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Identification, Diagnosis, Counseling, and Referral of Overweight Military Dependent Children to Reverse Early Childhood Obesity

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Abstract

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Gerald Hall

MS, Arizona State University, 2004

BS, University of Northern Colorado, 1992

Proposal Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

Since 1980, the obesity rate in children 5 to 11 years of age has increased from 7% to 18%. The lack of structured physical activity and poor dietary habits childhood are primary risk factors for obesity related comorbidities in adulthood. Guided by primary care providers, families can reverse childhood obesity by implementing healthy dietary habits and engaging in structured physical activity. The purpose of this quality improvement project was to develop an evidenced-based policy with procedures to standardize the timely and consistent identification of overweight children at a primary care clinic serving military families. With an emphasis on obesity prevention within families through primary care interventions, the revised health belief model guided the project design. A literature review was conducted in a systematic manner to identify effective strategies and interventions to inform the policy development. Then, the Delphi technique guided a 12-member expert panel to evaluate the policy and procedures in terms of the level of evidence and the implementation plan with the goal of achieving consensus with recommendations for revisions. Consensus was achieved with multiple revisions following the completion of two Delphi rounds. The first panel session (n=12) concluded with a 70% consensus, including recommended revisions to improve the policy implementation. The second panel session (n=12) concluded with 100% consensus for the revised policy. The final policy and procedures addressed the clinical practice gap with a robust process to identify, counsel, and refer overweight children to external specialty programs for obesity management. By intervening to reverse the progression of childhood obesity, this project achieved positive social change at an organization level.

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Dedication

Many years ago, a young nursing student heard about the possibility of becoming a doctoral prepared nurse practitioner. I am here now, having completed the process with the support of many loved ones. My father and mother whose beliefs, encouragement, and support kept me driving forward. My wife and her support, love, and sacrifice has been a theme throughout my life. It is your turn now! My children and their love and sacrifice over the years while in my study. It truly takes a team to achieve anything worthwhile, and you all have been the best team anyone could hope for! I could not have done any of this without you or your prayers.

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Section 1: Nature of the Project

Introduction

Since 1980, the prevalence of obesity in the average school-aged child (ages 5 to 11 years) has increased from 4.0% to 15.3% (Ogden, Carroll, Kit, & Flegal, 2012). Data from the National Health and Nutrition Examination Survey indicated the rate of school-aged childhood obesity has more than tripled from 7% to 29% over the past 2 decades (as cited in Lobstein & Jackson-Leach, 2007). Obesity is prevalent world-wide, but the United States continues to have the highest prevalence, with only Spain, Greece, and Canada having comparable levels (Lobstein & Jackson-Leach, 2007).

Excessive child weight has been stratified into categories based on the Body Mass Index (BMI) to assign risk of long-term consequences (Center for Disease Control and Prevention [CDC], 2015). The BMI is calculated by dividing weight in kilograms by squared height in meters. Overweight, a BMI equal to or exceeding the 85th percentile, and obese, a BMI exceeding the 95th percentile, are considered detrimental to child wellbeing and health (Reyes, 2015). The risk for obesity increases throughout childhood, 20% at 4 years to 80% in adolescents (Guo, Wu, Chumlea, & Roche, 2002). The long-term risk of overweight includes type 2 diabetes, asthma, sleep apnea, fatty liver disease, orthopedic issues, hypertension, and elevated cholesterol, yet risk for all can be reduced with healthier eating and more active children (Gauthier & Krajicek, 2013). The cost to society for excessive weight is estimated to be 7% of U.S. healthcare spending, or $170.2 billion (Tsai, Williamson, & Glick, 2011). The financial impact of obesity in children

has a direct lifetime healthcare cost of $19,000; when applied to 10-year-old children, the annual aggregate cost is $14 billion (Nichols, Newman, Nemeth, & Magwood, 2015).

Currently, one in three children in the United States is overweight/obese (Cawley, 2010). An accurate diagnosis (Reyes, 2015), evidence-based clinical management (Glickman, Parker, Sim, Cook, & Miller, 2012), and active care giver participation (Lanigan, 2012) are essential strategies to reduce childhood obesity. However, only 34% of obese children are properly identified by clinicians, with as few as 26% offered counseling regarding nutrition and physical activity (Reyes, 2015). Furthermore, caregiver understanding, knowledge, and beliefs regarding their pivotal role in cultivating healthy nutrition and physical activity behaviors is essential to childhood obesity prevention (Lanigan, 2012) but is often not included in clinical management. Primary care clinicians are the first-line of defense to prevent childhood obesity. Clinicians need to measure height and weight at each visit, calculate the BMI, review the trends over time, and implement interventions when necessary to address nutrition and physical activity (Birch, Parker, & Burns, 2011).

The stakeholder setting is a military primary care clinic (PCC) with unknown overweight and obesity rates that lacks standardized counseling to address this population. The youth of military servicemen are a resilient resource for the nation's future defense and multiple other professions. An alarming fact that applies to the military population is that 75% of the youth of the nation are not in enough physical and mental health to join the United States military, 27% of those are directly attributed to obesity (Christeson, Taggart, & Zidell, 2009). The absence of policy that addresses

weight in military children is concerning. Therefore, an evidence-based policy will be necessary to address this multifactorial concern in a consistent manner.

Problem Statement

The timely and accurate identification of obese and overweight children, with referral for counseling, is a wide consequential gap in evidence-based clinical practice. The clinical problem addressed by this project is the absence of an evidence-based policy that guides clinical practices to improve the identification and counseling of obese children within the military population. At a minimum, the primary care clinicians need to effectively identify, counsel for healthy nutrition and physical activity behaviors, and refer to reinforce the counseling message.

This evidence-based quality improvement project (EB-QIP) was implemented within the Military Health System (MHS) at a PCC located in the Southeast. This PCC serves the families of members serving in the United States Air Force. Similar to many primary care settings across the United States, this PCC did not have a policy and procedure to guide the timely identification, appropriate diagnosis, clinical counseling, and subsequent referral of overweight/obese children for continued counseling. Without this policy and procedure, the resulting primary care practice was inconsistency, with on average a 14% diagnosis rate and a 1.6% clinical counseling rate for overweight children (Wilson, 2012).

Purpose Statement

The contemporary research evidence (e.g., Birch et al., 2011; Glickman, 2012) clearly indicates obesity can be reversed when an evidence-based healthy living program

is accessible and consistently utilized (Jacobson & Melnyk, 2012; Small, Bonds-McClain, Melnyk, Vaughn, & Gannon, 2014). There was a gap in clinical practice, or a discrepancy between the research evidence and clinical practices standard, within the MHS clinicians were not identifying overweight/obese children or using a healthy living programs to achieve BMI reduction (Wilson, 2012). However, the timely and consistent diagnosis, counseling, and referral of overweight and obese children for management is an important national health objective, as explicated in Reyes (2015).

Project Clinical Practice Question

The clinical practice gap was evaluated by the PCC, and the stakeholders determined the development of a policy with procedures was essential to guide the timely and consistent identification and appropriate diagnosis of overweight and obese children and to encourage clinical counseling and referral for continued management. As such, the purpose of this EB-QIP was to develop an evidence-based policy with procedures to standardize the timely and consistent identification and counseling of childhood obesity at a PCC serving military families within the United States Air Force. A PICOT is an acronym for the five components of a clinical question: the patient or population (P), the intervention or intended change (I), the comparison intervention or intended change (C), the outcome desired (O), and time taken to achieve the outcome or type of project (T) (Stillwell, Fineout-Overholt, Melnyk, & Williamson, 2010). There is a PICOT question guiding this EB-QIP: In a primary care clinic serving military families, how will an evidence-based policy with procedures impact the inconsistent and unreliable identification and counseling of overweight and obese children?

P – Problem / Population / Place: Unreliable and inconsistent identification and counseling of obesity in the children, ages 5 to 11, of military families using a PCC at an Air Force installation.

I – Intervention / Intended change: An evidence-based policy with procedures focused to identify overweight and obese children for clinical management. The identification rate, encounter counseling rates, the referral rates for further counseling, and changes in BMI are important indicators.

C – Comparison / Current standard: The current environment without a policy. The change in the indicators is an important measurement.

O – Outcome desired: A robust policy with procedures is the primary outcome. The secondary outcomes include increased obesity identification rates, counseling rates for visits, referral rates for reinforcement of the counseling message, and changes in BMI over time.

T – Type of project / Time: This is an EB-QIP focused on developing an evidence-based policy with operational procedures through expert consensus, using the Delphi technique. The project time is 12 months.

Response to the Gap-in-Practice

The development of the EB-QIP to address childhood obesity is the response to the identified gap in clinical practice. However, the implementation and evaluation of the policy is the responsibility of the PCC, or stakeholder organization, and not part of this

project. The policy, with the plan for implementation and evaluation, was delivered to the stakeholder organization at the project conclusion. The policy will guide the sustainable childhood obesity identification and management. The goal of the policy is to improve timely identification, appropriate diagnosis, clinical counseling, and counseling referral metrics within the organization.

Nature of the Doctoral Project

As an EB-QIP intended to reduce childhood obesity in military families, this project was undertaken with a PCC, part of the larger MHS. In the project, I focused on the development of a policy with procedures to improve the timeliness and consistency in identifying, diagnosing, counseling, and referring obese children to a nutritional and physical activity counseling program.

Sources of Evidence

The existing evidence was reviewed for sources of significance for policy development of childhood overweight/obesity programs using resources from the Walden Library database. I examined the evidence to evaluate that consistent primary care recognition, diagnosis, counseling, and program referral would influence BMI. Existing evidence has demonstrated that counseling programs that target the overweight/obese child and have the most influence on child BMI (Reyes, 2015).

