A Policy for Change, Health Education and Childhood Obesity Prevention

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The Doctor of Nursing Practice (DNP) project is a scholarly project that translates evidence-based practice (EBP) into application. These projects are formal studies that close gaps in healthcare and develop the DNP student into a content expert regarding their DNP project and project topic. The DNP student's goal is to improve healthcare outcomes and healthcare systems. The DNP prepared nurse is a continuing learner that develops scholarly inquiry into practice. The evidence of the DNP student nurse's evolution into this continuous learner and content expert is observed through the DNP student's DNP project (Pencak Murphy, Staffileno, & Foreman, 2018).

Project Description and Purpose

The project's goal was to develop a policy for the practice site to assist their healthcare providers with educating and treating overweight and obese children utilizing current EBP. As the rate of overweight and obese children continues to rise, it becomes apparent that there is a gap in healthcare regarding childhood obesity (Centers for Disease Control and Prevention [CDC], 2021b). Overweight and obese children have more health issues such as high blood pressure, high cholesterol, type 2 diabetes, asthma, sleep apnea, joint problems, fatty livers, gallstones, gastro-esophageal reflux, anxiety, and depression (CDC, 2021a). Additionally, obese children are over 50% more likely to become obese adults (American Academy of Pediatrics [AAP], 2021). Childhood obesity taxes the healthcare system's resources, and childhood obesity significantly increases the financial drain as well (Sonntag, Ali, & De Bock, 2016).

Childhood obesity is defined as a body mass index (BMI) greater than or equal to 95th percent. For a child, overweight is defined as having a BMI of 85 percent or greater. The BMI is calculated by dividing the weight in kilograms by the square of the height in meters. BMI is age

and sex specific due to children developing at different rates based on age and different rates based on if they are a female or male (CDC, 2018). Childhood obesity is also an area in healthcare where there are large disparities. Children who are Hispanic and non-Hispanic Black have the greatest prevalence of obesity, and children who are of lower socioeconomic status have a higher prevalence of obesity (CDC, 2021b). This project was based in an area's community healthcare organization that consists of 10 clinics over 2 counties. This organization, based on the evidence, was determined to be in an area with a need for intervention regarding overweight and obese children.

This project utilized the American Academy of Pediatrics' (AAP) *Algorithm for the Assessment and Management of Childhood Obesity in Patients 2 Years and Older*, as the current EBP standard for education and treatment (AAP, 2016). To provide sustainability and useability, this algorithm was adapted into the practice site's electronic health record (EHR) system. Two formative evaluations were sent out via SurveyMonkey. The first survey evaluated the need and the understanding for current evidence-based practice. The second survey evaluated how the AAP algorithm and the policy written by the DNP student were working for the healthcare providers to treat and educate their patients. A third survey was sent out as a summative evaluation to determine the providers' thoughts on the policy and if they believed it helped them and helped their patients. The outcomes of this DNP project were to create a policy to assist providers with educating and treating overweight and obsess children using current evidence - based practice, to make the implementation of a policy that is accessible for the healthcare providers, to make the implementing the policy that is sustainable, and to the implement the policy to positively affect the providers' patient-populations.

Relationship of Project to DNP Essentials

The American Association of Colleges of Nursing's (AACN) *Essentials of Doctoral Education for Advanced Nursing Practice* guidelines were utilized and created the foundation for practice. There are 8 essentials that the AACN have identified as competencies for all DNP projects. This policy and policy implementation has met all 8 essential areas in multiple ways. For Essential 1, Scientific Underpinning for Practice, this project creates a positive change for the healthcare providers at the practice site and nursing science was utilized to assist healthcare providers with treating and caring for their population of overweight and obese children. Essential II, Organizational and Systems Leadership for Quality Improvement and Systems Thinking, was accomplished when the practice site's policies and workflow were evaluated. Essential III, Clinical Scholarship and Analytical Methods for Evidence-Based Practice, was met when the policy was researched and when the policy intervention was implemented. Essential IV, Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care, was met by learning the practice site's EHR system to input an adapted algorithm. Essential V, Health Care Policy for Advocacy in Health Care, was satisfied when a policy was created for the framework of the practice site's organization. Essential VI, Interprofessional Collaboration for Improving Patient and Population Health Outcomes, was accomplished by the DNP student being a team leader for a team of diverse healthcare discipline. Essential VII, Clinical Prevention and Population Health for Improving the Nation's Health, was met directly with a policy based on treating and educating the population of overweight and obese children at the practice site (American Association of Colleges of Nursing [AACN], 2006). One of the *Healthy People 2020's* national goal is to decrease the population of obese children 2-19 years old; this policy was specifically designed to address this health objective and the goal of

decreasing the weight gain of the population of children who are obese (Office of Disease Prevention and Health Promotion, n.d.). Lastly, Essential VIII, Advanced Nursing Practice, was obtained by the DNP student becoming competent and an expert is the area of this DNP project (AACN, 2006).

Practice Setting and Target Population/Community

The practice setting for this DNP project is an area community health center. The original community health center where this project started recently merged with a neighboring county community health center. This project started out with 5 locations and now has grown to 10 locations throughout 2 counties. At this community health center, the population has unique healthcare barriers. The community health clinic provides healthcare directly to the population of low-socioeconomic status, under-severed, underinsured, uninsured, and diverse patient populations of 2 counties. The patient population of this community health clinical is made up of 50% Latinx patients. Thirty-seven percent speak a language other than English. The patient population speaks 50 languages including Spanish, Swahili, Nepali, and Burmese and over 4,400 of the patient population do not have any health insurance (Union Community Care, 2021).

The DNP project and policy are targeted to the population of overweight and obese children within the clinic's population of low-socioeconomic status, under-severed, underinsured, and uninsured patients. The 2 counties together have a population of 653,013. The population for the practice site's clinic is made up of those people who live in the cities. The U.S. Department of Commerce (n.d.a, and n.d.b) states that the population of both these city's is 84,910, this is the estimated patient population for the practice site. The patient population that this DNP project targeted are overweight and obese children ages 2-19 years old who receive healthcare from these clinics.

Key Stakeholders

Stakeholders in a DNP project are anyone that has an interest in the project outcomes (Zaccagnini, & White, 2017). The stakeholders include:

- Children who are overweight or obese and their families
- The practice site's healthcare providers
- The practice site as an organization
- The community population
- Pennsylvania
- The federal government

To begin, children who are overweight are stakeholders. The population of patients this project focused on are 2-19-years old that are overweight and obese. Other stakeholders include the practice site mentor, faculty mentor, Public Health Analyst, Director of Pediatrics, Director of Medicine, providers at the practice site, community, and the local area healthcare system. This policy helps to form consistency and ensure current evidence based-practice techniques are being utilized for the practice site's providers. The practice site was a stakeholder due to the time and money it spends on treating and educating overweight and obese patients every year. The community will benefit by the focus being on the population of children in the uninsured, underinsured, and unserved in the community. The local area healthcare system is a stakeholder. Effectively intervening and preventing co-morbidities helps relieve the strain on the healthcare resources and decrease financial burdens. Additionally, the policy reduces healthcare costs to the community by helping to prevent obese children from becoming obese adults and having increased healthcare costs related obesity related co-morbidities (Sharifi et al., 2017). The community also benefits from reduced appointment times. There is more time for providers to

see other patients. The obese children and families will have more freedom with the providers they choose, more satisfaction with continuity of care, and experience better healthcare results (Massimi et al., 2017). The last stakeholders are Pennsylvania state government and the federal government. Pennsylvania provides $100,000 -$600,000 in grants each year for community health clinics (Pennsylvania Department of Health, 2019a). The practice site also receives Department of Health and Human Services (HHS) funding & Federal Health Public Health Service funding (Union Community Care, 2021). The Federal Health Public Health Service granted $15.8 billion, and the Department of Health and Human Services granted $125 million to community health centers last year (Johnson, 2019; HHS, 2018). Costs will be lower with lower provider turnover, resulting in the need for less state and federal funding.

