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Implementation of the Obesity Prevention and Management (OPM) Guideline to Increase Recognition and Treatment of Childhood Overweight and Obesity in an Urgent Care Setting

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IMPLEMENTATION OF THE OBESITY PREVENTION AND MANAGEMENT (OPM)
GUIDELINE TO INCREASE RECOGNITION AND TREATMENT OF
CHILDHOOD OVERWEIGHT AND OBESITY IN
AN URGENT CARE SETTING

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Doctor of Nursing Practice

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Doctoral Project Approval

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This doctoral project prepared by

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Implementation of the Obesity Prevention and Management (Opn) Guideline to Increase Recognition and Treatment of Childhood Overweight and Obesity in an Urgent Care Setting

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Abstract

Childhood obesity carries multiple significant and costly health associated risk factors. Obese children have a higher risk of cardiovascular disease, diabetes, sleep apnea, bone and joint problems, as well as self-esteem issues. Childhood overweight and obesity are associated with \$14.1 billion in healthcare utilization each year. New Mexico (NM) has experienced significant increase in overweight and obesity with associated chronic illnesses over the past 15 years. Addressing the public health crisis of childhood overweight and obesity requires an innovative and broad approach beyond primary care and health policy changes. Urgent care settings are highly accessed by pediatric patients. To address the epidemic of childhood overweight and obesity in NM, a Doctor of Nursing Practice candidate provided Obesity Prevention and Management clinical guideline training to medical staff in an urgent care clinic in northern NM. The goal of this training was to increase the identification of and intervention for childhood overweight and obesity in urgent care. Using Lewin's Change Theory and the Adult Learning Theory as a framework for the project, the project leader presented change as necessary and created motivation to learn by the clinical staff. Overall, there was an increased trend towards higher frequency of screening, diagnosing, and intervention for childhood overweight and obesity in the urgent care setting, as well as a trend towards increasing the frequency of self-reported behaviors. These findings suggest that an education intervention for medical staff may be successful in increasing the recognition and treatment of childhood obesity in an urgent care setting.

Keywords: childhood obesity, childhood overweight, urgent care, obesity prevention and management

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Chapter I

Introduction

According to the World Health Organization childhood obesity is a significant public health issue (2015). Children with a body mass index (BMI) between the 85 and 95 percentile for age and gender are overweight and children with a BMI above the 95 percentile for age and gender are considered to be obese (Burson & Expert Committee, 2007). From 1983 to 2012 the percentage of obese children in the United States ages 6-12 years old has more than doubled from 7% to 17% (Ogden, Carrol, Kit, & Flagel, 2014). Ethnicity and socioeconomic status may be related to higher rates of childhood obesity. Of the 17% of obese children in the United States ages 2-19 years old in 2011 and 2012, 22.4% were Hispanic and 28.7% lived in families with an income below the poverty line (Ogden et al., 2014).

Obesity in childhood carries multiple significant and costly health associated risk factors. Children who are obese have a higher risk of cardiovascular disease, diabetes, sleep apnea, bone and joint problems, as well as self-esteem issues (Dietz, 2004; Freedman, Zuguo, Srinivasan, Berenson, & Dietz, 2007; Li, Ford, Zhao, & Mokdad, 2009). All of these risks have substantial associated costs. Overweight and obesity in childhood is associated with \$14.1 billion in healthcare utilization each year (Trasande & Chatterjee, 2009). In addition, obese children are at risk for becoming obese adults (Sedula, Ivery, Coates, Freedman, Williamson, & Byers, 1993). Obese adults are at risk for diabetes, heart disease including high blood pressure (BP), high cholesterol, and cancers including breast, prostate, endometrial, and colon cancer (Pi-Sunyer et al., 1998). For diabetes alone, the cost of management has increased 41% over five years from \$174 billion in 2007 to \$245 billion in 2012 (Yang, Dall, Hadler, Gallo, Kowal, & Hogan, 2013).

New Mexico (NM) is comprised of a 47.3% Hispanic population (United States Census Bureau, 2014) with 20.4% of families living below the poverty line (United States Census Bureau, 2014), and is ranked as the 33rd most obese state in the United States (Levi, Segal, & Juliano, 2009). In 2011, 14.4% of New Mexican children ages 10-17 years old were obese (Center for Disease Control and Prevention, 2011). NM has experienced significant increases in overweight and obesity with associated chronic illnesses of diabetes and hypertension over the past 15 years (Levi et al., 2009). Despite federal policy changes and efforts in primary care, at schools, and in communities childhood overweight and obesity has only decreased by 3% in NM 3rd graders from 2010 to 2013 (New Mexico Department of Health, 2014). Furthermore, the childhood obesity epidemic continues to rise in the United States (Ogden et al., 2014).

Prevention of any disease, including childhood obesity, is substantially less costly than disease treatment (Levi et al., 2009). Prevention of obesity in children can be achieved through healthy life style choices including healthy eating habits and physical activity (Office of the Surgeon General, 2014). Addressing the public health crisis of childhood overweight and obesity requires an innovative and broad approach, even beyond primary care and health policy changes (Leeman et al., 2012). Early recognition of childhood obesity or overweight by nurse practitioners (NPs) is the first step in prevention and treatment (Gottesman, 2003).

A milieu for change that is currently underutilized is the urgent care visit. Urgent care settings are highly accessed by pediatric patients. One study found over 88% of parents access urgent care for their sick children who attend child care (Hashikawa, Brousseau, Singer, Gebremariam, & Davis, 2014). To address the epidemic of childhood overweight and obesity in NM, a Doctor of Nursing Practice (DNP) candidate provided Obesity Prevention and Management (OPM) clinical guideline (University of Michigan Health System, 2014) training to

the medical staff members, including medical assistants, NPs, physician's assistants, and physicians, of an urgent care clinic in northern NM. The goal of this training was to increase the identification of and intervention for childhood overweight and obesity in the urgent care setting.

The OPM guideline (see Appendices A and B) was created by the University of Michigan Health System (2014) to address the increase in obesity of children, adolescents, and adults as well as the increased medical comorbidities and healthcare costs associated with obesity. The training focused on the aspects of the guideline that address children ages 2-17 years. The OPM guideline identifies children with a BMI in the 85-94th percentile as overweight and those with a BMI greater than the 95th percentile as obese. For children ages 2-18 years, the guideline recommends obesity prevention strategies including: measurement of BMI percentile; review of obesity risk factors; review of dietary and physical activity; and providing healthy lifestyle counseling including family involvement, limiting screen time, regular physical activity, eating a variety of nutritious foods, and appropriate sleep durations (University of Michigan Health System, 2014). For children ages 2-18 years with a BMI greater than or equal to the 85th percentile, in addition to the aforementioned prevention strategies, the OPM recommends obesity management strategies including pulse and BP measurement and parental involvement with reinforcement of lifestyle modifications (University of Michigan Health System, 2014). These are level IA-D and IIA-D recommendations. The authors define level I recommendations are those which should generally be performed and level II recommendations are reasonable to perform. Level A evidence is obtained from randomized control trials (RCTs), level B evidence is obtained from non-randomized control trials, level C evidence is obtained from observational trials, and level D evidence is obtained from expert opinion (University of Michigan Health System, 2014).

Problem Statement

In the project setting, an urgent care practice in northern NM, many children who present for sick visits or injuries are overweight or obese. When adults present to urgent care with chronic conditions such as obesity, diabetes, or hypertension, that put them at risk for acute illness or long-term health risks, the provider addresses these chronic conditions in addition to the acute complaint. Similarly, childhood overweight and obesity should be recognized and addressed during urgent care visits. Providing patients and parents with information and resources for lifestyle changes is part of the holistic approach to healthcare that sets DNPs apart. Even though addressed in primary care, at schools, in communities, and through policy, childhood overweight and obesity has only minimally decreased in New Mexico (New Mexico Department of Health, 2014) and continues to rise in the United States (Ogden et al., 2014). Additional action is needed now to prevent further detriment. Urgent care visits must become a milieu for childhood obesity and overweight treatment if DNPs are to help decrease this epidemic, lower healthcare costs, and ultimately improve the health of our nation. No opportunity should be missed to address, treat, and prevent overweight and obesity in children. The OPM guideline provides evidence regarding treatment of childhood overweight and obesity to assist in the identification and prevention of overweight and obesity in children using the promotion of healthy lifestyles (University of Michigan Health System, 2014). The DNP driven implementation of the evidence-based OPM guideline is key to address, treat, and prevent overweight and obesity in children ages 2-17 years in a New Mexico urgent care clinic (University of Michigan Health System, 2014). This, in combination with the non-judgmental and motivational approach of a DNP, is vital to improving the health of our nation and decreasing associated healthcare costs of a preventable chronic health condition.

Chapter II

Literature Review

Examination of the National Guideline Clearinghouse (2015) showed the OPM to be the most recent and comprehensive clinical guideline for the treatment of overweight and obesity in children. The review of the literature did not produce the specific use of OPM in clinical practice, but there were studies done using similar approaches as the OPM guidelines to identifying and treating childhood overweight or obesity. Review of the literature revealed no studies addressing childhood overweight or obesity in the urgent care setting. This project is unique in that it examined the effect of using the OPM guideline for the recognition and treatment of childhood overweight and obesity in an urgent care setting.

Health risks of childhood overweight and obesity. Childhood overweight and obesity have many associated physical and psychological risk factors including cardiovascular disease and decreased social engagement. Kong et al. (2012) conducted a cross-sectional observational study to investigate the association of uric acid, gamma-glutamyltransferase (GGT), obesity, and the components of metabolic syndrome in children and adolescents from randomly selected primary and secondary schools in Hong Kong. The study revealed that uric acid levels above the 75th percentile were significantly associated with overweight, obesity, elevated BP, abdominal obesity, and low HDL ($P < 0.001$). GGT levels $> 75^{\text{th}}$ percentile were significantly associated with overweight/obesity, abdominal obesity, and elevated BP ($P < 0.001$). This study suggests that elevated levels of uric acid and GGT are not only associated with obesity but also cardiac risk factors.

Nguyen et al. (2014) performed a chart review of 691 patients ages 3-18 years to determine if increased severity of obesity was related to severity of high BP. Of the charts

reviewed, 58% of the patients were African American and 16% were Hispanic. The authors found that patients who were severely obese were also twice as likely to have high BP (95% confidence interval), with Asian and white children having the highest incidence. This study also demonstrates that overweight and obesity during childhood are associated with increased cardiovascular risk.

Risk and associated factors of childhood overweight and obesity. Ethnicity, socioeconomic status (SES), parental influence, junk food consumption, and increased screen time are all factors that can contribute to childhood overweight and obesity. A cross sectional study of 3rd to 5th grade students involved in a community and school based obesity intervention program, Although the study showed that neither junk food consumption nor increased screen time, separately or together, was significantly associated with increased BMI, BMI percentile, or percent body fat (Montoye et al., 2013), there was a significant association with increased junk food consumption and increased screen time ($p < 0.001$). The authors argue that using weight and body fat as sole measures are not adequate to reflect the child's overall health.