Project Method

As a robust process to develop expert consensus specific to clinical policies, procedures, and practices (Yousuf, 2007), the Delphi technique has been successfully applied in many fields, such as program planning, needs assessment, policy

determination, and resource utilization (Hsu & Sandford, 2007). The Delphi technique facilitates sequential and structured discussions to facilitate expert feedback to stimulate the emergence of a consensus statement (Yousuf, 2007). With the final consensus, the resulting statement in this project is the policy with procedures to address childhood obesity. Collaborative expert involvement in the program development for this project was critical to customizing the research evidence to improve clinical practice in a PCC.

The Delphi technique requires a group sufficiently large to verify the results, through a representative team of experts, in a consensus statement (Hasson, Keeney, & McKenna, 2000). The selected participants were invited by personal request and electronic communication to participate in the expert committee. The final expert panel of 12-members, identified as experts in child policy and organizational practice standards, was assembled and convened for two sessions. Importantly, the 12-members also worked collaboratively with another 13-members of the stakeholder committee. Overall, for this project, the Delphi technique fostered data generation with the stakeholder and expert groups.

The development and implementation of a policy at the stakeholder organization is viewed as a process innovation. These innovative ideas are presented as an organized flow through an eight-step format known as a A3 report. Toyota created A3 reports as a means of identifying and solving problems, named such because of the paper size (11x13), representing an easy to read and usable model for improvement (Sobek & Smalley, 2009). The A3 model is a problem analysis and resolution approach built around the PDCA (plan-do-check-act) model of continuous improvement (Sobek &

Smalley, 2009). The A3 model is structured and effective in communicating gaps in processes to leadership that concludes with suggestions for improvement (Pelletier, 2011). The completed policy uses the eight-step A3 process (see Appendix A) to fulfill the organizational innovation requirement and improve the practice for accuracy of provider diagnosis, counseling, and referral to a primary care healthful living program.

Project Pathway

The policy development process was a stepwise method for recognition, counseling, and referral to meet the needs of the targeted population and the stakeholder organization. The resulting deliverable from this project was an evidence-based policy that was individualized for the PCC through the incorporation of stakeholder feedback. The stakeholder group must provide the leadership necessary for policy sustainment through the implementation of the policy and evaluation of resulting patient outcomes.

Significance to Practice

In 2012, the MHS recognized that military dependent children are at risk for serious health issues in the absence of strategies to diagnose and to manage overweight conditions. In the MHS metric review, military children were found to be diagnosed as overweight/obese by service, including Army, 15%/12%, Air Force, 13%/10%, and Navy 14%/12% (Wilson, 2012). The childhood overweight/obesity prevalence was 26% at the project site and was defined as a BMI > 85%, as documented in the electronic health record from January 2014 through May 2015. The MHS followed that data with the percentage counseled about nutrition and physical activity. The overweight children were counseled infrequently with the Army at 1.7%, Air Force at 1.6%, and least of all

the Navy at 1.4%. The obese children received a higher percentage of counseling; however, the frequency remained low with the Army at 6.7%, Air Force at 6.4%, and Navy at 5.4% of the time with recommendations for nutrition and physical activity (Wilson, 2012).

Stakeholder Analysis

Primary care clinicians are expected to improve the health of children, and the utilization of this policy will strengthen identification, referral, and counseling in this PCC setting. The primary care providers are not the only child advocates for this project; the stakeholder group is the term for the collective members of this project. The group will support and guide the primary care providers. The project focus for the group was the consensus policy. Once delivered, the stakeholder group is responsible to implement the excessive child weight policy. The stakeholder group members included hospital administrators, physicians, advanced practice providers, clinic nurses, disease managers, quality services, and wellness center staff. This powerful combination of those with common interest assures the targeted community assessed needs are met (Hodges & Videto, 2011).

Contributions to Nursing Practice

The significance is that the role of nursing in innovation with healthcare has expanded into communities with a culture of health. Nurses are taught to see beyond the primary care setting and must continue to step outside of this setting to engage the community in health promotion. The opportunity presented by the referral counseling program places the nurse in the community. Building a culture of health where families

are focused on good eating and routine physical activity presents a tremendous opportunity that starts with recognition, proper diagnosis, and counseling. A culture of health is consistent with the nurse role within the healthcare system and the interest on wellness, health promotion, and disease prevention (Billings, 2016).

Transferability of Knowledge

A successful program design has positive implications for change within the local stakeholder group as well as the potential for transferability throughout the larger MHS stakeholder community. In addition, nationally, the *Healthy People 2020* (2016) objectives are focused on similar positive changes within the civilian population. As such, this military EB-QIP can inform the larger community of primary care clinicians about effective strategies to identify and manage overweight/obese children for physical activity and nutrition counseling interventions. For example, the *Healthy People 2020* Objective 11.1 (PA-11) identifies the need to increase the proportion of physician office visits that include counseling or education related to physical activity (as cited in Department of Health and Human Services (DHHS), 2011). Furthermore, Objective 6 (NWS-6) identifies the need to increase the proportion of physician office visits that provide education related to nutrition or maintain a healthy body weight. Finally, Objective NWS-11.2 specifically identifies the target group from this EB-QIP for programs that identify and target inappropriate weight gain as a national health and wellness priority (DHHS, 2011).

Implications for Positive Social Change

The social change addressed by this policy is an improvement from the social norm of an unhealthy lifestyle of poor diet choices and inactivity. The state of the military child demonstrates a need for a policy that will affect positive social change with improved identification, diet, activity, and BMI. The contribution to social change for this project is a policy for a sustainable program that addresses the gap in care for the overweight/obese child population. The social change is evident from the focus on culture of health, prevention as emphasized by the health belief model, community involvement, and healthful lifestyle emphasis for the targeted population.

Summary

The United States has an epidemic with one in three children meeting CDC criteria for overweight/obese (Cawley, 2010). The elevated BMI prevalence in children has tripled over the past two decades in the United States, in both the civilian and military communities (Hurt, De Pinto, Watson, Grant, & Gielner, 2014). The military primary care clinical practice gap was demonstrated by the low rates of identification, diagnosis, counseling, and referral of overweight/obese children. The proposed policy meets the stakeholder needs for an innovative, economical, and accessible program designed to reduce the number of overweight/obese children in the military community. The policy extends into a program to address identification and management of overweight/obese children.

Section 2: Background and Context

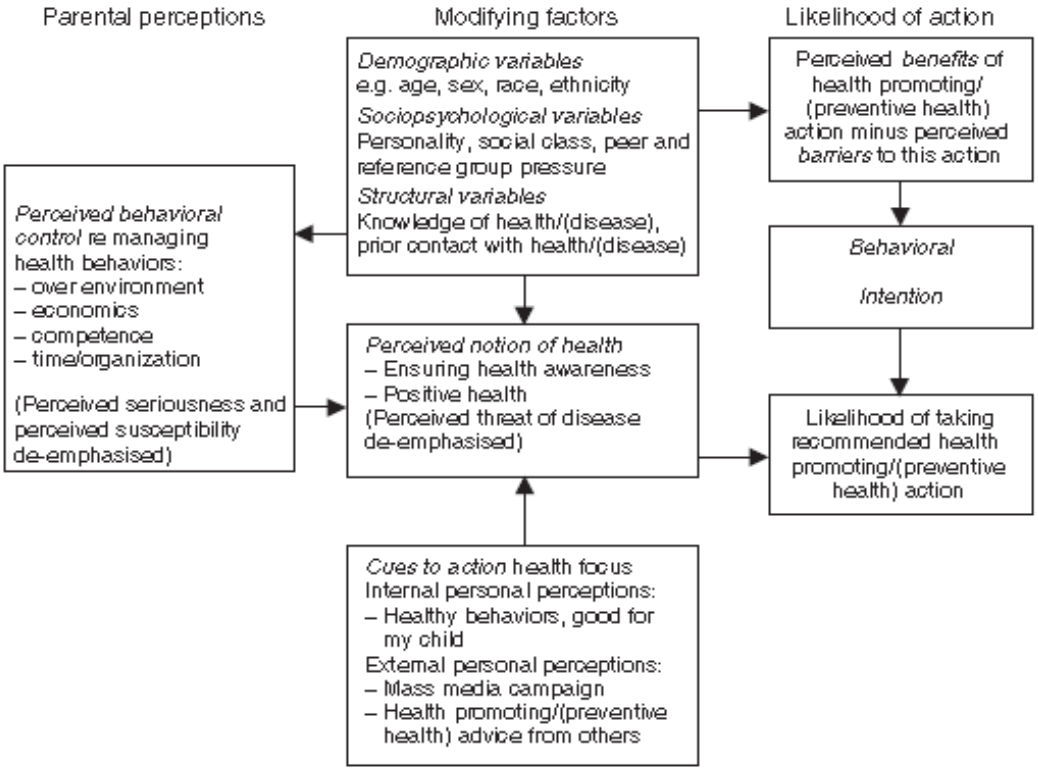
Introduction

The primary care setting lacks a policy for diagnosis, counseling, and referral of overweight/obese children. Inconsistent diagnosis, counseling, and referral is the identified gap in practice. The purpose of this project was to develop a policy for the primary care site that creates consistency by standardization of the diagnosis, counseling, and referral of overweight and obese children into a healthy lifestyle program. The goal of this policy is to decrease the BMI of overweight/obese children within the stakeholder organization and as an extension of primary care services. The applied policy will fill the practice gap for accurate diagnosis, counseling, and referral necessary to improve child BMI.

Theoretical Frameworks and Conceptual Models

The conceptual model frequently applied to address overweight children and obesity in the 5- to 11-year-old age group is the health belief model (HBM). This model has been used in social and nursing sciences to educate and motivate populations on health promoting behaviors. Roden (2004) further developed this model to emphasize prevention within the family, and the model was then named the revised HBM. The utilization of this model provides opportunities to understand perceived benefits and consequences to decision making behaviors in this population that guides the health focus for counseling and referral goals and objectives. The revised HBM (Figure 1) supports the integral roles of parent and provider as it relates to child health promotion (Roden, 2004).

