Quality Improvement-Translation of Clinical Practice Guidelines for Childhood Obesity by Primary Care Providers

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In partial fulfillment of the requirements for the

Doctor of Nursing Practice

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Date of Submission:	May 16, 2017

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Abstract

Childhood obesity is growing at an alarming rate. It is noted that guidelines for the prevention, identification, assessment, and management of overweight and obesity in adults and children exist and are currently available for utilization in the primary care setting. The problem is that primary care providers (PCPs) are not utilizing or adhering to the present guidelines that are recommended for childhood obesity. The purpose of this project is to promote and implement a policy change at a primary care medical center in which a tracking form for healthcare providers to utilize to screen and prevent childhood obesity is developed. The aim is to improve the PCP's adherence to screening and prevention guidelines for childhood obesity in a primary care center using a tracking form that is founded on evidence-based research and collaboration within the primary care center. The Plan Do Study Act (PDSA) model guided practice changes and outcome measures. Key outcomes presented a significant ($p < .0001$) practice increase in the identification of at-risk youth for childhood obesity as well as a significant increase ($p < .05$) in documentation to indicate education and community resources for at-risk youth and their families. Practice change incorporating the recommended guidelines for childhood obesity had a positive effect on PCPs, the youth, and their families.

Introduction and Background

A correlation between obesity and chronic diseases such as cardiovascular disease, diabetes mellitus and hypertension has been documented. Life expectancy for those who are obese is lower than those that maintain a normal Body Mass Index (BMI) (Centers for Disease Control and Prevention, 2011). Earlier death rates in adulthood have been linked to excess weight in the younger ages (American Heart Association, 2013). With approximately 12.5 million U.S. youth who are obese, and approximately 11 million more being overweight, it is estimated that one in three children and adolescents in the United States is obese or overweight" (Partnership for a Healthier America, 2016)

The cost of health care for obesity-related diseases (diabetes mellitus, hypertension, cardiovascular disease, etc) has skyrocketed and is predicted to continue to grow. Childhood obesity is responsible for 14 billion in direct medical costs and is estimated to cost $19,000 per obese child as compared with those of a normal weight child (Duke Global Health Institute, 2016). Chronic diseases linked to obesity were once seen mainly in adults, but are now becoming increasingly prevalent in children. The Centers for Disease Control and Prevention (CDC), (2016) reported "The prevalence of obesity was 8.9% among 2-5-year-olds compared with 17.5% of 6-11-year-olds and 20.5% of 12- to 19-year-olds (CDC, 2016). Prevention of obesity can begin in a clinical setting.

The Institute of Medicine has recommended to "expand the role of health care providers, insurers and employers in obesity prevention" (Institute of Medicine, 2012). Increasing education, behavioral modification and increased screening for obesity are current methods of preventing obesity and promoting health and well-being. But, despite

recommendation, many healthcare providers do not adhere to national health guidelines for assessing obesity. It was found only 68% of pediatricians and 39% of family physicians throughout the country consistently assessed their patients for obesity using BMI percentiles (Huang et al., 2012). During routine examinations, 70% of obese patients did not receive a diagnosis of obesity and 63% did not receive education, behavioral modification, or further treatment for obesity (STOP Obesity Alliance, 2010).

Primary care provider (pCP) is defined as physicians, nurse practitioners (NPs) and physician assistants (PAs). Assessing patient information for obesity has been found to be incomplete and inconsistent in the clinical setting and should be included during the patient encounter. pCPs are a respected resource of information and have an excellent opportunity to interact with patients. An individual may visit their healthcare provider average of 1.8 times per year (National Center for Health Statistics, 2012).

Problem Statement

Guidelines for the prevention, identification, assessment, and management of overweight and obesity in adults and children include how to assess whether people are overweight or obese; what should be done to help people lose weight; how to care for people who are at risk due to their weight and how to help people improve their diets and increase their physical activity (The National Institute for Health and Clinical Excellence (NHS), 2012). The problem is that PCPs are not utilizing or adhering to the present guidelines that are recommended for childhood obesity.

Purpose Statement

The purpose of this project is to change practice through the development and implementation of a tracking form to be used at a primary care center for PCPs to use to

screen and prevent childhood obesity. The aim is to improve PCP adherence to screening and prevention guidelines for childhood obesity in a primary care center using a tracking form that is founded on evidence-based research and collaboration within the primary care center.