Rukavina and Li (2011) performed a survey of 7th and 8th graders to investigate perception of controllability regarding cause and possible solutions of overweight. Findings included participant's belief that weight was under a person's control. Participants had negative associations with overweight people including perceptions of laziness and stupidity. The participants also believed that being overweight was completely a choice and had no hormonal component.

Wethington, Pan, and Sherry (2013) analyzed the results from the 2007 National Survey of Children's Health to determine the association of screen time, race, ethnicity, gender, household poverty status, and physical activity on children's BMI. The highest BMI rates were

among 12 year olds, males, and Hispanics. Living below 100% of the federal poverty level was also associated with higher obesity rates. BMI was higher in children who participated in 1-3 days of physical of activity. Adolescents with a television in their bedroom and more than two hours of screen time a day had triple the prevalence of childhood obesity than their counterparts.

The findings of the studies included in this section are important because they reveal the complex model of childhood obesity that needs to be addressed through a multi-factorial system, including urgent care visits. These findings also highlight the need for family education regarding causes of childhood obesity and the need for promoting self-worth in the treatment of childhood obesity. Family education and promoting self-worth are strategies used by the OPM and are successful for addressing childhood obesity in the urgent care setting.

Parental influence. Elder et al. (2010) conducted a RCT to examine the influence of SES, community, and parental health perceptions and habits on childhood overweight and obesity. The authors found a higher rate of childhood obesity in Hispanic families, parents who rated their own health as low or very high, and positive association of the child's BMI with their parent's BMI. These findings were the same across all SES.

Seo and Lee (2012) conducted a parental survey of middle and high school students to examine parental control over child eating, physical activity of child, and school nutrition policy in association with the child's BMI. The survey found decreased frequency of family meal times, increased hours of TV television watching, and decreased parental control over child's physical activity were associated with the highest rates of childhood overweight. School nutrition policy had no impact on the rate of childhood overweight.

A cross sectional study was performed to determine the correlation of parental self-perception of healthy weight, actual parental BMI, and food access on perception of healthy

childhood weight (Bayles, 2010). This study found a negative correlation between parental BMI and perceived risk for overweight, food insecurity affected parental perception of overweight, and half of the presented card sort photos of overweight children were perceived as normal or underweight by parents in all categories.

A clinical guideline developed by Pizzi and Vroman (2013) for addressing childhood obesity focuses on strength based interventions of the child. This guideline concentrates on family engagement to identify and support strengths of the child and thereby increase engagement in healthy activities and healthy eating. These interventions increased social engagement and overall self-worth of the child.

The studies included in this section are important for the project because they emphasize parents have a strong influence on the health of their children and that the perception of parents own health can negatively impact the development of healthy lifestyles. These articles also highlight family engagement as a tool for the DNP to engage parents in teaching and promoting healthy lifestyle for their children during urgent care visits. The findings again underscore that parental engagement, which is included in the OPM, is crucial in addressing childhood obesity in the urgent care setting.

Interventions for the prevention and treatment of childhood overweight and obesity.

There are many components involved in interventions for the treatment of childhood overweight and obesity. These include family perception of weight status, provider recognition of childhood overweight or obesity, and multidisciplinary family-based education.

Cai et al. (2014) performed a meta-analysis to determine the effects of childhood obesity prevention programs on BP for children. The analysis revealed 46% of the studies had similar significantly improved effects on BMI and BP, 39% showed significantly decreased BP but no

significant decrease of BMI, two studies had non-significant effects on BP, one study showed a significant increase in BP but a significant decrease in BMI. Studies that included dietary and physical activity interventions had significant effects on reduction of systolic BP and diastolic BP ($P < 0.001$). Overall the interventions in the studies resulted in 1.64 millimeters of Mercury (mmHg) reduction in systolic BP ($P < 0.001$) and 1.44 mmHg reduction in diastolic BP ($P < 0.001$).

A study was conducted to determine if customizing the electronic medical record (EMR) with childhood obesity related clinical guidelines would increase the rate of screening and diagnosis of childhood obesity (Savinon, Taylor, Canty-Mitchell, & Blood-Siegfried, 2012). The study found a significantly higher recorded rate of childhood overweight and obesity using the customized EMR.

Shakih, Nettiksimmons, Joseph, Tancredi, and Romano (2014) conducted a study to determine the influence of participation in a quality improvement network by primary care providers on the adherence to clinical guidelines for childhood obesity during primary care visits. The study found increased frequency of screening for childhood overweight, significantly increased individual counseling on television and video game time and sugary drink consumption, and increased provision of general counseling regarding healthy lifestyles for the visits after participating in the quality improvement network.

These studies are important because they demonstrate that participation in a quality improvement initiative can increase compliance with childhood overweight and obesity screening and prevention guidelines leading to decreased cardiovascular risk in children. This project is a quality improvement initiative that includes using OPM guidelines, imbedded in the EMR to increase screening and treatment of childhood obesity in the urgent care setting.

Multidisciplinary approaches. Vos, Huisman, Houdijk, Pijl, and Wit (2012) conducted a RCT to assess the impact of multidisciplinary cognitive behavioral treatment on childhood obesity and health-related quality of life (HRQOL) compared to standard care. The intervention group had a statistically significant ($P \leq 0.05$) decrease in the BMI -standard deviation score (SDS) after three months of treatment ($P=0.02$) and at 12 month follow up ($P=0.03$) with an overall reduction in BMI-SDS from 4.2 at baseline to 3.8 at 12 months follow up. There was no change in BMI-SDS from baseline (4.3) to 12 months follow up (4.2) in the control group. There was also a significant improvement in total ($P=0.01$), independence ($P=0.01$), and emotion ($P=0.05$) HRQOL from baseline to 12 month follow up. Davis et al. (2013) also report positive findings from an evidence based intervention in 16 NM Head Start programs. The study incorporated staff training, family engagement, and healthcare provider involvement to improve dietary intake and increase physical activity. This intervention emphasizes the importance of the multidisciplinary approach to treating childhood overweight and obesity.

A qualitative study was conducted to investigate views of key stakeholders in the holistic “*Balance it! Getting the Balance Right*” weight management program for children 16 years and younger to discover possible reasons for not completing the program (Visram, Hall, & Geddes, 2012). The study found that participants and stakeholders had difficulty identifying and accepting obesity in participants given the emotive nature of labeling a child as obese. All stakeholders and participants reported positive outcomes for families and individual children who participated in the program including making healthier choices, decreased weight, and increased confidence. This study highlights the importance of involving all stakeholders when implementing a program to address childhood overweight and obesity.

Addressing childhood obesity during urgent care visits using the multidisciplinary approach of the OPM can also affect quality of life for children. These findings are important to the project because they show that a multidisciplinary approach to treating childhood overweight and obesity, such as the strategies included in the OPM, not only improves BMI but also improves quality of life. This intervention is a strong example of the benefit of a multidisciplinary approach, such as the OPM guideline, to affecting lifestyle changes in New Mexican children and their families. A multidisciplinary holistic family approach can be easily incorporated into the urgent care visit to help children and parents make better health decisions.

Family based approaches. A study by O'Brien and McDonald (2013) assessed parents' opinion of the children's portion of a family-based program for prevention of obesity in preschool children. Seventy three percent of the parents stated the program was "very useful" and the remaining 27% reported the program as "somewhat useful" in helping their children learn about healthy eating and physical activity. The survey also found that 87% of the parents were "very satisfied" and 13% were "satisfied" with the children's group. All parents who participated in the phone interview communicated high satisfaction with the children's program.

The effectiveness of a multi-component family RCT was tested to determine the impact on the family awareness of importance of and actual health habits of primary school aged children to prevent childhood obesity (Centis et al., 2012). The study found when healthy cooking and physical activity were presented as fun and social activities the incidence of both increased significantly thereby reducing the BMI of the children in the intervention group. These findings are significant because they show that framing healthy lifestyles as a fun family activity can increase participation and success with these interventions.

Quattrin, Roemmich, Paluch, Yu, Epstein, and Echker (2014) conducted a RCT to compare the efficacy of a short and long-term behavioral intervention for overweight children and parents to an information only control for overweight children in a primary care setting. The study found a significant reduction in child and parent BMI in the intervention group. These findings are important because they again show that a multidisciplinary approach to treating childhood overweight and obesity that involves families has a major impact on the health of parents and children.

Shaikh, Nettiksimmons, Joseph, Tancredi, and Romano (2012) conducted a follow up survey with calls to parents of patients regarding the incidence of general counseling provided regarding weight, nutrition, and physical activity for children. They examined if child specific recommendations were made regarding sweetened drink intake, fruit and vegetable consumption, television and video game use, physical activity, and family meals in primary care clinics. Shaikh et. al. found that parents reported general counseling was received about physical activity (69%) and fruit and vegetable intake (62%) during primary care visits, however there was a low incidence of child specific recommendations made regarding sweetened drinks, television and video game use, and family meals (2012).

Lison et al. (2012) performed a RCT comparing a hospital based and home based program that involved parent and child education on implementing a diet high in vegetables, fruit, fish, and chicken and incorporating 3-5 aerobic and resistance training exercise sessions a week. The study found that in both groups, the children's BMI was significantly reduced and six-month compliance with the program was similar.

Marvicsin and Danford (2013) conducted a study comparing parent and child perceptions of parenting efficacy in the realms of control and discipline on childhood BMI. The study found

no statistically significant relationship between parent and child perception of parenting efficacy but a clinically significant relationship between increased parenting confidence in parenting skills in discipline and child response and decreased childhood BMI.

These findings demonstrate a family-based program for the prevention of the childhood obesity can positively influence parental participation in development and implementation of healthy lifestyle habits. This project used a similar family based approach to childhood obesity by utilizing the OPM guidelines during urgent care visits. Building upon parenting skills can increase the success of implementing healthy lifestyle changes at home. Implementing a home based exercise and diet program that includes parent and child participation is successful for decreasing childhood overweight and obesity. The OPM guideline uses a similar approach to childhood obesity with parental involvement that can easily be introduced during the urgent care visit.

The impact of policy on treating childhood overweight and obesity. Gollust, Niederdeppe, & Barry (2013) conducted a study to identify the impact of public education on childhood obesity. Messages regarding increased healthcare risks, increased healthcare cost, increased bullying, and decreased military readiness messages were used to impact public opinion of severity of childhood obesity. Opinion of government and individual responsibility of treating childhood obesity and the importance public childhood obesity policy were also measured. The study found that support for obesity prevention models significantly increase when information regarding consequences of childhood obesity is presented to the public. This study supports providing education to children and families in respect to the long-term consequences of their health choices today.