Figure 1. The revised HBM. From "Validating the revised health belief model for young



families: Implications for nurses' health promotion practice," by J. Roden, 2004, *Nursing and Health Sciences 6*(4), p. 248. Reprinted with permission (Appendix B).

The model has incorporated the concepts of perceived behavioral control and behavioral intention from the theory of planned behavior as well as concepts from the HBM (Garrett-Wright, 2011). The emphasis of assigned roles in prevention and child health make the model ideal for the policy development.

Terms

Childhood overweight: A calculated measure for BMI and classified per the CDC with a height, weight, age, and gender specific percentage equal to 85 to 94% (CDC, 2000).

Child obesity: A calculated measure for BMI and classified per the CDC with a height, weight, age, and gender specific percentage greater than 95% (CDC, 2000).

Military Health System (MHS): The enterprise within the United States Department of Defense that provides health care to active duty and retired U.S. Military personnel and their dependents. The availability of accurate data is a primary responsibility of the MHS through health record review, and the values used relate directly to the organizational reported metrics will be the project measures for BMI, diagnosis, and counseling.

Nutrition and activity counseling: The documentation or referral for each activity as identified by administrative review of a medical record (National Committee for Quality Assurance (NCQA), 2009).

Parent perception: The perception of the child's weight status. Parent perception of child weight determines response to counseling (Mareno, 2013).

Program participant: A child identified in the PCC who is counseled and referred to the CATCH healthy eating and activity program.

Stakeholders: The organizations that are invested in managing the program, the staffing, and using the program results to improve the health of the population (Hodges & Videto, 2011).

Relevance to Nursing Practice

Parents desire their overweight/obese children to be healthy, and the most influential method has been programs that improve the knowledge and skill necessary to improve child health (O'Brien, McDonald, & Haines, 2013). The PCC is an appropriate setting to counsel parents and children and has the resources to help them lead a healthy eating and active lifestyle (Reyes, 2015). The United States Air Force primary care setting currently has a 1.6% obesity counseling rate (Wilson, 2012). The developed policy is designed to impact this low rate of counseling through policy recommendations on counseling and referral. The existing evidence that has relevance to nursing practice was reviewed with application to the specific problem. The developed policy will guide the primary care provider role for diagnosis, counseling, and referral to a nutrition and activity program.

Literature Review

Search Strategy

A synthesis and analysis of the literature was conducted by searching the Walden Library Databases, including CINAHL, ProQuest, Ovid, Medline Full Text, Cochrane Systematic Review, and EBSCOhost. The search was conducted for *activity and nutrition programs, childhood overweight and obesity, CATCH program, primary care, school-age, and obesogenic environment*, with a focus on current evidence from 2010 to 2015. The Boolean operators for the search were c*hildhood obesity AND parent AND health program, exercise and nutrition program AND child AND obesity*, and *primary care AND child obesity*. The search yielded 45 peer-reviewed scholarly journal research

studies. Historical studies were also included regarding successes in the development and evaluation of the CATCH program. The evidence was then further assessed to include evidence-based knowledge in the plan for the intervention. The criteria for inclusion was the study had to be with obese children, involve counseling, and use a fitness and nutrition program. The eight target studies were in primary care or after school settings, evidence-based, peer reviewed or scholarly, and randomized control trial or systematic review, see Literature Review Matrix (Table 1).

Table 1

Literature Review Matrix

Citation (authors)	Theory	Main finding	Research method	Strengths of study	Weakness of the study	Sample and setting
Small, Anderson, & Melnyk, (2007).	None cited –literature review for early treatment, prevention intervention	Improvements in interventions identified	RCT and Longitudinal	Identified need for RCT	Self-report reliance No long-term studies Poor parent inclusion	*N* = 19; setting of clinics, schools and community centers
Small, Bonds-McClain, Melnyk, Vaughan, & Gannon (2014).	None mentioned	Primary care interventions can impact parenting, child waist size and weight by height ratio	RCT, intervention	Effective and reliable result	Small, pilot study	*N* = 67; primary care setting
Jacobson, & Melnyk (2012).	Beck cognitive theory	Health choices intervention will increase knowledge and efficacy in choices with parent and obese / overweight child dyads	One group intervention pilot pre-test/post-test study	Supportive of cognitive theory with improved knowledge with improved child belief in action	Short-term without measurable weight change Self-report One-group design	*N* = 17; primary care setting (*table continues)*
Cygan, Baldwin, Chehab, Rodriguez, & Zenk, (2014).	Chronic Care Model	Lifestyle goal implementation guidelines can cause differences in diagnosis and prevention	Pre- and Post-implementation chart audits	Support value of guideline to relay health promotion message	Convenience sample at a hospital pediatric clinic *(table continues)*	*N* = 396, chart audits, 23 pediatric measures in for obese / overweight

Citation	Theory	Main finding	Research method	Strengths of study	Weakness of the study	Sample and setting
Macvicin, & Danford (2014).	Bandura self-efficacy	Child verses parent TOPSE impact on parent self-efficacy and BMI	RCT, Convenience	Support TOPSE as a valid tool to measure improvements in PSE and child BMI	Convenience sample, small size, non-random selection, self-report measures	*N* = 27*;* parent child dyads, community program
Shelton, LeGros, Norton, Stanton-Cook, Morgan, & Masterman, (2007).	Bandura self-efficacy	Group education interventions will impact parent choices and child weight at 3-month follow-up	RCT	RCT to validate tool with measured impact in parent knowledge and reduction in child weight	Australia, small size, no long-term measures, self-report of activity	*N* = 43; community center
Reyes (2015).	None mentioned	Intervene early in the primary care setting to include diagnosis and therapeutic lifestyle changes	Retrospective chart review of an urban pediatric clinic	Support to use of guideline as provider resource to identify and intervene	Convenience and quota design	*N* = 255; chart audits
Hoelscher, Springer, Ranjit, Perry, Evans, Stigler, & Kelder, (2010).	Coordinated Approach to Child Health (CATCH) Model	The value of community involvement in use of a proven healthy eating and physical activity program	RCT, serial spring-time cross-sectional samples	Diverse population, adequate sample size, use of validated and pre-tested measures	Serial cross-sectional design vs. cohort, self-report, lack of a no intervention control group.	15 Schools, *N* = 1107 students

Provider Role in Diagnosis of Child BMI

The parent perception of his or her child's body weight is often inaccurate or poorly judged (Garrett-Wright, 2011). The American Academy of Pediatrics recommends universal screening for overweight/obesity because of poor parent perception of child weight (as cited in Barlow, 2007). There have been five defining attributes associated with parent perception for child weight, namely recognition of size, physical appearance, functional abilities, psychosocial effects, and health effects

(Gauthier & Krajicek, 2013). A provider's role is to influence parent perception of their child's weight and these five attributes at the time of diagnosis. A randomized control trial was conducted to evaluate parent efficacy with a four-session group education behavioral program that worked with overweight/obesity children (n = 43) aged 3 to 10 years (Shelton et al., 2007). The program promoted healthy family lifestyle changes by addressing nutrition, physical activity, motivation, and behavior management strategies. The 3-month follow-up analysis of variance demonstrated findings that supported increased parenting ability with a statistically significant reduction in child BMI among 90% of the treatment group (p = 0.05) and reduced calorie intake (p = 0.01; Shelton et al., 2007).

Provider Role in Healthy Eating and Physical Activity Counseling

The project interest is in childhood overweight/obesity, especially in relationship to counseling and referral that influences nutrition and activity patterns. In Jago , Kipping, & Lawler's (2008) landmark writings on epidemiology of this problem explained that children begin in a disadvantaged situation by genetics or environment and then enter the vicious cycle of child obesity that through inactivity and poor nutrition lead to adult obesity. This time of vulnerability in the life of a child makes the program plan ideal for the focus of 5- to 11-year-old children. The counseling message in the primary care setting must place value on healthful diet and activity. Child health care providers have a key role as a member of a collaborative team of practitioner, parent, and child. In order to provide adequate counseling, practitioners need to be able to evaluate parenting practices, beliefs, and control over the child's activity and nutrition behaviors. The

parent has the role to improve the obesogenic environment of their child so that the key messages of nutrition and activity can positively impact the BMI (Marvicsin & Danford, 2013). A recent a family-based intervention addressed the interdependent relationships that exist in the establishment of health behavior. The study was a convenience sample random, descriptive, cross-sectional approach of 27 parent-child dyads with children between 6 and 14 years of age. Marvicsin and Danford (2013) determined that a moderate negative relationship existed between high parenting efficacy and low child BMI ($p = 0.01$).

Parent-centered counseling at the time of diagnosis in the primary care setting is crucial for the parent to understand the influence that a few key messages can have on a child's BMI. The primary counseling messages are to limit sugar intake, increase fruit and vegetable intake, and increase activity (Barlow, 2007). Wright, Adams, Laforge, Berry, and Friedman (2014) examined parent efficacy with obese children and confidence in aiding the child to make healthy food and activity choices. The convenience sample was recruited to aid in tool development to measure efficacy in behaviors associated with childhood obesity. The study included parents ($n = 304$) and their overweight/obesity children ($n = 266$; Wright et al., 2014). The data analysis used correlations to examine construct validity and found significance in the positive direction for all behaviors evaluated. The child group behavior demonstrated positive correlation with parent efficacy and the identified behaviors (Wright et al., 2014). The resulting validation highlighted correlations that parent perception of their child's ability to avoid sugary drinks ($p < 0.001$), limit juice ($p < 0.002$), eat fruit and vegetables ($p < 0.02$), and

participate in 60 minutes of activity daily ($p < 0.001$) was valid enough to impact child choices (Wright et al., 2014).

Referral Program in Healthful Eating and Physical Activity

In a pilot study of a healthful nutrition and activity intervention, the authors measured the successful impact of a healthy eating and activity program on BMI and positive behavior change. The program was either a ten-month daily or weekly after-school activity provided to a small obese population ($n = 12$) with utilization of pre- and post-intervention data with surveys, BMI, questionnaires, and anthropometric measures that distinguish adiposity (Fletcher, Cooper, Helms, Northington, & Winters, 2009). The phased intervention taught balance in food intake and exercise that improved perception of overweight and provided a mutually developed individualized plan of nutrition and physical activity (Fletcher et al., 2009). The study resulted in 10% mean reduction of BMI, 80% increase in healthy nutrition choices, and a mean waist size reduction of four inches (Fletcher et al., 2009).

