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Barriers to Managing Childhood Overweight/ Obesity in American Indian Children

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BARRIERS TO MANAGING CHILDHOOD OVERWEIGHT/ OBESITY IN AMERICAN INDIAN CHILDREN

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has been approved as meeting the requirement for the Degree of Doctor of Nursing Practice in the College of Natural and Health Sciences in School of Nursing, Program of Nursing Practice.

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EXECUTIVE SUMMARY

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The number of overweight and obese children continues to rise in the United States and across the world, creating a growing need for providers to practice evidence-based interventions for this population of children and adolescents. An estimated 17% of children and adolescents in the United States are affected by being overweight or obese (Centers for Disease Control and Prevention [CDC], 2016a). Obesity puts these children and adolescents at risk for physical complications such as hypertension, hyperlipidemia, Type 2 diabetes, sleep apnea, asthma, joint pain, gastroesophageal disease, and fatty liver disease (CDC, 2016b). Obesity is even higher among ethnic groups including American Indian children and adolescent populations. Among American Indian populations, 45% of children and adolescents are overweight and obese (Perry & Hoffman, 2010). Research indicated a higher incidence of adult obesity if an individual was obese as a child or adolescent, putting them at greater risk for more serious health conditions (CDC, 2016b). Children and adolescents also suffer psychologically from being overweight or obese (CDC, 2016b). Overweight and obese children and adolescents are more prevalent in rural communities compared to urban settings (Johnson & Johnson, 2015). Along with a higher incidence, rural populations are faced with challenges on how to reverse a child's overweight or obese status. The American Academy of Pediatrics (2008) has

created guidelines to assist in assessing, treating, and preventing overweight and obese children. This Doctor of Nursing Practice (DNP) project addressed the prevalence of overweight and obesity, barriers regarding assessment and treatment, and ways to improve prevention and management of overweight and obesity in the American Indian child and adolescent population.

The Delphi method was used to query providers regarding their perceptions of barriers to management of overweight and obesity in American Indian children and adolescents treated at the Wind River Family and Community Health Clinic. The initial survey consisted of open-ended questions allowing for providers to comment on perceptions regarding management of American Indian childhood and adolescent overweight and obesity. Nine surveys were sent to the providers of the clinic with six or 67% completed and returned. The providers were given approximately nine days to return the surveys. The second survey, developed based on the responses to the first survey, consisted of 30 questions with *agree*, *disagree*, or *other* response choices. Nine providers were sent the second survey and five or 55.6% of the providers completed and returned the surveys. Treating and managing children and adolescents at the clinic is very complex and creates many challenges for the providers. Barriers identified by the providers through the surveys included time constraints to accurately document overweight and/or obesity issues, resources for obtaining healthy foods, and lack of family involvement in the treatment of overweight or obese children and adolescents. As indicated through the surveys, not one single barrier created challenges for the providers as the issue has multiple aspects.

As many other research reports identified prior to this project, rural health care presents many obstacles. Many challenges are faced when caring for the American Indian population. One basic human need, food, was identified as being a very sizeable challenge for American Indians. When food is discussed by the providers, many food sources offered to the American Indians are based on whether or not they have access to electricity and transportation. In addition, although several programs are offered to the American Indian population, the use of these resources is dependent upon the children and adolescents' family involvement and acknowledgement of the need for weight loss. Electronic medical record challenges and time constraints were also identified as barriers for the providers.

With the time constraints regarding documentation, one recommendation was nursing staff could aid providers in keeping the problem list current. This would aid the clinic in tracking more accurate numbers of overweight and obese children and adolescents. The nutritionist is an active participant in the clinic and health of the pediatric population at the clinic and is believed to be a key component in health improvements of children and adolescents. Continued referrals and use of nutritional services should be encouraged.

Key Words: *childhood obesity, adolescent obesity, overweight, rural healthcare, pediatrics, American Indian, Delphi Method, surveys*

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LIST OF ABBREVIATIONS

AAP	American Academy of Pediatrics
AI	American Indian
AMA	American Medical Association
APRN	Advanced Practice Registered Nurse
BMI	Body Mass Index
CBSB	Cognitive Behavior Skills Building
CCM	Chronic Care Model for Childhood Obesity
CDC	Centers for Disease Control and Prevention
CINAHL	Cumulative Index of Nursing and Allied Health Literature
CIS	Clinic Information Systems
DO	Doctor of Osteopathy
FMSF	Family Management Style Framework
HCI	Healthy Choices Intervention
IAT	Implicit Association Test
IHS	Indian Health Services
MD	Medical Doctors
NICHQ	National Initiative for Children's Healthcare Quality
NP	Nurse Practitioner
NRHA	National Rural Health Associates
PA	Physician Assistant

PCP	Primary Care Providers
USPSTF	U.S. Preventative Services Task Force
WHO	World Health Organization

CHAPTER I

STATEMENT OF THE PROBLEM

Introduction and Background

Wyoming presents providers a unique practicing experience with its vast amount of land and small population of humans. Primary care providers (PCPs) are challenged on a regular basis with treating patients in areas of health care who would often be referred to as specialists in urban areas. Childhood obesity is one of the major challenges faced by providers caring for pediatric populations. Statistics indicated 12.7 million children and adolescents are affected by obesity, putting the national average at 17% (Centers for Disease Control and Prevention [CDC], 2016c). Considering a breakdown of obesity by age, the prevalence of obesity is as follows: ages two- to five-years-old--8.9%, 6- to 10-years old--17.5%, and 12- to 19-years-old--20.5% (CDC, 2016c). According to Johnson and Johnson (2015), recent studies indicated children and adolescents are far more likely to be overweight as adults if they were overweight and obese as children and adolescents. Specifically, 24% to 90% of overweight or obese children and adolescents become overweight or obese adults (Johnson & Johnson, 2015). Serious health consequences associated with obesity in adulthood include Type 2 diabetes, heart disease, and cancer (CDC, 2016b). According to the CDC (2016d), 36.5% of the adult population in America suffer with obesity. For an adult diagnosed with obesity, average medical costs are $1,429 more a year than for a person of normal weight

(CDC, 2016d). The average cost for an obese child covered under private health insurance is $3,743 annually versus the costs for the average insured child costing $1,108 (National Institute for Children's Healthcare Quality [NICHQ], 2010).

Wyoming is a rural state that offers many challenges to primary care providers caring for both adults and children/adolescents. In 2015, Wyoming was estimated to have a population of 586,107 (U.S. Census Bureau [USCB], 2016). The two largest cities in the state are Casper and Cheyenne--each city makes up of less than 65,000 people living in the city and surrounding areas (USCB, 2016). The state of Wyoming houses the Wind River Indian Reservation. The two largest towns closest to the Wind River Indian reservation are Lander, Wyoming and Riverton, Wyoming. Lander is located about 20 miles away from two health clinics serving American Indians living on the Wind River Reservation. The setting for this capstone was the Wind River Family and Community Health Center located near Arapahoe, Wyoming.

Rural areas are known for less access to health care and tend to be poorer (National Rural Health Association [NRHA], 2016). According to the NRHA (2016), 24% of children in rural areas live in poverty. Rural area residents rely heavily on food stamps. One of the major issues associated with rural area residents is the inability to access healthcare services due to transportation issues (NRHA, 2016). Being a rural state, Wyoming is challenged with providing appropriate services for residents living within the state. Treatment of childhood obesity is a challenge being faced by providers serving rural areas in Wyoming. The state of Wyoming's percentage of adults who were obese was 29.5 % and the percentage of overweight individuals was 35.2% in 2014 (CDC, 2016d). Approximately 27% of Wyoming adolescents, ages 10 to 17 years, were

overweight or obese in 2012 according to a survey conducted by the Data Resource Center for Child and Adolescent Health.

Wyoming houses the Wind River Reservation for the American Indian (AI) population, specifically, the Northern Arapahoe and Eastern Shoshone tribes. The Wind River Reservation encompasses over 2.2 million acres of land in the state of Wyoming (NICHQ, 2010). The Wind River Family and Community Health Clinic serves 10,964 AIs living on the Wind River Reservation. Research indicated 44% of AI children and adolescents, ages 5 to 13 years, are overweight and obese (Perry & Hoffman, 2010).

Primary care providers (PCPs) see people of all ages including the pediatric population. Primary care providers include the following: medical doctors (MDs), doctors of osteopathy (DOs), advanced practice registered nurses (APRNs), and physician assistants (PAs). Primary care providers have the challenge of being proficient in prevention and treatment of a vast number of diseases. Pediatric obesity continues to be on the rise; PCPs having an understanding of pediatric obesity and the knowledge to treat this specific population align with holistic care provided by nurses. The Wind River Family and Community Health Clinic is comprised of PCPs with no pediatric specialists practicing at this time within the clinic.

Pediatric care covers care from infancy through teenage years. For this capstone, definitions by *Bright Futures* (AAP, 2008) and The World Health Organization (WHO; 2017) for children and adolescents were used. Bright Futures defines children as those 1 to 10 years old. The WHO defines adolescents as the time between childhood and adulthood, specifically 10 to 19 years old. During adolescence, significant growth occurs, second only to infancy (WHO, 2017).

Current Practice Guidelines

Centers for Disease Control and Prevention

Childhood obesity is based on a child's body mass index (BMI). The BMI is calculated by the person's weight in kilograms divided by the square of height in meters (CDC, 2015a). The CDC (2015b) defined children as having a BMI at or above the 85th percentile to under the 95th percentile as being overweight. The CDC defines childhood obesity as a BMI at or above the 95th percentile of children or teens of the same age and sex (see Table 1).

Table 1

Childhood Obesity Weight-Based Percentile Chart

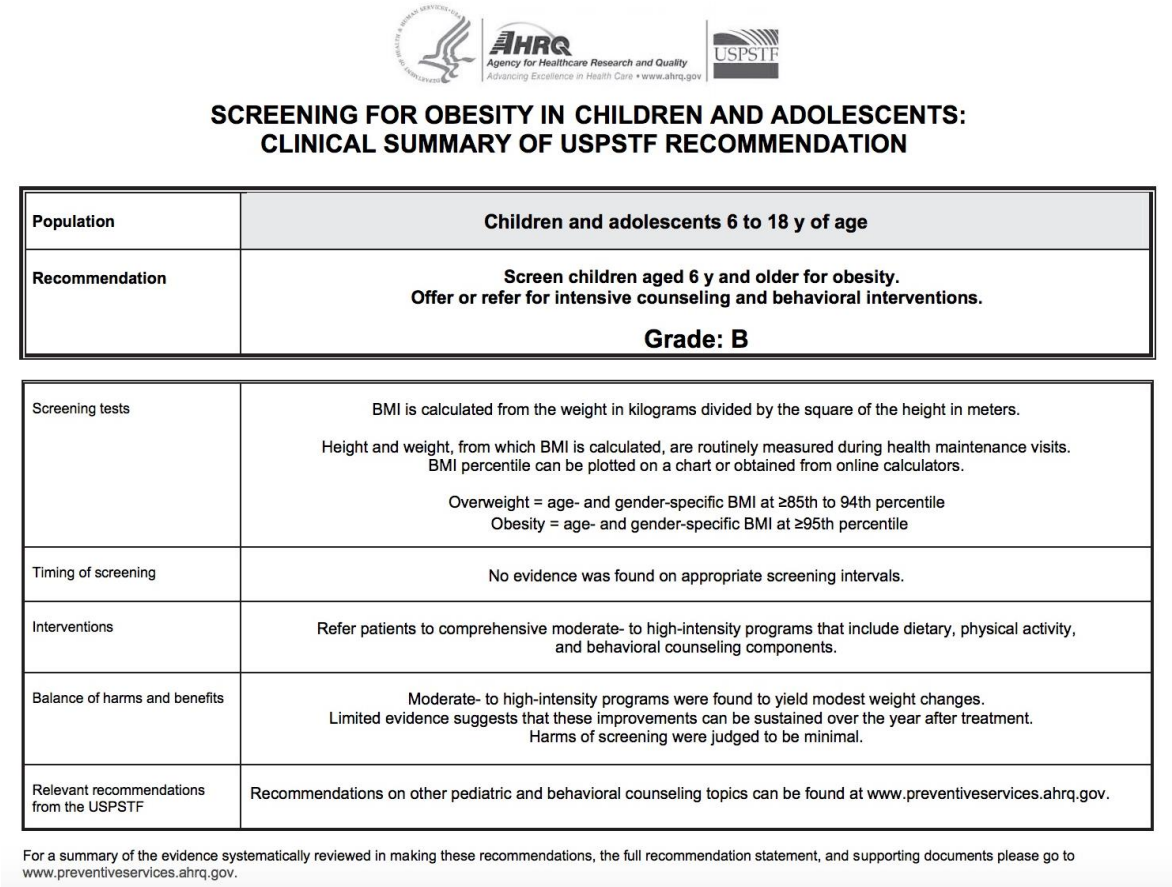
Weight Status Category	Percentile Range
Underweight	Less than the 5th percentile
Normal or Healthy Weight	5th percentile to less than the 86th percentile
Overweight	85th to less than the 95th percentile
Obese	95th percentile or greater

U.S. Preventative Services Task Force

The U.S. Preventative Services Task Force (USPSTF; 2010) created a Grade B guideline for screening for obesity in children and adolescents; it was recommended that children six years and older are screened for obesity. The USPSTF (2010) did not recommend screening children younger than six due to insufficient data to support

screening of this age group. The most current recommendations were from 2010 with a 2016 update being reviewed before being released. The USPSTF defined a Grade B recommendation as follows: "The USPSTF recommends the service. There is high certainty that the net benefit is moderate if there is moderate certainty that the net benefit is moderate to substantial" (p. 365).

The USPSTF (2010) recommends children and adolescents be screened by using the calculated BMI from weight in kilograms divided by the square of the height in meters. Per the USPSTF, no evidence supports appropriate screening intervals for BMI with children and adolescents. Recommended interventions for overweight or obese children and adolescents include referral of patients to comprehensive moderate-to-high intensity programs that include dietary, physical activity, and behavioral counseling components (USPSTF, 2010). Figure 1 depicts a summary of the USPSTF recommendation for screening of obesity in children and adolescents.