Rask et al. (2013) reviewed lessons from a qualitative study to examine facilitators and barriers for increasing provision of childhood obesity related counseling services during pediatric clinic visits. The study found that although healthcare coverage for obesity services has expanded, there remains overall low utilization of services due to lack of information disseminated to patients, burden of co-payment, and poor tracking of BMI specific diagnosis codes.

These findings are relevant to the project because use of the OPM guideline provides family and patient education regarding health choices during urgent care visits. The integration of obesity related services, such as using the OPM guideline to address childhood obesity in pediatric urgent care visits, can help bridge the access gap between availability and use of obesity prevention services.

Needs Assessment and Description of the Project

Population identification. The population for this project consisted of NPs, physician assistants (PAs), medical assistants (MAs), and physicians providing care to children ages 2 to 17 years and their parents or guardians who visit an urgent care center in northern NM.

Project sponsor and key stakeholders identification. The project sponsor was the medical director and owner of the urgent care center in northern NM. Key stakeholders included the clinic manager, MAs, billers and coders, and providers including, NPs, physician's assistants (PAs), and physicians at the urgent care center. Other key stakeholders were the participating patients and their families.

Organizational assessment. The culture of the urgent care center organization values include the provision of high quality, accessible primary and urgent care to citizens and visitors of northern NM. This DNP project aligns with the values the clinic in that it brings the highest

standard of care in addressing childhood overweight and obesity while providing accessible and achievable strategies for successful collaboration with families.

Available resource assessment. The DNP project was carried out during work hours at the urgent care center. The medical director mandated that all staff participate in training, implementation, and evaluation of the OPM practice guidelines. Permission was also granted to utilize designated meeting space and times for training and evaluation purposes. An online learning management system was used to provide training and education modules for all staff.

Team selection and formation. The medical director mandated all staff to participate in training, implementation, and evaluation of the OPM practice guidelines. All provider and support staff at the urgent care center were involved in this DNP project. The author served as the project leader, provided all necessary training and support, and ensured correct implementation of all guidelines.

Cost-benefit analysis. There were no additional costs to this project as all material, time, and staffing were covered under regular business operational expenses of the urgent care center.

Scope of project. This DNP project provided OPM guideline training to the urgent care center staff which was implemented during urgent care visits with patients aged 2-17 years and their families. Information was collected on how consistently guidelines were followed using chart documentation of BMI, childhood overweight/obesity diagnosis, and family education.

Goals of the Project

The goal of this DNP project was to increase provider awareness and recognition of childhood overweight and obesity during urgent care visits. Another goal was to create an increased incidence of family education related to childhood overweight and obesity during urgent care visits.

Objectives of the Project

By September 8, 2015, 100% of the urgent care center staff completed online OPM guideline training modules. By October 5, 2015, 100% of the urgent care center staff implemented the OPM guideline with patients aged 2-17 years during urgent care visits as evidenced by documentation of BMI percentile, diagnosis of overweight or obese if applicable, and documented family education in chart audits. By January 1, 2016, at least 85% of the urgent care center staff continue to implement the OPM guideline with patients aged 2-17 years during urgent care visits as evidenced by documentation of BMI percentile, diagnosis of overweight or obese if applicable, and documented family education in chart audits.

Mission Statement of the Project

Childhood overweight and obesity is a significant public health issue with monumental healthcare costs that continues despite policy reform and increased school and primary care education. It is a multi-factorial problem requiring a multidisciplinary approach that includes children and their families. The OPM guideline is a holistic method to recognizing, preventing, and treating childhood overweight and obesity. Applying the OPM guideline during urgent care visits is a vital step towards addressing childhood overweight and obesity, decreasing healthcare costs, and improving the present and future health of our nation.

Chapter III

Theoretical Underpinnings of the Project

Change theory. Adoption of evidence-based clinical guidelines into daily practice can be a difficult change for an organization to undertake. In order to ensure successful implementation of evidence-based practice, an appropriate theoretical framework must be established. Lewin's Change Theory, created in 1947 and updated in 1951, provides a simple, yet powerful approach to change within an organization (Burns, 2004). Lewin's model for change contains three stages; unfreezing, change, and re-freezing. The first stage, unfreezing involves preparing the group to acknowledge that change is required by disrupting the current equilibrium of the organization. Each organization has driving forces that support change and restraining forces that prevent change. When these forces are equal, the organization is in equilibrium. In order to unfreeze the organization, the change agent must increase the driving forces for change or decrease the restraining forces preventing change to disrupt the current equilibrium (Burns, 2004). Donaldson, Rutledge, and Ashley used fall indicators to unfreeze a hospital's current practice and demonstrate the importance of adopting a fall prevention program (2004). The unfreezing process usually creates uncertainty within the organization. Change is adopted during the next stage. This stage requires time and communication to be successful. Once change is adopted, re-freezing begins. During the re-freezing stage, equilibrium is again achieved within the organization and the change becomes part of the group norm. Re-freezing is specifically important to ensure the change continues (Burns, 2004). Manchester et al. used system wide policy changes to re-freeze the implementation of a multi-fall risk assessment in geriatric rehabilitation centers (2014). Tracking and celebrating success of the change is helpful during this final stage.

Lewin's Change Theory is a relevant framework for initiating the adoption of the OPM guideline at the urgent care center for the recognition and treatment of childhood overweight and obesity during urgent care visits. This theory identifies a needed catalyst for change, and creates the necessary environment to support and foster positive transformation within the system.

Adult learning theory. The Adult Learning Theory (ALT), developed by Malcolm Knowles in 1970, describes how adults learn (Russell, 2006). Adult learners require respect and are characterized as self-directed, practical, goal and relevancy oriented with a knowledge and experience base. Ward and McCormack found that application of the above mentioned assumptions to project leaders resulted in successful creation of a learning culture in a hospital setting (2000). Adults are most motivated to learn when they see a necessity for new information. This project regarded the adult learner as a colleague with important life experiences and knowledge by using a self-paced online learning module that combined visual and auditory presentation of material; information that was relevant with attainable goals; and the opportunity to apply new information "hands on" during his or her job. This was an important approach to giving the participant a successful learning experience. Reed et al. (2014) found that the use of an online module for the education of pediatric residents resulted in increased retention of information and satisfaction with the learning experience. A strategy for evaluating the adult's learning is also essential to confirming a successful learning experience (Ward & McCormack, 2000). ALT was a pertinent framework for the project because it drew on the strengths and previous experiences of the urgent care center clinical staff using a practical OPM guideline to create change in practice.

Theoretical framework for the project. Combining Lewin's Change Theory with the ALT created an applicable framework for the project. Motivation to learn by the clinical staff

occurred during the unfreezing stage with presentation of the change. During the change stage, principles of ALT were applied to ensure successful adoption of the OPM guideline. OPM guideline training consisted of an online module with relevant goals, completed within one month at the learner's own pace. Learning was evaluated subjectively with a pre and post education survey and objectively with chart reviews to determine if the training altered the staff's practice. After implementation, re-freezing was accomplished by showing progress of increased recognition of childhood obesity through monthly updates, celebration of success of using OPM guidelines through recognition, and creation of clinical policy that supports the use of OPM guidelines during urgent care visits.

Chapter IV

Project Plan

Setting. The setting for this project was an urgent care practice in northern NM. This practice provides care infants, children, teens, adults, and older adults with a variety of conditions including acute infections, non life-threatening injuries, and exacerbations of chronic illnesses.

Population of interest. The population of interest was the clinical staff, including MAs, NPs, PAs, and physicians providing care for children ages 2-17 years seen at the urgent care center for urgent care visits.

Measures, instruments, and activities.

Data collection. Data to measure outcomes was collected through chart review using the urgent care center's EMR. This author reviewed charts solely. Using the EMR, each patient visit for the previous three months was filtered to show "Urgent Appointments" and "Walk In." The "Urgent Appointments" and "Walk In" visits were further filtered to include only patients ages 2-17 years. Then each urgent visit chart noted within the timeframe was examined to evaluate if height, weight, BMI, and BMI percentile were recorded for the visit. The assessment section of the note was evaluated to see if the diagnosis of "obesity" or "overweight" was included. The plan portion of the note was subsequently examined to determine if any teaching or counseling was provided for obesity or overweight. This data was compiled in an Excel spreadsheet to include the demographics of patient's age, height, weight, BMI, and BMI percentile. There were no other identifying patient data, as patients were denoted by patient one, patient two, etc. Retrospective reviews of de-identified data do not require patient consent forms (University of Nevada, Las Vegas, 2015). Data was collected at baseline for the previous three

months and three months after the implementation of the project using the aforementioned process to determine changes over the implementation period.

Measurement tools. Prior to implementation of the OPM guideline training, the project leader obtained informed consent (see Appendix E) and distributed a survey to the clinic providers and MAs during a regularly scheduled mandatory staff meeting. The provider survey used a Likert scale to measure how often: the provider recorded BMI and BMI percentile for patients ages 2-17 years during urgent care visits; how often the provider looked at BMI and BMI percentile to diagnose overweight or obesity in patients ages 2-17 years during urgent care visits; and how often the provider provided education or counseling regarding lifestyle changes for the prevention or treatment of obesity or overweight in patients ages 2-17 years during urgent care visits (see Appendix C). The MA survey used a Likert scale to measure: how often the MA recorded, height, weight, BMI, and BMI percentile for patients ages 2-17 years during urgent care visits; if the MA knew which BMI percentile makes patients ages 2-17 years overweight or obese; and how often the MA gave a parent or guardian a lifestyle education pamphlet if the patients BMI qualifies for overweight or obesity for patients ages 2-17 years during urgent care visits (see Appendix D). These same surveys were given to the clinic providers and MAs three months after the OPM guideline training during a regularly scheduled mandatory staff meeting. The results of the pre and post implementation surveys were recorded in an Excel spreadsheet on a password protected laptop. The surveys contained no identifying information other than the differentiation between MA and provider surveys.