CATCH Program

Developed in the 1990's, the Coordinated Approach To Child Health (CATCH) program is an evidence-based intervention for obesity that promotes healthy eating habits and daily physical activity. The program has demonstrated effectiveness in decreasing the BMI of overweight and obese children (Hoelscher et al., 2010). From 2000 to 2005, the regional BMI rates in a sample of 23,000 students were lower for schools with the CATCH program than those without the program (Hoelscher, et.al, 2010). For example, in a sample of 4th grade students ($n = 4,676$), the prevalence of childhood obesity

decreased to 18.0% (2001-2001) from 25.8% (2004–2005) (p = 0.005) (Hoelscher, Kelder, et al., 2010).

The CATCH program has established evidence that supports the achievements of reduction in BMI, lasting results in food choices and activity, and application to school and after-school programs. The earliest studies in CATCH conducted in 1997-1999 validated the effectiveness of the program as a portion of the school curriculum. In recent research the focus has shifted towards after-school and community programs. A recent two-year longitudinal study evidenced effectiveness in 423 third grade students. The study was specifically designed to evaluate CATCH effectiveness among low-income populations and to encourage community implementation. The CATCH program schools demonstrated a slower rate of increased obesity rate over control schools in boys and girls in CATCH 1% and 2% respectively versus the control groups 9% and 13% respectively (Coleman et al., 2005).

The most recent research implemented CATCH in an out-of-school program during the evening time and summer periods (Werner, Teufel, Holtgrave, & Brown, 2012). The CATCH program merged into a program within an existing relationship with local school systems and after-school programs with third through fifth grade children (n = 760) in eight cities in five states. The program employed the evolved CATCH BPC now called CATCH kids club. Their program had prior experience implementing Active for Life, an evidence-based physical activity program for older adults. The program design was to test for change in nutrition and physical activity knowledge and behavior. The data analysis used nonparametric inferential statistics and noted significant change in

fruit and vegetable intake ($p < 0.05$), health literacy ($p < 0.05$), self-efficacy with fitness ($p < 0.05$), and screen time ($p < 0.05$; Werner et al., 2012).

This review highlighted the importance for the stakeholder organization to create a sustainable policy for primary care role of diagnosis, counseling, and referral as the approach to elevated child BMI. The CATCH program was explored as an effective health diet and nutrition program. The evidence supports the utilization of CATCH as a referral program that will reinforce the counseling messages. The impact a sustainable healthful diet and nutrition primary care approach to elevated child BMI was analyzed. The analysis provided significant evidence for a primary care diagnosis, counseling, and referral policy to impact children of excessive weight.

Local Background and Context

My priority in development of a policy that promotes diagnosis, counseling, and referral is to align it with the organizational strategic plan and objective. The MHS governs the focus of the primary care effort and provides the child weight metrics based on these focal points. The documented overweight/obesity prevalence at the stakeholder organization in children aged 5 to 11 years was 26%. The United States Air Force primary care setting currently has a 1.6% obesity counseling rate (Wilson, 2012). The developed policy addresses this ineffective diagnosis, counseling, and referral of excessive weight children. The policy takes advantage of already collected coding metrics that apply to child overweight/obesity diagnosis, BMI, and counseling. The discussed performance of 1.6% counseled more than satisfies a gap to innovate and improve within the stakeholder organization. The organization focus areas are elaborated

in six strategic plan key elements: mission ready airmen, patient/employee centered medical home, access to care, promote a healthy population, develop medics, and quest for excellence.

Institutional Context

The stakeholder PCC strategic plan serves the personnel as a guide for prioritizing resources, utilizing manpower, and focusing team efforts through innovation, fostering partnerships across and within the community, and maximizing training. The stakeholder strategic plan six objectives have key elements with application to the proposed policy. The element of patient and employee centered medical home has quality objectives that include optimization of communication between patient and provider. There are other applicable elements that emphasize access to care, improvement in in-house care, and promotion of a healthy population.

Local Terms and Definitions

Coordinated Approach To Child Health (CATCH) program is an evidence-based intervention for obesity that promotes healthy eating habits and daily physical activity.

State and Federal Context

The federal contexts applicable to the problem in this doctoral project have been outlined in the form of healthy people 2020 goals. The *Healthy People 2020* objective PA-11.1 identifies the need to include counseling or education related to physical activity, objective NWS-6 identifies the need to provide education related to nutrition or maintain a healthy body weight, and objective NWS-11.2 specifically identifies the target group.

Role of the DNP Student

Professional Relationship to the Project

The DNP role in organizational and systems leadership for quality improvement and systems thinking influences the provision of practice focus on use of current evidence at the organizational level (American Association of Colleges of Nursing [AACN], 2006). My practice focus is for the effectiveness that the developed overweight child policy will have on the diagnosis, counseling, and referral of children to an activity and nutrition program. Current evidence concludes that there is a need to address childhood obesity in primary care practice with parents and children in development of an environment conducive to health and reduction of the risks associated with overweight/obesity children. The chief role of the DNP was to facilitate expert opinion meetings, arrive at a consensus regarding the policy, and take the recommended action to impact the diagnosis, counseling, and referral of overweight/obesity children.

Professional Role in the Project

The primary care provider role necessitates diagnosis, counseling, and referral with both parent and child in healthful lifestyle although it is not routinely accomplished or documented (Reyes, 2015). The available data supports this observation. There exists an opportunity to innovate within an Air Force community that has a 26% combined child overweight/obesity rate and a 1.6% counseling rate. Evidence suggests that BMI in children can ideally be impacted by encouraging a nutrition and activity program (Gauthier & Krajicek, 2013). The DNP prepared nurse role in policy planning a large-scale program for overweight/obesity children is recognition of the key role that primary

care provider should influence healthy eating and regular physical activity for their children (Birch et al., 2011).

Motivation for Completing the Project

The motivation to complete this project comes from the desire to improve practice and effect change at an organizational level. The population focus for this project is neglected in the local community, resources are scarce, and the primary care providers are ill-equipped to intervene. The provision of a policy will ideally meet the needs of the target population and fill the gap in the community and primary practice. Further, to develop fit and active children who will impact change in the community as well as a heritage for the nation's future defense.

Potential Biases

There is the potential for bias in policy development, communication within a committee, and in achieving consensus in a policy statement. Another potential source for bias is the program plan dependence on volunteers for program success. These are planned to be controlled with effective communication and limitation of time spent in policy planning meetings to three sessions. On average, three meetings are necessary to collect enough information and engage in sufficient dialog to arrive at a consensus (Hsu and Sandford, 2007). The last bias is related to the opinions of the organizations committee. This bias will be limited with utilization of the organizational experts and policy makers and controlled feedback that the Delphi technique will provide. There is decreased effect of biased or misleading opinion with the summarization of each successive organizational policy design meeting. The DNP prepared nurse role will be to

share the policy, control bias, and finalize a plan to utilize the designed policy to improve diagnosis, counseling, and referral into an activity and healthful diet intervention.

Role of the Project Team

The project team role is substantial to the stakeholder organization as the key leaders for policy design. The 25-member expert and stakeholder group (12-members experts and 13-members stakeholders) contributed the data and feedback for consensus on the final deliverable. The feedback process produced the consensus obtained from expert committee meetings that included organization leadership, child health care teams, child care providers, and community leaders. Project team involvement in program development was critical to program success and sustainment. Team involvement included development of policy documents and methods used to address the gap in practice. The consensus was the final deliverable policy and is the organizational method to improve outcomes in the selected population of child overweight/obesity. The stakeholder organization focus on innovation enabled the continuous participation of team members and contributed to the development of the final policy.

Summary

The planned focus requires stakeholder recognition of the practice problem and potential policy implementation benefit that will impact the reported metrics of accurate diagnosis, counseling, and referral of overweight/obesity children. The referral and engagement with CATCH will create the sustainable message for the overweight/obesity child within a target population of military dependent young aged children in the primary care setting. The state of the military child demonstrates a need for such a policy that

necessitates a sustainable program that will impact positive social change with improvement in diet and activity choices, and reduction of BMI.

The DNP role of recognition for the need to improve quality of life and the ability to examine scholarly research with application of the findings into new practice standards is critical to address gaps in practice. The scholarly analysis enabled the ability to present the data necessary to motivate stakeholders for consensus and policy approval. The demonstrable impact at the stakeholder level will generate the evidence necessary to further develop the program MHS wide. To address the practice problem at this organization the developed policy needed to include MHS metrics for diagnosis and counseling and use of an affordable and an activity and nutrition program familiar to the MHS.

Section 3: Collection and Analysis of Evidence

Introduction

The health problem of interest is childhood overweight/obesity with a target population of military dependent children, ages 5- to 11-years, in the primary care setting. To advance positive social change, childhood obesity needs to be addressed with evidence-based strategies and interventions. The problem is that the primary care setting lacks a policy to improve diagnosis of the target population, provide counseling guidance to effectively address the recommended healthful nutrition and activity pattern requirement, and refer to an intervention. This project was developed to improve child overweight/obesity identification and management at a military affiliated PCC. The project stakeholders chose to develop an evidence-based policy with procedures to standardize the timely identification, diagnosis, counseling, and referral of overweight/obese children to further counseling. The goal of this policy is to decrease the BMI of overweight/obesity children within the stakeholder organization and as an extension of the complement of primary care services. When implemented by the organization, the new evidence-based policy will address the clinical practice gap to move overweight/obese children to interventions, such as the CATCH.