AHRQ Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov
USPSTF

SCREENING FOR OBESITY IN CHILDREN AND ADOLESCENTS: CLINICAL SUMMARY OF USPSTF RECOMMENDATION

Population	**Children and adolescents 6 to 18 y of age**
Recommendation	**Screen children aged 6 y and older for obesity. Offer or refer for intensive counseling and behavioral interventions.** **Grade: B**

Screening tests	BMI is calculated from the weight in kilograms divided by the square of the height in meters. Height and weight, from which BMI is calculated, are routinely measured during health maintenance visits. BMI percentile can be plotted on a chart or obtained from online calculators. Overweight = age- and gender-specific BMI at ≥85th to 94th percentile Obesity = age- and gender-specific BMI at ≥95th percentile
Timing of screening	No evidence was found on appropriate screening intervals.
Interventions	Refer patients to comprehensive moderate- to high-intensity programs that include dietary, physical activity, and behavioral counseling components.
Balance of harms and benefits	Moderate- to high-intensity programs were found to yield modest weight changes. Limited evidence suggests that these improvements can be sustained over the year after treatment. Harms of screening were judged to be minimal.
Relevant recommendations from the USPSTF	Recommendations on other pediatric and behavioral counseling topics can be found at www.preventiveservices.ahrq.gov.

For a summary of the evidence systematically reviewed in making these recommendations, the full recommendation statement, and supporting documents please go to www.preventiveservices.ahrq.gov.

Figure 1. Summary of the U.S. Preventative Services Task Force recommendations (2010, p. 362).

American Academy of Pediatrics

Bright Futures published by the American Academy of Pediatrics (AAP; 2008) offers guidelines to providers caring for the pediatric population. Promoting healthy weight in children and adolescents is one of the major topics found in *Bright Futures*: "A balanced and nutritious diet and regular physical activity are key factors to promoting a healthy weight during childhood and throughout life" (p. 109).

The AAP (2008) recommends screening of high risk infants, children, and adolescents for being overweight or obese if any of the following conditions apply: one

or both parents are obese, one or more siblings are obese, they are from low income families, or they have a chronic disease or disability that limits mobility. The AAP describes the first step in screening as interpreting a child's BMI-for-age. A comprehensive physical assessment should be completed to determine appropriate interventions (AAP, 2008).

Recommended treatments should ultimately be focused on changing eating habits and increasing physical activity habits (AAP, 2008). If any comorbidities are associated with obesity, there should also be a focus on resolving these issues (AAP, 2008). The AAP (2008) stressed the treatment focus should be on encouraging dietary changes, increasing physical activity, and behavior modifications with less of a focus being on weight loss alone.

The AAP (2008) recommended that children older than two years of age who are between the 85th and 95th percentile of BMI be screened for the following items:

1. Family history
2. Blood pressure
3. Fasting lipid profile
4. Large change in BMI
5. Concern about weight (p. 112).

The AAP (2008) also recommended prevention of childhood obesity first and foremost due to a lack of interventional programs for childhood obesity and the programs available typically come with a high cost. Successful prevention model programs included targeting the family as a whole for behavior change, emphasizing the parent's role in the child's behavior modifications, increasing physical activity, reducing

sedentary activities, and maintaining the treatment program over a long period of time (AAP, 2008).

Healthcare providers should plot BMIs routinely to identify overweight and obese children (AAP, 2008). The AAP (2008) also recommended healthcare providers address an increasing BMI before it reached the 95th percentile and the child fell into the obese category. The final recommendation the AAP had for providers was identifying at-risk children utilizing the five risk factors discussed above.

Problem Statement

In the state of Wyoming, 13,000 of 57,000 children and adolescents are overweight or obese based on BMI-for-age standards (NICHQ, 2012). According to the NICHQ (2012), 22.9% of Wyoming adolescents from the ages of 10 to 17 years old are obese. Although this is lower than the national average of 30.6%, Wyoming received a grade of "F" for childhood obesity-related activities (NICHQ, 2012), indicating room for improvement for the childhood and adolescent epidemic of obesity. American Indian children are at a much higher risk for being overweight or obese compared to other ethnic adolescent populations. Specifically, 44% of American Indian children and adolescents suffer from being overweight or obese (Perry & Hoffman, 2010). The Wind River Family and Community Health Center provides care to patients across the life span including that of the pediatric population. Wind River Family and Community Health Center currently does not have a pediatric physician and PCPs are in charge of child and adolescent care. At present, BMIs of children and adolescents are being recorded with no further documentation of a diagnosis of overweight or obesity. In addition to the lack of

documentation of diagnosis, no documentation is being made of treatment planning including counseling or behavioral planning for health management.

The AAP (2008) clinical guidelines for overweight and obese children provides sound guidance with assessment, prevention, and treatment of the complex diagnosis of overweight and or obesity in children. This capstone conducted an assessment of the practices of the Wind River Family and Community Health Center based on these clinical guidelines. Following this assessment, further investigation took place to understand the provider's barriers that potentially prevent documentation of the diagnoses, effective management of overweight and obesity, and effective management of overweight and obese children and adolescents.

Literature Review

A comprehensive literature review was completed to verify issues related to childhood obesity within rural communities. The literature review was also completed to support the higher rates of obesity found within the American Indian population. Along with the data supporting childhood obesity within the American Indian population, the research literature was reviewed to support effective interventions to improve management of overweight and obese children and adolescents by primary care providers. As childhood obesity has been on the rise over the last decade, research was conducted to further the knowledge and understanding of the cause of increased weight in the adolescent population. Studies have examined how primary care providers could more effectively care for overweight and obese pediatric patients.

Methods

To complete this review of literature on childhood obesity within primary care, CINAHL Plus with Full Text, PubMed, and manual reference checks were completed. Utilizing keywords such as childhood obesity, Primary Care, Interventions, Rural healthcare, Influences on childhood obesity, and American Indian childhood and adolescent obesity, 256 articles were identified.

The 256 articles were narrowed down to focus on ethnic differences found in childhood obesity using the keywords of American Indian and Childhood obesity; 116 articles were identified as possible articles for analysis. The following criteria were used to determine which articles would be included:

- Peer reviewed journals
- English language
- Published within the last 10 years (2007 to 2017)
- Country: United States
- Population: children and adolescents

A total of 15 articles met the criteria for analysis. Each article supported the epidemic of obesity within the pediatric population in the United States. This review provided a summary of the major health effects caused by childhood and adolescents being overweight and obese in rural communities, specifically in the American Indian population. The categories discussed included factors influencing overweight and obesity in children, rural health care and obesity, American Indian childhood obesity, interventions for childhood obesity, and perceived barriers to treatment of childhood obesity.

Factors Influencing Overweight and Obesity in Children and Adolescents

Eating high caloric, low nutrient rich foods is one of the leading causes of weight gain in adolescents (CDC, 2016b). Jacobson and Melynk (2012) acknowledged consumption of calorie-dense food and carbonated beverages combined with decreased physical activity contributed to the increased weight of American adolescents. In response to the obesity epidemic, Jacobson and Melnyk performed a study consisting of a pre- and post-test design over a seven-week period with one study group that assessed the feasibility of using the Healthy Choices Intervention (HCI) model. The sample for the study consisted of 36 overweight and obese children with their parents or guardians identified within an urban setting. Of the 36 children and parent dyads, 17 (47%) consented and assented to partake in the study (Jacobson & Melynk, 2012). Results of the study found a decrease in the children's BMIs from 0.96 (*SD* = 0.04) to 0.94 (*SD* = 0.05), signifying an overall drop in the BMIs by 0.02. Besides the drop in BMIs of the children, a small statistical drop was seen in depressive symptoms along with a small mean change in television time (decreased by 0.14 hours) and video playing time (decreased by 0.06 hours). Small changes in the child's beliefs, choices, self-concept, anxiety, and depressive symptomatology all demonstrated small effects after the intervention (Jacobson & Melynk, 2012). The parents or guardians in the dyad also experienced benefits from the HCI model such as increases in their beliefs, behaviors, and nutrition knowledge. However, no significant statistical change was identified in the parent/guardian choices (Jacobson & Melynk, 2012). Jacobson and Melynk stated,

> This study is one of the first to demonstrate that a comprehensive theory-based cognitive behavior skills building (CBSB) intervention to address the problems of

> school-age overweight and obesity is feasible and acceptable in the "real world" of pediatric primary care. (p. 136)

Hopkins, DeCristofaro, and Elliott (2010) performed a literature review and created a "toolkit" to provide assistance to PCPs for treatment of overweight and obese children and adolescents. The toolkit was based on then current guidelines for screening and treatment of childhood and adolescent obesity. There were eight parts to the toolkit to aid PCPs in easily identifying the steps to screening and treatment. The literature review performed by Hopkins et al. supported the need to try nonpharmacological therapies first such as lifestyle, psychological, and patient education. Lifestyle therapies included activity interventions consisting of moderate-to-high intensity aerobic exercise being most beneficial. Family interventions included change in diet and activity, change in parenting skills, clarifying boundaries, and strengthening hierarchies. Psychological interventions including behavioral interventions showed better results than cognitive approaches. When modest lifestyle changes were coupled with behavioral approaches, better long-term results were achieved when lifestyle or behavioral approaches were used alone (Hopkins et al., 2010). Pharmacological interventions were used in trials with the two following drugs: Orlistat (Alli and Xenical) and Metformin (Glucophage). No improvements were seen with Orlisat and short-term improvements were seen with Metformin but when coupled with lifestyle changes (Hopkins et al., 2010). Surgical interventions included bariatric surgery. The literature review performed by Hopkins et al. indicated bariatric surgery was an effective intervention for weight loss and improved body image; lap-banding had the least associated serious complications.

A strong association was found between children's weight status and "parental feeding practices, parental support, role modeling behaviors, and parental knowledge of a

healthy diet" (Jung & Whittemore, 2015, p. 5). Jung and Whittemore (2015) used theory analysis and synthesis to understand the family management style framework (FMSF) to better understand the family experience and functioning in relationship to child and adolescent obesity. The FMSF has been used for childhood chronic illness and the American Medical Association has deemed childhood obesity a chronic illness (Jung & Whittemore, 2015). Jung and Whittemore concluded the FMSF could easily be applied to the management childhood obesity with modifications: "The modified FMSF for childhood obesity has potential to guide development of effective culturally relevant obesity prevention and management strategies for families" (p. 11). Based on the modified FMSF, interventions for obese children and adolescents could be developed and evaluated (Jung & Whittemore, 2015).

"Most obese adults were obese as adolescents and most obese adolescents were overweight and/ or obese as children" (Pulgarón, 2013, p. A18). Pulgarón (2013) performed a literature review to better understand obesity and the comorbidities seen with obesity in children and adolescents. In the initial search using the PubMed and PsychInfo databases, 4,315 articles were identified; a more narrowed search identified 79 articles. The literature review supported a correlation between asthma and obesity ($P = 0.04$, $n = 2926$). Metabolic risk factors were also identified in the literature review; hypertension was one of the consistently identified risk factors seen with obesity (OR = 4.11; 95% CI, 3.89 – 4.34 and OR = 5.56; 95% CI, 5.09-6.07 for males and females, respectively). Hyperlipidemia was also identified as an associated risk factor with obesity (OR = 16.07, 95% CI, 8.29-31.15 and OR = 9.00; 95% CI, 4.36-18.6 for males and females, respectively). The degree of obesity had an impact on the level of metabolic risk,

meaning those with a more significant degree of obesity were more at risk for poorer outcomes (Pulgarón, 2013). Several gastrointestinal diseases have been associated with obesity. Nonalcoholic fatty liver disease is a potential comorbidity seen with obesity at a 54.4% prevalence. In overweight and obese children, liver sonograms showed the liver to be 10.5% larger than in healthy weight children where only 1% ($P < 0.001$) had enlarged livers. Gastroesophageal reflux disease has also been an associated comorbidity of obesity in children ($P < 0.001$). Psychological comorbidities seen within the literature review included internalizing and externalizing disorders ($P = 0.004$, $P = 0.010$, $P = 0.006$, and $P = 0.031$ of the studies reviewed). Sleep has also been shown to be affected when the child or adolescent is overweight or obese. The overweight and obese group slept on average 22 minutes less than healthy weight children ($P= 0.02$), had lower sleep efficiency ($P = 0.01$), and lower rapid eye movement density ($P = 0.02$). Pulgarón's literature review supported the major physical and psychological effects obesity can have on overweight and obese children and adolescents in comparison to their healthy weight counterparts.

Rural Healthcare and the Need for Improvement

Johnson and Johnson (2015) performed a systematic review, producing 10 studies meeting criteria. Of the 10 studies identified for the literature, only five met criteria for meta-analysis. All of the studies had a cross sectional design. The purpose of the literature review was to review obesity rates of rural and urban settings in the pediatric population. The meta-analysis was performed to further support a higher incidence of childhood and adolescent obesity rates among rural populations. The pediatric population in this systematic review was defined as ages 2 to 27. All but one of the

articles indicated a higher prevalence of obesity in the rural setting compared to the urban setting. Specifically, there was a 26% greater chance of children and adolescents living in the rural areas being diagnosed with obesity compared to children and adolescents in an urban setting (Johnson & Johnson, 2015). The study was unable to identify specific causes for childhood obesity in rural settings (Johnson & Johnson, 2015).

Davis, Sampilo, Gallagher, Landrum, and Malone (2013) discussed indications of rural children having a higher incidence of childhood obesity than children in urban areas. Some thoughts as to why there was higher incidence of childhood obesity included the lack of access to treatment (Davis et al., 2013). Study participants were from rural Kansas and recruited at the school level by the school nurses. Target participants were third to fifth graders but the study did not exclude any of the elementary grades. Davis et al. examined treatment of rural pediatric obesity through telemedicine, giving providers another potential treatment option for a difficult rural population. The BMIs of the participants were equal to or above the 85th percentile. Two groups of participants were randomly assigned to either the telemedicine group or the physician visit group. Eight weekly psychoeducational groups were provided by Ph.D. level psychologists or trained graduate students/postdoctoral fellows through the telemedicine groups and followed by six monthly meetings. The telemedicine format allowed the provider and patient to essentially meet face-to-face without being in the same town or city. The physician visit group discussed topics with their PCP about obesity and the relationship among diet, exercise, and body mass index; importance of eating a balanced diet; and current exercise and sedentary behavior recommendations for children and adolescents (Davis et al., 2013). A total of 96 families of elementary school children expressed interest; of these,

58 families were randomized. Of the 58 families, 31 families were randomly assigned to the telemedicine group and 27 were randomly assigned to the physician visit group. The ages of children and adolescents ranged from 5 to 11 years old (M = 8.55, SD = 1.74). The telemedicine group had a pretreatment mean BMI of 1.88 (SD = 0.52) and a post treatment mean BMI of 1.76 (SD = 0.52), indicating a significant reduction, p = 0.007. The physician visit group mean BMI scores pretreatment were 1.70 (SD = 0.45) and post treatment 1.55 (SD = 0.59), showing a significant reduction, p = 0.01. No significant difference comparing the two treatment groups was seen; however, positive behavior changes were seen in both groups (Davis et al., 2013).

