there to be any significant impact. If future practitioners focused on assessing parent compliance with such guidance as 5210 principles, then society would move a step closer towards completely eradicating childhood obesity. Such an exercise should also be conducted with significant attention towards choosing the study design and collecting data to avoid the limitations herein discussed.

The 5210 Children's Health and Nutrition initiative and BMI screening protocol is a sustainable quality improvement project. The community organization will incorporate the

project plan to the already established health event that takes place every other month. This initiative will be an ongoing event to raise awareness on childhood obesity and its prevention and management. At the organization's location, the stakeholders will continue to provide educational materials to families on a weekly basis. These modifications are attainable and will continue to make a beneficial contribution to this community. Sustainability of the methods employed herein highlights its effectiveness if adopted for implementation. Notably, cost has often been one of the primary impediments to implementing any policy change proposals from any quality improvement project (Frantzeskaki et al., 2019). However, the exercise in Brooklyn only required minimal financial resources to facilitate the practitioner training process. Additionally, the exercise does not demand that the practitioner deviate much from their primary responsibility in providing care. Hence, such factors imply that it is highly sustainable as it only requires that caregivers be effective enough in providing care services to parents accompanied by children. The minimal initial cost requirement and lack of extensive demands to the caregivers increase the potential ease with which facilities could adopt the program as part of their service quality improvement measures.

Starting with week five of implementation, on April 9th, 2022, the project outcomes were disseminated to stakeholders via Zoom meetings and data collected from audit tool was shared via presentation method. Results were discussed during meeting and suggestions for improvement were made. The final DNP project will be presented to TUN instructors and student colleagues on 6/15/2022 and submitted to the DNP repository. This writer has contacted Doctor of Nursing Practice to start the process of submitting a digital poster for 2022 digital poster presentation.

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Appendix A

Figure 1: The Donabedian Framework of quality care [Source: McDonald et al. (2007)]