Practice Focused Question

The purpose of this EB-QIP was to develop an evidence-based policy with procedures to standardize the timely and consistent identification and counseling of childhood obesity at a PCC serving military families within the United States Air Force. The PICOT question guiding this EB-QIP is as follows: In a primary care clinic serving

military families, how will an evidence-based policy with procedures impact the inconsistent and unreliable identification and counseling of overweight and obese children?

Specifically, the policy was focused on the identification, diagnosis, counseling, and referral of children, ages 5 to 11 years, with elevated BMI. This EB-QIP produced a policy with procedure and the implementation plan with evaluation metrics.

Sources of Evidence

Stakeholders influence the success of policy development and implementation. As such, the stakeholders served as primary resource experts in this project. The 12-member expert panel was the primary source of evidence for the consensus policy at this organization. The additional 13-members of the stakeholder group also contributed to the project as sources of evidence. The Delphi technique was used to collect the evidence and is an accepted method for gathering consensus for policy investigation and determination by a controlled feedback process (Hsu & Sandford, 2007). Stakeholder barriers may stem from a lack of understanding; therefore, education on the policy purpose and model were included in the Delphi technique sessions. The policy was modified to fit the community and organizational needs by expert committee analysis of literature evidence and feedback using the Delphi technique. The expert panel feedback obtained during the sessions served as the evidence from the Delphi technique and contributed to the final policy delivered to the organization.

Archival and Operational Data

Delphi Committee Process

The participants who form the expert committee are critical to the development of the finalized policy as well as the successful policy deployment. The expert committee must be active participants to foster the environment necessary to generate data using the Delphi technique. The appropriate number of subjects in a Delphi study should be sufficient to verify the results through a representative team with consensus (Hasson et al., 2000). The selected participants were invited by personal request and electronic communication to participate in the expert review process. The expert panel membership consisted of 12-members identified as experts in child policies, clinical practices, and/or organizational practice standards (the entire stakeholder and expert group was 25 members). The participant membership was well received, and the completed panel attendance was maintained for both sessions.

Data Collection Process

The procedure for data collection process was followed as defined in the literature (Hsu & Sandford, 2007). The method allowed for continued sessions necessary for feedback to be incorporated into the finalized policy and serve as the evidence for the effectiveness of the project. The initial session introduced the problem statement, purpose, goals, and objectives. The session questions focused on the evaluation of the policy implementation (see Appendix C). The second session initiated with review of the initial discussion summary and provided the opportunity for members to visualize their response in relation to the group (Hasson et al., 2000). The discussion that followed was

continuously iterated until the consensus on the policy contents and use was reached (Hsu & Sandford, 2007).

Secondary Organization Data

The focus on organizational quality improvement enabled a secondary analysis of data that served to create the policy development for the practice gap. The data collected were secondary and specific to the PCC quality improvement effort. The data were collected in a manner consistent with the stakeholder organizational methods for process improvement as outlined in the A3 model. The data were absent of identifiable metrics and contained only the feedback collected by the Delphi method.

Project Ethics and Institutional Review Board (IRB)

The stakeholder innovation program encouraged the use of the A3 model, and for these reasons, the secondary analysis met approval of the IRB at Walden University. The Air Force IRB (FSG20160046E) approved the proposal as a program for policy development that did not involve child or parent data or participation.

Analysis and Synthesis

The final policy is supported by current evidence and the innovative final work of a team from the stakeholder organization. The final work comes from use of the Delphi method and complete consensus following two sessions. In the literature, Delphi has been applied in various fields, such as program planning, needs assessment, policy determination, and resource utilization (Hsu & Sandford, 2007). The planning session feedback was gathered with the Delphi technique to reach a final consensus policy. The method allows for continued sessions necessary for feedback to be incorporated into the

finalized policy and serves as the evidence for the effectiveness of the project. The policy reflects the committee consensus and is the plan that will meet the needs of the stakeholder organization and target population.

This project included an analysis of existing descriptive data completed by the organization. In addition, the data collected from the Delphi technique was analyzed and incorporated into the project. The program evaluation process was completed by the program team at the project organization with metric collection from the data manager. The principle organizational measure included the child BMI derived from the electronic health record using the standardized codes for overweight/obese diagnosis, counseling, and management. The project leader was not responsible for collecting the programmatic data or the evaluation type deliverable metric data. Instead, this work was completed by the organization as part of the quality improvement process. The ethical protection of the target population was assured as all data was deidentified with no individual record analysis. The referral office collected the data on referral rates, and the CATCH trainers will track referred children and family member attendance rates.

Summary

An organization policy with procedures was designed to facilitate the identification of overweight/obese children for clinical management with nutritional and physical exercise strategies. Addressing elevated BMI in children is essential to prevent the long-term complications and comorbid conditions associated with childhood obesity (Birch et al., 2011). The process to develop the evidence-based policy was outlined. The method for recruitment of participants, procedure, and protections for implementation of

the doctoral project was presented. The CATCH was presented as the ideal program that meets the requirements of the MHS, the stakeholders, and each tenet organization. The policy meets the needs of overweight/obese children within the military community to diagnose, counsel, and refer in the primary care setting.

Section 4: Findings and Recommendations

Introduction

A key strategy to reverse childhood obesity in the United States, primary care providers need to accurately diagnose children with a BMI exceeding 85% for age and gender and provide counseling that emphasizes the value of healthy nutrition and structured activity (Reyes, 2015). Currently the United States Air Force healthcare system lacks a consistent method to address the diagnosis and counseling of overweight and obese children (Wilson, 2012). An advance leading to positive social change, the project addressed the lack of a policy for identification, diagnosis, counseling, and referral of the target population. This EB-QIP resulted in an organizational innovation, the development of an evidence-based policy through a consensus process, with procedures for the primary care clinic to standardize the identification, diagnosis, counseling, and referral of overweight and obese children. The PICOT question guiding this EB-QIP is the following: In a primary care clinic serving military families, how will an evidence-based policy with procedures impact the inconsistent and unreliable identification and counseling of overweight and obese children?

The collection of evidence and analysis from experts at the stakeholder organization provided the solution to the practice-focused question and finalized consensus policy. The policy expert committee consisted of organization leadership, child health care teams, child care providers, and community leaders who reviewed the literature and provided input and feedback. Expert feedback was analyzed using the Delphi method to develop a final consensus policy. The final project deliverables

included: (a) organization policy, (b) guidance (procedures) for implementation, and (c) sustainment strategy with continuous evaluation of the program goal.

Findings and Implications

The project objective was to develop the program policies, training, and documentation required to support a sustainable program including an evaluation with measurable outputs. The Delphi technique, an expert consensus process, was used to validate the program plan. Although the Delphi technique lacks a consistent method to report findings, the data reported on each round-themed response by grouping similarities provide strength and method reliability (Hasson et al., 2005). The assessment items for the Delphi questionnaire were developed from the current literature and the IRB requirements, for both the organization and university. The assessment process, or rounds, included a review of relevant literature, the draft policy based with evidence from the literature review, and the structured discussion questions. The project evaluation was completed with the stakeholder and team member feedback, or expert assessment, collected from the two Delphi rounds. The Delphi structured questions were developed to evaluate the proposed evidence-based program. In total, the stakeholder group consisted of 25 members; but only 12-members were identified as experts for the expert panel for the Delphi. The expert panel were also members empowered with decision making authority at the stakeholder organizations. The expert feedback guided essential program revisions until consensus was achieved. This evaluation included the expert feedback from two Delphi rounds necessary to achieve consensus. The final program,

policy with procedures, was advanced from the project leader to the organization leadership team for approval and implementation.

Delphi Meeting: Round 1

The first Delphi round included the presentation and discussion of the literature review (as summarized in Table 1), the draft proposed program, and the Delphi questionnaire (see Appendix C). The initial program presentation was delivered in person to the 12-member expert committee. The group reviewed the literature, discussed the program, and answered the questions to the complete the Delphi method analysis. The questionnaire responses were obtained anonymously from the participants; with the identity only known by the project leader. The initial Delphi round information and presentation was also provided to the 13 members of the tenant organization stakeholders as a means to orient them to the purpose of the program, to include recognition, counseling, and referral with opportunity to provide feedback for the consensus. Content analysis was used to group the data by similar items and themes necessary for the evaluation advance to consensus (Hasson et al., 2005). The first Delphi round data was thematically organized. The overall consensus was 70% for the first round. The summarized feedback by question is reported below:

> Is the process, as shown, effective for this organization to recognize, diagnose, and refer children who meet the established overweight/obese measures?
>
> > The trend for the members was that of concurrence. There was a recommendation to obtain on-going policy feedback to evaluate the effectiveness and share the results with other MHS organizations.

Could any improvements be applied to the recognition of overweight/obesity?

A recommendation for initial mass training of all patient care providers, nurses, and technicians during the group training day, then annually through a power point slide presentation. Another suggestion was to use the training portal for the mass and annual trainings.

Could any improvements be applied to the diagnostic process?

The program plan met this requirement.

Could any improvements be applied to the process of referral to the CATCH program?

The feedback focused on simplifying the process for the providers and referral intervention sponsors at the Health and Wellness Center. The feedback suggested to simplify the referral process with direct appointing into the CATCH program via the organizational appointment system.

Following the presentation and discussion of the process improvement, what other changes need to take place to arrive at a consensus for policy development?

The themed responses primarily highlighted the importance of utilization of the primary care provider for the clinical portion. Another themed response among the stakeholders was to allow families to self-identify and attend the CATCH program. The self-identified families could then be referred to the PCC for identification and evaluation.

Delphi Meeting: Round 2

The second round was conducted with 12 expert panel members. The panel reviewed the program with modifications from the feedback, the revised policy (Appendix D), and determined the readiness to reach the final consensus. The round included the grouped items as well as the infrequently occurring items to allow the participants the opportunity to judge the quality of the program. The consensus was defined as more than 70% of the experts supporting the program plan; however, 100% of the second round 12-member expert panel agreed with the revised plan.