Needs Assessment

A need, in our county's community health clinic was recognized to develop a policy for educating and treating children that are obese. There are 10 practice site locations. Presently, there are multiple providers in each of the 10 locations. Each one educates and follows up with obese children differently. There was a potential that some of them were not using current evidence-based practice. Based on discussions with the practice site's Director of Pediatrics, children often slip through the cracks and have no follow-up education or see different providers with different treatment plans. Some of the providers send the children to the Nursing Care Center for nursing students to educate the children; other providers educate children individually or refer to specialists. The policy on how to educate and treat overweight and obese children and families created consistency among the providers and continuity throughout each clinical location.

Review of Literature and Synthesis

A literature review utilizing the Cochrane Library, CINAHL Plus, MEDLINE Complete, PubMed, OVID, and the American Academy of Pediatrics using search terms: childhood obesity treatment, childhood obesity, childhood overweight, pediatric overweight, and pediatric obesity yielded, the use of nine articles for the literature review. Research evaluating Nola Pender's Health Promotion Model (HPM) regarding obese children provided evidence that with proper education and treatment children would develop healthier eating habits, and reduce their BMI (Eren Fidanci, Akbayrak, & Arslan, 2017; Brown et al., 2020). The National Institute of Health has published their own research showing the positive results of improving nutrition and increasing activity for children (Xu et al., 2017). Increasing activity is also the theme in a study that resulted in significant weight loss and decreased BMI over a 3- and 6-month period. This study also included the long-term results of environmental support, including maintaining a healthy BMI (Martin, Booth, Laird, Sproule, Reilly, & Saunders, 2018).

The concept of environmental involvement is what Martin et al. (2018), researched regarding successful childhood obesity interventions includes focusing on a holistic concept of family involvement. The research showed that interventions including education for nutrition and physical activity were very beneficial to overweight and obese children (Martin et al., 2018). Another study resulted in the outcome that families that eat at least 1-2 meals together each week have less incidence of children being overweight or obese. This article also uses Leininger's Culture Care Theory to integrate the concept of cultural practices, including foods and meals. These are important and should be considered in the care of plan for culturally diverse families (Chatham, & Mixer, 2019). Xu et al.'s study included parent interaction to support an increase of physical activity and eating more nutritionally sound food as well (2017, p. 7). Spanish

speaking families had positive results with education to make healthier food choices and increase activity. The family was also key in this study (Lilo, Munoz, & Cruz, 2018).

The American Academy of Pediatrics (AAP) states that most pediatricians (72%) report that they are familiar with BMI recommendations and think using BMI adds new information (70%). Although only 52% calculate and evaluate BMI. Less than half of the physicians are aware of the AAP guidelines for care (AAP, 2018). Rhee, Kessl, Lindback, Littman, & El-Kareh's study brings up the very important evidence behind making easy access to an educational plan in the EMR (2018, p. 55). This is a concept that has been considered but now will be worked into the educational plan. Access to the plan and documentation with ease would be an important concept to sustainability of this project. Research on available access and costs involved will be vital to successful implementation. Despite this evidence, the practice site serving the community that needs obesity education. It is also important to note the younger the intervention the more positive the outcome (Lilo, Munoz, Cruz, 2018). The summarized literature review and synthesis of literature are available in Table 1.

Theoretical Framework for the Project

The theoretical framework explains why a structured plan leads to desired results (Nilsen, 2015). Nola Pender's Health Promotion Model (HPM) is a theoretical framework that supports developing a policy on educating obese children. Pender's model is devised to meet people's needs in a holistic manner, using environmental factors to make predictions about health behaviors. This model is to assist the healthcare professionals with health promotion and has eight components to evaluate:

1. Person
2. Environment

3. Health
4. Nursing
5. Illnesses
6. Individual characteristics and experiences
7. Behavior-specific cognitions and affect
8. Behavioral outcome (Pender, 2011).

Pender's Health Promotion Model (HPM) focuses on helping people obtain increased health statuses and identifies background factors that influence their health behaviors (Khoshnood, Rayyani, & Tirgari, 2018). The HPM has been utilized countless times when evaluating health promotion. This policy assists providers with educating children and their families regarding health-promoting behaviors. Pender's HPM is often utilized to plan change for unhealthy behaviors and encourage health. Studies have used this model to minimize and control unhealthy behaviors (Khodaveisi, Omidi, Farokhi, & Soltanian, 2017).

Project Implementation

According to the American Academy of Pediatrics (AAP), primary care providers need better knowledge of the AAP guidelines to implement successful positive healthcare changes with pediatric patients (AAP, 2018). This implantation began with the dissemination of the first formative evaluation. A survey was sent out through SurveyMonkey to assess where the providers were with their knowledge of evidence-based practice (Appendix B). Then there was a discussion with the Director of Pediatrics regarding the healthcare provider workflow. Commonly used methods of documentation and data mining a patient's health information were discussed. Next, a meeting with the practice site's Public Health Analyst occurred to learn about the practice site EHR system and methods to potentially adapt the AAP's algorithm into the EHR

system. At the same time as implantation of the policy was being developed, the policy was approved by the executive team (Appendix A).

After developing the policy into the practice site's EHR, the Public Health Analyst approved it. Then the Director of Pediatrics evaluated the implementation. The policy was implemented into the patient's assessment and physical section on their EHR (Appendix C). The provider would have the diagnoses added to any appropriate visit. Once the provider added Overweight Child or Obese Child as a diagnosis, an encounter would automatically be added to the assessment and physical section of the patient's electronic chart. The Director of Pediatrics, after reviewing the content that was to be added, wanted the adaptation to be separated from the well visit. Revision of the implemented policy and algorithm occurred and was then approved for implementation. An educational session was scheduled with the healthcare providers during one of the providers' on-line weekly staff meetings.

An educational session occurred with a PowerPoint presentation including, the policy, the algorithm, and a screen shot of the methods to use the policy. All questions were answered throughout the presentation or later via email. The policy, algorithm, and PowerPoint presentation were sent out to all the healthcare providers (Appendix A, Appendix C, & Appendix D). The second formative survey was later sent out to evaluate how the policy and policy implementation was working for them. In the second survey, via SurveyMonkey, barriers were assessed, and suggestions were included (Appendix E). Finally, the last summative evaluation was sent out via SurveyMonkey. This assessment evaluated how the policy assisted the providers and the provider's patients (Appendix F). The steps involved with adapting the AAP's algorithm in AthenaNet are:

- Policy was approved by The Executive Team.