Project Objectives

Project objectives include the following:

1. Improve the PCP's ability to identify at-risk children for obesity.
2. Determine if a tracking form that is founded on evidence-based research by the PCPs of a rural primary care center is effective in increasing the identification of childhood obesity.

PICO Question

Will a change in policy directed at utilizing a tracking form for identifying overweight/obese children at a primary care center by its PCPs increase the identification of overweight/obese children?

Literature Review

The purpose of this literature review is to provide and present a foundation for the adherence to recommended guidelines for childhood obesity by PCPs through the consistent identification of overweight/obese children. This foundation represents the importance of adhering to the recommended guidelines for childhood obesity in a rural primary care center. Currently, the primary care center does not consistently identify overweight/obese children. The focus of this literature review is on the PCP and the difficulties in identifying overweight/obese children. The intention is to establish that a gap in identification of overweight/obese children exists.

The following databases were examined for this systematic review: Medline, CINAHL, ERIC, Cochrane Central Register of Controlled Trials (CENTRAL), PSYCLinfo, Science Citation Index, and Social Science Citation Index, from 2011 to present. Reference lists from recent studies were also viewed to reinforce what was found during the formal search. Searches for references from studies and reviews were an element of data sources and were conducted for the following key words: healthcare provider; childhood obesity and practice guidelines for childhood obesity.

A summary of research PCPs focused primarily on identification of overweight/obese children in a clinical setting, such as primary care was completed, but most research was focused on overweight/obese adults. PCPs are not diagnosing overweight and obesity in their patients. It was noted that only 45 percent of patients with a BMI >25 were told that they were overweight (Post et al., 2011). PCPs whether specialized in pediatrics or primary care can identify overweight/obese children, but the level of the healthcare provider's competence, and motivation for change was a barrier (Schalkwijk, Nijpels, Bot, & Elders, 2016). PCPs struggling to discuss overweight/obese issues with their patients are noted to lack the training, patient materials, and time (Jay, 2013; Bleich, 2012).

Barriers to practice

Practice change requires the development and testing of an effective dissemination approach that addresses barriers (Harris et al, 2012). It is currently accepted through literature review and recent research that PCPs are a resource and want to help their patients discuss their weight. But, many PCPs lack the time, knowledge of clinical guidelines, the training, and skills to do so (Dryde et al., 2012; Plourde, 2012).

Theoretical Framework

Nurses are known for developing innovations and initiating change that increases patient outcomes (American Nurses Association, 2016). Innovation is an unfamiliar idea or process to individuals within a social system that spreads from individual to individual until the idea is no longer unfamiliar and is sustained (Zhang et al., 2015). Rogers' Theory of Diffusion of Innovations explains how innovation or concepts can be accepted from one individual to another and how it proliferates through groups for implementation. Rogers (1995) stated, "The four main elements of Rogers' Diffusion of Innovations are the following:

1. Innovation: The social process, relying on effective communication between two or more individuals who perceive themselves to be similar in terms of beliefs, status, and education.
2. Communication: The process by which individuals develop and share information with each other to achieve common understanding. The communication process requires an innovation, a unit of adoption (individual or organization) that knows the innovation and has used it, other units of adoption who have not yet experienced the innovation, and a means or channel of communicating between the two units.
3. Time: Innovation-decision process; adopter categories and the rate of adoption are the three components of time.
4. Social System: All diffusion occurs within a social system, whose members may be individuals, groups, organization, or subsystems, but who share a common goal or objective that links them together as a social system. Opinion leaders,

change agents and champions are individuals within a social system" (Rogers, 1995).

The diffusion of innovation begins with one or a group of individuals that share a vision and as increasingly more people begin to adopt the vision it becomes diffused amongst the population completely. Kaminski (2011) stated the "Diffusion of Innovation theory's five-stage adoption process include knowledge or awareness (the individual is exposed to the innovation but lacks complete information); persuasion or interest (the individual becomes interested and seeks more information); decision or evaluation (the individual mentally applies innovation and decides whether or not to try it); implementation or trial Stage (the individual utilizes the innovation); and lastly, the confirmation or adoption (the individual decides to continue to use the innovation" (Kaminski, 2011). The adopter's perception of innovation determines the rate of adoption and acceptance and is influenced by the innovation's characteristics such as relative advantage, compatibility, complexity, trialability and observability (Mkhize, Mtsweni & Buthelezi, 2015).