Activities. The project leader gathered data from urgent care visits for patients ages 2-17 in the past three months from the urgent care center EMR. These visits were examined to determine the frequency of recorded height, weight, BMI, BMI percentile, the diagnosis of

“obesity” or “overweight,” and teaching or counseling for obesity or overweight. The project leader developed online learning modules on a secure free online platform using the OPM Clinical Practice Guideline (CPG). The online modules (see Appendices H, I, and J for screenshots of online learning modules) provided a visual of the OPM CPG, information from the OPM CPG that was relevant to the project, and a short quiz for information reinforcement. The online module took approximately four hours to complete. The training was introduced and explained by the project leader during a mandatory staff meeting at the urgent care center. The surveys (see Appendices C and D for complete surveys) were dispersed, completed by the appropriate staff, and collected. Any staff not attending the mandatory meeting were emailed the information and surveys by the clinic manager. The clinic manager removed identifying information from the surveys and emailed them to the project leader. The clinical staff had four weeks to complete the online training modules. Weekly reminder emails regarding completion of the online modules were sent to the clinical staff by the project leader. Approximately four weeks after the online modules were introduced; the implementation of the OPM CPG at the urgent care center was reinforced by the project leader during the mandatory staff meeting. This information was also sent to absent clinical staff in an email from the project leader. The following day, the OPM CPG was implemented. The project leader was present for the first two days of implementation to provide assistance and address any questions or concerns. After the initial implementation phase, the project leader checked in with clinical staff to ensure implementation of the OPM CPG continued and addressed any questions or concerns. After four weeks of implementing the OPM CPG, the project leader gathered data from urgent care visits for patients ages 2-17years during the implementation phase from the urgent care center EMR. These visits were examined to determine the frequency of recorded height, weight, BMI, BMI

percentile, the diagnosis of “obesity” or “overweight,” and teaching or counseling for obesity or overweight. Four weeks after the implementation of the OPM CPG the post-surveys (see Appendices C and D for complete surveys) were collected from the appropriate clinical staff. The project leader compared the results of pre and post OPM CPG implementation.

Timeline. April 30, 2015 through June 20, 2015 the project leader developed online learning modules on the learning management system for the urgent care center clinical staff using the OPM CPG and Resource Kit (University of Michigan Health System, 2014). The project leader mined the urgent care center’s EMR to extract urgent care visits for patients ages 2-17 years in the past three months and determine the frequency of recorded height, weight, BMI, BMI percentile, the diagnosis of “obesity” or “overweight,” and teaching or counseling for obesity or overweight May 1, 2015 through July 27, 2015. The project leader introduced the project, distributed and collected the provider and medical assistant survey, and discussed the required learning modules during the urgent care center mandatory staff meeting on June 29, 2015. The same day as the meeting the clinic manager disseminated an email with the same information discussed during the meeting and the surveys to the clinic staff who were not present during the staff meeting. On June 30, 2015 the project leader sent an email to all clinic staff informing them that the learning modules were available on the online learning management system with a link to the modules, sign in information, and the project leader’s contact information in case questions or issues arose. July 27, 2015 through August 26, 2015 the project leader worked with the clinic manager to collect all pre implementation surveys. The clinic staff had from June 30, 2015 through August 26, 2015 to complete the online modules. The project leader attended the urgent care center mandatory staff meeting on August 26, 2015 to reinforce the project and discuss implementation of the OPM guideline in practice. The same day as the

meeting the clinic manager sent an email with the same information discussed during the meeting to clinical staff not present. On August 27, 2015 the urgent care center clinic staff implemented the OPM guideline for all urgent visits of children ages 2-17 years. The project leader was present at the clinic August 27-28, 2015 to ensure smooth implementation and address any questions or issues that arose. The project leader continued to be available in person, via telephone, and/or through email during the entire implementation period for any issues or concerns. Printed materials for the module educational series were available for participants unable to access the online learning management system for any reason. The project leader sent weekly emails checking in with the staff regarding the project September 3, 2015 through October 19, 2015. On October 27, 2015 the project leader sent an email with the provider and medical assistant surveys asking that they be completed and returned. October 28, 2015 through November 16, 2015 the project leader worked with the clinic manager to collect the de-identified post implementation surveys. November 6, 2015 through November 11, 2015 the project leader gathered data from the urgent care center EMR for urgent care visits for patients ages 2-17 years during the past four weeks of the implementation phase. These visits were examined to determine the frequency of recorded height, weight, BMI, BMI percentile, the diagnosis of “obesity” or “overweight,” and teaching or counseling for obesity or overweight. On November 29, 2015 the project leader presented the results of the pre and post implementation surveys and urgent visit data to the clinic staff during the urgent care center mandatory staff meeting. The clinic staff was also encouraged to continue implementation of the OPM guideline as a part of regular practice.

Project tasks and personnel. The project leader was responsible for creating the learning modules on the learning management system using the OPM CPG and Resource Kit

(University of Michigan Health System, 2014), collecting data from urgent visits for children ages 2-17 years to determine frequency of recorded height, weight, BMI, BMI percentile, the diagnosis of “obesity” or “overweight,” and teaching or counseling for obesity or overweight for three months prior to implementing the project and four weeks during implementation, attending mandatory staff meetings at the urgent care center to disseminate information regarding the project, collecting and evaluating de-identified provider and medical assistant surveys pre and post implementation. The project leader was also responsible for ensuring successful implementation of the project, and presenting pre and post project implementation to clinical staff during mandatory staff meetings.

The clinic manager of the urgent care center was responsible for sending emails staff absent from the mandatory meetings with information regarding the project. She was also responsible for dispersing, collecting, and de-identifying the provider and medical assistant surveys to staff absent from the meetings.

The providers and medical assistants at the urgent care center were responsible for completing the online learning modules for the OPM guidelines and implementing the OPM guidelines in practice. The project tasks and timeline are illustrated in a Work Breakdown Structure (see Appendix F) and Gantt Chart (see Appendix G).

Resources and support. As stated above, the medical director of the urgent care center mandated that all staff participate in training, implementation, and evaluation of the OPM practice guidelines. Permission was also granted to utilize designated meeting space and times at the urgent care center for training and evaluation purposes. An online learning management system was used to provide training and education modules for all staff. The training and education modules were based on the OPM CPG (University of Michigan Health System, 2014).

Risks and threats. This project carried no greater risk than usual clinical practice.

Evaluation Plan

Financial plan. As stated above, there were no additional costs to this project as all material, time, and staffing was covered under regular business operational expenses of the urgent care center. The online learning management system was available at no cost to users.

Institutional Review Board Approval. An Exempt Research Application form was completed and submitted to the University of Nevada Las Vegas Institutional Review Board (IRB). IRB exempt approval for this project was obtained on May 27th, 2015 (see Appendix E).

Chapter V

Summary of Implementation and Results

Project initiation. The online learning modules were made available, informed consent was obtained, and pre- implementation surveys were collected starting June 29, 2015 and continued through August 26, 2015. A total of 18 participants, consisting of providers and medical assistants, were consented and completed pre-implementation surveys.

The project was implemented August 27, 2015 and continued through October 21, 2015. The initiation date gave the participants eight weeks and three days to complete the online modules and pre-surveys prior to initiating the implementation phase. An additional week was added to the planned implementation phase to account for low patient volume early in the project. A personalized email was sent to all participants informing them of the start date. Hard and electronic copies of the patient information handouts were made available for the providers and medical assistants. This investigator was present for the staff meeting that took place two days after implementation in order to re-visit the project, its goals and objectives, and convey enthusiasm regarding the project. Questions and concerns were addressed during the meeting. No participants were lost or gained during this staff meeting.

This investigator was present in the clinic for the first two days of implementation to provide hands on training and address any concerns or questions that arose. Modeling of project implementation was provided for medical assistants and providers in order to maximize project participation. Additionally, this investigator provided supplemental education to participants regarding the stated outcome goals of the project.

Project threats and barriers.

Predicted threats. The predicted threats to the project included a small number of participants and lack of staff screening for childhood overweight/obesity during urgent care visits. There was also the possibility of disinterest in the project over time. This investigator combated disinterest by sending personalized weekly emails to participants regarding project goals, timeline, and expressing gratitude for participant involvement. These emails served as a reminder of the on-going nature of the project to maximize participation.

Unpredicted threats. The unpredicted threats to the project were the opening of an affiliated clinic in a neighboring town and low patient volume during the summer months. The new clinic opening resulted in some of the participants being moved to the new location. This unpredicted threat resulted in a decreased number of participants. The low patient volume during the summer months resulted in fewer opportunities to implement the project by participants.

Project monitoring. During the implementation phase of the project, this investigator sent weekly contact emails to the participants regarding the project and solicited any questions or concerns. This investigator performed in person monitoring three times monthly during the project implementation phase. On October 27, 2015, the investigator sent an email informing the participants the implementation phase of the project had concluded on October 21, 2015 and thanked them for their participation. Post-implementation surveys were collected from participants October 28, 2015 through November 16, 2015.

Data collection. Informed consent (See Appendix E) and pre-surveys (See Appendices C&D) were disseminated and collected during a mandatory staff meeting, as well as during clinic hours and with help of the clinic manager. Post-surveys (See Appendices C&D) were

collected during clinic hours. Survey results were transcribed into a table and entered into the Statistical Program for Social Sciences, Version 22.0.

A query in the clinic's billing system was run for the diagnosis codes for overweight and obesity between May 1, 2015 and October 21, 2015. Of the results returned, date of birth was examined to determine if the patients were between ages 2- 17. The date of service was then cross referenced with the clinic's EMR to verify if the patient presented as a walk-in or urgent visit. The patient charts that met these criteria were inspected for the date of service to confirm if teaching or counseling regarding overweight or obesity was included in the plan.

Data analysis.

Qualitative data analysis. There were 14 MA respondents for the pre-survey and nine MA respondents for the post-survey. Survey responses are detailed in Table 1. A paired t-test was utilized to compare each survey item pre and post intervention. There was no statistical significance between pre and post surveys (see Table 4; $P > 0.1$ for all responses); however there was notable clinical significance in the distribution change in responses. Most notably questions four, five, and six (see Appendix D) had no incidence of the "Never" response in the post-survey. This indicated an increased reported knowledge about and provision of education regarding childhood overweight and obesity in the urgent care setting.

There were 12 provider respondents for the pre-survey and nine provider respondents for the post-survey. Survey responses are detailed in Table 2. A paired t-test was utilized to compare each survey item pre and post intervention. As noted in the MA surveys, there was not statistically significant difference in the provider pre and post surveys (see Table 3; $P > 0.1$ for all responses). A clinically significant finding of the intervention was an elimination of the "Never" response for all four questions (see Appendix C) in the post survey. This may demonstrate the

efficacy of this study's educational intervention in increasing the frequency of screening, diagnosing, and providing appropriate education for overweight and obese children in the urgent care setting.

Quantitative data analysis. In the pre-implementation phase from May 1, 2015 through August 26, 2015 there were 1,639 total urgent care or walk in visits for children ages 2-17 years. Of these total visits two contained the diagnosis code for overweight and seven contained the diagnosis code for obesity, accounting for 0.5% of the total visits being screened for overweight or obesity during the pre-implementation phase. One of the two visits with the diagnosis code for overweight documented that counseling was provided for overweight during the visit.