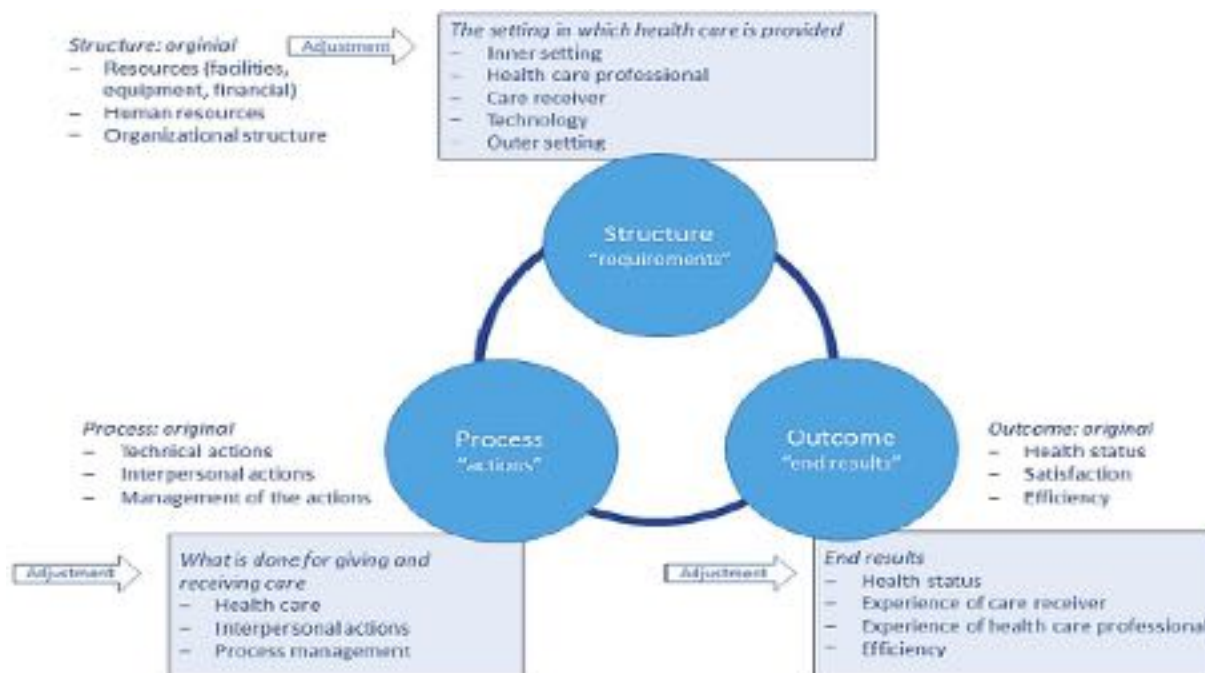


Figure 2: An optimized model of the Donabedian framework to guide the implementation of the 5210 initiatives at the Brooklyn CBO. An eHealth platform will augment data collection and communication efforts to further improve health outcomes. [Source: (Tossaint-Schoenmakers et al., 2021)]

Appendix B: Flyer/Brochure of the “5210 Children’s Nutrition and Health Initiative to be given to families that attend the events.

Contact US
 249 East 85th Street
 Brooklyn, NY 11238
 Phone: (347) 923-1787
 Email: theophile@theophile.com



Theophile Community Center
 249 East 85th Street
 Brooklyn, NY 11238

5210 Children's Nutrition and Health Initiative Events



THEOPHILE OUTREACH CENTER

5210 Children's Nutrition and Health Initiative

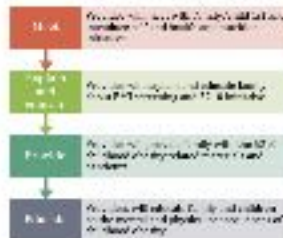
6:00 PM - 7:00 PM
 7:00 PM - 8:00 PM
 8:00 PM - 9:00 PM
 9:00 PM - 10:00 PM
 10:00 PM - 11:00 PM
 11:00 PM - 12:00 AM

What to Expect

Welcome and Intro



- Introduction of the 5210 Initiative
- Overview of the 5210 Initiative
- Overview of the 5210 Initiative
- Overview of the 5210 Initiative



5210 Children's Nutrition and Health Initiative

Optimal health is the most powerful predictor of lifelong success in the 21st century. The goal of the 5210 initiative is to reduce the prevalence of obesity and other health problems in children to less than 10 percent. The state's Children's Nutrition and Health Initiative is the result of a partnership between the state and local health professionals in the community to reduce the prevalence of obesity and other health problems in children to less than 10 percent by 2010. This is a goal that requires the cooperation of all stakeholders. Everyone must work together to make this a reality.

"The biggest is the most important part of the work." -Pete



Overview of Programs

Preventing & Managing Obesity in Children



This can help you identify the existing resources available to the community to address obesity prevention.

This can help you identify the resources for prevention and care to be provided and delivered in the community to address obesity.

Children's BMI Screening



BMI for age percentiles are used to identify whether a child is obese or overweight (BMI at the 85th percentile or higher) or a combination of weight and height that appears abnormal or too much weight. This screening will be offered in each health care setting or school site, as needed by local health agencies.

Screening will be conducted in a confidential manner. All health care providers will be required to report results.

Appendix C: The 5210 Framework

Figure 3:

Displays the recommended guideline for the 5210 initiatives. 5-2-1-0 views the daily nutritional intake and recreational activities as figure III. It is recommended to have a daily intake of the following: 5 servings of fruits and vegetables daily, 2 hours or less of TV time per day, 1 hour of physical activity per day, and no sugar, if possible, which is the elimination of sweetened or sugary drinks.