The application of Rogers' Diffusion of Innovation is easily applied to healthcare research and clinical practice. New ideas, processes and technology are continuously being developed for higher quality of patient care. Innovations, initiated by stakeholders, such as PCPs or healthcare organizations, usually are seen as a way to make positive changes in clinical application or delivery through its adoption by others (Batras, Duff, Smith, 2014). Rogers' Diffusion of Innovation is applied for this project to ensure that an increase in the screening for and prevention of childhood obesity will occur through the adoption of a tracking form by the PCPs of a primary care center.

Project and Study Design

Population of interest & stakeholder

The practice setting was a primary care medical center in Porterville, a rural area in the Central Valley of California. The staff consisted of seven PCPs, three visiting PCPs, fifteen nurses, two x-ray technicians, twenty-five medical assistants and front office staff. The population of interest was the practice staff that includes seven PCPs, three visiting PCPs, and fifteen nurses. Identified stakeholders were members of the development team (Director PCPs, PCP, Manager of Nurses); participating PCPs, nurses and support staff.

Recruitment methods

Once the tracking tool was developed, Administration of the primary care medical center desired to utilize the tracking tool immediately. Participation in the project was voluntary and recruitment was initiated during a meeting that was led by the development team.

Tools/instrumentation

An audit (Appendix A) tool was created and used per chart review to determine the provider's compliance to using the tracking tool (Appendix B) for children that are at risk for obesity and if the tracking form was implemented. Chart reviews were conducted and data was collected from identified charts that used the tracking form. The Statistical Package for the Social Sciences (SPSS) program was used for statistical analysis. In addition, participants were provided with a post-questionnaire (Appendix C) 4-weeks after implementation of the tracking form to indicate adoption of the form and sustainability.

Description of Project Design

This DNP project consisted of the following phases: a retrospective chart review (phase 1); development of the tracking tool for childhood obesity (phase 2); implementation of the tracking tool for childhood obesity (phase 3); postintervention chart review (phase 4) and postintervention questionnaire (phase 5). All phases were implemented by the DNP student within the primary care medical center.

Phase 1: Retrospective Chart Review

The retrospective charts that were reviewed did not include any identifying information and all information was confidential. Each chart was assigned a number. The data collected included the number of children and adolescents, aged 5 – 18 years that presented to the medical center for wellness exams between June 01, 2016 and September 30, 2016 and assessed whether the PCP at the primary care medical center diagnosed the child or adolescent as overweight or obese and recommended or offered overweight/obesity education and community resources. This timeframe was chosen because children and adolescents would be presenting for wellness checks before entering higher grade levels and for their participation in sports. The DNP student recorded this data onto an Excel worksheet.

Phase 2: Development of Tracking Tool for Childhood Obesity.

The Plan Do Study Act (PDSA) model guided the development of the tracking tool for childhood obesity to determine practice changes and outcome measures. The PDSA objectives were to evaluate the effectiveness of using a developed tracking form; perform a preliminary assessment of the HCP's satisfaction with the new tracking form; and identify areas of improvement. The principles of PDSA were implemented.

Communications with primary care center's PCPs and nursing staff occurred so that the need to address childhood obesity would be acknowledged and committed to. Education for clinical guidelines, communication skills and documentation was completed formally during scheduled meetings and informally through emails. A team was formed that included system leadership, technical expert and day-to-day leadership. A PCP, nurse manager, medical assistant, and Director of PCPs formed a team to design a user-friendly tracking tool.

This tool was part of the patient chart (Fig. 1). It recorded anthropometric measurements, nutritional and physical activity history, motivational interviewing, referral to appropriate community resources and follow-up. An aim was established that was agreed upon by the team. The aim for the team was to increase the number of children identified as overweight/obese significantly during the first month. Evaluation of how effective the tracking tool was completed through PDSA.