Hessler and Siegrist (2010) performed an exploratory, descriptive, correlational design study assessing rural healthcare versus urban healthcare attitudes of nurse practitioners toward obesity while investigating current diagnosis and treatment practices. Seven thousand surveys were sent to NPs and 1,152 of the surveys were returned for a 16% return rate; of these, 1,088 were useable surveys. The final sample represented all 50 of the U.S. states. Final results of the survey indicated 90% of the NP participants believed overweight and obese pediatric populations needed treatment more often than not. A little over half of the NP participants (51%) believed there was a potential for overweight or obese children and adolescents to outgrow their overweight. Resources used by the NP participants and identified through the study included NP education, journals, and continuing education programs. The BMIs were used to identify overweight and obese children and adolescents versus the use of waist-to-hip ratios and skin-fold thickness measurements.

Another interesting finding of this study was NPs were not screening for conditions that could be causing the children or adolescents to be overweight or obese (Hessler & Siegrist, 2010). Once the diagnosis of overweight or obesity was made, the NPs gathered an adequate family history most of the time. The survey also indicated the NPs were screening for psychological factors related to obesity. Treatment initiation for overweight and obese children and adolescents varied among providers dependent upon the patient presentations. The survey indicated 30% of the providers initiated treatment in overweight and obese children and adolescent patients. Resources most often used among the NP participants for treatment were dieticians and exercise specialists along with behavioral therapy (Hessler & Siegrist, 2010). Ten to 15% of the sample reported not having access to these referral resources; rural areas had the highest reporting rate of lacking access to referral sources. Of other identified resources in caring for overweight or obese children and adolescents NPs included their NP education, journals, and continuing education programs. As discussed in this research article, reported issues causing challenges for rural areas included long travel times for services, a strong sense of self-reliance, lack of community autonomy, and lack of access to healthcare (Hessler & Siegrist, 2010).

A prospective pre-post design was used to evaluate the Healthy Eating Active Living TeleHealth Community of Practice (HEALTH COP) intervention in seven rural clinics (Shaikh, Nettiksimmons, Joseph, Tancredi, & Romano, 2014). The participants of the study included 2- to 11-year-old children seen for well child checks (N = 144). Approximately 16% of the children and adolescents were overweight and 22% were obese. The intervention was designed to improve the assessment of weight and assist in

delivering family-centered counseling. Teams of four people were created and consisted of a clinician champion, a nurse or medical assistant, an administrative staff person, and a parent advisor. The teams attended nine monthly meetings and 90-minute interactive learning sessions provided through videoconferencing. Each of the team members had access to a Web-based toolkit of resources and was provided with materials to help rural clinics improve the assessment of BMIs (Shaikh et al., 2014). Tools provided to the rural clinics included web-based BMI calculators, BMI wheels, flip charts, and posters of healthy nutrition and physical activity in English and Spanish. Sample visit documentation forms with cues to obtain medical history, appropriate physical assessments, and screening for comorbidities and psychosocial risk factors, flow sheets, and community resource databases were created for each clinic.

Training was provided on nutrition and activity prescriptions, goal setting, and tracking worksheets for family-centered counseling. Workflow was examined and changed to improve assessment of weight status and counseling. Providers were given resources to aid in coding for reimbursement. An increase in documentation occurred based on a scoring system from 1-5 with 5 indicating most complete (Shaikh et al., 2014). The pre-intervention score went from 3.5 to 4.6 in overall documentation behaviors--the most improvement occurring with BMI percentile and weight category. The improved score indicated significant improvement. The clinician counseling of parents pre-intervention to post-intervention increased by 0.8 points on a 0 to 8 scale, with 8 indicating a significant increase. The overall outcome of the study was significant improvement in rural clinicians' adherence to guidelines for childhood obesity and prevention. Quality improvement programs are beneficial and feasible to helping

underserved rural clinics by enhancing clinicians' access to continuing education in childhood and adolescent obesity (Shaikah et al., 2014).

American Indian Childhood Obesity

The rates for childhood obesity are higher in the American Indian population in comparison to the non-Native U.S. population (Schell & Gallo, 2012). Schell and Gallo (2012) performed a literature review looking at BMIs over the lifespan of American Indians and different tribes of American Indians across the nation. In the Racial and Ethnic Approaches to Community Health risk factor survey done in 2010, more than one-third of U.S. American Indian men and women were obese compared to the one-fifth of adults obese on the national level within the United States (Schell & Gallo, 2012). American Indian children have been found to have a high birth weight in comparison with White American children of the same age. The BMI rates continue to stay higher in the American Indian population over their lifespan compared to the same age group in White Americans (Schell & Gallo, 2012). Schell and Gallo discussed possible causes of higher frequencies of overweight and obesity in the American Indian children--one of these causes was lack of nutrient dense food due to the poverty level within the American Indian population (Schell & Gallo, 2012). There has been a transition of growing crops and eating from the earth to eating store-bought foods higher in calories and energy dense (Schell & Gallo, 2012). The American Indian children obesity problem could also be due to "multigenerational transmission of overweight and obesity" (Schell & Gallo, 2012, p. 310).

Sabin, Moore, Noonan, Lallemand, and Buchwald (2015) studied attitudes of primary care providers (PCPs) working within Indian Health Services (IHS; n.d.). The

study's population was comprised of family physicians, pediatricians, internists, NPs, and PAs actively practicing in both urban and reservation-based IHS clinics. An online survey through secure web servers at Harvard University was conducted from November 1, 2011 to April 3, 2012 (Skulmoski, Hartman, & Krahn, 2007). A total of 134 primary care clinicians were contacted to participate in the study; 75 participants enrolled in the study. A mean of 14 years of practice with seven years being in their current positions within the IHS was reported by clinicians. Twenty-five of the clinicians reported 60% to 100% of their child and adolescent patient populations were overweight or obese (Sabin et al., 2015). Questions within the survey addressed implicit and explicit attitudes about weight and race specific to the American Indian population. Of the participants, 91% showed some degree of pro-thin bias ($M = 0.71$). Data for the study were collected on demographic, clinical, and practice characteristics, Implicit Association Test (IAT), explicit questions corresponding to the IAT, and clinicians' treatment approach to overweight individuals. The implicit and explicit measures ranged from -2 to 2, 0 indicating no bias present. A positive mean indicated preference for White Americans and "thin" people depending on the subject (weight or American Indian) being assessed; a negative mean indicated preference for American Indians and "fat" people (Sabin et al., 2015). Implicit attitude scores toward weight had a p-value < 0.01 and explicit attitudes toward weight had a p-value of 0.03. Implicit attitude toward American Indians had a p-value of 0.01 and explicit attitudes toward American Indians had a p-value of <0.01. No racial bias was seen with American Indian children and adolescents, whether they were of healthy weight or overweight or obese, based on the results of the weight attitude and American Indian attitude ($r = 0.17$; $p = 0.23$); weight attitude IAT and explicit weight

measures (r = -0.08; p = *0.55*), or American Indian attitude IAT and explicit race measures (r = -0.01; p = 0.92). This study indicated evidence of strong weight bias and weak race bias among long-term providers working in IHS. However, it is still unknown whether or not this influenced treatment approaches of childhood obesity within the American Indian population (Sabin et al., 2015).

"Obesity rates are even higher in children living in rural areas and in some racial or ethnic groups, with American Indian children typically having the highest rates" (Holm, Lilienthal, Polavski, & Vogeltanz-Holm, 2013, p. 349). Holm et al. (2013) studied relationships between health behaviors and weight status in American Indian and White rural children. A total of 324 third-grade students between the ages of eight and nine years old participated in the study. A baseline assessment was completed during the first month of the children's third-grade year; 59.3% of the children were in the normal weight category, 19.6% were in the overweight category, and 23.9% were in the obese category. The children were separated into four categories by gender and race: American Indian girls, White girls, American Indian boys, and White boys. Sedentary behavior, physical activity, diet, and cardiovascular fitness were assessed in this study with all scores being similar. Significant differences among the groups were found for the number of children and adolescents participating in team sports over a 12-month period, daily video games and screen time, cardiovascular fitness, and participation in organized physical activities other than team sports. The study concluded the multinomial logistic models used to predict obesity were statistically significant in all four groups (Holm et al., 2013). Models used to predict overweight were only significant in boys. The study also showed differences in physical activity, screen time, and cardiovascular fitness

measures among the different genders and/or ethnic groups. A statistical difference was seen among the White boys and American Indian girls in the number of extracurricular team sports played in the last 12 months, the White boys having played more. The White and American Indian boys played video games and had more screen time than the White and American Indian girls. A large statistical difference was seen among White boys and White and American Indian girls in cardiovascular fitness (Holm et al., 2013).

Over the last 20 years, there has been a significant increase in AI childhood and adolescent obesity. Perry and Hoffman (2010) stated there has been a "disproportionate disease burden from diabetes" (p.104) seen in children and adolescents with the increase in overweight and obesity rates. With the increased weight in children and adolescents, there has been an intensification of death in adulthood from diabetes (Perry & Hoffman, 2010). The objectives of the study performed by Perry and Hoffman were to assess current levels and patterns of American Indian children and adolescents, delineate preferences and determinants for physical activity, explore the definition and beliefs about physical activity, and explore ways of motivating children and adolescents to be active. Twenty participants were recruited for the study through flyers put in areas frequented by children and adolescents. Surveys were provided to these participants. Participant ages included those 8 to 18 years old. Nine youth were recruited to participate in the focus groups. Exercise surveys were given to focus groups along with more detailed questions to clarify and gather more information. The survey concluded there was considerable variation in the amount of time spent in physical activity per week. On average, children and adolescents spent 77 minutes (*SD* = 65, median 60) in strenuous activity per week and 146 minutes (*SD* = 85, median 120) in moderate exercise

per week. In the study, the American Indian children and adolescents differentiated between exercise and sports. Exercise was defined by the participants as work resulting in health benefits that included improved mood, overall health, stable weight, strength, and conditioning. The participants defined sports as fun, sociable, and team oriented. Of the 26 participants, none of them reported meeting the recommended amount of physical activity. The results of the study were used by the tribal community to create specific programs for children to aid in helping them reach the recommended activity levels (Perry & Hoffman, 2010).

Ethnic minorities including American Indian children have the highest rates of childhood obesity in the United States (Stevens, 2010). Stevens (2010) discussed studies that showed Westernized lifestyle had been a significant factor causing the high rate of obesity in the American Indian population with diets consisting of high calories and high fats. Stevens performed a systematic review to describe interventions used to reduce adolescent obesity specific to ethnic minorities. Eight studies met the inclusion criteria of being within the last 10 years, included adolescents 10 to 14 years old, and provided prevention interventions that included both diet and physical activity. The review did not produce specific interventions to be used with ethnic minorities but did provide successful interventions for the age group assessed: self-esteem enhancing and motivation producing behavioral strategies, neighborhood safety, decreasing the amount of sedentary time, and parental inclusion in interventions (Stevens, 2010).

Research Regarding Intervention

Jacobson and Gance-Cleveland (2010) performed a systematic review assessing the use of the Chronic Care Model for Childhood Obesity (CCM). The systematic review

was performed using the data bases from Pubmed, MedLine, CINAHL, Cochrane, and PsychINFO. Fifteen studies were critically analyzed to evaluate interventions aimed at improving providers' identification, assessment, prevention, and/or management of obesity in children and adolescents. Of the 15 studies, nine studies (60%) reported a pre-test/post-test design. Intervention lengths for training providers within the studies varied from one hour to 4.5 days with additional follow-up utilizing site visits and emails with attached educational materials. Each study was also evaluated for four of six components of the CCM: self-management, decision support, delivery system design, and clinic information systems. A total of 67% of the studies utilized elements of self-management support, 100% of the studies used educational materials and enhancement for providers (decision support), and 73% of the studies used multidisciplinary teams to initiate new procedures within the office (delivery system design). In studies that incorporated elements of the CCM, significant improvements were seen (Jacobson & Gance-Cleveland, 2010).

An exploratory study by Findholt, Davis, and Michael (2013) was performed through an exploratory study using in-depth interviews that examined specific barriers to management of child and adolescent obesity. Eligible candidates included 35 individuals identified using a telephone book and database from the Oregon Rural Practice-Based Research Network. A total of 13 clinicians were identified, which provided a mix of medical professions and specialists: four family medicine physicians, two pediatricians, four family nurse practitioners, one pediatric nurse practitioner, and two physician assistants in family practice. The 13 clinicians received mailed letters followed by a telephone call with all of the clinicians agreeing to participate in the study. Individual

interviews took place with study participants utilizing open-ended questions followed by specific probes to gain an understanding of the issues affecting the management of rural obesity among children and adolescents. Three practice-related barriers were identified: time constraints, lack of reimbursement, and few opportunities to detect obesity. Time constraints were identified by almost all of the participants due to competing priorities during well-child care and acute visits and not allowing time to identify obesity, provide education on the risks associated with obesity, and provide sufficient counseling on diet. Lack of reimbursement was identified as another major barrier especially by those providers not employed by federally certified rural health clinics. Providers also discussed lack of well-child care after immunizations were completed, thus not giving the opportunity to make a diagnosis. Half of the physicians and physician assistants described limited knowledge as a clinician-related barrier due to inadequate training or expertise of the subject (Findholt et al., 2013). Family and patient barriers were also identified within the study. Family lifestyle and lack of parent motivation to change, low family income and lack of health insurance, and the sensitivity of the issue were the three main barriers identified. Every clinician identified a lack of parent motivation to change and family lifestyle, creating a barrier to the management of child and adolescent obesity. Lack of insurance or funds was reported by almost all of the clinicians as well. Community barriers identified included lack of pediatric subspecialists, multidisciplinary/tertiary care services, and few community resources; almost all of the clinicians identified community barriers that created difficulties in management of children and adolescent obesity (Findholt et al., 2013).