Appendix D: Health and Nutrition Event Attendants/ Risk Level Audit Tool/PCP Referral

Health and Nutrition Event Attendants/ Risk Level Audit Tool/PCP Referral						
Health Initiative Date:	Number of Children	Number of Children Low Risk	Number of Children Moderate	Number of Children High Risk	Number of High-Risk Children	Number of Children Received handouts/materials:

	attending program:	for Obesity:	Risk for Obesity:	for Obesity:	referred to PCP:	
March 12th:						
March 19th:						
March 26th:						
April 2nd:						

Appendix E: Children's BMI Screening Audit Tool

Children's BMI Screening Audit Tool	
Date: _____	Participants Identifying Number: _____
Age: _____	Received handout and Materials _____

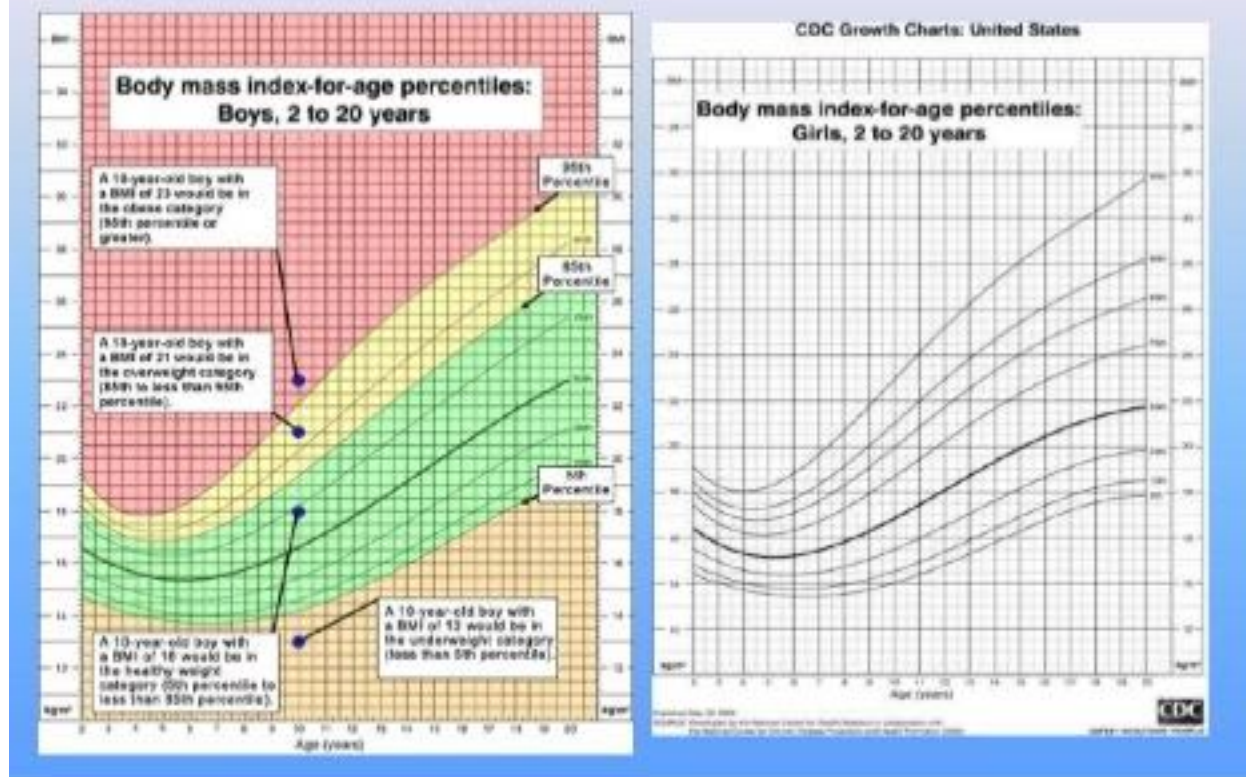
Current Weight:	
Height:	
Estimated BMI:	
Risk Level (Low, moderate and high):	

Appendix F: QR Code utilized for provider training signup and attendance.



Appendix G: The CDC BMI-for-age growth charts calculates body mass index (BMI) and the related BMI-for-age percentile based on growth charts from the Centers for Disease Control and Prevention (CDC) for children and teenagers aged 2 to 19 years.

The CDC BMI-for-age growth charts



BMI PERCENTILES & WEIGHT STATUSES FOR CHILDREN AGES 2 TO 19:	
PERCENTILE	WEIGHT STATUS
Below 5th	Underweight
5th to 85th	Normal
85th to 95th	Overweight
95th and above	Obese

Appendix H: Provider Training Manual for the “5210 Children’s Nutrition and Health Initiative”.