- Worked with the Public Health Analyst at practice site.
- Inserted algorithm into the patient's encounter.
- Inserted the orders and referrals into the Visit as order sets.
- Educated Healthcare providers regarding the changes in their EHR system.

The timeline that this project was subject to, began when the independent review board (IRB) approved the project in August 2020 (Appendix G). A recruitment email was sent out in September 2020 (Appendix L). The first formative survey was sent out to the practice site providers October 2020. The adapted algorithm was developed and sent in December 2020 to the Public Health Analyst. In December, the adapted algorithm was revised based on the Director of Pediatrics and the Director of Medicine's recommendations, and it was approved in January 2021. The educational presentation to the providers occurred in February 2021 (Appendix C). The second formative survey was sent out in March 2021 and the third and last summative survey was sent out April 2021.

The project budget was originally assessed to be 1715 dollars. After the global pandemic, coronavirus disease 2019 (COVID-19), reached the United States' aspects of this DNP project had to be revised. Mainly there was very little personal interaction. Communication, for the most part, occurred through email or through video conferencing. Due to this' some of the expected costs were reduced. The new budget for this project was 1315 dollars. This is based on an educational session utilizing the provider's time. This was done after their regularly scheduled staff meeting. This cost the practice site approximately 875 dollars, consisting of the staff's time to educate them. This is accounting for 35 providers and 30 minutes of their time. At 50 dollars an hour for each provider for 30 minutes, which is 875 dollars. Also, the public health analyst's time to add this adapted algorithm was an additional cost to the organization as well,

which comes to approximately 440 dollars at 22 dollars an hour for 20 hours (Information technology specialist, 2020).

All data was collected with the use of SurveyMonkey. Consent to use employee email addresses was given by the practice site's Chief Medical Officer. To ensure anonymity of the survey participants, in using Survey Monkey, no IP addresses were collected. The DNP project manager was the only one that had access to the data. All data will be stored until the completion of the DNP project, including evaluation period. At the end of this period, June 2021, the data will be permanently deleted. Informed consent was on the first page of each survey (Appendix J). SurveyMonkey records the respondent time stamp. The survey allowed for "no response "or "prefer not to respond" as an option for every survey question. At the end of the survey, the respondent was given an option to withdraw from survey. All 3 surveys were collected and evaluated. Data collection was on-going throughout the project implementation and the data was being consistently evaluated.

The sustainability of this project was based off the project implementation being implemented in the practice site's EHR and applied in a way that is consistent with the providers' workflow. Barriers of policy use were identified and recommendations to the practice site will consists of annual training regarding the policy and policy implementation. Providers at the practice site have automatic training through their learning management system (LMS), adding education on this policy will increase that sustainability of this project. Additionally, based on provider feedback, an educational presentation should be made for the healthcare provider's supportive staff. Continued training or booster training is an effective method to maintain sustainability. Reporting the positive results of this project is another way to strengthen sustainability through positive outcomes (Hailemariam et al., 2019).

Project Evaluation

For this DNP project, 2 formative assessments were performed while the project was being conducted. Both the surveys were sent using SurveyMonkey, which is a free service. SurveyMonkey was utilized for 2 reasons. First it is the survey method the DNP practice sites use, so the providers would be more familiar with it, and second, SurveyMonkey can ensure anonymity for the DNP project participant (SurveyMonkey Inc., 2021). Anonymity encourages honest answers to survey questions and increased rates of completing surveys (Lancaster, 2017).

These surveys were based on the healthcare providers perceptions regarding how the policy was working for them. The surveys assessed ease of use. Specifically, if this policy easy to follow, if it easy to get to and document, and if the policy is helpful to keep consistency throughout the different providers' visits. The formative evaluations also included any practice recommendations that would make the use of this policy more user friendly to the provider. This feedback allows for adjustments based on how the goals were being met. (Moran, Burson, & Conrad, 2020).

The summative evaluation was conducted at the end of the project. This survey was also conducted through SurveyMonkey. All 3 surveys were conducted before the project was implemented and at the end of the project so that the pre-survey may be compared to the post-survey. These evaluations displayed the effectiveness of the policy (Moran, Burson, & Conrad, 2020). The expected outcome was that the policy assisted providers to deliver consistent evidence-based-practice education and to make following and documenting care more manageable than the past method.

The project results from the first formative assessment were that 21 providers consented to take the assessment. That is a 60% completion rate. Sixty-three-point sixteen percent of

providers were aware that the American Academy of Pediatrics (AAP) has guidelines for treating and educating overweight and obese children, 31.58% were not aware of this, and 5.25% preferred not to respond. One hundred percent stated they felt comfortable educating children and their families on how to reduce their body mass index (BMI). Eight four-point forty-seven percent calculates BMI at every appointment and 10.53% of providers do not calculate BMI at every appointment. Ninety-four-point seventy-four percent of providers think a policy for educating overweight or obese children, in their EHR, including documentation, would help them, and 5.26% do not think it would help them.

The project results from the second formative survey yielded 22 providers that consented to take the assessment. That is a 62.86% completion rate. Ninety-two-point thirty one percent of the providers were able to use the policy in their EHR system, 7.69% preferred noy to answer. Seventy-six-point ninety two percent stated the policy helped them follow their patient's care, 15.38% stated the policy did not help them follow their patient's care, and 7.69% preferred not to answer. Ninety-two-point thirty-one percent stated the policy was easy to use, and 7.69% stated the policy was not easy to use. Eighty-four-point sixty-two percent of the providers stated that the method used in their EHR helped them document more quickly and efficiently and 15.38% of providers stated it did not help them document more quickly and efficiently. One hundred percent of providers felt that this implementation of EBP assisted them to educate their patients. Ninety-two-point thirty one percent of the providers stated the implementation of EBP assisted them with treating their patients and 7.69% felt like the implementation of EBP practice did not help them with treating their patients. Fifteen-point thirty-eight percent of providers used the policy for their overweight and obese patient population of children 100% of the time, 23.08% of

the providers used the policy 75% of the time, 30.77% of the providers used the policy 50% of the time, and 30.77% of the providers used the policy 25% of the time.

On the second formative evaluation, when the providers were asked if there were any barriers with using the policy there were 10 responses. One provider wrote that they had difficulty getting the order set to work, 2 providers answered no, 1 provider answered not applicable (N/A), one provider stated they were new and the policy was not explained to them as clearly as this survey laid it out, 1 provider stated they have fewer children coming in for well-child checks (WCC), 1 provider stated that they are having a high number of telehealth (telly) visits and so they do not see their pediatric patients for well visits in the office, this provider also stated they were only able to use the policy once, 1 provider stated they had a hard time remembering to use the policy, and 1 provider felt like the policy was "a little bit of a pain" to have to remove labs they did not want for a patient. When the providers were asked if they had any suggestions or comments about the policy or how it would better for them there were 7 provider answers, 2 providers said no, 1 provider stated N/A, 1 provider stated education and reminding the nurses and providers to use the policy, another provider wanted nursing staff to be reminded how to add the policy to the patient visits, and the last comment was that there was a bigger need for someone to spend time with family's educating about diet, and this is not feasible for the providers. This provider also stated that AAP, American Academy of Family Practioners (AAFP), and United States Preventative Serves Taskforce (USPSTF) all had different requirements, and this confused them. They also stated that guidelines do not recommend lipid testing just for obesity, but only if there is also a family history of premature cardiovascular disease, and that this is not entirely clear from the Athena prompts.