Cygan, Baldwin, Chehab, Rodriguez, and Zenk (2014) performed a quality improvement project involving five physicians and four nurse practitioners practicing in an outpatient primary pediatric care clinic. The implementation of Six to Success was done at the Child and Adolescent Center in Evanston, Illinois. Six to Success is an evidence-based program to diagnose weight status. A full physical examination including family and individual lifestyle history, laboratory testing, and individualized health counseling were a part of Six to Success. The daily goals of Six to Success included five fruits and vegetables, four glasses of water, three low-fat calcium servings, less than two hours of screen time, one hour of physical activity, and zero sugared drinks. Training was provided at two regularly scheduled staff meetings and topics covered Six to Success protocols, changes to the electronic medical record, use of a family-centered approach, motivational interviewing, and strategies to help families meet lifestyle goals (Cygan et al., 2014). A total of 396 charts were audited before and after the implementation phase of patients seen by the nine providers implementing the Six to Success program. Chart audits assessed aspects of care recommended for pediatric overweight or obese patients in both pre-implementation and post-implementation phases. Post-implementation, 100% of the charts audited included BMI and BMI percentile documentation at the time of the visit. The post-implementation

> chart audit assessed three measures of identification for overweight and obese patients: weight class documentation in narrative, weight class documentation on problem list, and correct diagnosis by International Classification of Diseases, ninth revision (ICD-9) code. (Cygan et al., 2014, p. 434)

Statistical improvements were seen in all three areas assessed. A total of 16 assessment measures were further assessed once a diagnosis of overweight or obesity was made. Of the 16 assessment measures, 11 were found to have statistical improvements--anywhere

from a 2.1% to a 24% increase in documentation. The study supported the effectiveness of improving pediatric primary care providers in identifying, assessing, and providing prevention strategies for overweight and obese children and adolescents (Cygan et al., 2014).

Research Synthesis Summary

Primary care providers are faced with the challenge of treating and managing overweight and childhood obesity. Although it is a challenging diagnosis to care for, research-based interventions have been tested and shown to be effective. The literature review supported this through the analysis of 15 articles. Jacobson and Melynk (2012) discussed the use of the HCI conceptual model as a way that providers can decrease BMIs of children. Evidence-based practice supports the need for a comprehensive approach including components of nutrition, physical activity, cognitive behavioral skills building CBSB or behavioral modification, parent involvement, and psychosocial content (Jacobson & Melynk, 2012). Hopkins et al. (2010) created a stepwise approach using a "toolkit" to aid PCPs in easily treating and managing children and adolescents affected with an overweight or obese status. Nonpharmacological therapies should be tried before proceeding to pharmacological treatments and surgical interventions. The literature supported use of a multifactorial approach for successful treatment and management of overweight and obese children and adolescents. The literature also provided valuable tools for PCPs facing the challenge of practicing in rural areas and treating children and adolescents who are overweight or obese (Cygan et al., 2014; Jacobson, & Gance-Cleveland, 2010; Shaikh et al., 2014).

Rural providers face obstacles in treating and managing overweight and obese children and adolescents; resources were identified as one of the major issues faced. The literature discussed the use of journals as a potential way of keeping providers up-to-date on treatment and management, especially when there is no access to dieticians and exercise specialists (Hessler & Siegrist, 2010). The specific cause for higher obesity rates among rural populations has not been identified at this time. The literature did support rural children and adolescents are at least 26% more likely to be diagnosed as overweight or obese than their counterparts living in the urban setting.

Rural providers might need to get creative with their treatment and management of childhood obesity. Telemedicine might be one option for providers with positive behavioral changes occurring in the overweight and obese children and adolescent population per the literature (Shaikh et al., 2014). Beneficial behavioral modifications identified among the rural population include decreasing passive screen time and improving cardiovascular fitness (Holm et al., 2013). Both of these interventions are financially feasible and easily executed by the parents of the children. Providers might need to discuss with children and adolescents the types of physical activity that could be performed to help provide cardiovascular health including sports. Something as simple as discussing the Six to Success program (Cygan et al., 2014) with patients and parents has shown to be another feasible way of aiding PCPs in the treatment and management of overweight and obese children and adolescents.

The research analyzed supported the epidemic of childhood obesity in American Indians within the U.S. population (Perry & Hoffman, 2010; Schell & Gallo, 2012; Stevens, 2010). The research also confirmed the management of childhood and

adolescent obesity continues to be an issue among primary care providers. The literature analysis supported that rural children and adolescents are just as much at risk for being overweight and obese, if not more, than the urban population. As seen in the supporting literature, primary care providers face barriers when it comes to treatment and management of overweight or obese children and adolescents, e.g., a lack of confidence in their knowledge of how to treat the pediatric population, creating a potential obstacle to effective treatment of overweight or obese children. This lack of knowledge and confidence creates a barrier in addressing and/or treating childhood obesity.

Families of children are key components in aiding weight reduction possible in children and adolescents suffering with being overweight or obese. The family environment is a major contributing component for overweight and obese children and adolescents (Jung & Whittemore, 2015). Keeping the family involved in the treatment and management is important to successful outcomes for overweight and obese children and adolescents. Children and adolescents develop their health-related behaviors including diet, physical activity, and sedentary behaviors within the family (Jung & Whittemore, 2015). Primary care providers having the knowledge and resources to incorporate the family will create overall better outcomes. Stevens (2010) also discussed the importance of parents providing a model for healthy eating and active lifestyle to create healthy childhood weight. Acknowledgment of childhood obesity being a chronic disease is one of the most important steps to caring for this specific population.

Lack of physical activity and sedentary lifestyles have shown to affect obesity rates and “studies show that minority children tend to fair worse” (Stevens, 2010, p. 234). It is important for PCPs treating ethnic groups to understand different cultural beliefs,

values, and norms of ethnic groups that have an effect on the lifestyle of the family (Stevens, 2010).

Theoretical Framework

The chronic care model (CCM; Jacobson & Gance-Cleveland, 2010) is a framework that supports evidence-based practice by providing practice changes organizations can use to guide quality improvement and disease management activities. The CCM can be tailored to individual clinic needs and was used to aid in tailoring quality improvement measures for providers to reach the Wind River Family and Community Clinic goal of better management and treatment of children being overweight or obese. The CCM framework provided organizing principles based on the health system in primary care settings, the community, and resources and policies (Jacobson & Gance-Cleveland, 2010). Jacobson and Gance-Cleveland (2010) discussed the use of the CCM in guiding acute, chronic, and preventative care for children and their families based on the NICHQ (2010). Figure 2 depicts the CCM for childhood obesity.

Jacobson and Gance-Cleveland (2010) discussed the primary care clinic's role of functioning within the community's environment, resources, and health policies. The Wind River Family and Community Health Clinic is owned by the Arapahoe tribe and receives funds from IHS (n.d.). The clinic provides primary care, physical therapy, dental, optometry, and behavioral health services to the American Indians within the Wind River Reservation. Resources within rural communities can be very difficult to obtain due to the nature of a lack of resources found within the urban settings. Figure 2 illustrates that changes in primary care practices by the provider with cooperation from the patient/family result in improvements in (a) self-management support, (b) decision

support for providers, (c) delivery-system redesign, and (d) clinic information systems [CIS] (Jacobson & Gance-Cleveland, 2010). Self-management support is improved with the use of relationship-focused methods that include motivational interviewing (MI), family education, and monitoring to increase the skills and confidence experienced by the child and his/her family. Decision support for providers is based on the use of evidence-based guidelines. Delivery-system redesign encourages better care and follow-up of identified patients. Finally, CIS provides data based on the clinics goals, tracks patient progress by providing reminder prompts, and can generate reports (Jacobson & Gance-Cleveland, 2010). The CCM theoretical framework applied to the Wind River Family and Community Health Center project by describing the interrelationships among providers, patients, and families that facilitate better care for overweight and obese children served in this setting.

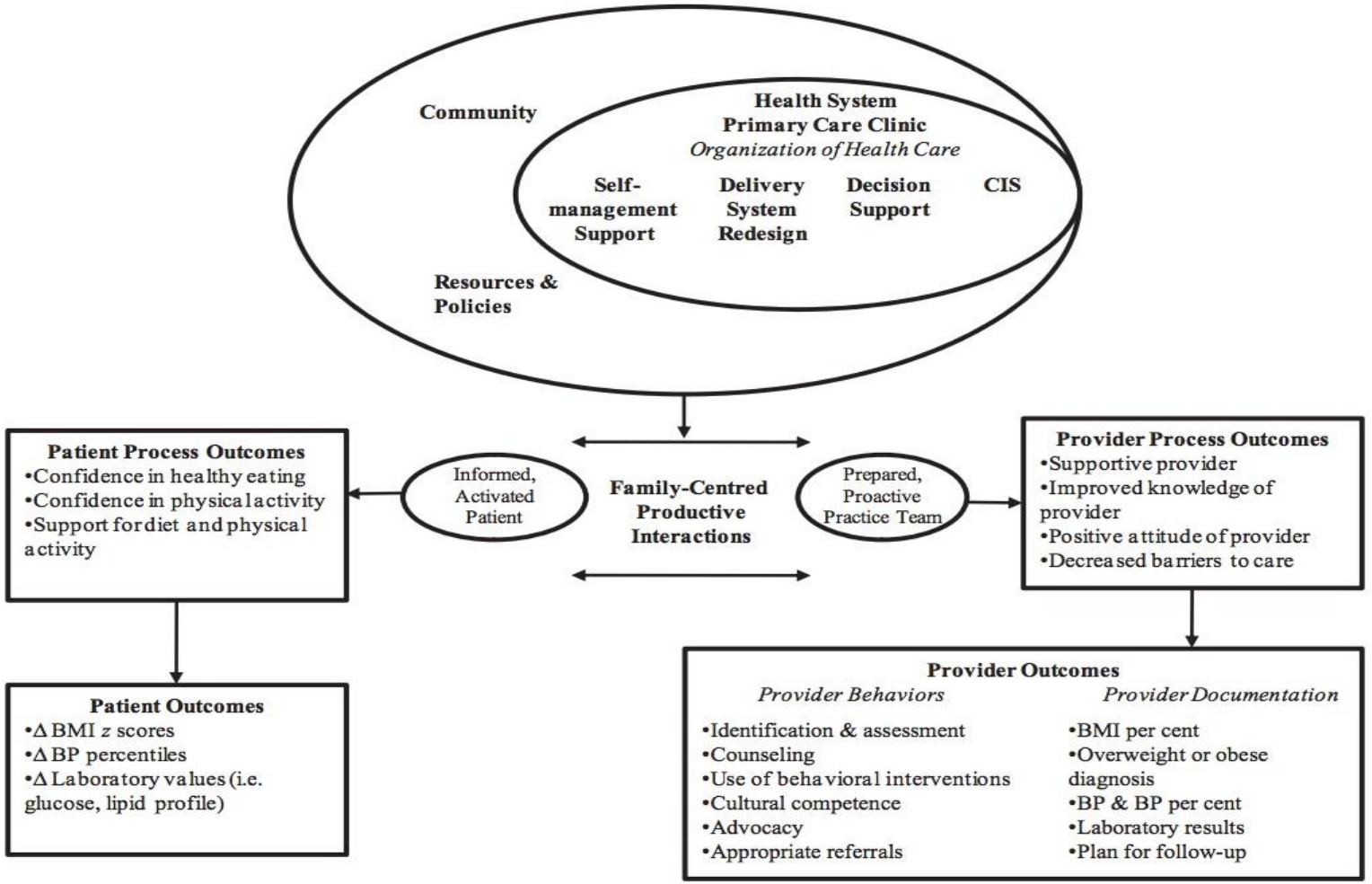


Figure 2. Chronic care model for childhood obesity (Jacobson & Gance-Cleveland, 2010).

CHAPTER II

PROJECT DESCRIPTION

Child and adolescent obesity has been identified as a chronic illness needing to be identified, treated, and managed. Research indicated a greater impact on children and adolescents having an unaddressed overweight or obese status going into adulthood. Primary care providers within the rural setting often have the opportunity to identify, treat, and manage the care of children and adolescents who are overweight and obese. However, rural settings provide challenges to the PCP in caring for this specific population. Identifying barriers specific to rural clinics could aid in better outcomes for the pediatric population suffering with being overweight or obese. An increased understanding of the barriers being faced at the Wind River Family and Community Health Clinic facilitated an understanding of the specific needs for the clinic to aid in the process of caring for overweight and obese children and adolescents.

Project Setting

The Wind River Family and Community Health Clinic provides care to an estimated 9,000 individuals annually. It is located on the Wind River Reservation, which is located on 2.2 million acres of land in rural Wyoming. The Wind River Reservation is home to both the Eastern Shoshone and Northern Arapahoe American Indian tribes. The Wind River Family and Community Health Clinic is a primary care clinic that also

provides dental services, behavioral health, and pharmacy located within the building. The focus for this project was the primary care services offered to children and adolescents.

Project Objectives

The purpose of this project was to identify barriers for PCPs treating the overweight and obese child and adolescent population at the Wind River Family and Community Health Clinic located on the Wind River Reservation. The objectives of this project were as follows:

1. Examine documentation of the diagnosis and treatment of overweight and obesity in children and adolescents aged 2-18 years.
2. Identify barriers to diagnosis, treatment, and management.
3. Develop an action plan to assist providers in overcoming barriers.

The project was based on current guidelines of the American Academy of Pediatrics (2008) and the National Association of Pediatric Nurse Practitioners (2015) clinical guidelines for assessment, prevention, and treatment of childhood obesity.

The first and second objectives of this project were completed through a data review of the overall documented percentage rate of overweight and obese adolescents seen within the Wind River Family and Community Health clinic as well as the percentage rate of the documented treatment or counseling that took place. Reviewing the electronic health records at the Wind River Family and Community Health Clinic provided specific data regarding the practice of BMI documentation as well as current documentation of treatment being initiated once the BMI percentage was identified as overweight or obese. Documenting the treatment of overweight or obese children

including counseling and referral was one element of the practice improvement focus of this project.