The discussion in the second round resulted in an additional insight not discussed at the initial Delphi round. The expert panel recommended provider accountability be added to the program by reporting the program metrics to the leadership team via the data quality team minutes. The stakeholders and expert committee otherwise offered complete acceptance of the plan with the updated items from the first Delphi round. The content was finalized following the second round and used to create the consensus plan for childhood overweight/obesity at the stakeholder group. The consensus policy was finalized into the A3 continuous process improvement (Appendix A) for stakeholder tracking and data collection. The consensus policy included the establishment of benchmark BMI value for diagnosis of obesity and standardized procedures for the documentation of counseling and appointing to CATCH. The committee discussed implementation strategies and decided that utilization of the electronic training program was sufficient. The initial plan for performance metric will include monthly peer review and the policy measurable outputs. The consensus plan was then transferred into the final

policy that includes initial and sustained program implementation recommendations (Appendix D).

Implications of the Consensus Policy

The implication for this project of a policy to standardize diagnosis, counseling, and referral of overweight/obese children is the impact on the care gap in military primary care practice. This policy fits with organization strategy by supporting a sustainable effort to improve the health of children through evidence-based weight management. The policy includes community partnerships and promotes a positive local culture of health.

The implications for practice and policy design were intertwined in the policy development. The deliverable policy was finalized through stakeholder expert consensus, which is necessary for successful policy design and implementation. The use of the A3 process and Delphi technique promoted direct cohesive discussion. When implemented, the policy will facilitate the timely identification of at-risk children within the stakeholder community and provide effective intervention leading to improved BMI measurements.

The primary implication for this proposed program and policy design is on social change. In order to affect positive social change, the problem must first be addressed consistently and effectively. The proposed policy deliverable provided the consistency needed to impact the target population. The state of this population demonstrates a need for such a policy that creates a sustainable program that will affect positive social change with improvements in diet and activity choices that are evidenced to impact BMI. The

social change validates the use of the HBM, involvement of the community, and healthful lifestyle program.

Using the HBM, nursing is leading the shift towards quality care that is timely, safe, effective, patient centered, efficient, and equitable. It is within the role of the DNP to ensure that the implementation of health promotion programs correctly identify targeted populations and improve targeted outcomes. The revised HBM empowers nursing with the ability to incorporate physical and nutritional health messages into the care of families and children to increase the overall effectiveness of health promotion activities.

Recommendations

Implementation of the organization policy with procedures (see Figure *2* and Appendix D) will address the gap of inconsistent diagnosis, counseling, and referral of overweight/obese children in this PCC. A standard operating procedure was developed from the consensus policy to describe the plan for implementation (see Appendix D). Upon recommendation from the expert panel, the organization education team will implement the developed staff training materials. Staff will access training through the organization's web education platform prior to initial implementation and annually (see Appendix D). A CATCH working group was developed to maintain and publicize the referral program. They will independently monitor and recruit CATCH instructors as well as provide them training.

Contribution of the Project Team

The team of organizational stakeholders and leaders from the involved organizations formed the project team. The team was the expert committee whose contribution is the deliverable consensus policy. The primary responsibility of the team was to provide feedback on the proposed policy using the Delphi technique. The initial presentation primed the project team for feedback and discussion. A review of the MHS metrics and current literature that demonstrated the impact that formal diagnosis, counseling, and referral can have on the target population was accomplished. A discussion was developed to provide the background for the proposed innovation. The innovation is the process for diagnosis, recognition, and referral and is summarized in Figure 2 and provided in Appendix D as the Standard Operating Procedure. The Delphi rounds were then carried out to form the deliverable consensus policy. The role of the expert committee was to produce the finalized consensus policy as well as agreement on policy delivery to the organization and primary care clinics. The expert committee is chief to organizational guidance and sustainment beyond consensus development.

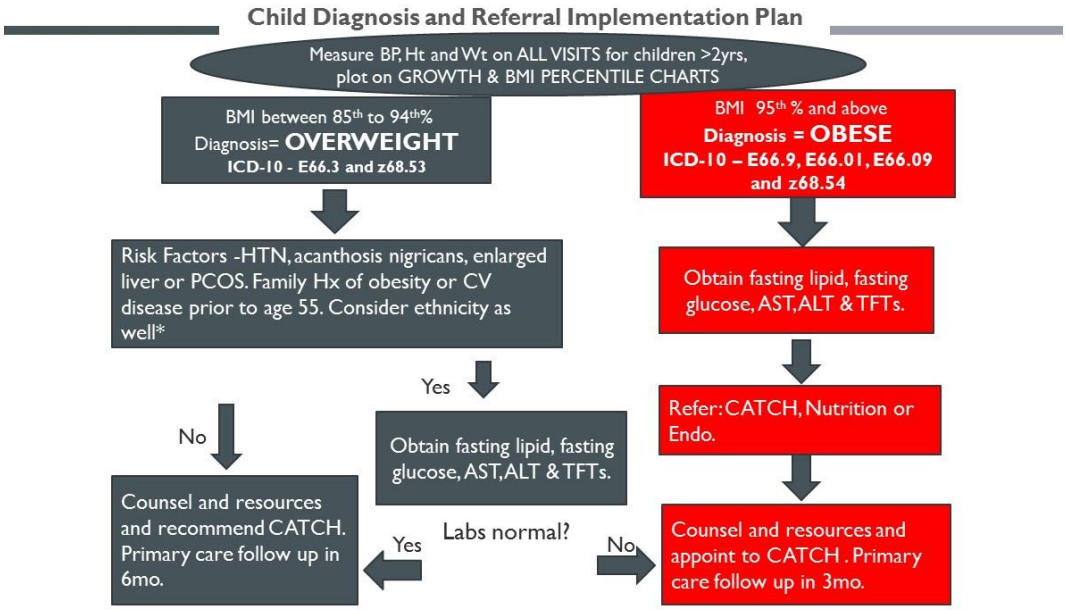


Figure 2. Policy plan for diagnosis, counseling, and referral.

Project Strengths and Limitations

This project resulted in many benefits for the stakeholder organization and the target population. The project had many strengths in the design and stakeholder participation. The primary strength is the innovative use of the Delphi technique that engaged stakeholders through open dialogue. The Delphi rounds fostered trust and confidence in the resulting final policy product. Another strength was the incorporation of the organization's process for healthcare improvement with the link to metrics, resulting in a policy that addresses the primary care gap and potential influence on population health.

The limitation of the consensus policy statement is dependence on stakeholder organization for sustained utilization. The motivator of improved reported metrics aids in fostering this effort, but largely depends on value placed on these metrics, health

promotion, and proactive management. Another limitation the deliverable policy can have is dependence on clear communication of the needs and potential benefit for the target population to stakeholders. The HBM can be applied to the children, their families, and the stakeholder organization as well, in that the motivation to act must come from a belief in the potential impact of a healthful diet and activity lifestyle.

The recommendations for remediation of the limitations are to have a team of organizational personnel who are the primary contacts for metric reporting. Policy implementation may not meet the long-term needs of the organization. Therefore, there must be a team of organizational personnel whose purpose is improvement to the policy to meet the intent of the policy goals and provide program sustainability. Another recommendation is a system that provides accountability to providers for proper diagnosis, counseling, and referral, such as the policy designed metric collection methods. The provider diagnosis, counseling, and referral are expected to improve when performance metrics are reported to the organizational leadership.

Section 5: Dissemination Plan

Introduction to Plan Implementation

The clinical practice gap identified and addressed by this EB-QIP was the inconsistent and unreliable identification and management of excessive BMI in children of military families seeking care at a PCC. To address this gap, an organization policy with procedures was developed for the timely and reliable identification, diagnosis, counseling, and referral for management of overweight/obese children, ages 5 to 11 years. The project concluded with the organization policy with procedures, an implementation plan, and an evaluation plan. The goal for the policy implementation is to decrease the BMI of overweight/obese children within the stakeholder organization. A plan was also developed to disseminate the project deliverables to the organization stakeholders and leaders. The stakeholder organization will rely on an implementation team, composed largely of the stakeholders and expert committee, to move the planned program into action. The implementation team is responsible for the plan dissemination, data measurement, policy sustainability, and the referral intervention.

The existing organization education team will create the required education program to communicate the new knowledge and clinical strategies to impact childhood obesity, including online annual training. Once the knowledge is disseminated throughout the organization, the referral counseling appointments will be developed and accessible to PCC providers within the current electronic health record appointing system (Appendix D). This will allow direct appointing of the properly diagnosed and counseled children into the referral intervention.

Analysis of Self

In the analysis of self as a scholar, the project development process provided the opportunity to strengthen my approach to policy design and project implementation. The DNP prepared nurse is challenged by rapidly changing practices and dynamic work environments (AACN, 2006). As such, the DNP prepared nurse needs to be able to develop new policies and procedures, focused on updating clinical practice with contemporary research knowledge. The DNP prepared nurse uses a scholarly approach to clinical practice focused on solving problems within the context of the larger health care delivery system to positively impact outcomes (AACN, 2006). The most tremendous impact has been that of emphasis on practice and on-going improvement of health outcomes.

This project provided the opportunity for scholarly discovery and integration of new knowledge into existing processes and practices. The ability to use evidence-based research, organizational metrics, Air Force strategic priorities, and clinical experts to create an evidence-based policy through a consensus building process was a rewarding experience. Then, presenting the resulting policy to the organizational leadership provided a valuable experience, a structured communication from the clinical scholar to the organization leader to stimulate change. The integration of contemporary evidence at the organizational level was rewarding, particularly in the process to gain organizational support for the sustained implementation of a program that addresses a clinical practice gap that directly impacts patient outcomes.

In an analysis as a practitioner, the project has improved my application of existing literature with the creation of a policy program based on evidence as well as implementation at the organizational level. My role as a doctoral pediatric nurse practitioner is to practice as a clinical expert and advocate for children and design a system that generates meaningful evidence. The professional role of the DNP is ideally directly related to the ability to use evidence in program development. In creation of the policy designed to impact the care gap with childhood obesity current evidence, methods of collecting data in BMI, diagnosis, and referral tracking were reviewed. The Delphi feedback was used as evidence to create consensus policy designed to improve outcomes.