In the implementation phase from August 27, 2015 through October 21, 2015 there were 849 total urgent care or walk in visits for children ages 2-17years. Of these total visits, seven contained the diagnosis code for overweight and 17 contained the diagnosis code for obesity, accounting for 3% of the total visits being screened for overweight or obesity during the post-implementation phase. One of the visits with the diagnosis code for overweight and five of the visits with the diagnosis code for obesity did not contain documentation that counseling was provided for overweight/obesity during the visit (See Table 5).

Given the small percentage of qualifying patients screened, a Wilcoxon Signed Rank Test was used to determine statistical significance of the intervention (See Table 6).

Giving Meaning to the Data

Quantitative data. The values for pre and post intervention were likely not statistically significant ($P=1$) due to low incidence of screening. An increase of six fold in the percentage of patients screened pre-implementation from 0.5% to 3% screened post- implementation implies a

clinical significance. This demonstrates an increased trend towards higher frequency of screening, diagnosing, and intervention for childhood overweight and obesity in the urgent care setting.

Qualitative data. The pre and post surveys for MA and providers did not demonstrate a statistically significant change in self-reported behaviors. There was a loss of five MA respondents and three provider respondents from pre to post survey. There was a noted trend towards increasing the frequency of self-reported behaviors following the educational intervention. This suggests a positive outcome from the intervention and supports the continuance of education to support engagement in these behaviors.

Dissemination and Utilization of the Results

The results of this study were disseminated to all clinic staff during mandatory staff meeting in November 29, 2015. This investigator provided a verbal summary of the outcomes and made recommendations for continued implementation of the OPM CPG.

Providing structured guideline training and education for screening, recognition, and counseling for childhood overweight and obesity in the urgent care setting demonstrates an increased incidence in these behaviors with medical personnel. This provides support to recommend a clinic specific policy to mandate a yearly competency on OPM guideline training.

Limitations and Recommendations

The limitations of this project include a small number of participants, a loss of participants during the project, and implementation of the project at a single practice setting. Given in 2011, 14.4% of New Mexican children ages 10-17 years old were obese (Center for Disease Control and Prevention, 2011), the actual number of children screened as overweight or obese was much small than the anticipated number. These factors may limit the statistical and clinical significance of the project.

Further investigation to identify missed opportunities for screening pre and post implementation would be beneficial. Qualifying visits could be investigated to determine if children had a BMI percentile for overweight or obesity but the conditions were not included in the diagnosis for the visit. This would help determine if a more intensive intervention is required to ensure all qualifying patients are being screened

Table 1. MA Survey Answers Pre and Post

	% of respondents Never	% of respondents Sometimes	% of respondents Always
Pre-Survey Questions (N=14)			
Question 1.	0	14	86
Question 2.	0	21	79
Question 3.	0	21	79
Question 4.	7	14	79
Question 5. (N=11)	9	36	55
Question 6. (N=6)	100	0	0
Post Survey Questions (N=9)			
Question 1.	0	11	89
Question 2.	0	11	89
Question 3.	0	22	78
Question 4. (N=8)	0	38	62
Question 5.	0	33	67
Question 6. (N=4)	0	0	100

Table 2. Provider Survey Answers Pre and Post

	% of respondents Never	% of respondents Sometimes	% of respondents Always
Pre-Survey Questions (N=12)			
Question 1.	25	33	42
Question 2.	25	42	33
Question 3.	25	50	25
Question 4.	8	84	8
Post Survey Questions (N=9)			
Question 1.	0	33	67
Question 2.	0	56	44
Question 3. (N=8)	0	88	12
Question 4.	0	78	22

Table 3. T-Test of Provider Pre and Post Surveys

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	PREBMI - POSTBMI	-.333	1.000	.333	-1.102	.435	-1.000	8	.347
Pair 2	PRE BMI % - POST BMI %	-.222	.833	.278	-.863	.418	-.800	8	.447
Pair 3	PREDIAGNOSE - POST DIAGNOSE	-.125	.835	.295	-.823	.573	-.424	7	.685
Pair 4	PRE EDUCATION TO GUARDIANS - POST EDUCATION TO GUARDIANS	-.222	.441	.147	-.561	.117	-1.512	8	.169

Table 4. T-Test of MA Pre and Post Surveys

Paired Samples Test									
		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	PREWEIGHT – POSTWEIGHT	-.111	.601	.200	-.573	.351	-.555	8	.594
Pair 2	PREHEIGHT – POSTHEIGHT	-.111	.601	.200	-.573	.351	-.555	8	.594
Pair 3	PRERECORD BMI - POSTRECORD BMI	-.125	.835	.295	-.823	.573	-.424	7	.685
Pair 4	PRERECORD BMI % - POSTRECORD BMI %	-.125	.835	.295	-.823	.573	-.424	7	.685
Pair 5	PREBMI FOR OVERWEIGHT OR OBESE - POST BMI FOR OVERWEIGHT OR OBESE	-.143	.900	.340	-.975	.689	-.420	6	.689

Table 5. Pre and Post Implementation Screening

	Total Visits	Number of Total Visits Screened for Overweight	Number Overweight Diagnosis not Addressed in Plan	Number of Total Visits Screened for Obesity	Number Obesity Diagnosis not Addressed in Plan	Percent of Total Visits Screened for Overweight and Obesity	Percent of Screened Cases with Overweight /Obesity Addressed in Plan
Pre-Implementation	1639	2	1	9	0	0.5%	78%
Post-Implementation	849	7	1	17	5	3%	75%

Total Visits refers to urgent care and walk-in visits for children ages 2-17.

Pre-Implementation refers to 5/1/2015 through 8/26/2015.

Post-Implementation refers to 8/27/2015 through 10/21/2015.

Table 6. Wilcoxon Signed Rank Test

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of different values across PostPercentage and PrePercentage are equally likely.	Related-Samples McNemar Test	1.000 ¹	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

¹Exact significance is displayed for this test.

Appendix A



Michigan Quality Improvement Consortium Guideline

June 2014

Prevention and Identification of Childhood Overweight and Obesity

The following guideline recommends specific interventions for prevention and identification of childhood overweight and obesity.

Eligible Population	Key Components	Recommendation and Level of Evidence	Frequency
All children and their parents	Education, parental modeling of healthy behaviors, and prevention of risk	<p>General advice for all ages:</p> <ul style="list-style-type: none"> Educate parents about importance of parental role modeling for a healthy lifestyle (diet and exercise) and parental controls. Promote a healthy diet (including fruits, vegetables and low fat dairy), appropriate portion size, healthy breakfast daily, and regular mealtimes. Limit eating out; avoid fast food. Avoid food as a reward. <p>Infant/Toddler (age 0-2):</p> <ul style="list-style-type: none"> Encourage breastfeeding for at least 12 months; discourage overfeeding of bottle fed infants [A]. Avoid bottle feeding as a sleep aid. Avoid premature introduction of solids and base timing for introduction of solids on child's development, usually between 4 months and 6 months of age. Preserve natural satiety by respecting a child's appetite. Avoid high-calorie, nutrient-poor beverages (e.g., soda, fruit punch, sports drinks, or any juice drink less than 100% juice). Discourage any juice prior to 6 months. If using juice after 6 months, limit to 4-6 oz./day in a cup. No television or other screen time under age 2 [D]. <p>Preschool (ages 3-5):</p> <ul style="list-style-type: none"> Limit television and other screen time to at most 1-2 hours per day. No access to television and other screens in primary sleeping area. Replace whole milk with skim or 2%; avoid high-calorie, nutrient-poor beverages (soda, fruit punch, sports drinks, juice drinks); limit intake of 100% juice to < 6 ounces per day. Respect the child's appetite and allow him or her to self-regulate food intake. Provide structure and boundaries around healthy eating with adult supervision. Promote physical activity including unstructured play at home, during child care and in the community. <p>School-aged (ages 5-12), the above plus:</p> <ul style="list-style-type: none"> Accumulate at least 60 minutes, and up to several hours, of age-appropriate physical activity on all or most days of the week (emphasize lifestyle exercise, i.e., outdoor play, yard work, and household chores). Consider barriers (e.g., social support, unsafe neighborhoods or lack of school-based physical education) and explore individualized solutions. Reinforce making healthy food and physical activity choices at home and outside of parental influence. 	At each periodic health exam
	Assessment of body mass index, risk factors for overweight and excessive weight gain relative to linear growth	<p>General assessment:</p> <ul style="list-style-type: none"> History (including focused family history) and physical exam Measure and record weight and height on CDC BMI-for-age growth chart, calculate and plot patients' BMI percentile [weight (kg)/height squared (m²) or (pounds x 703)/inches²]¹ Dietary patterns (e.g. frequency of eating outside the home, consumption of breakfast, adequate fruits and vegetables, excessive portion sizes, etc.) Physical activity level Risk factors for overweight² including pattern of weight change [C]. Watch for increases of 3-4 BMI units/year. 	

¹ See <http://apps.nccd.cdc.gov/dnpabmi/calculator.aspx>

² Low or high birth weight, low income, minority, television or computer screen time > 2 hrs, low physical activity, poor eating, depression

Levels of evidence for the most significant recommendations: A = randomized controlled trials; B = controlled trials, no randomization; C = observational studies; D = opinion of expert panel
 This guideline lists core management steps. It is based on several sources, including the Institute for Clinical Systems Improvement. Prevention and Management of Obesity for Children and Adolescents. Published July 2013; and the American Medical Association 2007 Expert Committee Recommendations on the Treatment of Pediatric Obesity (www.ama-assn.org). Individual patient considerations and advances in medical science may supersede or modify these recommendations.

Approved by MQIC Medical Directors July 2006, June 2008, 2010, 2012, 2014

Appendix B

June 2014



Michigan Quality Improvement Consortium Guideline *Treatment of Childhood Overweight and Obesity*

The following guideline recommends specific treatment interventions for childhood overweight and obesity.