Surveys took place through the use of the Delphi survey method with each of the providers at the Wind River Family and Community Health Clinic being given a survey. The surveys were used to provide information on what challenges the providers are faced with regard to treating overweight and obese children and adolescents at the clinic. The Wind River Family and Community Health Clinic in the past year had a dietician join their team who served as a valuable resource to the healthcare providers including physicians, nurse practitioners, and physician assistants. Responses from each of these health providers including the nutritionist were gathered using the Delphi method to compile information about perceived barriers and resources specific to the management of overweight/obesity for American Indian children and adolescents located on the Wind River Reservation. The initial survey, Phase one, was sent with open-ended questions. Phase two of the survey included three possible answers: agree, disagree, and other with a comment section.

Congruence of Organization's Strategic Plan to Project

The Wind River Family and Community Health Clinic is owned by the Arapahoe tribe and funded by the IHS. The mission statement of the clinic is as follows: "In partnership with American Indian and Alaskan Native people, is to raise their physical, mental, social, environmental, and spiritual health to the highest level" (Wind River Family and Community Health Clinic, 2017, p. 1). It is also important to consider the vision statement of the Wind River Family and Community Health Clinic: "Through compassion, excellence, and teamwork, we are devoted to improving health" (p. 1).

In reviewing both the mission and vision statements of the Wind River Family and Community Health Clinic, this project supported the goals declared by the IHS. The purpose of the project was to improve the overall health of American Indian children located on the Wind River Reservation. Understanding causes for lack of treatment related to overweight and obesity of this population provided the clinic with answers that might guide possible future improvement steps or resources for the providers at the clinic. Improving health is the main goal of the Wind River Service Unit section of the IHS, which this project aimed to facilitate. Diagnosing, treating, and changing the status of overweight or obese individuals improves outcomes for adolescents as they become adults as indicated by research.

Timeline of Project Phases

- Spring 2017--Completion of initial writing of proposal for project
- Summer 2017 (early June)--Proposal defense
- Summer 2017(August)—Institutional Review Board consideration and approval (see Appendix A)
- Fall 2017 (September) – Initial Delphi Survey and Consent Form sent (see Appendix B)
- Fall 2017 (Mid September)--Data collection and Phase 2 of Survey (see Appendix C)
- Fall 2017 (October)--Complete capstone project
- Fall 2017 (October) – Final defense
- Fall 2017 (November)--University of Northern Colorado capstone project approval

Resources

Resources for this project included support from the Arapahoe Health Center staff, providers, and University of Northern Colorado chair, co-chair, and committee member. Participation from the providers allowed the researcher to gain knowledge regarding their challenges in providing treatment to the overweight and obese population of children and adolescents in this setting. The chair, co-chair, and committee member of this project provided their expertise for guidance.

Costs

Costs for this project included money spent on vehicle fuel. The Wind River Reservation is located 128 miles from Casper where the researcher resides. An over-night trip was needed for onsite data collection--the researcher spent the night at a family members home in the area allowing for free housing. Approximately $55 was spent on fuel--less than the anticipated $200 allotted for fuel costs. A clinic computer was used while onsite at the clinic for collection of data specific to the patient population and documentation rates. The researcher's personal computer was used while not at the clinic for other project needs.

Stakeholders

The stakeholders identified for this project included the University of Northern Colorado; specifically, the School of Nursing, the Graduate School, and the committee members for the capstone were invested stakeholders for this project. The Wind River Family and Community Health Clinic stakeholders included the providers, especially Dr. Kimberly Donohue, the clinic's medical director, the clinical manager, and the clinic staff. Overweight and obese children and adolescents were benefited from this project

with identified needs for clinic providers to better treat and manage this population of patients. Barriers identified for this project in terms of the providers at the Wind River Family and Community Health Clinic included a lack of responses to surveys sent out. Approximately 66% of the providers responded to the initial survey and 56% responded to the second survey. Other potential barriers discussed prior to data collection and administration of the surveys were identified such as access to BMI data and documentation of treatment and counseling taking place within the clinic. Benefits to completing this study included specific numbers generated in the iCARE system of identified overweight and obese children and adolescents and identification of needs providers indicated through the surveys. Lasting benefits of the project included potential increased treatment and management of children and adolescents who are overweight and obese and a heightened awareness from providers regarding the resources available to aid them in treatment and management of overweight and obese children and adolescents.

Statement of Mutual Agreement with Agency

The Statement of Mutual Agreement provided an agreement between the Wind River Family and Community Clinic and the student for the purpose of the project. The Statement of Mutual Agreement provided a brief description of the project, goals of the Capstone project, proposed on-site activities, confidentiality of patient records indication, and agreed responsibilities of agency committee representatives (see Appendix D).

CHAPTER III

EVALUATION PLAN

The objectives of the capstone were to examine identification and documentation of overweight and obese children and adolescents, identify the barriers to treatment and management, and development of an action plan to assist providers in overcoming barriers. The project was performed in three phases over approximately two to three months.

Phase One

The initial investigation of this study included reviewing data completed by the providers at the clinic. Once approval was received by the Institutional Review Board was obtained (see Appendix A), specific data assessed were BMI documentation, documentation of overweight or obesity, and documentation of treatment or counseling once a diagnosis was made in the patient population of children and adolescents between the ages of 2 and 18 years old. The gathering of the aggregate data regarding the electronic charting took place after the first Delphi survey was sent electronically to the providers (see Appendix B). The participants received an initial letter giving them an overview of the purpose of the project and a project timeline (see Appendix E); the survey link was attached to the initial letter via email for easy access by the providers. The provider's consent was inferred by the completion and return of the survey. In the first survey, identification of the providers' role (MD, Doctor of Osteopathy, PA, APRN,

or clinical staff) was classified. In the first phase, questions pertaining to specific barriers identified through the research were asked with a focus on potential time constraints, education and confidence in treatment of overweight and obese children and adolescents, resources for treatment and care of the special population of overweight and obese children and adolescents, and potential impact of family lifestyle and income.

The results of the survey were reviewed determining if there were same answer responses. Providers were given 1.5 weeks to complete the surveys, allowing them to complete it on their schedule but in a timely manner. A reminder email was sent to the providers one week after the initial survey was sent out to aid in getting responses from all providers. Use of surveys provided an efficient way of getting provider feedback, saving time and expense. The survey sent through email versus face-to-face interviewing of providers provided the researcher with honest opinions without influence from the interviewer and potentially offered greater candor by the providers (Polit & Beck, 2012).

Phase Two

A summarization was completed from Round 1 and returned to the providers for a second round (Polit & Beck, 2012). A second Delphi survey was created based on the initial survey answers (see Appendix C). The responses assisted the researcher with identifying perceived barriers and potential resources providers at the Wind River Family and Community Health Clinic identified. Once the consensus was at least 51% up to 70%, the surveys were concluded as recommended by Polit and Beck (2012).

Phase Three

Data were collected and reviewed and resources were gathered to aid the providers in treatment and management of childhood obesity. The surveys will aid the

researcher in identifying potential barriers and potential resource improvements that can be made--one potential aid for providers would be a resource packet based on needs identified through the surveys specific to the Wind River Family and Community Health Clinic.

Method of Analysis

The researcher and committee used standard techniques to analyze the qualitative data produced from the Delphi surveys. The Delphi method was used as the foundation for survey administration. Round one was created with open ended questions to allow for the phase two survey to be created. The phase two survey was created with agree and disagree answers to allow for the researcher to validate the responses given by the providers. The answers were in word form and put into numbers, allowing for a mode to be obtained. The Delphi surveys assisted in determining short-term needs for the providers at the Wind River Family and Community Health Clinic in caring for obese children and adolescents. The panel of experts consisted of the providers and nutritionist at the clinic. The panel of experts provided feedback through the two surveys sent out through email.

The purpose of the study was to identify the needs of the providers to better aid the pediatric patient population served at the clinic. The providers were given the choice to participate in the surveys and their consent was provided with the completion of the surveys. An introduction letter with each survey, providing the purpose of the project, and including the Qualtrics survey link was sent out to the providers through the Chief Medical Officer, Dr. Kimberly Donohue. The surveys did not provide any identifiable information, thereby protecting the provider's identity and allowing for full disclosure of

opinions. Unidentifiable information also helped ensure fair treatment throughout the study's process. To ensure all human subjects who were part of the study were protected, the project was reviewed and approved by the Institutional Review Board of the University of Northern Colorado.

CHAPTER IV

RESULTS

The purpose of this project was to identify barriers for primary care providers treating the overweight and obese child and adolescent population at the Wind River Family and Community Health Clinic located on the Wind River Reservation. The objectives of this project were as follows:

1. Examine documentation of the diagnosis and treatment of overweight and obesity in children and adolescents aged 2-18 years.
2. Identify barriers to diagnosis, treatment, and management from providers' perspectives.
3. Develop an action plan to assist providers in overcoming barriers.

Results for Objective One

The researcher went onsite for two split days to collect data. The researcher worked with the Chief Medical Officer (CMO) to collect data through the use of the iCARE system used by IHS (n.d.). The iCARE is defined as a resource and patient management system (RMPS). The reports generated through the RPMS provided information within the last year. The RPMS generates generic reports on conditions and interventions the IHS uses for benchmarks. Specific data reviewed were BMI documentation and the diagnosis of overweight and obesity in the patient population of 2 to 18 years.

The total number of children 3 to 17 years of age within the system at Wind River Family and Community clinic was 2,965. The report was generic and did not allow altering the parameters of the age range to 2 to 18 years as the project had originally planned. Of those 2,965 patients, 984 (33.2 %) had documented BMIs. Of those same 2,965 patients, 115 patients (3.9 %) had documented counseling for nutrition and eight patients (0.3 %) had documented physical activity counseling.

The chief medical officer educated the researcher on how to create a panel to generate data specific for this project. The first panel for the project used inclusive ages and International Classification of Diseases (ICD-10; CDC, 2017) codes listed as problems on the EMR. The inclusive age range included 2 to 18 years. Problems included overweight, obesity, and unspecified obesity with the ICD-10 codes of 278.02, E66.3, E66.9, and 278.0, respectively. The panel only returned five patients, all of whom were listed as obese. The second panel generated used the same inclusive ages of 2 to 18 years and obesity was defined using BMIs. Using these terms, 345 patients were generated. A third panel was generated using ages two years to five years. "Obese" was the term used to generate the panel. A total of 201 patients were identified and of those, 47 were documented as obese, representing 23.4% of the patients within that age group.

Results for Objective Two

Round One Survey Results

To identify barriers the providers face at Wind River Family and Community Clinic, the Delphi method was used to construct two surveys. The researcher used the surveys to gather data about barriers to management of overweight and obesity in the child and adolescent population. A total of nine surveys were sent to healthcare

providers (MDs, DOs, NPs, PAs, and nutritionist) at the clinic. The initial survey had a return rate of 67%, (n = 6) with a reminder being sent. One survey was returned after the reminder email was sent out. The second survey had a return rate of 5 surveys (55.6%). Again, one survey was completed after the reminder email was sent out. The return rates were not as high as expected although the information returned provided valuable insight regarding barriers the providers face with treating child and adolescents of the American Indian population who are overweight and obese.

The Round One survey included demographic information and eight open-ended questions to allow providers to express opinions and feelings on the subject of childhood and adolescent overweight and obesity in the American Indian population. A total of nine surveys were sent out to the providers and the nutritionist on staff at the Wind River Family and Community Health Clinic. Six surveys (67%) were returned within the one and a half weeks provided for responses. Of the responses returned, three (50%) of the answers were from APRN's, two (33.3%) were from MDs, and one (16%) were from PAs. Approximately half (50%) of the survey responses came from providers who had practiced for one to five years, another one-third of the survey responders had practiced for 11 to 15 years, and a smaller group (17%) had practiced for 6 to 10 years. Five providers (83.3%) were female and one (16.7%) was male.

The survey provided four open-ended questions to gain a deeper understanding of specific barriers faced by the providers at Wind River Family and Community Health Clinic. The first open-ended question, question number five, asked the providers to comment on their confidence level in taking care of overweight or obese children and adolescent patients. The main components of the questions included their confidence

level in taking care of overweight or obese children and adolescent patients, level of comfort working with families of overweight or obese children and adolescents, barriers and/or challenges believed to affect the diagnosis and care of American Indian children and adolescents, and any other comments about caring for overweight and obese children and adolescents at the Wind River Family and Community health clinic. The responses from the providers indicated confidence levels of moderate to very confident, three providers (50%) stated a moderate level of confidence, and three providers (50%) indicated they were very confident in caring for children and adolescents who were overweight or obese.

The sixth question asked the providers to comment on their comfort with working with families of overweight and obese children and adolescents and any special challenges they might face. This question provided the researcher with information describing social situations of children and adolescents living in multiple homes. Life style and economic issues were also described as challenges faced by providers in caring for the overweight and obese pediatric population. Cultural barriers were identified as a challenge, specifically the traditional American Indian diet consisting of high fat and high carbohydrates. Poverty was also discussed as being a difficult barrier to overcome when trying to help children and adolescents with weight issues. Financial barriers were identified as creating difficulty in obtaining food for families. The American Indians of the Wind River Reservation are spread across 2.2 million acres of land, creating a challenge for some to get to appointments and have access to food with no vehicle. In summary, survey respondents identified high confidence levels regarding providing care for the American Indian pediatric population but several cultural and social issues

affected their level of comfort. Specifically, two issues were of concern. The first provider commented on challenges working with families with a variety of living arrangements and caregivers other than parents for these children. Secondly, the traditional diet presented a cultural challenge complicated by access to healthy foods and potentially the ability to keep healthy foods in the house. Approximately half (50%) of providers discussed being faced with the challenge of children/adolescents and families acknowledging an issue with the overweight and/or obese status and getting them to comply and adhere to a treatment plan.