The third survey, which is the summative evaluation, included 13 providers. That is 37.14% competition rate. This survey was sent out twice for the providers. One reason for the low completion rate may have been due to the practice site merging with another practice site. Based on feedback from several providers the merge was taxing on the organization. The first question, did the new policy help you to educate children who have been identified as overweight and obese, resulted in 81.82% answering yes, 9.09% answering no and 9.09% answering that they prefer not to answer. The next question, did the new policy assist you with providing consistent care, showed that 90.91% said yes and 9.09% said no. The next question did have a policy for education in AthenaNet make the following and documenting care easier, the providers answered 100% yes. The next question, do you think this policy in AthenaNet is valuable to your practice, 90.91% answered yes and 9.09% answered no. When asked if the providers noticed a reduction in their patient's BMI, the results were that 27.27% answered yes, 54.55% answered no, and 18.18% percent answered that they preferred not to answer.

The last question for the summative evaluation asked if the providers had any other comments, questions, or concerns regarding the educational policy in AthenaNet. There were 3 responses. One provider said, "Due to limited in-person visits, I was only able to use the pediatric BMI education macro 1-2 times. My limited experience suggests that the greatest benefit may be in convincing parents the seriousness of their child's situation when we are advocating blood work to screen them for diabetes and cholesterol due to their BMI." The second provider comment was "For question six (Did you notice a reduction in your patient's BMI?) I have not seen any of the children back in office yet, but I hope their BMI has improved at the next visit." The last comment by a provider was "This is a short turn around, but I have noticed an improvement and an improvement with stopping the increase in BMI of patients."

Upon evaluation of these comments, the realization occurred that it would be hard to evaluate if the policy benefited the providers' patient population. A randomized control study assessing 42 trials concluded the usual time to assess successful intervention for BMI reduction in children would be between 6 months to 1 year and this project was conducted over an 8-week period (O'Connor et al., 2017). An appropriate amount of time to evaluate if this policy benefited the providers' patient population would be at least 6 months.

Based on the evaluation of these outcomes, the population health system level implications are that if EBP is implemented into the EHR in a facility specific method, then the EBP maybe utilized and applied. Clinical assessment tools in the EHR have been proven to decrease childhood obesity (Harrison, Lundeen, Belay, & Goodman, 2019). Therefore, implications of this policy should provide the outcome of positively affecting patient's health status and BMI. For clinical prevention at a systems level, this project was focusing upon evaluating children's' weight status and providing quick intervention. This will assist with decreasing the population children's BMI and increasing the population health. This promotes decreasing and preventing co-morbidities in children and preventing overweight and obsess children from becoming overweight and obese adults. Additionally, implications include the implementation of EBP into the EHR being far reaching and implementable on a systems level for all organizations who have not done so already.

Dissemination of Information

The American Academy of Colleges of Nursing describes the dissemination of the information gained during a DNP project in their Clinical Scholarship and Analytical Methods for Evidence-Based Practice section (2006). There are several ways to distribute the DNP presentation. Included in the presentation of this policy for educating obese children will be an

introduction, background, literature review, clinical question, project plan, methodology, projected sample requirements, evaluation tools, implementation process, and time for questions. This DNP project is concluded, and dissemination is currently being executed (Moran, Burson, & Conrad, 2020). Every DNP project should be disseminated to as wide an audience as possible (AACN, 2020). The policy for educating obese children and its results will be presented with a PowerPoint and oral presentation. The results of this DNP project will also be submitted to be published in a peer-reviewed journal, and a PowerPoint presentation will be provided to the practice site (Moran, Burson, & Conrad, 2020). The practice site currently would like the results of the project prior to decide if they would like the information disseminated to stakeholders.

Conclusion

In conclusion, childhood obesity is an epidemic and creates health issues that may stay with a child throughout their life. A needs assessment was conducted, and it was determined that a policy to educate obese children was essential for the population of patients at the practice site. The purpose of this project was to create a policy that provides a standard for education utilizing the latest EBP that supports continuity of care. This project benefited the patients, providers, practice, and the community. This project policy utilized the AAP's algorithm to create and policy for education for healthcare providers caring and treating for children who are obese. There was a survey prior to implementation of this policy, education in regard to this policy and post-policy survey for evaluation purposes. This policy implementation took a total of 5 months and approximately 1315 dollars to implement. DNP projects must be evaluated by the DNP students meeting ACCN's DNP Essentials objectives. Evaluation for this project included formative and summative evaluations. This DNP project utilized SurveyMonkey to make up the

evaluations. Overall, results were that the policy and policy implementation were helpful to educate and treat overweight and obese children. The project is sustainable and easy to use.

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Tables

Table 1

Literature Review and Synthesis

Author, Year	Study Design	Setting	Sample	Evidence	Outcomes
American Academy of Pediatrics, 2020	Random sample	1,622 non-retired U.S. post-trainee members of the Academy were contacted by mail	677 participating healthcare providers	1	Current statistics and methods and Resources Used for Overweight Prevention/Treatment
Brown, Moore, Hooper, Gao, Zayegh, Ijaz, Elwenspoek, Foxen, Magee, O'Malley, Waters, & Summerbell, 2020	Randomized controlled trials	Searched databases from 2015-2018	153 randomized control trials	1	Research on diet and exercise regarding childhood obesity prevention.

Chatham, & Mixer, 2019	Qualitative Systematic Review	Sampling previous research	251 articles since 2008	2+	Used Leininger's Culture Care Theory to integrate the concept of cultural practices in the care of plan for culturally diverse families
Eren Fidanci, Akbayrak, & Arslan, 2017	Quasi-experimental study	Piers-Harris Self Confidence Scale from Pender	86 obese children and their parents	2	Education increased health eating, decreased sedentary behaviors and reduced BMI in children
Lilo, Munoz, & Cruz, 2018	Qualitative method	Semi-structured interviews	25 families	3	Hispanic families had positive result with education to make healthier food choices and increase activity
Martin, Booth, Laird, Sproule,	Randomized control trials	18 studies (59 records	2384 children and	1+	With school support of increasing activity and eating

Reilly, & Saunders, 2018			adolescents with obesity or overweight.		healthy foods, children had successful reduction of BMIs
Rhee, Kessl, Lindback, Littman, & El-Kareh, 2018	Mixed methods approach	4 Focus group discussions	110 Pediatric providers	3	A study of the importance of intergrading a user-friendly documentation methods and tracking systems by using EMRs
Xu, F., Marchand, Corcoran, DiBiasio, Clough, Dyer, … Greene, 2017	Longitudinal Study	South County Food, Fitness and Fun program	146 overweight and obese children between 6- 11 years old	3	This study included interaction of parents to support increase of physical activity and eating more nutritionally sound food that resulted in a reduction in BMIs.