Eligible Population	Key Components	Recommendation and Level of Evidence	Frequency
Children 2 years or older with a BMI ≥ 85th percentile	Identify presence of weight related risk factors and complications	<p>Reinforce Prevention Recommendations (See MQIC Prevention and Identification of Childhood Overweight Guideline)</p> <p>History and physical exam [D]:</p> <ul style="list-style-type: none"> • Pulse and blood pressure, using appropriate technique and cuff size for age • Family history, patient or parental concern about weight, and history of medication use including nutritional supplements • Symptoms of gallbladder disease, diabetes, obstructive sleep disorders, hypothyroidism, weight-related orthopedic problems • Be alert to secondary causes of obesity. If aberrant findings are noted (short stature, hypotonia, hirsutism, hypogonadism, acanthosis nigricans, etc.) then consider genetic, endogenous, or syndrome-associated causes of obesity. <p>Testing: Screening lipid profile</p> <p>Reinforce lifestyle and behavior modifications [D]:</p> <ul style="list-style-type: none"> • Focus is avoiding weight gain as the child grows; monitor BMI percentile • Family must recognize the problem and be actively engaged in the treatment. • Small, gradual lifestyle changes are recommended • Monitor for the development of risk factors or complications. 	<ul style="list-style-type: none"> • Each periodic health exam, more frequently as case requires • Consider management of childhood obesity as a long-term intervention
Children 2 years or older with a BMI ≥ 85th-94th percentile with risk factors or complications	Lifestyle intervention with treatment of risk factors and complications as needed	<p>■ All of the above, plus:</p> <ul style="list-style-type: none"> • Primary goal of childhood weight interventions is regulation of body weight and fat with adequate nutrition for growth and development. • Treat risk factors and complications as needed. • Substantial slowing of weight gain may be achieved by relatively small but consistent changes in energy (200-500 kcal/day) intake, expenditure or both. If weight loss is desired, an appropriate starting goal is about 1 lb of weight loss per month. • Consider a moderate- to high-intensity multidisciplinary approach in the treatment of childhood obesity. <p>Testing: AST, ALT, and screening for diabetes every two years for children ≥ 10 years of age</p>	
Children 2 years or older with BMI ≥ 95th percentile (obese) with or without risk factors or complications	Weight loss with concomitant treatment of risk factors and complications as needed	<p>■ All of the above, plus:</p> <ul style="list-style-type: none"> • Long-term goal should be a body mass index below 85th percentile for age and sex. • Consider aggressive approach to weight loss and treatment for patients after conservative approaches have failed. 	

Levels of Evidence for the most significant recommendations: A = randomized controlled trials; B = controlled trials, no randomization; C = observational studies; D = opinion of expert panel. This guideline lists core management steps. It is based on several sources, including the Institute for Clinical Systems Improvement. Prevention and Management of Obesity for Children and Adolescents. Published July 2013; and the American Medical Association 2007 Expert Committee Recommendations on the Treatment of Pediatric Obesity (www.ama-assn.org). Individual patient considerations and advances in medical science may supersede or modify these recommendations.

Approved by MQIC Medical Directors November 2006; June 2008, 2010, 2012, 2014

MQIC.ORG

Appendix C

Provider survey

Please utilize the scale provided to answer each question regarding patients ages 2-17 years seen during urgent care visits.

1. I record BMI for patients ages 2-17 years during urgent care visits.

Always Often Sometimes Rarely Never

2. I record BMI percentile for patients ages 2-17 years during urgent care visits.

Always Often Sometimes Rarely Never

3. I look at BMI and BMI percentile to diagnose overweight or obesity in patients ages 2-17 years during urgent care visits.

Always Often Sometimes Rarely Never

4. I provide education or counseling regarding lifestyle changes for the prevention or treatment of obesity or overweight in patients ages 2-17 years during urgent care visits.

Always Often Sometimes Rarely Never

Appendix D

Medical assistant survey

Please utilize the scale provided to answer each question regarding patients ages 2-17 years seen during urgent care visits.

- 1. I measure weight for patients ages 2-17 years during urgent care visits.**

Always	Often	Sometimes	Rarely	Never
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- 2. I measure height for patients ages 2-17 years during urgent care visits.**

Always	Often	Sometimes	Rarely	Never
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- 3. I record BMI in the medical record for patients ages 2-17 years during urgent care visits.**

Always	Often	Sometimes	Rarely	Never
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- 4. I record BMI percentile in the medical record for patients ages 2-17 years during urgent care visits.**

Always	Often	Sometimes	Rarely	Never
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- 5. I know what BMI percentile classifies a patient as overweight or obese for patients ages 2-17 years.**

Always	Often	Sometimes	Rarely	Never
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- 6. I give the parent or guardian a lifestyle education pamphlet if the patient's BMI qualifies for overweight or obesity.**

Always	Often	Sometimes	Rarely	Never
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**EXEMPT RESEARCH STUDY
INFORMATION SHEET**

Department of Nursing

TITLE OF STUDY: Implementation of the Obesity Prevention and Management (OPM) Guideline to Increase Recognition and Treatment of Childhood Overweight and Obesity in an Urgent Care Setting

INVESTIGATOR(S) AND CONTACT PHONE NUMBER:

Krystle Apodaca,
phone number 505-463-3781
email krystleapodaca@hotmail.com

The purpose of this study is increase the recognition and treatment of childhood overweight and obesity in the urgent care setting. You are being asked to participate in the study because you meet the following criteria:

1. You are a Medical Assistant, Nurse Practitioner, Physician’s Assistant, or Physician at Aspen Medical Center
 2. You are at least 18 years of age
- If you volunteer to participate in this study, you will be asked to do the following:
1. Complete a pre and post survey
 2. Complete OPM guideline training online (4 hours total)
 3. Implement OPM guidelines during urgent care visits for patients aged 2-17.

This study includes only minimal risks. You will have 4 weeks to complete the OPM guideline training online, then you will be expected to implement the OPM guideline training for 4 weeks. You will not be compensated for your time as this study will occur during work hours.

For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted you may contact **the UNLV Office of Research Integrity – Human Subjects at 702-895-2794, toll free at 877-895-2794, or via email at IRB@unlv.edu.**

Your participation in this study is voluntary. You may withdraw at any time. You are encouraged to ask questions about this study at the beginning or any time during the research study.

Participant Consent:

I have read the above information and agree to participate in this study. I am at least 18 years of age. A copy of this form has been given to me.

Printed Name

Signature

Date

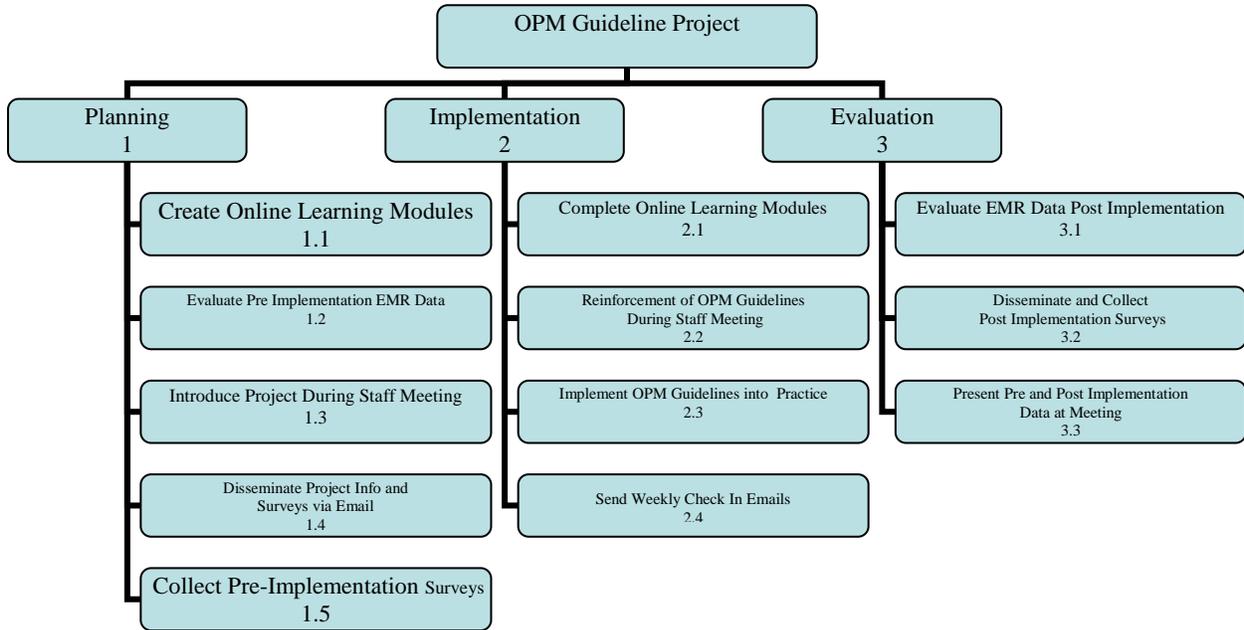
Primary Investigator Name

Primary Investigator Signature

Date

Appendix F

Work Breakdown Structure (WBS)



Appendix G
OPM Guideline Gantt Chart

WBS	Task	Person Responsible	4/30/15 - 6/30/15	7/1/15 - 7/25/15	7/26/15 - 8/1/15	7/27/15 - 8/2/2015	8/3/15 - 8/29/15	8/30/15 - 8/31/15	9/1/15 - 10/31/15	11/1/15	11/2/15 - 11/6/15	11/7/15 - 11/11/15	11/12/15 - 11/28/15	11/29/15
1.1	Develop Online Learning Modules	Project Leader												
1.2	Evaluate Pre Implementation EMR Data	Project Leader												
1.3	Introduce Project During Staff Meeting	Project Leader												
1.4	Disseminate Project Info and Surveys via Email	Clinic Manager												