Figure 1 Excerpt from tracking tool

Section A: Health Risk Assessment Prompts		
Nutritional Intake:	**Weekly Hours of Physical Activity:**	**Weekly Hours of Sedentary Activity:**
School Lunch per Week:	Active Play:	Reading:
Fast Food per Week:	Community Resources:	Screen Time: (TV/Computer usage)
Daily Meal Ratio: (Protein to Carbohydrates)	Outdoors Activities:	Video Games:
	Sports:	

Phase 3: Implementation of the tracking tool for childhood obesity

The objectives pertained to the utilization of the tracking tool by PCP at each encounter in identifying children and adolescents as overweight or obese and once a diagnosis of overweight or obesity is established, education and community resources were provided to the patient. At each wellness exam, the assigned nursing staff recorded

patient anthropometric data, nutritional information, media screening time and physical activity time. The nurses utilized the developed tracking tool and the PCPs were committed to utilizing the tracking tool to diagnose overweight or obesity. The tool indicated to the PCP to provide education and community resources.

Phase 4: Postintervention Chart Review

A post-intervention chart review was conducted and did not include any identifying information and all information ws confidential. Each chart was assigned a number. The information collected included the number of patients that were identified as overweight or obese and the number of identified patients that received education and community resources. The DNP student recorded whether a diagnosis of overweight or obesity was recorded appropriately and whether education and community resources was provided. This data was recorded onto an Excel worksheet.

Phase 5: Postintervention Questionnaire

The objective was to provide the participating PCPs and nurses with a post-intervention questionnaire to indicate sustainability of the usage of the tracking form for childhood obesity. The post-intervention questionnaire was provided to PCPs and participating nurses on two separate days, May 03, 2017 and May 06, 2017, to ensure that participants had opportunity to fill out the feedback questionnaire.

Data Collection Procedures

The DNP student performed a retrospective manual chart review for pre-intervention and for a 4-week postintervention chart review to determine if the tracking tool was completed and provided needed information. A data collection of variables that included nutritional information, media screening time, physical activity time, height,

weight, BMI, plotting on the CDC growth chart, blood pressure and documentation of education and counseling process were organized into an Excel spreadsheet.

Projected Intervention Timeline

The proposed timeline for the DNP project was as follows:

1. April 04, 2017: Meeting with Development Team (Director of PCP, PCP, nurse manager) to present and receive approval for draft of tracking tool.
2. April 05, 2017: Sign-ups for presentation/training for the tracking tool
3. April 06 & 08, 2017: Presentation/training for the tracking tool is presented to PCPs and nurses; tracking tool is utilized after presentation by attendees
4. April 11 - 28, 2017: Evaluation of the tracking tool by seven PCPs and fifteen nurses
5. April 08, 15, 22, 29, 2017 and May 06, 2017: The DNP student collected data on usage of the tracking tool and inputted on an Excel spreadsheet and forwarded the findings to the Development Team members
6. May 03 and May 06, 2017: Post-intervention questionnaire was provided to and collected from all participants.
7. May 07, 2017: Collected data was exported to SPSS. Fisher's exact Test was used to compare pre-and post-data indicators. Findings were forwarded to Development Team members.

Ethics and Human Subject's Protection

The practice project focused on the implementation of a practice change through development of a screening tool to be used at the primary care medical center. Protecting the anonymity and confidentiality of participants is another practical component of

ethical considerations. Protecting those aspects is a DNP student's duty. During the data collection process, the participant should be provided as much privacy possible to ensure that the information being provided is not tampered with or shared.

The DNP project will be conducted at a primary care clinic located in Porterville, California. Privacy for participants will be maintained and no identifying criteria will be collected. Even though individual patient data will be collected for statistical analysis based on a chart review, the patient is a participant, but this data is part of the findings and outcome of the practice changes for this project. This information will be anonymized utilizing a number and no identifiable personal information. Data will be collected only by the DNP student. There is a minimal risk involved to the participants of this project. The primary care medical center granted permission to implement the project in this setting and the IRB approval was not needed by the primary care medical center. Per IRB guidelines, the project meets except status because the activity involves no more than a minimal risk to the participants a participation is voluntary in the DNP project. There is no compensation for the participants volunteering to participate in this project. This project was considered exempt by the Institutional Review Board of Touro University Nevada.