The seventh question asked the providers to describe any barriers and/or challenges they believed affected the diagnosis and care of overweight and obese children and adolescents among the Wind River American Indian population; examples included time constraints, availability of resources, and the need for specialty care. The survey responses discussed barriers within the family (cultural foods, living with different family members, and low food access). One respondent mentioned there are programs for adult diabetic patients and obese patients but a lack of programs offered for children and adolescents. Time constraints were identified by four of the six responders to this question. Providers also mentioned the disconnect between the provider and patient/family from a different cultural or ethnic group. One particular resource mentioned the Back In Whack program (Positive Patterns for Life, 2015)--an on-site education program for adolescents that has encouraged the development of a relationship between the provider and the adolescents and families.

The final question offered the providers a chance to discuss any further comments about caring for children and adolescents who are overweight and obese. Four of the six

respondents answered this question, although two providers responded they had no further comments. One respondent discussed the need for further education/training in how to care for this population within the Wind River Reservation. The other respondent mentioned the valuable resource of the nutritionist and the Back In Whack program (Positive Patterns for Life, 2015) offered on site; however, the respondent also noted the challenge of convincing the patients of the need for enrolling in the program.

Round Two Survey Results

The second survey consisted of 30 questions that were developed based on the responses received from the initial survey. Appendix F provides the questions and percentages to each response. The questions were developed to be answered using "agree," "disagree," or "other." Five providers returned the surveys, representing a 56% return rate.

Time constraints. Questions one and two asked whether there were time constraints in discussing weight issues with children and their families and documenting them within the medical chart. Two providers agreed (40%) and three providers (60%) responded with an "other" response and provided comments. One provider commented about a discomfort factor when discussing weight issues with children and their families. The other two providers discussed time constraints in all aspects of primary care and thus restricting the time devoted to weight concerns. For the second question, four providers (80%) agreed with this statement and one provider disagreed. Question three provided a response rate of 100—all five providers disagreed.

Documentation questions. The next section (survey questions 3, 5, 6, 7, and 8) focused on documentation. Question three provided a response rate of 100%--all five providers disagreed. Regarding the fifth question, 60% or three of the providers disagreed; whereas 40% or two of the providers agreed with the documentation being tedious. The sixth question had four providers (80%) who agreed with understanding how to update the patient problem list; whereas 20% or one provider responded other. A comment indicated the EMR problem list could not be changed once a diagnosis was added. Question number seven had three providers (60%) who disagreed the EMR was conducive with charting overweight and obesity; whereas one (20%) agreed and one (20%) chose other. A comment indicated the word conducive was not the right word and the EMR allowed for the charting to take place. For question eight, four (80%) responded with disagree and one (20%) responded with other, commenting the nursing staff is capable of helping them with keeping the problem list up to date but the providers were used to doing this task.

Coding. Two questions (4 and 28) found on the survey discussed coding for overweight and obesity in children and adolescents. Three providers (60%) disagreed with this statement, one provider (20%) agreed with this statement, and one provider (20%) responded other. Along with the other response, the provider stated if the question was referring to using ICD 10 codes and CPT codes, they did feel confident in these. Four providers (80%) disagreed with question 28; whereas 20% or one of the providers agreed.

Available resources. The fourth group of survey questions presented questions on available resources and providers' thoughts on resources. Some of the resources

found at the clinic include the Lifestyle program, diabetes education, nutritional counseling, counseling, and the Back In Whack program (Positive Patterns for Life, 2015). All five (100%) of the providers agreed with question number nine of their awareness of the Lifestyle program. Question number 10 also discussed the Lifestyle program and the amount of use by the providers--80% agreed and 20% disagreed with this statement. In response to question 11, three providers (60%) disagreed; whereas two providers (40%) responded with other when asked about being fully aware of resources available. Comments shared by the two providers suggested they understood the local and clinic resources available but were unsure of other outside resources available to use with the American Indian population. All five of the providers (100%) agreed with question number 12--there is a lack of resources for pediatric patients to have healthy food. The 13th question also had all five (100%) of the providers agreeing that nutritional counseling was used as a treatment method. In response to question 14, two providers (40%) agreed and two providers (40%) disagreed with using counseling as a treatment option. One provider (20%) responded other and stated behavioral health had not been used in treating overweight or obese children and adolescents. Two providers agreed (40%) they had used diabetes education for the pediatric population, 20% or one provider disagreed, and 40% commented other. Comments provided by the providers indicated they used diabetes education for nutritional counseling and due to time constraints, patients were sent to nutritional counseling.

On the 16th question, providers were asked if they felt money was the biggest issue in treating the overweight and obese pediatric population. Four providers or 80% disagreed with this statement; whereas one provider (20%) responded with other. The

comment provided saw money as one issue but did not single it out as the biggest issue with treating pediatric obesity. Culture, lack of transportation, and poor nutritional knowledge were discussed as other issues in treating children and adolescents for obesity.

Question 17 inquired about the available hours of the nutritionist being enough; two providers (40%) agreed and one provider (20%) disagreed. The other 40% or two providers responded other and commented sometimes or they were unsure at this time.

The 21st question inquired about adherence to programs; four or 80% of the providers agreed with this statement and one (20%) disagreed. No additional comments were made. Question 22 inquired about follow-up appointments being kept by the pediatric patients and their families. Sixty percent or three providers agreed with this statement. One provider (20%) disagreed with this statement and one provider (20%) chose other. The provider who chose other commented that often grandparents were the caretakers of multiple grandchildren, leading to chaotic lives and non-compliance.

Question 24 asked providers about the use of the Back In Whack program (Positive Patterns for Life, 2015); 40% or two providers agreed they used the program and two providers (40%) disagreed. One provider (20%) chose other and commented that they had referred patients to the Back In Whack program but were unsure if the patients had taken advantage of the program.

Question 29 asked if the providers felt overwhelmed with the lack of resources available; three or 60 % of the providers responded disagreed and two (40%) providers chose other. One provider commented there was more of a feeling of frustration rather than a feeling of being overwhelmed. The other provider commented that sometimes there was a feeling of being overwhelmed.

Knowledge. Question 18 perused providers' level of knowledge with an overweight or obese pediatric population; two providers (40%) agreed, two providers (40%) disagreed, and one provider (20%) responded other, commenting there is confidence to approach care and there is always opportunity for further education.

Family. The sixth section of questions asked providers regarding the effect the patient's family had on the treatment for overweight and obesity seen in children and adolescents. Question 19 had three (60%) of the five providers agreeing, whereas two (40%) disagreed. No comments were offered. Regarding question 20, all five (100%) of the providers agreed the parents greatly affected the outcomes seen.

Overweight and/or obese patients. The final section of the survey looked at specific questions with regard to overweight and obese patients. Questions 23, 25, 26, 27, and 30 were found in this category. Question 23 had two (40%) of the four providers agreeing they saw a high number of overweight and obese pediatric patients and two (40%) providers disagreed with this statement. One (20%) provider chose "other" and commented this was subjective and they would need to run a chart check. Questions 25 and 26 had three (60%) of the providers disagreeing; whereas two (40%) agreed that treating obesity was much harder than other diagnoses. No additional comments were reported on this statement. All five of the providers (100%) agreed they used well-child checks to discuss nutrition with the family. The final question, question 30, again had all five providers (100%) disagreed that having conversations about weight did not have an impact on the health of the patients.

Limitations

Barriers in using surveys include the possibility that providers will not respond or forget to respond. Also, providers are busy and might not feel they have time to respond to the surveys. The first survey produced six responses--a 67% response rate. The second survey produced five responses--a 56% response rate. The CMO sent out the first and second provider letters and approximately one week after the first email for each survey was sent out, a second reminder email was sent to aid the providers in not forgetting to respond. With the daily patient load of the providers seeing 20 to 25 patients per day, serious time constraints were a possibility.

The iCARE system created barriers with gathering some of the information. The system was not user friendly to someone not having used the system before, making it more difficult for the researcher to collect the data without the assistance of the CMO. In working with the CMO, both the researcher and CMO discovered that if the problem list was not used or kept current, the iCARE reports might not be as useful as intended. The generic panels were helpful in describing the overall patient population seen at Wind River Family and Community Clinic. The overall data provided select information with a portion of the age range desired for this project based on the guidelines issued by the CDC (2016b), USPSTF (2010), and the AAP (2008) but was not inclusive of all ages of interest.

The second survey used *agree*, *disagree*, and *other* response choices to allow survey responders to complete the survey. The *other* option allowed providers to comment on the question being asked. Some of the remaining comments indicated the interpretation of the questions might have limited participation by individuals.

Results for Objective Three—Action Plan

Existing resources are available to the child and adolescent population. The Back In Whack program (Positive Patterns for Life, 2015) was discussed with the head nurse at the clinic. The program got its name from the principle of the body converting food into energy; with elevated BMIs, the conversion of energy is "out of whack." The program is designed to persuade children and adolescents, along with their families, to get their energy "back in whack" (Positive Pattern for Life, 2015). The program offers nutritional counseling with the nutritionist, DVDs that include twelve 20-minute sessions that guide parents and youth to develop their own personal health and nutrition plans, and other educational materials to guide parents and youth to better fitness and nutrition. The nutritionist at Wind River Family and Community Health Clinic will meet with the child or adolescent and their families to understand their fitness and nutrition goals. The Wind River Family and Community Health Clinic uses a "blended program"--a combination of home-based materials and clinic-based program (Positive Patterns for Life, 2015). When the program was initiated at the clinic, it was originally intended for ages 12 to 18 years but since implementation, it has been expanded to all ages to improve participation. An assessment with the child's parents was conducted to see if this program was a good option for the child/ adolescent and family. A barrier identified was the poverty level on the reservation due to limited access to food and water.

Raw data from both surveys were shared with the CMO of the clinic along with shared ideas of potential improvements to aid providers in overcoming some identified barriers. Time constraints with documentation on the EMR could be addressed with the IT department to make documentation of nutritional and exercise counseling more fluid.

Identified through the surveys, providers were having nutritional and physical movement discussions although the data were not detected on the panel review through iCARE. More fluid documentation would allow providers to get credit for the work they were doing without creating more work in their already busy days. One idea in helping keep the problem list up to date included having the IT department train the nurses on how to input the problems on the problem list. This would allow for data retrieval on the iCARE system to be more reliable and also offer providers the opportunity to receive credit for the work they were doing.

The nutritionist is a very valuable resource that has recently been added to the team of providers at the clinic. Nutritionists are given the opportunity to take an in-depth look at one area of health--food. The expertise of the nutritionist could be used in creating a plan with the Tribal committee to offer healthier foods at the Commodities--a resource of food for those American Indians who qualify for free food. Overall health for the tribe, especially children and adolescents, would be provided at a lower cost as the children and adolescents age. This suggestion was not one that could take place over a short period of time. The U.S. Department of Agriculture (USDA, 2017) has a program called the Food Distribution Program on Indian Reservations. Each year, a list of foods available for qualifying members is produced for that year. This list could be used by the nutritionist and the physicians of the clinic to offer patients ideas for healthier food options from the list of foods. This would be a suggestion for the interim time period until changes are made for American Indians to receive fresher, healthier options. Appendix G provides a list of 2017 foods found through the Food Distribution Program.

Education continues to be a large part of the providers' role in caring for patients. The provider can give patients all the tools but the patient, particularly in the pediatric population, and their families must buy in to the information given to them or nothing changes. Continued referral and use of the Back In Whack program (Positive Patterns for Life, 2015) is an important way for education to continue with the children, adolescents, and their families. Continued education is not only important for patients, it is important for providers as well. Offering onsite education to providers is another way to improve their comfort level in caring for this complex population of overweight and obese American Indians. Part of the continued education could include coding and billing specific to increased pediatric BMIs.

Development of a resource packet would aid in treatment and management for providers, especially those providers new to working with the American Indian population. This resource packet could offer information on the two main programs used to help children and adolescents with elevated BMIs, the Back In Whack program (Positive Patterns for Life, 2015) and the clinic's Lifestyle program. The hours and contact information for the diabetes education program would be another useful piece of information. Providing nutritionists with contact information and hours in the clinic would be another piece of needed information. Each year, every provider should be offered information regarding the list of foods provided to families in need from the Food Distribution Program (USDA, 2017) to aid them in their nutritional discussions. The nutritionist could be in charge of providing an updated list to nursing staff of the clinic and the nursing staff could update the resource packet for each provider.

Through the surveys, the providers indicated their ideals and hopes in helping the children and adolescent populations to reach their optimum health. When there is bombardment of responsibilities, it can be hard for providers to see how minor changes could have an impact on patients. Using resources such as the nursing staff assisting with the EMR, nutritional services, and already established programs are little ways that can have large impacts.

Unintended Consequences

While on site collecting data, the researcher had the opportunity to interview several of the nursing staff. Unfortunately, the nutritionist was not at the clinic during the site visit. The nurses provided useful information on food options, housing situations, and programs and resources available to the American Indian population. Even if available, the nurses indicated the American Indian population might or might not have the ability to use the resources. For instance, food sources can be scarce for many of the American Indians due to a lack of grocery stores found on a reservation that encompasses 2.2 million acres of land. Although there are healthy food options available at one local grocery that includes fresh produce at reasonable prices, many American Indians choose to eat from the deli where warm meals are already prepared. The nurses provided insight the survey responses did not; thus, the time spent with the nurses became an unintended consequence with data being provided from other sources than the providers. Through this discussion, it was noted \ some of the American Indian families had multiple families living in one home, often times a trailer, with as many as 15 individuals living there. A lack of water, electricity, and heat in some homes made it difficult for meals to be prepared or warmed up. With the number of individuals living in one home and the lack

of essentials, food might come from the Commodities--a place where dry packaged food that has a longer shelf life can be obtained for free. One comment indicated soda pop is cheaper than bottled water, making soda pop more easily consumable.

Another unintended consequence of this project was the information generated from the iCARE system. The creation of panels of interest using the iCARE system did not produce as much helpful information as originally thought by the CMO of the clinic. Upon generating the panels, the CMO discussed the possibility of lack of charting taking place in a specific area, thus resulting in the inability of the iCARE system to pick up on the diagnosis of overweight and obesity and counseling/ treatments taking place. The CMO discussed the issue regarding documentation when the note had additional information but the iCARE system did not pick up the information if the diagnosis was not added to the problem list.