As project plan developer, the ideal for future professional development is program sustainment and continued collaboration with organizational leadership. The future of the program is dependent on the value the program possesses for the stakeholder group. The sustainment is dependent on the providers, nurses, and staff responsible not only for recognition, identification, and referral but also metric tracking and program evaluation. It is the leadership role of the DNP to develop evidence-based practices into a plan that improves outcomes of the targeted population.

Summary

The problem was that the primary care setting lacked a policy to consistently diagnose overweight/obese military population of dependent young aged children 5- to 11-years-old, provide counseling guidance to effectively address the recommended healthful nutrition and activity pattern requirement, and refer to a proven intervention. The purpose of this project was to develop a policy for this primary care site to create

consistency by standardization of the diagnosis, counseling, and referral of overweight and obese children. The input of a committee of experts who reviewed the literature was analyzed using the Delphi technique to develop a final consensus policy. The applied policy meets the practice gap for the accurate diagnosis of overweight/obese children with the counseling and referral necessary to improve child BMI. The policy, with a plan for its implementation and evaluation, was disseminated to the organization's leadership. The goal of this policy is to decrease the BMI of overweight/obese children, which will contribute to a culture of health and positive social change.

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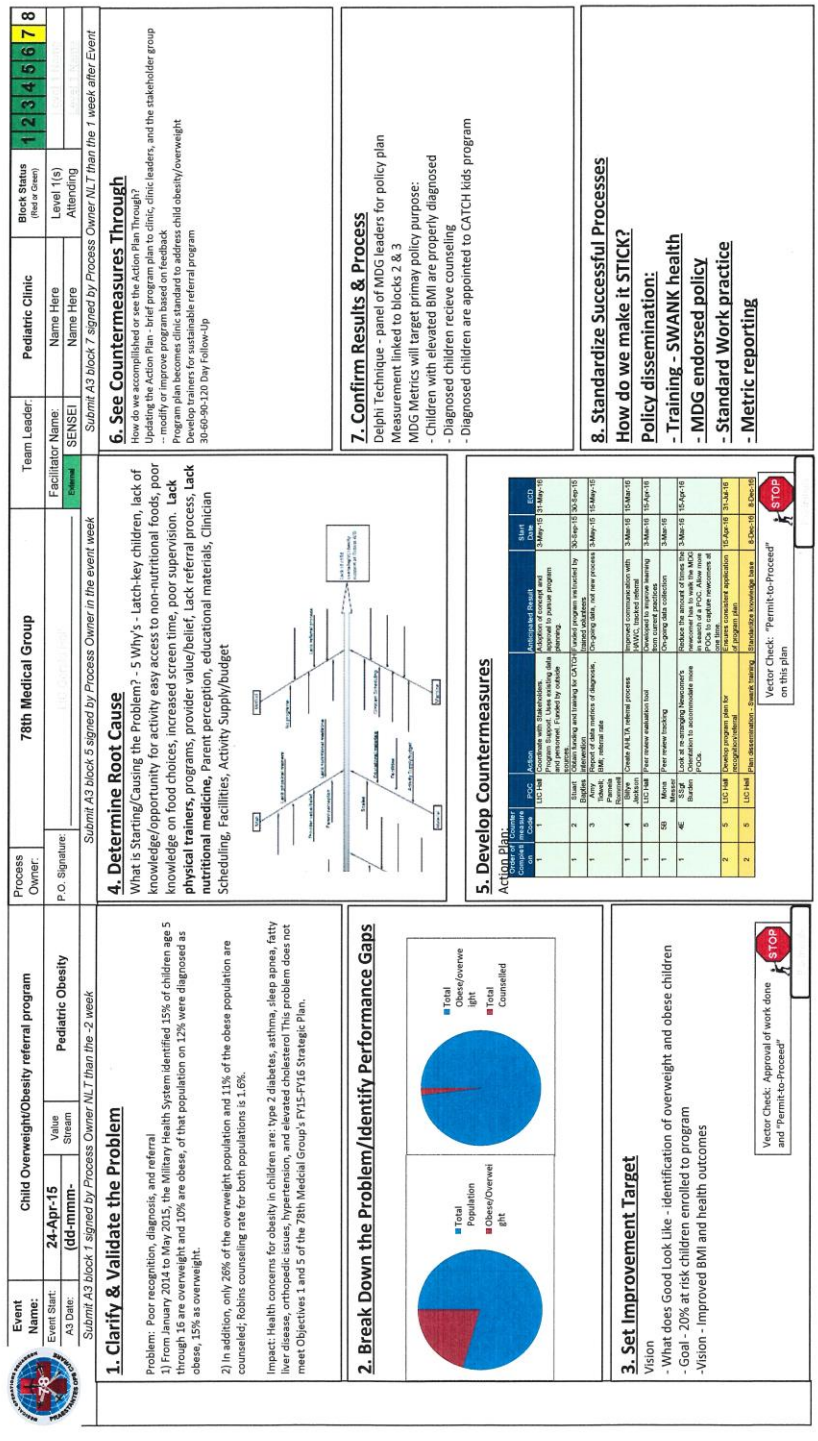
Appendix A: The A3 Process for Innovation



Appendix B: revised Health Belief Model Permission

From: Gerald Hall
To: HALL, GERALD W JR Lt Col USAF AFMC 78 MDOS/SGOC
Subject: [Non-DoD Source] Fwd: Utilization of the revised HBM model
Date: Tuesday, April 04, 2017 9:01:37 PM

---------- Forwarded message ----------
From: Gerald Hall <gerald.hall@waldenu.edu <mailto:gerald.hall@waldenu.edu> >
Date: Fri, Jan 29, 2016 at 9:29 PM
Subject: Utilization of the revised HBM model
To: j.roden@uws.edu.au <mailto:j.roden@uws.edu.au>

Hello,
I am currently working on my program proposal towards my degree in a Doctor of Nursing Practice program. I am creating a program plan for child obesity that include the parent and would like to use your model as a reference. I would like to have a figure that depicts the model and I am requesting your permission. Please advise. Thank you.

--

Respectfully,

Jerry Hall

Appendix C: Delphi Method Evaluation Questions

Expert Committee session 1 interview questions

1. Is the process, as shown, effective for this organization to recognize, diagnose, and refer children that meet the established overweight and obese measures?
2. Could any improvements be applied to the recognition of overweight or obesity?
3. Could any improvements be applied to the diagnostic process?
4. Could any improvements be applied to the process of referral to the CATCH program?
5. Following the presentation and discussion of the process improvement, what other changes need to take place in order to arrive at a consensus for policy development?

Expert Committee session 2 interview questions

1. Did the suggested improvements meet the needs for group consensus?
2. Further iterations will depend on responses from the expert committee.

Appendix D: Child Overweight and Obesity Standard Operating Procedure

PEDIATRIC OPERATING PROCEDURE XX-XX

BY ORDER OF THE COMMANDER of the XX MEDICAL OPERATIONS SQUADRON
22 December 2016 *Nursing*

CHILD OVERWEIGHT AND OBESITY DIAGNOSIS AND EVALUATION

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

OPR: XX MDOS/SGOC Certified By: XX MDOS/SGOC (Lt Col. Last Name)

Supersedes: New program Pages: 6

This operating instruction establishes procedures governing evaluation of overweight and obese children from this clinic in accordance with AFI 44-102, *Medical Care Management* and current American Academy of Pediatrics (AAP) recommendations.

Background: Excess weight in children has been stratified into the categories of overweight and obese. These categories are defined as body weight that is greater than what is considered healthy for children of a certain height (CDC, 2000). Overweight and obesity are uniquely defined for children and utilizes the calculated percentile of height and weight against age-by-gender body mass index (BMI) (CDC, 2000). The Centers for Disease Control and Prevention (2015) have assigned risk of long-term consequences by BMI measurement for overweight as equal to or exceeding the 85th and obese the 95th percentiles. In general, one in three children in the United States fits into this definition of overweight or obese.

1. Responsibilities:

1.1. A plan for a health promotion program must address the value of dietary adjustment, such as increasing fruit and vegetable while limiting fat and sugar intake, and increasing physical activity while decreasing sedentary activities such as television, gaming, and computer time, have the most influence for obesity treatment and prevention. This information will be documented in the patient encounter in the Armed Forces Health Longitudinal Application (AHLTA).

1.2. The function of diagnosis and referral will be the most critical role with the primary care providers. The proposed mechanism of referral will empower utilization of the CATCH program which is an existing after-school and evening program that is to be used as the referral counseling for the primary care setting.

1.3. CATCH Appointments will be made by the diagnosing provider, clinic nurse, or medical technician or administrator for the Health and Wellness Center (HAWC). The HAWC, or appointed designee, is responsible for creating schedules and/or templates for these appointments.

2. Procedure:

2.1. The purpose of this procedure is for a method to improve the diagnosis and counseling of the target population, and include utilization of CATCH as the referral intervention. The program plan will involve primary care provider and clinics, children, and their families in order to not only improve documentation, but also referral of parent and child into the CATCH intervention.

2.1.1. The objective of improved diagnosis and referral is a positive impact on child health, lifestyle and BMI.

2.2. The improved documentation will be by way of recognition, correct diagnosis, and referral to the intervention. The Provider will document the following (see Figure 1):

2.2.1. After notification that the child BMI exceeds the 85th Percentile for weight the provider will add the diagnosis into the child encounter.

2.2.2. Provide and document screening lab work appropriate to age and diagnosis.

2.2.3. Provide initial healthy diet and activity counseling.

2.2.4. Appoint to HAWC – CATCH class.

2.2.5. The Provider will notify the family for any concerning lab results and refer as indicated to Pediatric Gastroenterology or Endocrinology. Biannual or quarterly follow-up will be conducted when indicated.