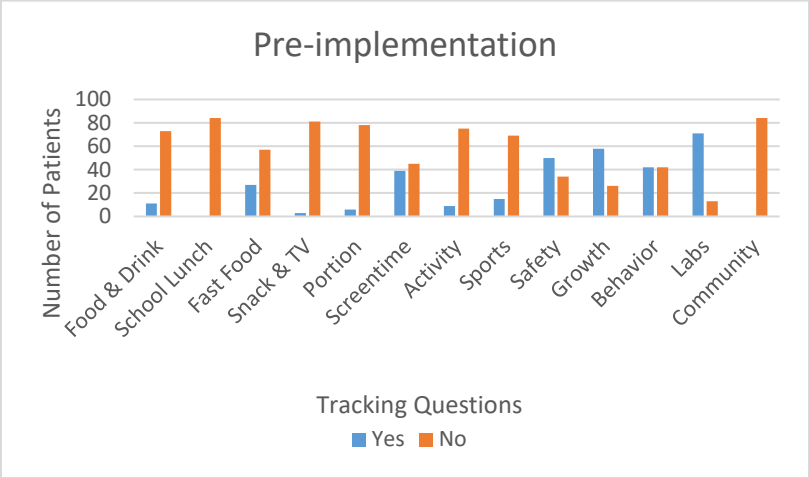
Plan for Analysis/Evaluation

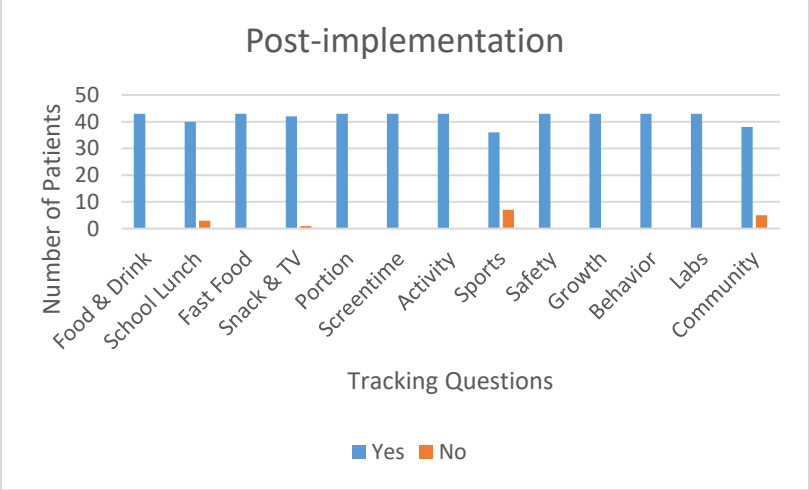
Data was collected onto an Excel spreadsheet. This data was then exported into a SPSS software. Fisher's Exact Test was used to test the association between pre- and post-implementation data indicators of the tracking tool with significance set at $P < .05$.

Analysis of the results

Translation of clinical guidelines for childhood obesity occurred successfully resulting in an increase in the identification of children that were overweight or obese. Once identification for at-risk children was established, education and community resources were provided to the youth and the youth's family.

Figure 2 Pre-implementation and post-implementation





Assessment of fidelity presented an increase in the identification and documentation of

at-risk children for childhood obesity by the PCPs. The use of the tracking form by PCPs during each encounter illustrates the increase in the implementation of recommended guidelines for childhood obesity (Fig. 2).

Documentation increased significantly ($P < .0001$) for PCPs in recording the youth's food/drink, school lunch preference, fast food consumption, snacking in front of the television or computer screen, portion size of foods, screen time, what type of activities, what type of sports played, safety guidelines, growth and behavior changes, lab results, if any and community resources available. PCPs stressed the use of community resources as a way for the youth and their families to become aware of activities that are available to them, as individually or as families after school and on weekends (Table 1).

Community resources:	
• Boys & Girls Club • Local Farmers Market • Local Parks	• Parks & Recreation Sports Team • Public Swimming Pool • Youth Center

Discussion of the findings

Recommended evidenced-based guidelines for the screening and identification of overweight/obese children are in place for PCPs to utilize, but translation into practice can be challenging. By utilizing a tracking tool that was developed, buy-in for its usage was simplified. The tracking tool was a reminder for the PCP to asses for childhood obesity during each encounter at the primary care medical center. Usage of the tracking tool improved documentation of overweight/obesity identification. By implementing the tracking tool during each encounter, the PCP became a change agent committed to identifying overweight/obese children and facilitating lifestyle change through patient education and referral to community resources.