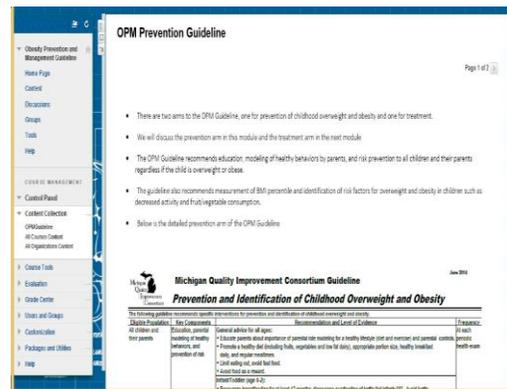
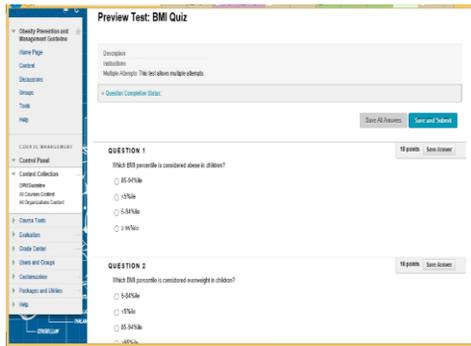
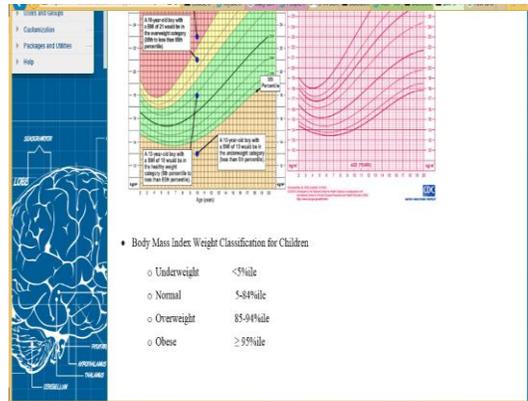
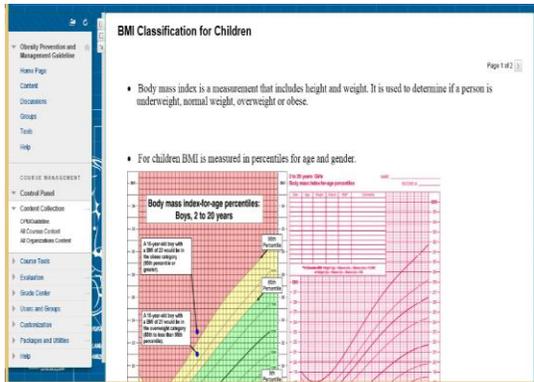
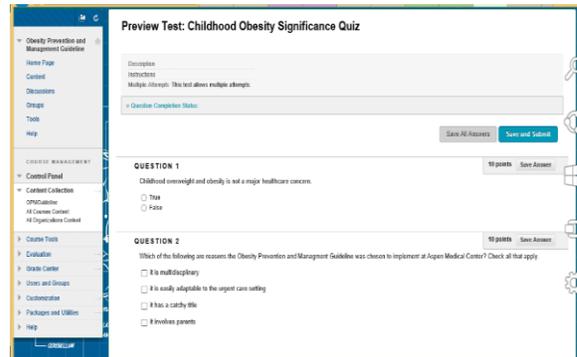
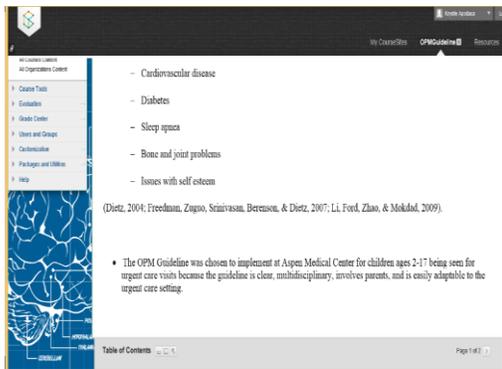
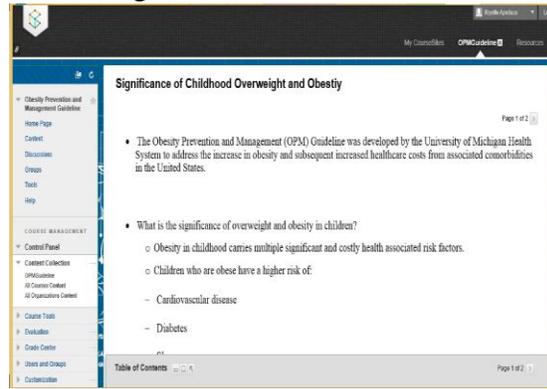
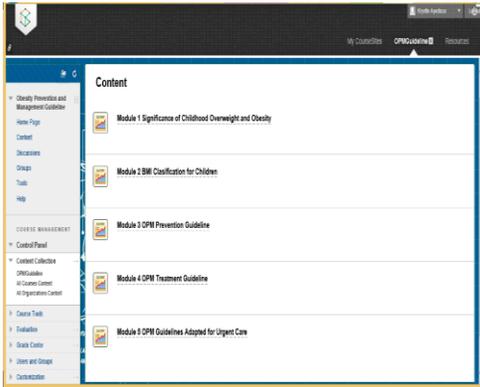
1.5	Collect Pre-Implementation Surveys	Project Leader & Clinic Manager												
2.1	Completion of Online Modules	Clinic Staff												
2.2	Reinforcement of OPM Guidelines during Staff Meeting	Project Leader												
2.3	Implementation of OPM Guidelines into practice	Clinic Staff												

2.4	Send Weekly Check In Emails	Project Leader												
3.1	Evaluate EMR Date Post Implementation	Project Leader												
3.2	Disseminate Post Implementation Survey via Email	Clinic Manager												
3.2	Collect Post Implementation Survey	Project Leader and Clinic Manager												

3.3	Present and Post Imple mentat ion Data at Staff Meetin g	Project Leader												
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Appendix H

Screenshots of Online Learning Modules



Appendix I Screenshots of Online Learning Modules, continued

Public Population All children and their parents

Key Components

Recommendation and Level of Evidence

Frequency

Clinical advice for all ages:

- Screening for presence of parental risk resulting in a healthy lifestyle (diet and exercise) and parental obesity.
- Provide a healthy diet (limiting fruits, vegetables and low fat dairy), appropriate portion size, healthy breakfast and adequate hydration.
- Encourage physical activity.
- Screening for obesity in children:

 - Screening for obesity in children 10 years of age or older.
 - Screening for obesity in children 5-9 years of age.
 - Screening for obesity in children 2-4 years of age.
 - Screening for obesity in children 1-4 years of age.
 - Screening for obesity in children 0-1 years of age.
 - Screening for obesity in children 0-1 years of age.

Preview Test: OPM Prevention Guideline Quiz

Question 1: According to the OPM Guidelines all children should have ____ measured.

- hair length
- BMI percentile
- shoe size
- armpit

Question 2: According to the OPM Guidelines, all children and their parents should receive education regarding

- global warming
- parental modeling of healthy behaviors
- the Golden Rule

QUESTION 2

According to the OPM Guideline, all children and their parents should receive education regarding

- global warming
- parental modeling of healthy behaviors
- the Golden Rule
- how to become a guest on the Jerry Springer show

QUESTION 3

Jerry is a 6 year old boy who presents to urgent care with a cough and runny nose. He is noted to have a BMI percentile of 10. What information would you provide Jerry and his parents in addition to education on symptomatic care of a UPCI?

- asking Jerry games to model exercise
- parental modeling of healthy lifestyles
- the benefits of eating processed sugar
- how to save money for college

OPM Treatment Guideline

Michigan Quality Improvement Consortium

Treatment of Childhood Overweight and Obesity

Eligible Population	Key Components	Recommendation and Level of Evidence	Frequency
Children 2 years of age with a BMI a 85th percentile	Identify presence of weight related risk factors and complications	Identify presence of weight related risk factors and complications (See MQC Prevention and Identification of Childhood Overweight and Obesity Guideline) History and physical exam (Hx) Pulse and blood pressure, using appropriate technique and cuff size for age Family history, patient or parental concern about weight, and history of inactivity use including nutritional supplements Symptoms of cardiovascular disease, diabetes, obstructive sleep disorders, hypothyroidism.	At least periodic health exam, more frequently as case requires

Public Population All children and their parents

Key Components

Recommendation and Level of Evidence

Frequency

Clinical advice for all ages:

- Screening for presence of parental risk resulting in a healthy lifestyle (diet and exercise) and parental obesity.
- Provide a healthy diet (limiting fruits, vegetables and low fat dairy), appropriate portion size, healthy breakfast and adequate hydration.
- Encourage physical activity.
- Screening for obesity in children:

 - Screening for obesity in children 10 years of age or older.
 - Screening for obesity in children 5-9 years of age.
 - Screening for obesity in children 2-4 years of age.
 - Screening for obesity in children 1-4 years of age.
 - Screening for obesity in children 0-1 years of age.
 - Screening for obesity in children 0-1 years of age.

Preview Test: OPM Treatment Guideline Quiz

Question 1: If a child is overweight or obese, which of the following should be measured in addition to BMI. Choose all that apply.

- appropriate lab tests
- pulse
- pulse rate
- blood pressure

Question 2: What is an important factor for identifying healthy behavior and lifestyles in children who are overweight or obese?

- the parent's income
- how many friends the child has

QUESTION 2

What is an important factor for identifying healthy behavior and lifestyles in children who are overweight or obese?

- the parent's income
- how many friends the child has
- whether the child is tall enough to date
- family breakdown

QUESTION 3

Maria is a 16 year old female who presents to urgent care for pain in her right side. She also has a BMI percentile of 95. Which of the following would not be included in this visit?

- measuring her circumference
- measuring pulse
- family breakdown in lifestyle changes for healthy weight
- measuring blood pressure

Adapted OPM Guidelines

The Obesity Prevention and Management (OPM) Guidelines for Children ages 2-17 adapted for Urgent Care

- Measure height, weight, and BMI percentile
- If child is overweight (BMI 85-94 %ile) or obese (BMI ≥ 95 %ile) record Overweight or Obesity as a diagnosis
- If child is overweight or obese the provider should give and discuss the "Healthy Weight Tips for Parents" to the child and parents.

Healthy Weight: Tips for Parents

Michigan Quality Improvement Consortium

Healthy Weight: Tips for Parents

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Curriculum Vitae

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CERTIFICATIONS AND LICENSURES

- National Family Nurse Practitioner Certification August 2010-August 2015
- State of New Mexico Nurse Practitioner License CNP-01676 Sept 2010- Feb 2017
- State of New Mexico Registered Nursing License R59978 Feb 2007-Feb 2017
- Basic and Advanced Cardiac Life Support May 2005-March 2018

EDUCATION

Doctor of Nursing Practice-Advanced Practice Track May 2016
University of Nevada, Las Vegas, NV

Masters of Science - Nursing, Family Nurse Practitioner Program May 2010
University of New Mexico, Albuquerque, NM GPA 3.96

Bachelor of Science - Nursing December 2006
University of New Mexico, Albuquerque, NM GPA 3.93

PROFESSIONAL FAMILY NURSE PRACTITIONER EXPERIENCE

University of New Mexico Hospitals, Internal Medicine, Hospital Medicine
February 2013-Present

Albuquerque, NM

- Population served: Adults admitted to the hospital
- Diagnose, treat, and provide continuous care to hospital inpatients.
- Treat internal disorders, such as hypertension, heart disease, diabetes, and problems of the lung, brain, kidney, and gastrointestinal tract.
- Prescribe or administer medication, therapy, and other specialized medical care to treat or prevent illness, disease, or injury.
- Make diagnoses when different illnesses occur together or in situations where the diagnosis may be obscure.
- Monitor patients' conditions and progress and reevaluate treatments as necessary.
- Explain disease processes and procedures and discuss test results or prescribed treatments with patients.
- Admit patients for hospital stays.
- Write patient discharge summaries and send them to primary care physicians.
- Conduct discharge planning and discharge patients.
- Order and interpret the results of tests such as laboratory tests and radiographs.
- Communicate with patients' primary care physicians upon admission, when treatment plans change, or at discharge to maintain continuity and quality of care.
- Refer patients to medical specialists, social services or other professionals as appropriate.
- Participate in continuing education activities to maintain or enhance knowledge and skills.
- Attend inpatient consultations in areas of specialty.