Provider Training Manual for the "5210 Children's Nutrition and Health Initiative"

INSTRUCTOR: VANESSA PYRAM-MELFORT

The slide features a dark teal background with a red vertical bar on the right. On the left, there are four icons: an orange with the number 5, a blue square with the number 2, a green apple with the number 1, and a red apple with the number 0. Below these icons are the words "Fat", "Reduce", "Fruit", and "Food" respectively.

Attendance QR Code

- ▶ Please take your cell phone and use camera to point at this "QR Code".
- ▶ It will bring you to your email and automatically show my email in the "send" section.
- ▶ Please enter the following:
 - ▶ Name , title, date
- ▶ Then hit send. It will send directly to me so I can have receipt of all participants.

The slide has a dark teal background on the left and a white background on the right. The QR code is positioned on the right side.

What is the 5210-health initiative?

The 5210 healthy children initiative was established by researchers at Penn State in order to combat the rising levels of childhood obesity. This initiative was endorsed by "The American Academy of Pediatrics" who aims to enhance the health of families and children by messaging on health promoting habits across communities.

HEALTHY HABITS FOR HEALTHY COMMUNITIES

The slide features a dark teal background with a red vertical bar on the right. The text is white. The logo consists of the numbers 5, 2, 1, and 0 in colored boxes (red, orange, green, blue) above the text "Every Day!".

What does the 5210-guideline entail?



- Encouraging a colorful diet equivalent to nutritional intake of fruits and vegetables to support a healthy diet essential for supporting growth and development as well as maintaining optimal immune function.
- Consuming 5 fruits and vegetables daily.
- Limiting recreational television or computer use to no more than two hours each day.
- Get at least one hour of physical activity every day.
- Reduce your sugar intake. Water and low-fat milk should be substituted for soda and other beverages containing large amounts of sugar.

Benefits



- 1 Reducing the likelihood of developing an unhealthy lifestyle.
- 2 Improving overall physical health.
- 3 Lowering the chance of being overweight.
- 4 Reducing the risk of having diabetes and cardiovascular disease.

5: Consuming 5 fruits and vegetables daily

- ▶ Eating fruits and vegetables contributes significantly to health and wellness as it is loaded with benefits of vitamins and fiber.




2: Limiting recreational television or computer use to no more than two hours each day.

Participants in regular moderate physical exercise should expect to reap a wide range of health and social advantages, including a lowered risk developing diseases such as heart disease and stroke with a reduced chance of obesity.



1: Get at least one hour of physical activity every day.

- ▶ Regular physical exercise may assist children and adolescents in improving cardiorespiratory fitness, building strong bones and muscles, controlling weight, reducing feelings of anxiety and depression, and lowering the chance of acquiring health disorders such as heart disease and diabetes.



0: Reduce your sugar intake. Water and low-fat milk should be substituted for soda and other beverages containing large amounts of sugar.

Excess sugar also leads to elevated levels of triglycerides, which are a form of fat that circulates through our circulatory system.

Having better nutrition may help you stabilize reduce the chance of having fat circulate through your mood, reduce inflammation, and improve your overall health.

Better Sleep... Increase Your Willpower. Feel more satisfied with less food.



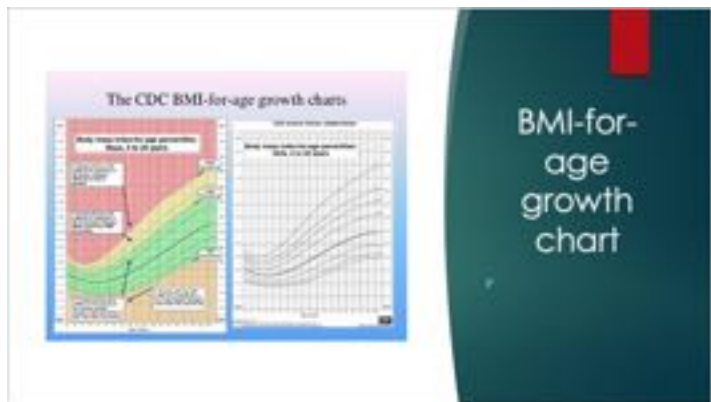


HEALTH Events
MARCH 12TH, 19TH, 26TH &
APRIL 2ND @ 1-5PM

249 EAST 80TH STREET
BROOKLYN NY 11236
MORE INFORMATION
HEALTHVENT11236

Health and Nutrition Events

- The community outreach center will be hosting "4" health and nutrition events on March 12th, 19th, 26th and April 2nd.
- This community health and nutrition event is an effort to prevent and manage the rise of childhood obesity in the Canarsie area of Brooklyn.