The use of the PDSA model allowed participating providers and nurses to make adjustments to the tracking tool accordingly to increase sustainability. By allowing participation and input from the providers and nurses in developing and modifying the tracking tool, Roger's Diffusion of Innovation was represented. The adoption of the tracking tool by the participants was seen as successful in increasing the identification of overweight/obese children. Participation (seven PCPs and 15 nurses) was 100%. The size and consistency of the staff ensured that educational and training sessions were met by all participants and may have affected the compliance rate.

Documentation and identification of children as overweight or obese increased significantly with use of the tracking tool. This may indicate a change in which PCPs recognize that obesity is an actual diagnosis. Documentation of body fat percentage (BF%) was new to the previous documentation form used at the primary care medical center. It was noted by participants that a high percentage in fat could be seen in youth that presented within normal guidelines for BMI. This may indicate a change in which participants recognize that both measurements (BMI and BF%) are important indicators for health status and disease risk.

Satisfaction with the tracking tool by participants and parents was not included within the scope of this project. The DNP student received spontaneous favorable feedback from both PCPs, and nurses. Specific data was not collected regarding the indicators that participants and parents presented, but the use of the tracking tool improved patient care by initiating a change in practice. It allowed the focus to be on identifying overweight/obese children and facilitated discussion on lifestyle changes for the youth.

Significance/implications for nursing

The aim of this project was to develop a tracking form that would be collaborated with the staff within a primary care medical center to ensure buy-in and adherence to the guidelines for the screening and identification of childhood obesity. Although, the tracking form was newly implemented, an increase in PCP awareness of the screening and identification of childhood obesity guidelines was a start for this primary care center's ability at identifying at-risk children. Implications for future practice are to continue to increase PCP's awareness of evidence-based guidelines for childhood obesity with the support of the key stakeholders of the primary care medical center in which the project was implemented. Implementation of the evidence-based guidelines is essential for decreasing the number of at-risk youth for childhood obesity.

Limitations of the project

Project limitations include the short time period in which the tracking tool was initiated and implemented. A PDSA model should be completed more than one cycle for continuous improvement to occur. For this project, the PDSA cycle was completed only once and therefore, improvement built upon what was learned from the first cycle was not included within the scope of this project. Another limitation was that the chart reviews from the pre-intervention data was collected from the documented wellness exams, whereas the chart reviews of post-intervention data was collected from the documentation of all encounters which included wellness exams and acute visits. This difference from the data collected from the chart reviews includes: pre- and post-intervention collected data compromises the validity of the pre- and post-intervention

data comparison. One final limitation is due to insufficient data to predict whether the use of the tracking tool would be effective in larger practice settings.

Areas for further dissemination

The areas for further dissemination include additional research studies and projects to identify whether the recommended guidelines for childhood obesity, as part of component of the electronic medical records (EMR), will serve to simplify tracking and improve PCP's compliance.

Longitudinal studies to track clinical outcomes and sustainability are needed to see if other barriers exist after identification of overweight/obesity is established for PCPs compliance.

Conclusion

The quality improvement project in a primary care medical center proved to be effective in translating recommended guidelines into clinical practice. Once developed and implemented the tracking tool prompted the PCP to ask questions that assessed the patient for indicators for at-risk behaviors for childhood obesity. The project also increased the usage of community resources by the patient and patient's family. Implementation of an evidence-based tracking form offers an optimistic process to filling the gap caused by undiagnosed children that are overweight or obese. This identification of at-risk children for childhood obesity is the first step in halting the alarming rate at which childhood obesity is growing. As identification through translation of recommended guidelines occurs by the PCP, childhood obesity can be addressed one youth at a time.

References

American Heart Association. (2013). *Overweight in children.* Retrieved from http://www.heart.org/HEARTORG/GettingHealthy/Overweight-in Children_UCM_304054_Article.jsp

Batras, D., Duff, C., Smith, B. J. (2014). Organizational change theory: implications for health promotion practice. *Health Promotion International,* 31 (1): 231-241. doi: 10.1093/heapro/dau098

Bleich, S. N. (2012). National survey of U.S. primary care physicians' perspectives about causes of obesity and solutions to improve care. *British Medical Journal,* 2 (6). doi: 10.1136/bmjopen-2012-001871.