Aspen Medical Center
Santa Fe, NM

March 2013-Present

- Population Served: Birth to elderly persons with acute and stable/non stable chronic conditions.
- Provide ongoing care to well individuals and those with chronic illnesses.
- Prescribe medication dosages, routes, and frequencies based on patients' characteristics such as age and gender.
- Order and interpret the results of diagnostic tests such as complete metabolic panels, x-rays and electrocardiograms.
- Analyze and interpret patients' histories, symptoms, physical findings, and diagnostic information to develop appropriate diagnoses.
- Develop treatment plans based on scientific rationale, standards of care, and professional practice guidelines.
- Perform casting and splinting for multiple types of injuries.
- Provide comprehensive prenatal care to low and high risk women of all ages.
- Insert intrauterine and implantable devices as options for family planning.
- Perform procedures such as trigger point injection, joint injection, suturing, abscess incision and drainage, and cryotherapy to treat acute and/or chronic conditions.
- Diagnose and treat acute health care problems such as illnesses, infections, and injuries.
- Counsel patients about drug regimens and possible side effects or interactions with other substances such as food supplements, over-the-counter (OTC) medications, and herbal remedies.
- Recommend interventions to modify behavior associated with health risks.
- Detect and respond to adverse drug reactions, with special attention to vulnerable populations such as infants, children, pregnant and lactating women, and older adults.
- Educate patients about self-management of acute or chronic illnesses, tailoring instructions to patients' individual circumstances.

University of New Mexico Hospitals, Interventional Radiology
Albuquerque, NM

Sept 2012-May 2013

- Population Served: Pediatric to elderly persons of inpatient and outpatient status with acute and deteriorating chronic conditions.
- Provide comprehensive and collaborative care for individuals who are preparing for or have undergone interventional radiologic procedures including transarterial chemoembolization, radiofrequency ablation, and cryoablation
- Perform and document history and physicals, consults and progress evaluations for inpatients
- Create admitting plan for new inpatients
- Prescribe medication dosages, routes, and frequencies based on patients' characteristics such as age and gender.
- Order and interpret the results of diagnostic exams such as laboratory tests and radiologic imaging.
- Analyze and interpret patients' histories, symptoms, physical findings, and diagnostic information to develop appropriate diagnoses.

- Develop treatment plans based on scientific rationale, standards of care, and professional practice guidelines.

Ben Archer Health Center

August 2010-August 2012

Hatch, NM

- Population Served: Birth to elderly, primarily Spanish speaking, non-insured and rural/migrant persons with acute and stable/non stable chronic conditions.
- Provide ongoing care to well individuals and those with chronic illnesses.
- Prescribe medication dosages, routes, and frequencies based on patients' characteristics such as age and gender.
- Order and interpret the results of diagnostic tests such as complete metabolic panels, x-rays and electrocardiograms.
- Analyze and interpret patients' histories, symptoms, physical findings, and diagnostic information to develop appropriate diagnoses.
- Develop treatment plans based on scientific rationale, standards of care, and professional practice guidelines.
- Perform casting and splinting for multiple types of injuries.
- Provide comprehensive prenatal care to low and high risk women of all ages.
- Insert intrauterine and implantable devices as options for family planning.
- Perform procedures such as trigger point injection, joint injection, suturing, abscess incision and drainage, and cryotherapy to treat acute and/or chronic conditions.
- Diagnose and treat acute health care problems such as illnesses, infections, and injuries.
- Counsel patients about drug regimens and possible side effects or interactions with other substances such as food supplements, over-the-counter (OTC) medications, and herbal remedies.
- Recommend interventions to modify behavior associated with health risks.
- Detect and respond to adverse drug reactions, with special attention to vulnerable populations such as infants, children, pregnant and lactating women, and older adults.
- Educate patients about self-management of acute or chronic illnesses, tailoring instructions to patients' individual circumstances.

Preceptor Experience

- 500 hours per year of UNM ACNP and PA students in various semesters of program, May 2013-present

FAMILY NURSE PRACTITIONER CLINICAL EXPERIENCES

Ben Archer Health Center

Spring 2010

Preceptor: Fernando Lugo, DO

Hatch, NM

- Population Served: Birth to elderly, primarily Spanish speaking and non-insured, rural/migrant health, acute and stable/non stable chronic conditions.
- 336 hours in clinic.
- Provided ongoing care to well individuals and those with chronic illnesses.
- Ordered and interpreted the results of diagnostic tests such as complete blood counts, electrocardiograms, and radiographs.

- Analyzed and interpreted patients' histories, symptoms, physical findings, and diagnostic information to develop appropriate diagnoses.
- Developed treatment plans based on scientific rationale, standards of care, and professional practice guidelines while considering the needs of the rural population.
- Diagnosed and treated acute health care problems such as illnesses, infections, and injuries.
- Prescribed medications based on efficacy, safety, and cost under supervision of preceptor.
- Counseled patients about drug regimens and possible side effects or interactions with other substances such as food supplements, over-the-counter (OTC) medications, and herbal remedies.
- Recommended interventions to modify behavior associated with health risks.
- Detected and responded to adverse drug reactions, with special attention to vulnerable populations such as infants, children, pregnant and lactating women, and older adults.
- Educated patients about self-management of acute or chronic illnesses, tailoring instructions to patients' individual circumstances.

First Choice Community Healthcare- North West Valley

Summer 2009-Fall 2009

Preceptor: Jim Stapleton, CFNP

Albuquerque, NM

- Population Served: Adults and pediatrics, primarily Spanish speaking and non-insured, acute and stable/non stable chronic conditions.
- 216 hours in clinic.
- Provided ongoing care to well individuals and those with chronic illnesses.
- Prescribed medication dosages, routes, and frequencies based on patients' characteristics such as age and gender, under supervision of preceptor.
- Ordered and interpreted the results of diagnostic tests such as complete metabolic panels and electrocardiograms.
- Analyzed and interpreted patients' histories, symptoms, physical findings, and diagnostic information to develop appropriate diagnoses.
- Developed treatment plans based on scientific rationale, standards of care, and professional practice guidelines.
- Diagnosed and treated acute health care problems such as illnesses, infections, and injuries.
- Counseled patients about drug regimens and possible side effects or interactions with other substances such as food supplements, over-the-counter (OTC) medications, and herbal remedies.
- Recommended interventions to modify behavior associated with health risks.
- Detected and responded to adverse drug reactions, with special attention to vulnerable populations such as infants, children, pregnant and lactating women, and older adults.
- Educated patients about self-management of acute or chronic illnesses, tailoring instructions to patients' individual circumstances.

University of New Mexico Hospital-Maternity and Infant Clinic

Spring 2009

Preceptor: Karen Huffine, CNP

Albuquerque, NM

- Populations served: Female adolescents and adults, pregnant women, primarily Spanish speaking, Medicaid insured.

- 120 hours in clinic.
- Provided extensive education on sexuality and family planning.
- Analyzed and interpreted patients' histories, symptoms, physical findings, and diagnostic information to develop appropriate diagnoses.
- Developed treatment plans based on scientific rationale, standards of care, and professional practice guidelines, including appropriate choice of pharmacological treatment.
- Diagnosed and treated acute health care problems such as sexually transmitted, vaginal, and urinary tract infections.
- Counseled patients about drug regimens and possible side effects or interactions with other substances such as food supplements, over-the-counter (OTC) medications, and herbal remedies.
- Recommended interventions to modify behavior associated with health risks.
- Detected and responded to adverse drug reactions, with special attention to vulnerable populations such as pregnant and lactating women.

PROFESSIONAL NURSING EXPERIENCE

RN Inpatient II

October 2007 – July 2010

Interventional Radiology –UNMH

Albuquerque, NM

- Served as MAGNET Champion for Radiology Department.
- Coordinated superior care of patients through hospital wide communication with medical doctors, nurses, and staff.
- Administered procedural sedation for pediatric patients, inpatients, outpatients and critically ill patients.
- Provided pre and post procedure teaching to patients and families.
- Maintained hemodynamic stability of patient before, during and after procedures.
- Promoted positive work environment and excellence in patient care.

RN Inpatient II

January 2007-April 2008

Medical/Cardiac Intensive Care Unit – UNMH

Albuquerque, NM

- Performed critical care assessments and interventions.
- Performed patient and family teaching.
- Used leadership and communication skills to advocate and intervene for patients.
- Provided emotional and spiritual support to patients and families.
- Actively participated in the Research Council and Unit Community Service Council.
- Performed role of Code Team Leader in respiratory and cardiac codes hospital wide.
- Used nursing process to provide direct and total care to assigned patients.
- Promoted positive work environment and excellence in patient care.

OTHER EXPERIENCE

Program Coordinator

March 2005-August 2006

College Prep Programs – University of New Mexico

Albuquerque, NM

- Organized and coordinated all aspects of summer college prep programs

Educational Mentor Tutor August 2003-March 2005
Student Support Services - University of New Mexico Albuquerque, NM
• Provided mentoring and tutoring for freshman college and college sophomore students

Student Worker August 2002-May 2003
Student Services - Eastern New Mexico University-Roswell Roswell, NM
• Helped students set appointments, answer phones, provide customer service

Student Worker August 2001-May 2002
Humanities Department - Western New Mexico University Silver City, NM
• Helped students set appointments, answer phones, provide customer service

AWARDS AND RECOGNITIONS

- University of New Mexico, Graduated with Honors, Suma Cum Laude, 2006
- University of New Mexico, College of Nursing Excellence in Adult Health Award, 2006
- University of New Mexico Undergraduate Research and Creativity Symposium Outstanding Student Research Award, 2006
- University of New Mexico, College of Nursing Dean's List, 2005-2006
- Ronald E. McNair Scholar, 2004-2006
- Phi Theta Kappa Honor Society, 2003

PROFESSIONAL AFFILIATIONS

- UNM Hospital Advanced Practice Council Co-Chair June 2014-June 2015
- American Association of Critical Care Nurses, Member February 2008- Present
- New Mexico Nurse Practitioner Council, Member March 2010- Present

RESEARCH SYMPOSIUMS AND PUBLICATIONS

- **Poster**, The Apposition of Culture: Caring for the Navajo Patient, Society of Hospital Medicine Annual Meeting, 2016
- **Publication**, Apodaca, K., Baker, J., Bin-Bilal, H., Raskin, Y., & Quinn, D. K. (2015). Ertapenem induced delirium: A case report and literature review. *Psychosomatics*, 56(5), 561-566.
- **Presenter**, University of New Mexico Hospitals Nursing Grand Rounds, 2007
- **Participant**, University of New Mexico Undergraduate Research and Creativity Symposium, 2006
- **Participant**, University of New Mexico PROFOUND Research Symposium, 2005.
- **Publication**, Apodaca, K. & Proctor, B. (2005). Using personality characteristics to predict risk for alcohol use during pregnancy. *University of New Mexico Ronald E. McNair Research Journal*, 3, 3-5.

VOLUNTEER EXPERIENCE

- La Mesa Lion's Club, Member June 2014-Present
- Hatch Lion's Club, President May 2011- June 2012
- Hatch Valley Public Schools, Health Presenter February 2011- August 2012