Literature Review and Synthesis

Databases Searched:

Cochrane Library

CINAHLPlus

MEDLINE Complete

PubMed

OVID

American Academy of Pediatrics

Key Words:

Childhood obesity treatment

Childhood obesity

Childhood overweight

Pediatric overweight

Pediatric obesity

Level 1	3
Level 2	2
Level 3	3
Level 4	0
Level 5	0
Level 6	0

Appendix A

LANCASTER HEALTH CENTER

A Clinical Protocol for Change, Health Education and Childhood Obesity Prevention

Date Effective: 1/4/2021

Next Review: (every 4 years) 1/2025

Approved by: Chief Medical Officer

Policy/Procedure Administrator: Chief Medical Officer

PURPOSE:

In order to provide the best care possible for patients and their families, it is important to understand the current evidence-based practices. Educating patients and their families will focus and nutrition and increasing activity.

Providing education self-care plans, tools, and ongoing support improves patient's ability to manage their own health. Patient information can be in the form of printed materials, video or electronic media, one on one education through a group appointment or session. While every provider should educate each patient and family as part of their encounter, other staff may provide additional education including referrals to the Nursing Care Center.

POLICY:

It is the policy of the Lancaster Health Center (LHC) to screen all pediatric patients, ages 2- 19 years old, for height and weight standards including the calculations of body mass indexes (BMI). It is the policy of Lancaster Health Center to make educational materials and ongoing self-management support available for patients based on their need.

PROCEDURE:

At the initial comprehensive clinical visit, LHC staff must obtain a complete medical history for all patients and enter it into their medical records, including height, weight, and BMI. Staff must update height, weight, and BMI each clinical visit. When a child is identified as overweight or obese, the American Academy of Pediatrics' *Algorithm for the Assessment and Management of Childhood Obesity in Patients 2 Years and Older* will be used in its adapted form in the electronic health record (EHR). When the provider enters a designated diagnosis treatment options will be given. The provider will choose the appropriate treatments and education for

each patient and family. Treatments include education as well as diagnostic studies as determined by the provider.

Appendix B

American Academy of Pediatrics' Guidelines

New policy for educating overweight and obese children

Please fill out short yes or no survey.

Question Title

1. Are you aware of what the American Academy of Pediatrics' guidelines are for treating childhood obesity?

Yes

No

Question Title

2. Do you feel comfortable educating children and their families in regards to how to reduce their body Mass index?

Yes

No

Question Title

3. Do you calculate body mass index for every appointment a child has?

Yes

No

Question Title

4. Do you think a policy for educating overweight or obese children, in AthenaNet, with a way to document, would be helpful to you?

Yes

No (Lewis, 2020a)

Appendix C

A CLINICAL PROTOCOL FOR CHANGE, HEALTH EDUCATION AND CHILDHOOD OBESITY PREVENTION

BY

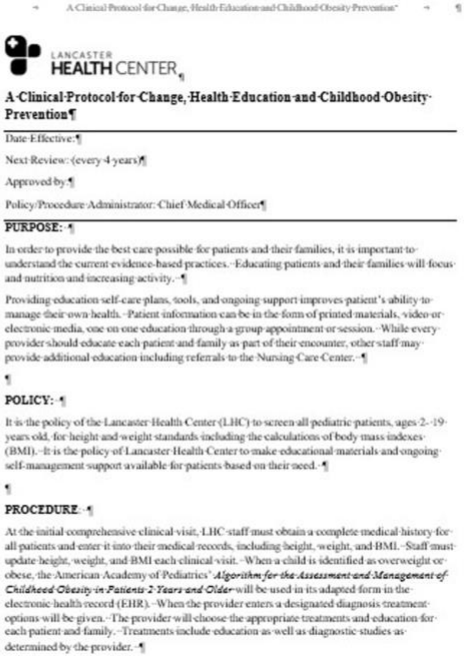
HOLLY LEWIS MSN, RN, CPN

FOR DNP PROJECT

A CLINICAL PROTOCOL FOR TREATMENT OF CHILDREN WHO HAVE BEEN IDENTIFIED AS OVERWEIGHT OR OBESE

- Current evidencebased practice states education regarding proper nutrition and increasing activity will reduce a child's body mass index (BMI)
- Developed a policy for Lancaster Health Center for the education and treatment of overweight and obese children.
- The Plan is to use the educational treatment plan from the American Academy of Pediatrics (Algorithm for the Assessment and Management of Childhood Obesity in Patients 2 Years and Older.)
- Developed a documentation method in AthenaNet to educate and follow the care of children who have been identified as overweight or obese

CLINICAL PROTOCOL



A Clinical Protocol for Change, Health Education and Childhood Obesity Prevention

LANCASTER HEALTH CENTER

A Clinical Protocol for Change, Health Education and Childhood Obesity Prevention

Date Effective:

Next Review: (every 4 years)

Approved by:

Policy/Procedure Administrator: Chief Medical Officer

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In order to provide the best care possible for patients and their families, it is important to understand the current evidence-based practices. Educating patients and their families will focus and nutrition and increasing activity.

Providing education self-care plans, tools, and ongoing support improves patient's ability to manage their own health. Patient information can be in the form of printed materials, video or electronic media, one on one education through a group appointment or session. While every provider should educate each patient and family as part of their encounter, other staff may provide additional education including referrals to the Nursing Care Center.

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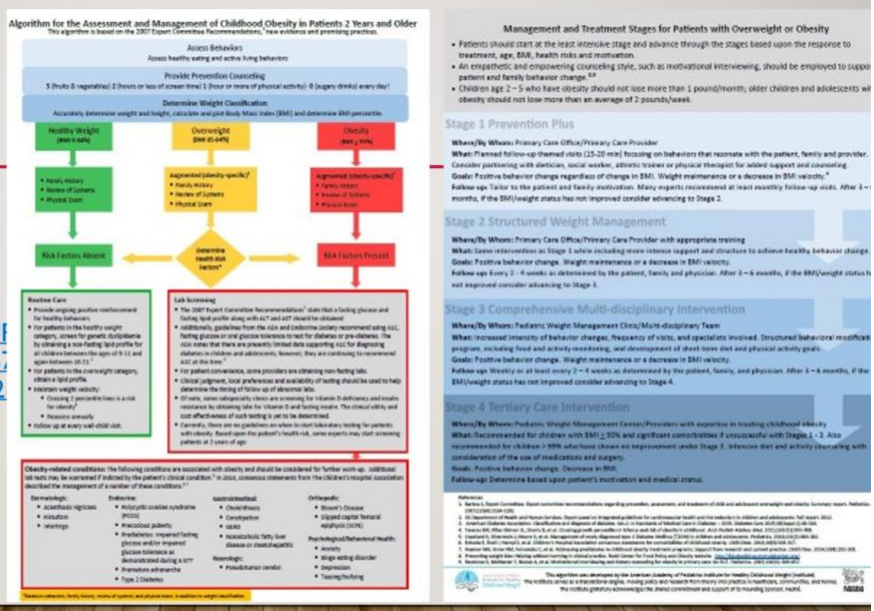
PROCEDURE:

At the initial comprehensive clinical visit, LHC staff must obtain a complete medical history for all patients and enter it into their medical records, including height, weight, and BMI. Staff must update height, weight, and BMI each clinical visit. When a child is identified as overweight or obese, the American Academy of Pediatrics' *Algorithm for the Assessment and Management of Childhood Obesity in Patients 2 Years and Older* will be used in its adapted form in the electronic health record (EHR). When the provider enters a designated diagnosis treatment options will be given. The provider will choose the appropriate treatments and education for each patient and family. Treatments include education as well as diagnostic studies as determined by the provider.