Centers for Disease Control and Prevention. (2016). *Childhood obesity facts.* Retrieved from http://www.cdc.gov/obesity/data/childhood.html

Centers for Disease Control and Prevention. (2015). About child & teen BMI. Retrieved from https://www.cdc.gov/healthyweight/assessing/bmi childrens_bmi/about_childrens_bmi.html

Centers for Disease Control and Prevention. (2011). *Healthy weight - it's not a diet it's a lifestyle! About BMI for adults.* Retrieved from http://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html

Dryden, E. M., Hardin, J., McDonald, J., Taveras, E. M., & Hacker, K. (2012). Provider perspectives on electronic decision supports for obesity prevention. *Clinical Pediatrics,* 13 February 2012. doi: 10.1177/0009922812436549

Duke Global Health Institute. (2014*). Over a lifetime, childhood obesity costs $19,000 per child.* Retrieved from https://globalhealth.duke.edu/media/news/over-lifetime-

childhood-obesity-costs-19000-child

Harris JR, Cheadle A, Hannon PA, Forehand M, Lichiello P, Mahoney E, Snyder S, Yarrow J. (2012). A framework for disseminating evidence-based health promotion practices. *Preventive Chronic Disease*, 9:110081. doi: http://dx.doi.org/10.5888/pcd9.110081.

Huang, T. K., Borowski, L. A., Liu, B., Galusk, D. A., Ballard-Barbas, R., Yanovski, S. Z., et al. (2011). Pediatricians' and family physicians' weight-related care of children in the U.S. *American Journal of Preventive Medicine, 41*(1), 24-32.

Institute of Medicine. (2012). Accelerating progress in obesity prevention: Solving the weight of the nation. Retrieved from http://www.iom.edu/~/media/Files/Report%20Files/2012/APOP/APOP_rb.pdf

Jay, M. R. (2012). The impact of primary care resident physician training on patient weight loss at 12 months. *Obesity*, 21(1), 45-50.

Mkhize, P., Mtsweni, S., & Buthelezi, P. (2016). Diffusion of innovations approach to the evaluation of learning management system usage in an open distance learning institution. *International Review of Research in Open and Distributed Learning,* 17(3). doi: 10.19173/irrodl.v17i3.2191.

National Center for Health Statistics. (2012). Summary health statistics for U.S. adults: National health interview survey, 2012. Vital and Health Statistics. 2012;10(260).

Partnership for a Healthier America. (2016*). Facts about childhood obesity*. Retrieved from http://ahealthieramerica.org/resources/facts/

Plourde, G. (2012). Managing pediatric obesity: Barrier and potential solutions. *Canadian Family Physician,* 58(5), 503-505.

Post, R. E., Mainous, A. G., Gregorie, S. H., Knoll, M. E., Diaz, V. A., & Saxena, S. K. (2011). The influence of physician acknowledgment of patients' weight status on patient perceptions of overweight and obesity in the United States. *Archives of Internal Medicin*e, 171(4), 316-321. doi: 10.1001/archinternmed.2010.549.

The National Institute for Health and Clinical Excellence. (2012). *Obesity, the prevention, identification, assessment, and management of overweight and obesity in adults and children.* Retrieved from http://www.nice.org.uk/cg043

Rogers, E. M. (1995). *Diffusion of innovations*. (4th ed.). New York, N.Y.: The Free Press. Retrieved from https://www.d.umn.edu/~lrochfor/ireland/dif-of-in-ch06.pdf

Sachalkwijk, A. H., & Nijpels, G., Bot, S. D., & Elders, P. J. (2016). Health care providers' perceived barriers to and need for the implementation of a national integrated health care standard on childhood obesity in the Netherlands – A mixed method approach. *BioMed Central Health Services Research,* 16(83), 2-10. doi: 10.1186/s12913-016-1324-7

STOP Obesity Alliance, 2010). *Improving obesity management in adult primary care.* Retrieved from http://www.stopobesityalliance.org/wp-content/assets/2010/03/STOP-Obesity-Alliance-Primary-Care-Paper-FINAL.pdf

Zhang, W., Yu, P., Yan J., & Spil, I.T. (2015). Using diffusion of innovation theory to understand the factors impacting patient acceptance and use of consumer e-health innovations: A case study in a primary care clinic. *BioMedCentral Health Services Research*, 15(71). doi: 10.1186/s12913-015-0726-2.