The CDC BMI-for-age growth charts

BMI-for-age growth chart

BMI Individual Health and Nutrition Event Chart Audit Tool

BMI Individual Health and Nutrition Event Chart Audit Tool				
Participant identified by Provider _____				
Age _____	Month _____	Month _____	Month _____	April _____
Current Weight _____				
Height _____				
Current BMI _____				
How I would like my weight and height _____				
Provider Weight and Nutrition Counselor Name _____				
Participant and Provider's Date _____				

Health and Nutrition Event Attendants/ Risk Level Audit Tool

► This tool will be used to determine number of attendants per event and to categorize the children of risk.

Health and Nutrition Event Attendants/ Risk Level Audit Tool				
Event Name	Event Date	Event Location	Event Time	Event Duration

Provider Participation Signup



Each provider will sign up for their event on the available cards on the table with their name and contact information.



The group event will be assigned to a location and will be up before of your professional staff.



Each provider will sign up for their event on the available cards on the table with their name and contact information.



The group event will be assigned to a location and will be up before of your professional staff.



Parental/Guardian Consent

► Prior to this encounter patient and family sign up and consent form completion will occur during the health and nutrition initiative event at the sign up desk.

Parental Consent Form

I, the undersigned, hereby consent to my child's participation in the Health and Nutrition Initiative (HNI) at the [Event Name] on [Event Date] at [Event Location]. I understand that the HNI is a voluntary program and that my child's participation is not required. I understand that the HNI is a voluntary program and that my child's participation is not required. I understand that the HNI is a voluntary program and that my child's participation is not required.

To participate in a HNI activity, my child must be at least [Age] years old and must be accompanied by a parent or guardian.

Participant Information:

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____

Signature:

Signature of Parent/Guardian: _____

Date: _____

Appendix H: Provider Training Manual for the “5210 Children’s Nutrition and Health Initiative”
cont’d.



Appendix H: Provider Training Manual for the “5210 Children’s Nutrition and Health Initiative” cont’d.





The "5-2-1-0 Program" – a simple guideline

Parents can influence their children's caloric intake and energy expenditure by controlling the home environment, providing education and support, and modeling healthful behaviors.

Obesity prevention recommendations propose that children take a minimum of 5 servings of fruits and vegetables daily, watch a maximum of 2 hours of screen time, engage in 1 hour of physical activity, and drink no sugar-sweetened beverages, sometimes known as the "5-2-1-0" diet.

SUGGESTIONS FOR THE COMMON FAMILY:

Healthy eating habits, frequent physical exercise, and a reduction in sedentary behavior are the most significant techniques for avoiding obesity (such as watching television and videotapes and playing computer games).

Small changes can make a big difference in your child's health.

1. Prioritize fruits and vegetables.

2. Limit sweetened beverages.
3. Avoid fast food.
4. Sit down together for family meals.
5. Serve appropriate portion sizes.

Reduce Tension: Being physically active and engaging in recreational activities may assist to lessen stress and anxiety. Stress may cause a child to resort to food for consolation, and they will feel stronger and more powerful in their fight against obesity if their stress levels are lower.



The Dangers of Childhood Obesity

Here are a few of the many dangers of childhood obesity:

- 1 Increased risk of diabetes
- 2 Higher chance of heart attack and heart disease
- 3 Blood clots
- 4 High blood pressure
- 5 High cholesterol



This is why it is important for your child to exercise regularly.