AMERICAN ACADEMY OF PEDIATRICS (AAP) ALGORITHM

HTTPS://WWW.PAAAP.ORG/UPLOADS/1/2/4/3/124369935/551B75A52CF9033CB48B09ABA3C02A15402.PDF



Algorithm for the Assessment and Management of Childhood Obesity in Patients 2 Years and Older

This algorithm is based on the 2007 Expert Committee Recommendations, new evidence and promising practices.

Assess Behaviors

Assess healthy eating and active living behaviors

Provide Prevention Counseling

5 (fruits & vegetables) 2 (hours or less of screen time) 1 (hour or more of physical activity) 0 (sugary drinks) every day!

Determine Weight Classification

Accurately determine weight and height, calculate and plot Body Mass Index (BMI) and determine BMI percentile.

Healthy Weight (BMI < 85%)

Overweight (BMI 85-94%)

Obesity (BMI ≥ 95%)

Family History
Review of Systems
Physical Exam

Augmented (obesity-specific)*
Family History
Review of Systems
Physical Exam

Augmented (obesity-specific)*
Family History
Review of Systems
Physical Exam

Risk Factors Absent

Determine Health Risk Factors*

Risk Factors Present

Routine Care
- Provide ongoing positive reinforcement for healthy behaviors
- For patients in the healthy weight category, screen for genetic dyslipidemia by obtaining a non-fasting lipid profile for all children between the ages of 9-11 and again between 18-21.
- For patients in the overweight category, obtain a lipid profile.
- Maintain weight velocity:
  - Crossing 2 percentile lines is a risk for obesity!
  - Reassess annually
- Follow up at every well-child visit.

Lab Screening
- The 2007 Expert Committee Recommendations[1] state that a fasting glucose and fasting lipid profile along with ALT and AST should be obtained.
- Additionally, guidelines from the ADA and Endocrine Society recommend using a1c, fasting glucose or oral glucose tolerance to test for diabetes or pre-diabetes. The ADA notes that there are presently limited data supporting a1c for diagnosing diabetes in children and adolescents; however, they are continuing to recommend A1C at the time.[2]
- For patient convenience, some providers are obtaining non-fasting labs.
- Clinical judgment, local preferences and availability of testing should be used to help determine the timing of follow up of abnormal labs.
- Of note, some subspecialty clinics are screening for Vitamin D deficiency and insulin resistance by obtaining labs for Vitamin D and fasting insulin. The clinical utility and cost effectiveness of such testing is yet to be determined.
- Currently, there are no guidelines on when to start laboratory testing for patients with obesity. Based upon the patient's health risk, some experts may start screening patients at 2 years of age.

Obesity-related conditions: The following conditions are associated with obesity and should be considered for further work-up. Additional lab tests may be warranted if indicated by the patient's clinical condition.[3] In 2014, consensus statements from the Children's Hospital Association described the management of a number of these conditions.[4-7]

Dermatologic:
- Acanthosis nigricans
- Intertrigo

Endocrine:
- Polycystic ovarian syndrome (PCOS)
- Precocious puberty
- Prediabetes: impaired fasting glucose and/or impaired glucose tolerance as demonstrated during a OTT
- Premature adrenarche
- Type 2 Diabetes

Gastrointestinal:
- Cholelithiasis
- Constipation
- GERD
- Nonalcoholic fatty liver disease or steatohepatitis

Neurologic:
- Pseudotumor cerebri

Orthopedic:
- Blount's Disease
- Slipped capital femoral epiphysis (SCFE)

Psychological/Behavioral Health:
- Anxiety
- Binge eating disorder
- Depression
- Teasing/bullying

*Based on obesity-specific family history, review of systems, and physical exam. In addition to weight classification.

Management and Treatment Stages for Patients with Overweight or Obesity

- Patients should start at the least intensive stage and advance through the stages based upon the response to treatment, age, BMI, health risks and motivation.
- An empathetic and empowering counseling style, such as motivational interviewing, should be employed to suppo patient and family behavior change.[8,9]
- Children age 2 – 5 who have obesity should not lose more than 1 pound/month; older children and adolescents wi obesity should not lose more than an average of 2 pounds/week.

Stage 1 Prevention Plus

Where/By Whom: Primary Care Office/Primary Care Provider

What: Planned follow-up themed visits (15-20 min) focusing on behaviors that resonate with the patient, family and provider. Consider partnering with dietician, social worker, athletic trainer or physical therapist for added support and counseling.

Goals: Positive behavior change regardless of change in BMI. Weight maintenance or a decrease in BMI velocity.[8]

Follow-up: Tailor to the patient and family motivation. Many experts recommend at least monthly follow-up visits. After 3 – months, if the BMI/weight status has not improved consider advancing to Stage 2.

Stage 2 Structured Weight Management

Where/By Whom: Primary Care Office/Primary Care Provider with appropriate training

What: Same intervention as Stage 1 while including more intense support and structure to achieve healthy behavior change

Goals: Positive behavior change. Weight maintenance or a decrease in BMI velocity.

Follow-up: Every 2 - 4 weeks as determined by the patient, family and physician. After 3 – 6 months, if the BMI/weight status h not improved consider advancing to Stage 3.

Stage 3 Comprehensive Multi-disciplinary Intervention

Where/By Whom: Pediatric Weight Management Clinic/Multi-disciplinary Team

What: Increased intensity of behavior changes, frequency of visits, and specialists involved. Structured behavioral modificati program, including food and activity monitoring, and development of short-term diet and physical activity goals.

Goals: Positive behavior change. Weight maintenance or a decrease in BMI velocity.

Follow-up: Weekly or at least every 2 – 4 weeks as determined by the patient, family, and physician. After 3 – 6 months, if the BMI/weight status has not improved consider advancing to Stage 4.

Stage 4 Tertiary Care Intervention

Where/By Whom: Pediatric Weight Management Center/Providers with expertise in treating childhood obesity

What: Recommended for children with BMI ≥ 95% and significant comorbidities if unsuccessful with Stages 1 - 3. Also recommended for children > 99% who have shown no improvement under Stage 3. Intensive diet and activity counseling with consideration of the use of medications and surgery.

Goals: Positive behavior change. Decrease in BMI.

Follow-up: Determine based upon patient's motivation and medical status.