Appendix A

Overweight/Obesity Screening Audit Tool
Manual Data Collection Sheet

Date of review _____

Patient # ___

Inclusion criterion:

Patient age between 5 to 17 years Y N

Overweight/Obesity verification (check one):

- Patient received diagnosis, written in chart
- Patient received overweight/obesity education, written in chart
- Patient received referral to community resources, written in chart
- No documentation of diagnosis
- Patient received diagnosis, written in chart

Patient was asked (check if Yes)

- What type of foods or drinks he/she consumed
- Did he/she buy school lunches
- How many times did he/she eat fast foods
- Did he/she snack while watching TV and what kinds of snacks
- Did he/she know what portion sizes of food are
- How much screen time did he/she usually do
- What kind of sports did he/she play
- Does he/she walk to and from school?
  If so, was he/she provided safety information Y N

Appendix B

Porterville Valley Promptcare Health Risk Assessment and Tracking Tool (*Version* 1)

For Children 2-18 years old

Patient Name	Date of Birth	Age	☐ M ☐ F	Today's Date	Date Last Seen

HT: BMI:

(At risk=>85th% & <95th%, Overweight=>95th%)

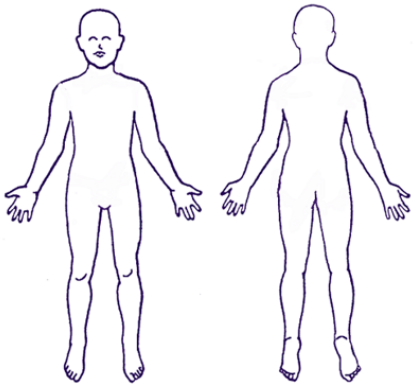
WT : BF%:

(See back for risk chart)

Previous Observed Behavior:

Observed Behavioral Changes:

Measurements



Section A: Health Risk Assessment Prompts

Nutritional Intake:	**Weekly Hours of Physical Activity:**	**Weekly Hours of Sedentary Activity:**
School Lunch per Week:	Active Play:	Reading:
Fast Food per Week:	Community Resources:	Screen Time: (TV/Computer usage)
Daily Meal Ratio: (Protein to Carbohydrates)	Outdoors Activities:	Video Games:
	Sports:	

Section B: Health Evaluation and Plan

Evaluation:

Plan:

Primary Care Provider's Signature Date

Appendix C

Quality Improvement – Translation of Clinical Practice Guidelines for Childhood Obesity
PCP Participant Survey

Thank you for serving as a participant for this Quality Improvement survey. We appreciate your time and efforts in participating in this quality improvement project. Please take about 10 minutes to help us by completing the following survey. Your responses are confidential and will be reported in group form only. We will use the information you provide to further refine the plan.

DIRECTIONS: Please mark one choice for each item about your satisfaction in participating in the Quality Improvement – Translation of Clinical Practice Guidelines for Childhood Obesity project.

1. The Tracking tool is effective in reorganizing collection of pediatric patient information.

☐Agree ☐Disagree

2. The Tracking tool identifies pediatric patients that are overweight or obese.

☐Agree ☐Disagree

3. Utilizing the Tracking tool helps to meet Porterville Valley Prompt Care's mission in increasing the number of identified pediatric patients that are overweight or obese.

☐Agree ☐Disagree

4. As a result of participating in this quality improvement project, do you intend to make a change in practice to identify and address childhood overweight/obesity concerns?

☐Yes ☐No

4a. If yes, please describe what you will do different in practice *(Performance)* and how you will accomplish this change in practice *(competence).*

4b. If no, why not? *(Please select all that apply)*

☐ The learning activity reinforced what I am already doing in practice.

☐ Lack of time and/or resources would limit making change(s) in my practice setting.

☐ There were no appropriate change options offered for my practice

Additional comments and/or improvement suggestions *(Optional)*:

Appendix D

Project Site Approval Letter

Porterville ValleyPrompt Care Medical Center
876 W. Grand Avenue
Porterville, CA 93257
Office: (559) 781-3014

March 29, 2017

Dr. Carrion
School of Nursing
Touro University Nevada
874 American Pacific Drive
Henderson, NV 89014

Re: DNP Project Site Agreement

Dr. Carrion,

Nirandorn "Don" Neville has full use of the facility for his DNP Project. A clinical site agreement is not required.

If you have any questions, please feel free to contact me.

Thank you.

Sincerely,

Dwight James, M.D., J. D.
Owner/Director