Conclusion

The providers of the Wind River Family and Community Health Clinic were generous with their time by providing feedback on two surveys. Survey feedback indicated valuable resources are offered at the clinic and were used by a majority of the survey respondents. Availability of healthy food options was identified as one of the largest obstacles in helping children and adolescents decrease their BMIs. Getting cooperation from the family component of the American Indian population was also identified as a barrier for providers in treating overweight and obese children and adolescents.

The data collection offered insight into potential incomplete data. The panel did not produce the large numbers of data regarding obese and overweight children and

adolescents the CMO had anticipated. The benchmarking panels produced by the iCARE system offered larger numbers of overweight and obese children and adolescents than the creation of a panel produced. Through the surveys, the providers indicated they were performing nutritional counseling with this population. Time spent onsite, although short, offered the researcher insight on the major day-to-day barriers faced by providers, patients, and families at the Wind River Family and Community Health Clinic. One major issue affecting the occurrence of obesity and overweight is the lack of resources such as electricity, food, and water. A change in the EMR flow for documentation was seen as an area that could aid providers by offering them improved documentation of the counseling they were offering to children, adolescents, and their parents about nutrition and physical activity. Continued efforts by the staff at the clinic could have lasting impacts on American Indians seen at the Wind River Family and Community Health Clinic.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The overall goals of this DNP project were to identify barriers experienced by the providers for American Indian children and adolescents and create an action plan for the clinic. This DNP project offered valuable insights on barriers to diagnosis and management of overweight and obese American Indian children and adolescents that were consistent with current literature. Some of these barriers included documentation challenges, family influences, and unhealthy food options. The providers offered their expertise on daily challenges working in a rural area such as time constraints, poor nutritional knowledge of patients, lack of transportation, and the family structure of American Indians.

Recommendations

Data provided by the surveys as well as recommendations made by the researcher were provided to the CMO of the clinic. The providers' responses on the surveys offered valuable information and allowed insight into various changes that could take place within the clinic, which potentially could have a large impact. Recommendations for the Wind River Family and Community Health Clinic included education opportunities, dissemination of a resource packet to all providers, and changes to the EMR to facilitate workflow.

1. The first recommended change was to provide an in-service to nursing staff on how to update the problem list. Keeping an updated problem list could aid the clinic in providing more valuable data through the iCARE system for improved tracking. The providers expressed time constraints with documenting in the EMR; this small change could produce a positive change in the workflow of the providers.
2. The second recommendation was to offer a provider packet specific for overweight and obese children and adolescents. The packet would be a valuable, easily accessible resource to providers and nursing staff.
3. The third recommendation was to provide continuing education on site to offer the providers of the clinic more expertise in treating and managing childhood and adolescent obesity. One way to offer education could include lunch-and-learn opportunities on treatment options and new resources available to the American Indian population. The nutritionist would be a valuable resource in offering some of these educational opportunities to providers. The Back In Whack program (Positive Patterns for Life, 2015) could be another subject reviewed during the educational opportunities. Partnering with diabetes education for a learning opportunity was another suggestion.
4. The fourth recommendation was to have the IT department review the EMR for potential ways of improving the workflow for providers. Easier documentation could supply providers with more efficient and less time-consuming approaches to documentation. An unintended consequence of

the initial data collection brought to light questions with regard to the true number of overweight and obese children and adolescent patients at the clinic. Accurate data would deliver much needed information to the clinic. Research indicated the national average for American Indian children and adolescents was consistently more overweight or obese than their counterparts in other ethnicities (Perry & Hoffman, 2010; Schell & Gallo, 2012; Stevens, 2010). The overweight and obesity panels created through iCARE did not support this for children and adolescents at the Wind River Family and Community Health Clinic; however, the data on BMIs did correspond to the literature.

Stakeholders important to consider in terms of the recommendations for this project would include the providers, nursing staff, nutritionist, diabetes education, educational department of the clinic, and the IT department. Each of these stakeholders would have small roles in improving on barriers experienced by the providers. Making small changes within the processes already in place at the clinic would be ideal. These recommendations do not necessarily involve changes in actual interventions implemented by the providers.

Carrying out these recommendations would provide an overall benefit for children and adolescents of the Wind River Family and Community Health Clinic (2017), whose mission is to partner with the American Indians to "provide primary care, traditional healing, preventive care, and wellness promotion to all members of the community as intended by the Creator" (p. 1). The responses of the providers indicated their perceptions of barriers to effective management of patients and families at the Wind

River Family and Community Health Clinic. With specific barriers being identified, changes can be implemented to improve diagnosis and management of these important conditions.

Ongoing Evaluations

This project created awareness of barriers experienced at the Wind River Family and Community Health Clinic by providers and the American Indian population. Reviewing data after recommendations have been implemented would be beneficial to the clinic. The data would hopefully demonstrate improvements regarding documenting diagnoses of overweight and obesity in children and adolescents and improve use of the various resources to help manage this population.

Possible Application in Other Settings

This project was very specific to the Wind River Family and Community Health Clinic to potentially identify barriers faced by providers serving the community. Specific information from this project would not necessarily apply to other settings as providers working at the clinic serve the American Indian population in a rural setting. This project could be easily used in other IHS (n.d.) units. In comparing other barriers faced by providers in urban settings, the barriers most likely would differ greatly. However, some of the basic principles in this project could be easily applied in other settings.

A large number of healthcare settings use EMRs to pull data. Chart reviews and or using other data collection approaches provide valuable insight into documenting diagnoses, treatments, and improvement areas. Chart reviews could lead to a deeper understanding of areas where improvements could be made such as the problem list not being updated on the charts at the Wind River Family and Community Health Clinic.

In terms of using the Delphi methodology, these types of surveys allowed for individuals to express feelings on subjects where they might not feel comfortable discussing face-to-face. Conducting surveys is a fairly efficient process and using a resource such as Qualtrics provided organized numbers and percentages to more easily use the information gathered.

Attainment of Personal Leadership Goals

This project offered a great learning experience for the researcher and hopefully provided the Wind River Family and Community Health Clinic with valuable and useful information. The purpose of the project was to identify barriers providers had at the clinic in diagnosing and managing childhood and adolescent overweight and obesity. The survey responses offered insight on potential changes that might have a great impact for providers who care for these children and adolescents.

During the site visit, the researcher was given the opportunity to discuss with nursing staff which resources were used in caring for overweight and obese children and adolescents. The conversations presented insight on many daily challenges patients faced such as lack of food sources, lack of running water, and lack of electricity in their homes. This project offered insight into the larger picture of problems related to poverty and management of a chronic condition such as overweight/obesity by the researcher, staff, and providers.

This project provided the researcher with a greater understanding on how to begin a project within a specific setting, assess the needs of the setting, apply the Delphi method by developing an open-ended question survey, developing a second round of questions to seek consensus, and how to interpret the data obtained from the surveys.

Executing the project with the committee allowed the researcher to be guided with her first formal research project. The project also offered the researcher a deeper understanding of how to execute an extensive literature review, which ensured the need for an evidence base for the project in a potential setting.

The formality of this project offered the researcher an understanding on what is required to carry out a useful survey that has potential to be published to offer other healthcare professionals ways to improve outcomes within their settings. A team of people aided the researcher in executing this project and aided in overcoming one of the larger challenges of time constraints. Input from other healthcare professionals allowed the researcher to understand the process involved such as what to look for, how to word questions, and how to use the information gathered from the survey. Execution of this project offered the researcher a professional accomplishment that will aid in future practice and research. The researcher learned ways to communicate effectively and efficiently to obtain needed information in a timely manner that allowed completion of this project. Organizing formal presentations with faculty offered the researcher insight on how to most effectively use web-based resources.

Time constraints prevented the researcher from offering all she had hoped for to the Wind River Family and Community Health Clinic. More time spent at the clinic would have offered a better understanding of workflow with the overweight and obese children and adolescent population. Resources specific to the American Indian population could have been explored further by talking to community providers since the Internet did not offer details truly needed for providers to improve potential resources available to them. The experience of this DNP project was a professional growth

opportunity that resulted in higher awareness of challenges in diagnosing and managing a prevalent health problem in a specific population, i.e., American Indian children and adolescents and their families.

Essentials of Doctoral Education for Advanced Nursing Practice

The Doctor of Nursing Practice (DNP) degree prepares the advanced practice nurse on evidence-based practice and the implementation of evidence-based practice. According to the American Association of Colleges of Nursing (AACN; 2006), the doctor of nursing degree offers a terminal degree with a practice-based focus and prepares the advanced practice nurse for the highest level of nursing practice beyond the initial preparation in the discipline. Advanced nurse practitioners facilitate whole person care; based on the nursing model, higher education provides a unique health experience to patients they serve as a provider. It is important that APNs base their care for patients on evidence-based practice in order to achieve the best outcomes. A DNP-prepared nurse practitioner should be able to demonstrate the ability to improve the health outcomes of individuals through general knowledge, interpretation of evidence-based research, and through generating "new knowledge through innovation of practice change, the translation of evidence, and the implementation of quality improvement processes in specific practice settings, systems, or with specific populations to improve health outcomes" (AACN, 2015, p. 2). The DNP-prepared practitioner possesses a "wide array of knowledge gleaned from the sciences and have the ability to translate that knowledge quickly and effectively to benefit patients in the daily demands of practice environments" (AACN, 2015, p. 9).

The AACN (2006) identified eight essential areas of content in doctoral nursing programs for the purpose of providing foundational competencies that are the core to all advanced practice nursing roles: scientific underpinnings for practice, organizational and systems leadership for quality improvement and systems thinking, clinical scholarship and analytical methods for evidence-based practice, information systems/technology and patient care technology for the improvement and transformation of health care, health care policy for advocacy in health care, interprofessional collaboration for improving patient and population health outcomes, clinical prevention and population health for improving the nation's health, and advanced nursing practice.

In looking at the first two essentials defined by the AACN (2006), scientific underpinnings for practice and quality improvement and systems thinking, this capstone project focused on the identification of barriers in caring for American Indian children and adolescents. The project integrated nursing science with the research literature, the Chronic Care Model for Childhood Obesity (Jacobson & Gance-Cleveland, 2010), and current guidelines for childhood obesity. The target population was defined as American Indian children and adolescents to include the ages of 2 to 18 years per current guidelines of the CDC (2016b), USPSTF (2010), and the AAP (2008). The iCARE system was used to gather data for the specified population within the clinic setting at the Wind River Family and Community Health Clinic.

Essentials III and IV focused on the DNP using analytical methods for evidence-based practice and using technology for the improvement and transformation of health care. Sources used for the literature review were gathered from diverse sources to provide a deeper understanding of the issues and improvements specific to child and

adolescent obesity. Information obtained through the literature review also offered guidance for the development of the project. Regarding Essential IV, multiple tools were used including online databases for research: CINHAL, PubMed, and manual resources. Qualtrics was used to issue surveys for the Delphi method to gain consensus on perceived barriers by providers and create an action plan for the clinic.

Essential V defines healthcare policy as advocacy in health care within the DNP role (AACN, 2006) on multiple levels: governmental actions, institutional decision-making, and organizational standards. Healthcare policy can guide and create improvements of health care services and it is imperative that providers are engaged in healthcare policy. The DNP graduate is "prepared to design, influence, and implement healthcare policies that frame health care financing, practice regulations, access, safety, quality, and efficacy" (AACN, 2006, p. 13). This project aimed to improve the overall health of American Indian children and adolescents with a diagnosis of overweight or obesity, who are cared for at the Wind River Family and Community Health Clinic, through the identification of potential barriers and creation of an action plan. The early identification and prevention of obesity in children has a lasting impact on their health throughout their life span.

Essential VI discusses the interprofessional collaboration to improve patient and population health outcomes (AACN, 2006). This project aimed to gain consensus from physicians, nurse practitioners, physician assistants, and a nutritionist. A physician of the clinic supported the project through administration of the clinic, organization of survey administration, and data collection. Additionally, DNP project committee members aided the researcher in the full completion of this project. Through interprofessional working

relationships, the project was completed and an action plan was developed to aid the clinic in potentially overcoming some identified barriers.

Essential VII addresses clinical prevention and population health to improve the nation's health (AACN, 2006): "DNP graduates engage in leadership to integrate and institutionalize evidence-based clinical prevention and population health" (p. 15). Research supported an ever-growing number of children and adolescents of the American Indian population who have increased BMIs. The goal of this project--identifying potential barriers faced in treating and managing overweight and obesity in American Indian children and adolescents--had a population focus. Creation of an action plan based on data gathered through the use of the Delphi method could have a positive impact on the health outcomes of the children and adolescents on the Wind River Reservation.

Finally, Essential VIII describes the important role of the advanced practice nurse and the expectations of the APRN (AACN, 2006). The DNP graduate should be able to "demonstrate advanced levels of clinical judgment, systems thinking, and accountability in designing, delivering, and evaluating evidence-based care to improve patient outcomes" (AACN, 2006, p. 17). This project encompassed these criteria with evidence of barriers occurring for providers at the Wind River Family and Community Health Clinic and the researcher's ability to critically assess the literature for support. Through the project design, implementation of surveys, and evaluation of the data, this researcher exemplified scholarly work at the doctoral level through this capstone project.

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APPENDIX A

INSTITUTIONAL REVIEW BOARD APPROVAL

UNIVERSITY OF
NORTHERN COLORADO

Institutional Review Board

DATE:	August 16, 2017
TO:	Amanda Vignaroli, DNP
FROM:	University of Northern Colorado (UNCO) IRB
PROJECT TITLE:	[1085396-1] Barriers To Managing Childhood Overweight/Obesity in American Indian Children
SUBMISSION TYPE:	New Project
ACTION:	APPROVAL/VERIFICATION OF EXEMPT STATUS
DECISION DATE:	August 16, 2017
EXPIRATION DATE:	August 15, 2021

Thank you for your submission of New Project materials for this project. The University of Northern Colorado (UNCO) IRB approves this project and verifies its status as EXEMPT according to federal IRB regulations.

We will retain a copy of this correspondence within our records for a duration of 4 years.

If you have any questions, please contact Sherry May at 970-351-1910 or Sherry.May@unco.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.