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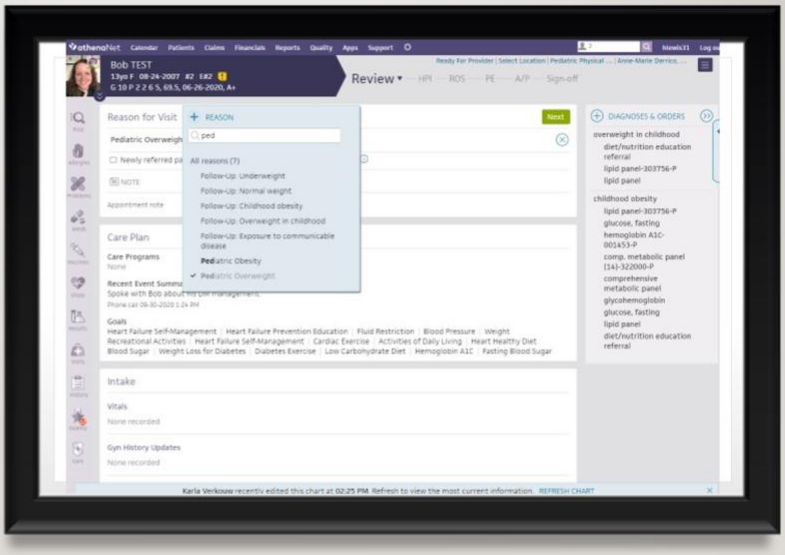
This algorithm was developed by the American Academy of Pediatrics Institute for Healthy Childhood Weight (Institute). The Institute serves as a translational engine, moving policy and research from theory into practice in healthcare, communities, and homes. The Institute gratefully acknowledges the shared commitment and support of its founding sponsor, Humana.

Institute for Healthy Childhood Weight

Humana

ATHENANET DOCUMENTATION



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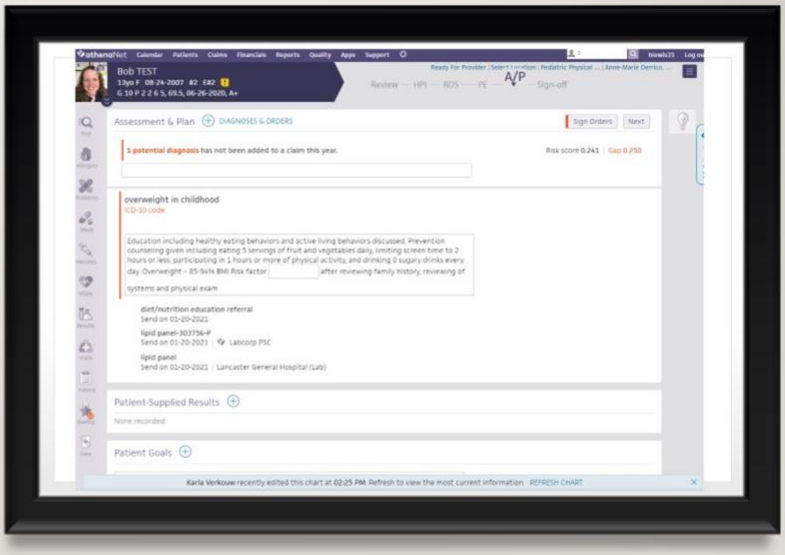

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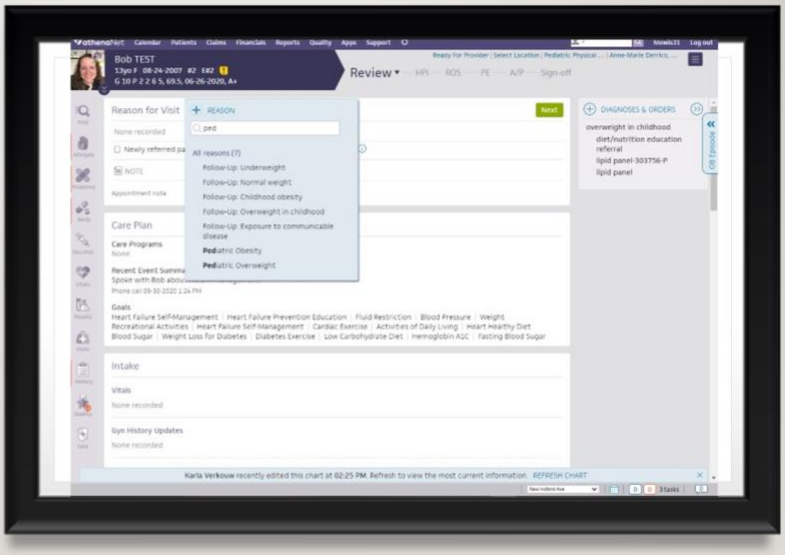

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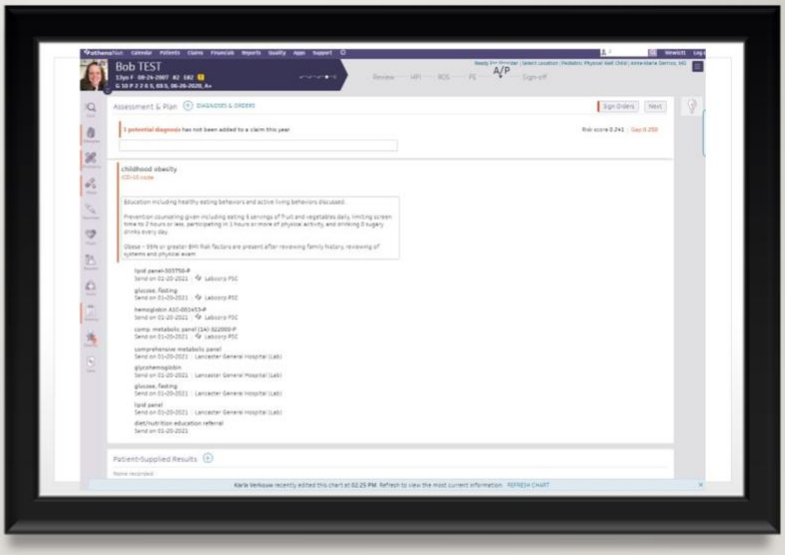

QUESTIONS?