Appendix K: provide an algorithm or protocol for the providers to follow in their visit

Provider Protocol for health and Nutrition Initiative-
Initial Assessment of child/family

*Prior to this encounter patient and family sign up and consent form completion will occur during the health and nutrition initiative event at RN sign up desk.

Step 1

- Provider will meet with family/child 1:1 and introduce self and health and nutrition initiative
- Provider will explain and educate family about BMI screening and S210 initiative
- Provider will provide family with the S210 childhood obesity related materials and handouts
- Providers will educate family and children on the mental and physical consequences of childhood obesity.

Step 2:

- Provider measure child's height and weight and calculate BMI and document on form provided.
- Provider will assist family and child on filling out S210 worksheets provide in step 1.

Step 3:

- Based off results from step 2 provider will assess child's risk for obesity
- Bases off results of step 2 provider will make recommendations for health and nutritional changes, specifically if the child needs more fruits and vegetable intake, more exercise, less screen time and or less soda intake.
- Provider will provide suggestions based off the S210 initiative and handout.

Step 4:

- Provider will answer any questions or concern of family and child.
- Provider will provide family and child with flyer of the remaining of health and nutrition event.

Appendix L: Consent Form for Child Participation in BMI Screening



Parental Consent Form

Health event requires the parent or legal guardian of participating children of the BMI screening and 5210 health initiative to complete this Parental Consent Form. You will be required to remain on premises with child during the screening and education.

To Participate in a BMI screening and 5210 health initiative on the following dates: 3/12, 3/19, 3/26 and 4/2/2022.

Participant Details

Name: _____
Address: _____
Postcode: _____
Age: (years) (months) on the day of the event

Agreement

I confirm that I am the parent/legal guardian of the person named above and give my consent to their participation in the above BMI Screening and 5210 health initiative and will participate as needed.

Signed: _____ Date: _____
Name: _____ Relationship: _____

The Community-based organization will not share your details with any third parties and information disclosed will be treated strictly confidentially.

Appendix M: 5210 Handout for Parents/Guardian and Children



The American Academy of Pediatrics recommends the following for healthy eating:

5 or more servings of fruits and vegetables

Helping families lead healthy lives by increasing fruit and vegetable intake

2 or fewer hours of recreational screen time

Limit and monitor your child's recreational screen time

"Recreational" includes social media, most movie and TV shows and most video and computer games.

Guide children to play learning games or use art and music apps to enhance creativity

1 or more hours of vigorous physical activity per day

Consider joining a local YMCA

At the project site engage in "move your body" session

Provide a safe place for children to play in the lobby at project site

YouTube has great exercise and mindfulness videos

Encourage your child to walk the dog or join you in a walk

0 Sugars

Use lemon, lime or orange squeezers to sweeten water and seltzer

Almonds are a great substitute for M&M's and Gummy Bears

When baking, use applesauce, agave, fruit concentrates and stevia instead of sugar

Celery sticks, carrot sticks and red peppers are great to munch on! Keep fridge stocked with these as kids can just take them

Appendix N: Handout is a tool to be given during the “5210 Children’s Health and Nutrition Initiative” Events to collect data on the 5210 protocols. Each entry that complies with the recommendation is given 1-5 points; the total worksheet totals 100 points. The higher the score the higher the compliance. These figures can be utilized for families to assess the success of the 5210-initiative implementation at the project site.