2.3. Measurable Outputs.

2.3.1. The availability of accurate data is a primary responsibility of the MHS through health record review and the values utilized relate directly to the organizational reported metrics which will be the planned measures of diagnosis based on BMI, counseling, and referral. This MDG developed policy includes the MHS metrics for diagnosis and counseling and utilizes reported metrics of diagnosis, counseling, and referral of

overweight/obese children, and CATCH intervention appointment utilization. Data collected will include child overweight and obesity diagnosis, BMI, documentation of counseling, and appointment utilization rates.

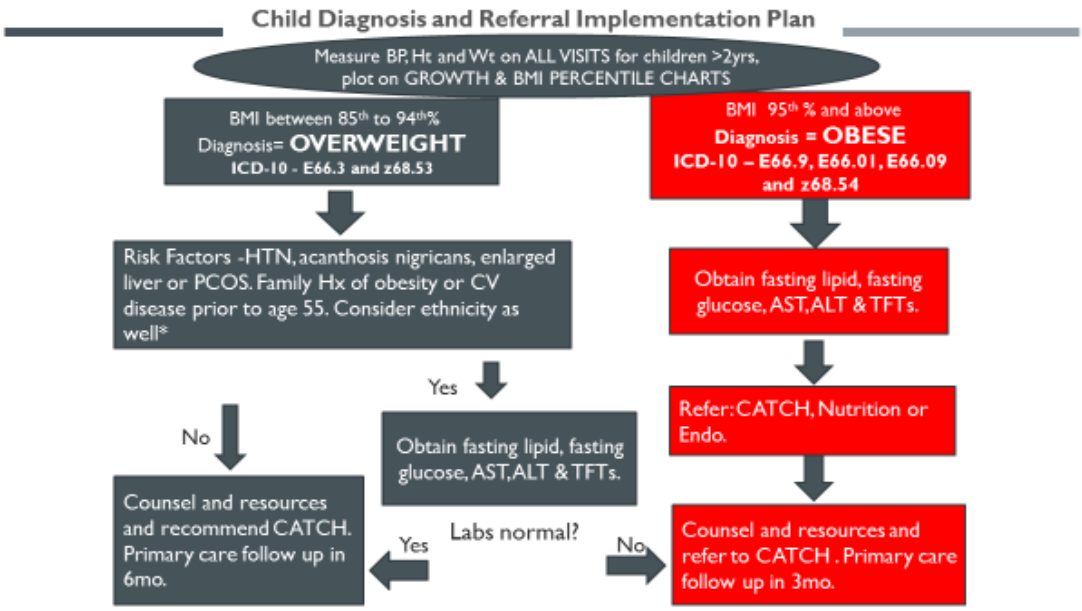


Figure 1. Diagnosis and referral process.

2.4. The definitions for terms used:

2.4.1. Child Overweight is a calculated measure for BMI and classified per the CDC with a height, weight, age, and gender specific percentage equal to 85-94% (CDC, 2000).

2.4.2. Child Obesity is a calculated measure for BMI and classified per the CDC with a height, weight, age, and gender specific percentage greater than 95% (CDC, 2000).

2.4.3. Nutrition and Activity Counseling includes documentation or referral for each activity as identified by administrative review of a medical record (NCQA, 2009).

2.4.4 Program participant is a child identified in the primary care clinic that is counseled and referred to the CATCH healthy eating and activity program.

2.5. The CATCH class is a rolling session of 12-16 appointments to complete the training.

2.5.1 All classes take place at the Health and Wellness Center Classroom and gym unless otherwise advertised.

2.5.2 Instructors are volunteers from the Services Flight, Health and Wellness Center (HAWC) and the Medical Group. Continuity with instructors is critical to sustainment and training classes will be accomplished by the trainers on a quarterly basis.

2.5.3 Process to appoint to a HAWC encounter in CHCS will be the same as for each HAWC however selection of the visit with the CHCS comment "CATCH visit" will be needed to insure proper appointing and accounting for class size and data collection.

First and Last Name, Lt Col, USAF, NC

Health Services Flight Commander

Date Reviewed: Signature:

Attachments:

1. Annual Training Slides

Attachment 1.

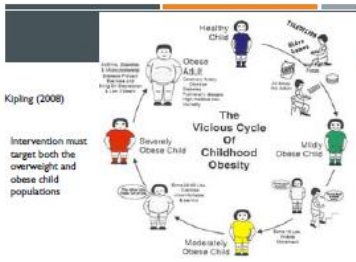
PROCEDURE TO ADDRESS CHILD OBESITY FROM THE PRIMARY CARE SETTING

HEALTH PROBLEM FOR PROPOSAL FOCUS

- Since 1980, the obesity rates in children 6 to 11 years of age has increased from 7% to 18% (CDC, 2015).
- 1 out of 3 children in the United States are overweight or obese (Cawley, 2012).
- In 2008 annual medical cost of obesity in the U.S. was $147 billion (CDC, 2014).
- Childhood obesity, attributed to **a lack of physical activity and poor diet**, leads to co-morbidities such as type 2 diabetes, asthma, sleep apnea, fatty liver disease, orthopedic issues, hypertension, and elevated cholesterol (Gauthier & Krajicek, 2013)

RELEVANCE TO PRACTICE SETTING

- Military Healthcare System (MHS) children diagnosed as overweight by service were Army, 15%; Air Force, 13%; and Navy 14%. Children diagnosed as obese were Army, 12%; Air Force, 10%; and Navy 12% (Wilson, 2012).
  - The combined obesity and overweight prevalence at the stakeholder organization from January 2014 through May 2015 was 26%.
- A recent study documented that in the obese population only 26% were counseled, and in the overweight population only 11% were counseled (Reyes, 2015).
- The overweight MHS children were counseled infrequently with the Army at 1.7%, Air Force at 1.6%, and Navy at 1.4% (Wilson, 2012).



PROBLEM STATEMENT

- The problem is that there is a lack of effective healthful nutrition and activity pattern counseling available to parents and children in the target population of overweight or obese military dependent young aged children at Robins Air Force Base.

PURPOSE

- The evidence supports improved health and BMI when a well-evidenced and accessible healthy living intervention is utilized (Jacobson & Melnyk, 2012; Small, Bonds-McClain, Melnyk, Vaughn, & Gannon, 2014).
- The objective of this program is to improve the diagnosis and counseling of the target population, and include utilization of CATCH as a referral intervention. The program plan will involve primary care provider, medical group staff, targeted children, and their families in order to not only improve documentation, but also referral of parent and child into the CATCH intervention.
- The improved documentation will be by way of recognition, correct diagnosis, and referral to the intervention

PROCESS OBJECTIVES

- The objective for implementing this process and referral to the CATCH intervention is to decrease the BMI of overweight and obese children enrolled at 78th MDG.
- The process will improve the diagnosis and counselling documentation, improve referral to the CATCH intervention by providers and 78th MDG personnel.

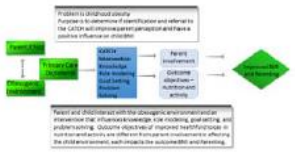
PROGRAM PLAN OBJECTIVE

- The three-fold project objective will be to:
  - Improve the diagnosis of overweight and obesity based on BMI
  - Improve referral to the CATCH intervention
  - Develop program training, policies, and documentation required to create a sustainable program that aligns with the organizational strategic plan

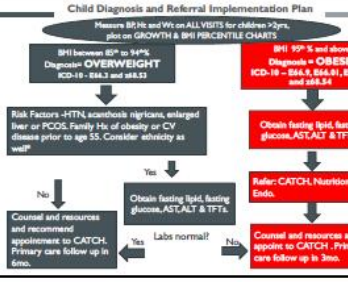
DEFINITIONS – OBESE/OVERWEIGHT

- CDC definitions
  - Ages 2 to 18 use BMI percentile (age/gender)
    - Underweight: < 5th percentile
    - Normal weight: 5th to < 85th percentile
    - Overweight: 85th to < 95th percentile
    - Obese: ≥ 95th percentile
  - Ages 0 to 2 use height vs. weight (age/gender)
    - Overweight: ≥ 95th percentile
- Obese children more likely to become obese adults
- Obese individuals have increased incidence of diabetes, HTN, osteoarthritis, cardiovascular disease, apnea, asthma, psychosocial consequences and cancer

PROGRAM DESIGN



Child Diagnosis and Referral Implementation Plan



PROGRAM PLAN REFERRAL INTERVENTION

- The primary care/point of care level will consist of:
  - Primary team members of Physicians, Advanced Practice Nurses, Clinic Nurses
  - Disease Managers, Quality Services, and Fitness Staff
  - Key community team members will be staff from Youth Services and Child Daycare Center.

CATCH RESOURCES – FUNDS AND TRAINERS

- The MDG, Health and Wellness Centers (HAWC), Children's Daycare Center (CDC), School age services, and Youth Programs (YP)
  - Provide the sustainable group of trainers and instructors
  - The organizational missions facilitate their involvement as organizations that are most invested in the military child population
  - The leadership will participate in a working group as well as the program funding resource
  - Most recent training 9 Nov 16 – 10 CDC staff trained; 32 trained to date. 10 within the MDG.
  - Next training January 2017

CATCH INTERVENTION

- The trainers, instructors, and equipment will be utilized for the planned program in one hour evening weekly sessions
- Parent and child recruitment will primarily be through referral, but available to the community by advertising, and social media
- The program plan **will not generate new data**, but will report community outcomes of effectiveness in BMI differences of overweight and obese children
- The complete intervention will be 12 to 16 sessions and offered continuously throughout the year

EVALUATION PLAN

- Objective: Develop program training, policies, and documentation required to create a sustainable program with measurable outputs
- Measure impact by:
  - Diagnosis, Referral and BMI changes
  - BMI change
- Disease management will be responsible for data collection
- Program team evaluation of metric data
- Evaluation will include leadership feedback

CHILD OVERWEIGHT/OBESITY REFERRAL PROGRAM PLAN

Questions?