- hollylewis1@student.purdueglobal.edu

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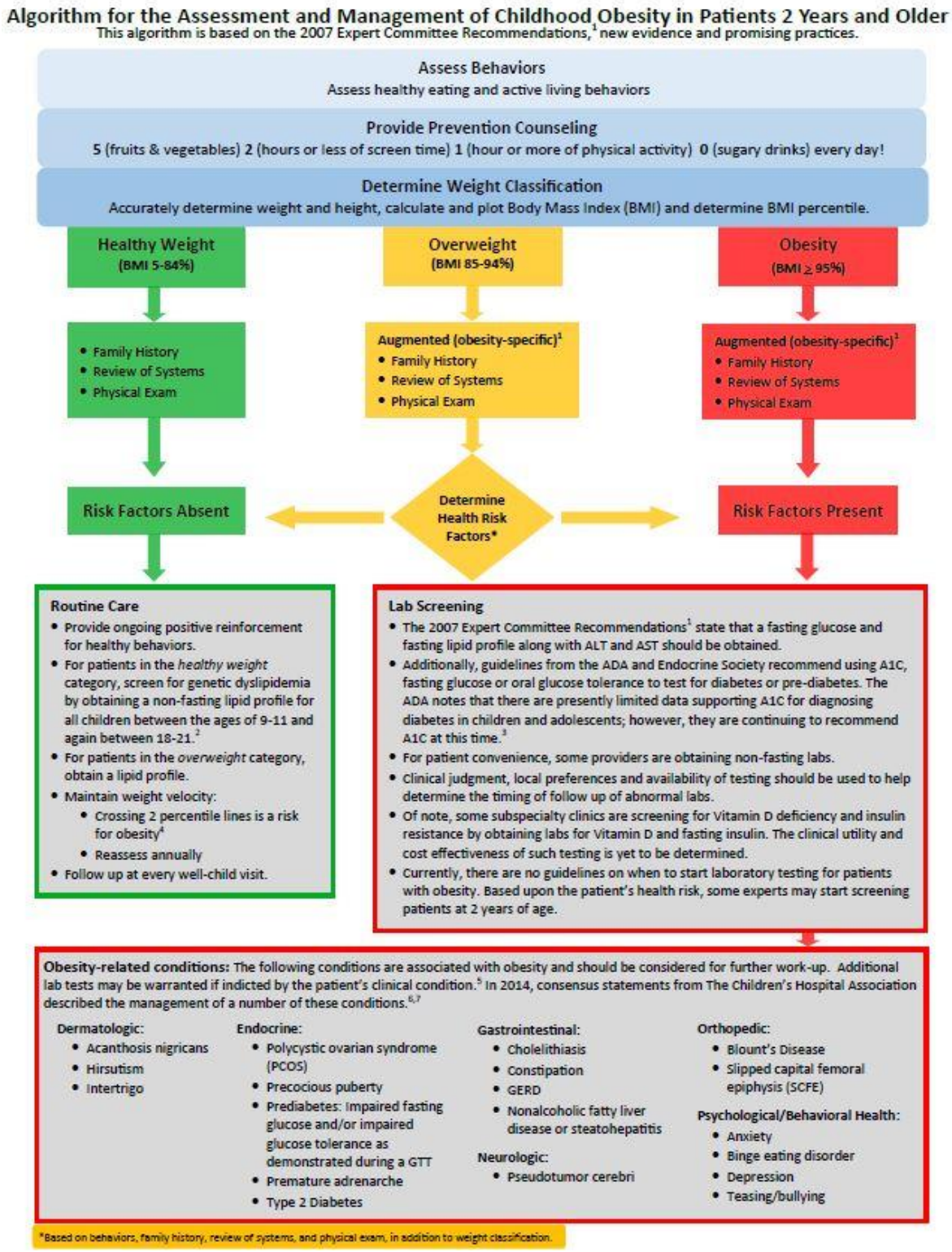
Appendix D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Overweight (BMI 85-94%)
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• Family History
• Review of Systems
• Physical Exam
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• Hirsutism
• Intertrigo
Endocrine:
• Polycystic ovarian syndrome (PCOS)
• Precocious puberty
• Prediabetes: Impaired fasting glucose and/or impaired glucose tolerance as demonstrated during a GTT
• Premature adrenarche
• Type 2 Diabetes
Gastrointestinal:
• Cholelithiasis
• Constipation
• GERD
• Nonalcoholic fatty liver disease or steatohepatitis
Neurologic:
• Pseudotumor cerebri
Orthopedic:
• Blount's Disease
• Slipped capital femoral epiphysis (SCFE)
Psychological/Behavioral Health:
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*Based on behaviors, family history, review of systems, and physical exam, in addition to weight classification.

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- Patients should start at the least intensive stage and advance through the stages based upon the response to treatment, age, BMI, health risks and motivation.
- An empathetic and empowering counseling style, such as motivational interviewing, should be employed to support patient and family behavior change.[8,9]
- Children age 2 – 5 who have obesity should not lose more than 1 pound/month; older children and adolescents with obesity should not lose more than an average of 2 pounds/week.

Stage 1 Prevention Plus

Where/By Whom: Primary Care Office/Primary Care Provider
What: Planned follow-up themed visits (15-20 min) focusing on behaviors that resonate with the patient, family and provider. Consider partnering with dietician, social worker, athletic trainer or physical therapist for added support and counseling.
Goals: Positive behavior change regardless of change in BMI. Weight maintenance or a decrease in BMI velocity.[4]
Follow-up: Tailor to the patient and family motivation. Many experts recommend at least monthly follow-up visits. After 3 – 6 months, if the BMI/weight status has not improved consider advancing to Stage 2.

Stage 2 Structured Weight Management

Where/By Whom: Primary Care Office/Primary Care Provider with appropriate training
What: Same intervention as Stage 1 while including more intense support and structure to achieve healthy behavior change.
Goals: Positive behavior change. Weight maintenance or a decrease in BMI velocity.
Follow-up: Every 2 - 4 weeks as determined by the patient, family and physician. After 3 – 6 months, if the BMI/weight status has not improved consider advancing to Stage 3.

Stage 3 Comprehensive Multi-disciplinary Intervention

Where/By Whom: Pediatric Weight Management Clinic/Multi-disciplinary Team
What: Increased intensity of behavior changes, frequency of visits, and specialists involved. Structured behavioral modification program, including food and activity monitoring, and development of short-term diet and physical activity goals.
Goals: Positive behavior change. Weight maintenance or a decrease in BMI velocity.
Follow-up: Weekly or at least every 2 – 4 weeks as determined by the patient, family, and physician. After 3 – 6 months, if the BMI/weight status has not improved consider advancing to Stage 4.

Stage 4 Tertiary Care Intervention

Where/By Whom: Pediatric Weight Management Center/Providers with expertise in treating childhood obesity
What: Recommended for children with BMI ≥ 95% and significant comorbidities if unsuccessful with Stages 1 - 3. Also recommended for children > 99% who have shown no improvement under Stage 3. Intensive diet and activity counseling with consideration of the use of medications and surgery.
Goals: Positive behavior change. Decrease in BMI.
Follow-up: Determine based upon patient's motivation and medical status.

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American Academy of Pediatrics Institute for Healthy Childhood Weight

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The Institute serves as a translational engine, moving policy and research from theory into practice in healthcare, communities, and homes.
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Appendix E

Policy for educating overweight and obese children

Question Title

1. Are able to use the new policy in AthenaNet in practice?

Yes

No

Not Applicable

Question Title

2. Has the policy helped you to follow the patient's care?

Yes

No

Question Title

3. Is the policy easy to use?

Yes

No

Question Title

4. Does this method created in AthenaNet help you to document more quickly and efficiently?

Yes

No

Question Title

5. Do you feel this implementation of evidence-based practice assists you to educate your patients?

Yes

No

Question Title

6. Do you feel this implementation of evidence-based practice assists you to treat your patients?

Yes

No

Question Title

7. On average what percentile would you say you used this new policy fr your patient population of overweight and obese children?

25% of the time

50% of the time

75% of the time

100% of the time

Question Title

8. Do you have any barriers in using this policy?

Question Title

9. Do you have any suggestions or comments about how this policy would work better in your practice?

(Lewis, 2020b)

Appendix F

Follow-up to new policy for educating overweight and obese children

Please fill out short yes, no, and comment survey.

Question Title

1. Did the new policy help you to educate children who have been identified as overweight or obese?

Yes

No

Question Title

2. Did the new policy assist you with providing consistent care?

Yes

No

Question Title

3. Did having a policy for education in AthenaNet make following and documenting care easier?

Yes

No

Question Title

4. Do you think this policy in AthenaNet is valuable to your practice?

Yes

No

Question Title

5. Did you notice a reduction in your patient's BMI?

Yes

No

Question Title

6. Do you have any other comments, questions, or concerns regarding the educational policy in AthenaNet?

(Lewis, 2020c)