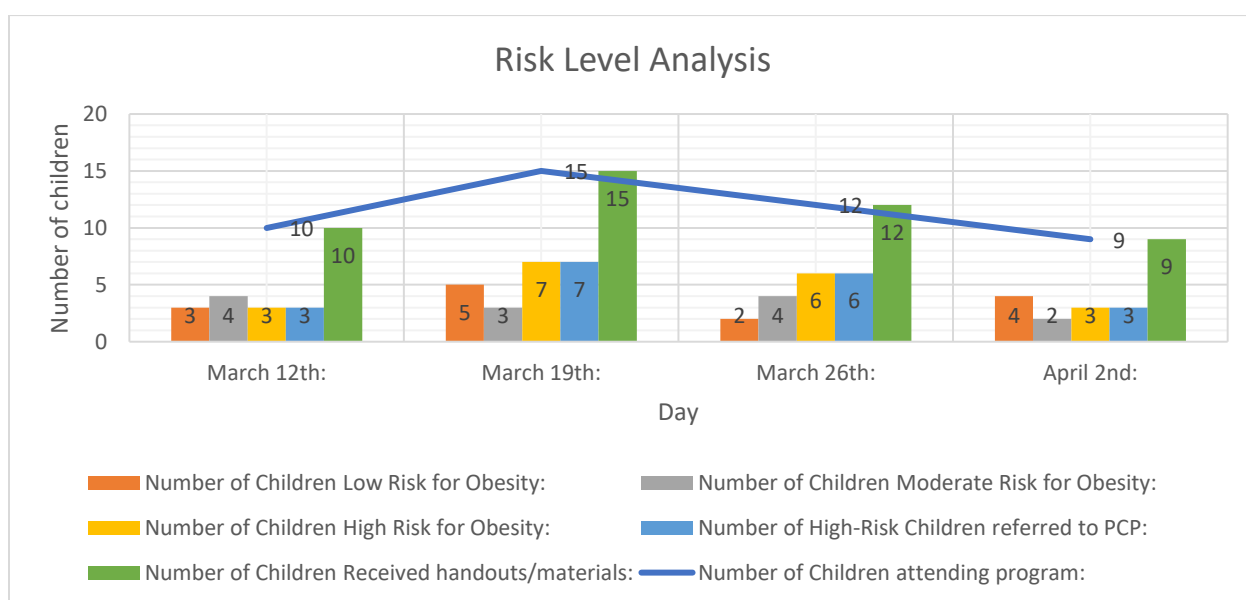
Appendix IX
Weekly 5210 Participant Worksheet

	Monday	Tuesday	Wednesday	Thursday	Friday	Totals
5 Servings Fruits and Vegetables						
2 Hours Leisure Screen Time						
1 Hour Active play						
Zero Soda						
Totals						

Appendix IX: This worksheet is a tool to collect data on the 5210 protocol. Each entry that complies with the recommendation is given 1-5 points; the total worksheet totals 100 points. The higher the score the higher the compliance. These figures can be utilized to assess the success of the 5210 initiative implementation at the project site.

Appendix N: Filled out Health and Nutrition Event Attendants/ Risk Level Audit Tool/PCP Referral Table and Chart

Health and Nutrition Event Attendants/ Risk Level Audit Tool/PCP Referral						
Health Initiative Date:	Number of Children attending program:	Number of Children Low Risk for Obesity:	Number of Children Moderate Risk for Obesity:	Number of Children High Risk for Obesity:	Number of High-Risk Children referred to PCP:	Number of Children Received handouts/materials:
March 12th:	10	3	4	3	3	10
March 19th:	15	5	3	7	7	15
March 26th:	12	2	4	6	6	12
April 2nd:	9	4	2	3	3	9



Appendix E: Children's BMI Screening Audit Tool Weekly Samples

Children's BMI Screening Audit Tool		Children's BMI Screening Audit Tool	
Date: 3/12 Participants Identifying Number: #3 Age: 4Y 7M Received handout and Materials Yes		Date: 3/19 Participants Identifying Number: #7 Age: 12Y 2M Received handout and Materials Yes	
Current Weight:	19kgs	Current Weight:	43.74kgs
Height:	1.059m	Height:	1.422
Estimated BMI:	16.59	Estimated BMI:	21.63
Risk Level (Low, moderate and high):	Moderate Risk	Risk Level (Low, moderate and high):	High risk

Children's BMI Screening Audit Tool		Children's BMI Screening Audit Tool	
Date: 3/26 Participants Identifying Number: #2 Age: 7Y 9M Received handout and Materials Yes		Date: 4/2 Participants Identifying Number: #9 Age: 5Y 6M Received handout and Materials Yes	
Current Weight:	32.81kgs	Current Weight:	21.01
Height:	1.12m	Height:	1.09
Estimated BMI:	26.16	Estimated BMI:	17.68
Risk Level (Low, moderate and high):	High risk	Risk Level (Low, moderate and high):	High risk