APPENDIX B

DELPHI STUDY ROUND ONE QUESTIONS

1. What is your role at the clinic? (For example M.D., D.O., PA, NP, ect.)
   a. MD b. DO c. PA d. APRN e. clinical staff

2. How long have you been in practice?
   a. 1 – 5 years b. 6 – 10 years c. 11 – 15 years d. 16 – 20 years d. 21+ years

3. How long have you been working in your current position?
   a. 1 – 5 years b. 6 – 10 years c. 11 – 15 years d. 16 – 20 years d. 21+ years

4. What is your gender?
   a. Male b. Female

5. Would you comment on your comfort level in taking care of overweight or obese children and adolescent patients?

6. Could you describe your level of comfort working with the families of overweight and obese children and adolescent patients? Any special challenges?

7. Please describe any barriers you believe affect the diagnosis and care of overweight and obese children and adolescents among the Wind River population, for example, time constraints, resource availability, need for specialty care, etc.

8. Any other comments you would like to make about caring for children and adolescents who are overweight or obese whom you care for at the Wind River Family and Community Health Clinic.

APPENDIX C

DELPHI STUDY ROUND TWO QUESTIONS

Childhood Overweight/ Obesity Survey 2

1. Time constraints are experienced regularly and prevents me from discussing the weight issue with children and families
2. Time does not allow for me to document all that I need to within the medical chart.
3. The EMR (electronic medical record) has too many steps to add overweight or obesity to the problem list
4. I understand how to correctly code elevated BMIs on children/adolescents for proper reimbursement
5. Putting problems on the problem list is tedious and time consuming
6. I am aware of how to update a patient's problem list properly
7. The EMR is very conducive to charting overweight and obesity in children/adolescents
8. Nursing staff aid in helping keep the problem list updated
9. I am aware there is a Lifestyle Program through diabetes education
10. I use the Lifestyle Program to aid in treating elevated BMIs in children/adolescents
11. I am fully aware of resources available to aid in healthy lifestyles for the American Indian children/adolescents
12. I find that many of my pediatric patients do not have resources to healthy food
13. I have used nutritional counseling to helping pediatric patients with BMIs greater than or equal to 85%tile
14. I use counseling as a way of treating pediatric patients with BMIs greater than or equal to 85%tile
15. I have used diabetes education with pediatric patients with BMIs greater than or equal to 85%tile
16. I see money as the biggest issue for treating childhood/adolescent obesity in the patients I see
17. The dietician's hours at the clinic are enough to aid in the number of patient's I see.
18. I am confident in my knowledge to treat pediatric overweight/obesity
19. Family resistance to treatment is the biggest issue I face.
20. The parents of children and adolescents greatly affect the outcome of the weight loss/ healthy lifestyle in the patients who are overweight or obese
21. Resources are available but adherence to a program does not take place
22. Resources are available but the patient/family fails to keep follow-up appointments
23. I see a high pediatric patient population that are overweight or obese
24. I have used the Back and Whack program to help adolescents in improving their BMIs
25. It is easier to treat a diagnosis such as diabetes than it is to get children and their parents to change their lifestyles
26. It is easier to treat a diagnosis such as diabetes than it is to get adolescents and their parents to change their lifestyle

27. I use Well Child Checks to discuss nutrition with the children/adolescents and parents
28. I document each time I discuss nutrition/ lifestyle changes with children/adolescents because it is part of the EMR
29. I feel I am overwhelmed with the lack of resources available to the patient population I serve
30. I feel discussing nutrition will have NO impact on weight issues seen with the pediatric population

APPENDIX D

STATEMENT OF MUTUAL AGREEMENT

Statement of Mutual Agreement
University of Northern Colorado
Doctorate of Nursing Practice Capstone Project
Amanda Vignaroli, DNP-S
April 11, 2017

The purpose of the "Statement of Mutual Agreement" is to describe the shared view between the Wind River Family & Community Health Clinic and Amanda Vignaroli, DNP Candidate from University of Northern Colorado, concerning her proposed capstone project.

Proposed Project Title: Overcoming Barriers for Primary Care Providers in Treating Childhood Obesity in the American Indian population.

Brief Description of Proposed Project: The project will include review of electronic health record data, examine the incidence of overweight and obesity among children, ages 2-18, and the documentation regarding the plan of care for children and adolescents identified as overweight/obese. Further, the interviews of providers, face-to-face, via telephone or in a digital form will provide the Doctoral Candidate the needed information to understand the barriers in providing treatment of overweight or obese children in the setting.

Goal of Capstone Project: To aid providers in being able to more effectively treat the overweight and obese adolescent population.

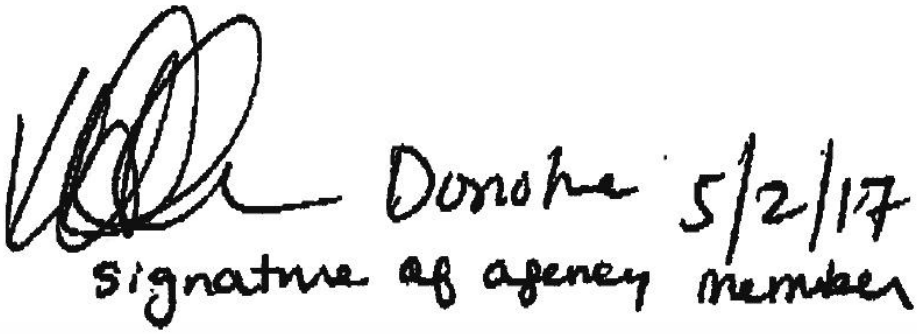
Proposed On-Site Activities: Review of data provided by the electric health records of the IHS system, interviews of providers, and interactions with other staff or community representatives at the Wind River Family & Community Health Clinic.

Confidentiality of Patient Records: All patient records will remain confidential as per agency protocol. No confidential information will be recorded, discussed or published in any manner that would be a violation of patient rights.

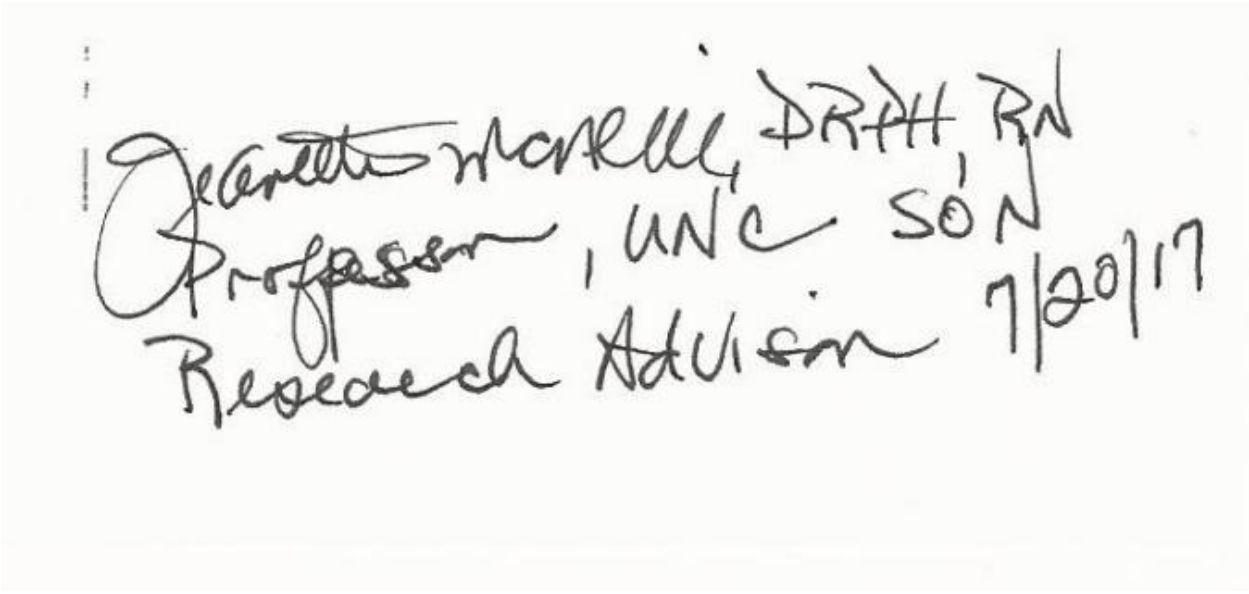
The designated Capstone Community/ Agency member will agree to participate in the review and approval of the proposal and presentation of the final version of the project. He/she will attend (on campus or remotely) the meetings for both.

The DNP Capstone project will include a final report, an abstract, and oral presentation of the report. No personal identifiers will be included and all data will be reported in aggregate form. The author welcomes any comments or suggestions from the Agency. For the reports required for the DNP student's completion of degree requirements, the Author agrees to follow the Agency preferences in how it is to be named (or not) in the work. There will be no financial obligation of either party for this project.

Signature of DNP Student 5/2/17 Date



Donohue 5/2/17
Signature of agency member



Jeanette Markell, DRPH, RN
Professor, UNC SON
Research Advisor 7/20/17

APPENDIX E

INTRODUCTION LETTER

Dear Provider,

My name is Amanda Vignaroli, RN, BSN. I am a Family Nurse Practitioner student at the University of Northern Colorado, pursing a degree as a Doctor of Nursing Practice (DNP). I am conducting a quality improvement project on potential barriers to managing children and adolescents who are overweight and/ or obese in the population of American Indian children and adolescents.

Participation in this DNP project involves completing confidential online surveys based on the Delphi method. The Delphi method is a structured communication method that utilizes a questionnaire to survey experts. The Delphi method will be used to ensure there is consensus among the answers to provide a better understanding the needs of you the providers. It may take couple rounds of surveys to get consensus. The surveys will be **confidential** and **unidentifiable** to protect your privacy. The first survey will take approximately 15-20 minutes to complete and will consist of demographic questions as well as multiple-choice answers. You will have a week and a half to complete each survey. A reminder email will be sent to all providers seven days after the initial invite. It is anticipated 2 to 3 rounds may be necessary. Each survey will be sent and returned electronically. After the conclusion of the study, recommendations for improvement will be developed based on the aggregated results.

Responses from this survey will remain **confidential** and will be used solely for the purpose of this study. Participation in the study is **voluntary** and you may withdraw participation at any time without penalty. There are no unforeseeable risks that have been identified in the participation of this quality improvement project. Submission of this survey means that you are consenting to the participation in this project.

This quality improvement project has been reviewed by the University of Northern Colorado Institutional Review Board and has been deemed acceptable in meeting the requirements intended to protect the rights and wellbeing of its participants.

Survey link: Qualtrics link

Should you have any questions or concerns please contact Amanda Vignaroli at vign5910@bears.unco.edu.

Thank you for your time and consideration.

Respectfully,

Amanda Vignaroli, DNP Candidate

APPENDIX F

ROUND TWO QUESTIONS AND PERCENTAGES TO EACH RESPONSE

Round Two Survey Items	Agree	Disagree	Other
Time Constraints			
1. Time constraints prevent from discussing the weight issues	**40%**	**0**	**60%**
2. Time constraints prevent accurate documentation of overweight/ obesity issues	**80%**	**20%**	**0**
3. Documentation in the EMR is tedious with many steps	**40%**	**60%**	**0**
Documentation Questions			
4. It takes too many steps are found on the EMR to add the diagnosis of overweight or obesity to the problem list in the EMR	**0**	**100%**	**0**
5. There is an understanding of how to update the patients problem list	**80%**	**0**	**20%**
6. The EMR is conducive to documenting overweight/obesity	**20%**	**60%**	**20%**
7. Nursing staff aids in keeping the problem list up-to-date	**0**	**80%**	**0**
Coding			
8. It is clear there is an understand on how to bill/ code for elevated BMIs	**20%**	**60%**	**20%**
9. Documentation takes place each time nutrition and/or lifestyle changes occurs	**20%**	**80%**	**0**
Available Resources			
10. There is awareness of the Lifestyle Program through diabetes education	**100%**	**0**	**0**
11. The Lifestyle Program is used to aid in treating children and adolescents with elevated BMIs	**80%**	**20%**	**0**
12. There is full awareness of resources available to aid American Indian children/adolescents in healthy lifestyles	**0**	**60%**	**40%**
13. Many of the pediatric patients do not have resources to healthy food	**100%**	**0**	**0**
14. Nutritional counseling has been used in helping the pediatric patients with BMIs greater than or equal to the 85 percentile	**100%**	**0**	**0**
15. Counseling is used as a way of treating pediatric patients with BMIs greater than or equal to the 85 percentile	**40%**	**40%**	**20%**

16. Diabetes education has been used for pediatric patients with BMIs greater than or equal to the 85 percentile	**40%**	**20%**	**40%**
17. Money is seen as the biggest issue for treating childhood/ adolescent obesity in the American Indians	**0**	**80%**	**20%**
18. The dietician's hours are enough to aid in the number of patients that are seen	**40%**	**20%**	**40%**
19. There are available resources but adherence to a program does not take place	**80%**	**20%**	**0**
20. Resources are available but the patient and/or their family fail to keep follow-up appointments	**60%**	**20%**	**20%**
21. The Back In Whack program has been used to help adolescents in improving their BMIs	**40%**	**40%**	**20%**
22. There is a sense of being overwhelmed with the lack of resources available to the patient population served	**0**	**60%**	**40%**
Knowledge			
23. There is confidence in the knowledge of treating pediatric overweight and obesity	**40%**	**40%**	**20%**
Family			
24. Family resistance is one of the biggest issues faces in treatment of childhood and adolescent who are overweight or obese	**60%**	**40%**	**0**
25. Parents of children and adolescents greatly affect the outcome of weight loss and healthy lifestyles	**100%**	**0**	**0**
Overweight and/or Obese Patients			
26. There is a high pediatric patient population that are overweight or obese seen at the clinic	**40%**	**40%**	**20%**
27. Treating a diagnosis of diabetes is easier than it is to get children and their parents to change their lifestyles	**40%**	**60%**	**0**
28. Treating a diagnosis of diabetes is easier than it is to get adolescents and their parents to change their lifestyles	**40%**	**60%**	**0**
29. Well child checks are used to discuss nutrition with children and adolescents and parents	**100%**	**0**	**0**
30. Discussing nutrition will have NO impact on weight issues with the pediatric population	**0**	**100%**	**0**

APPENDIX G

LIST OF FOODS THROUGH THE FOOD DISTRIBUTION PROGRAM

USDA United States Department of Agriculture

USDA FOODS AVAILABLE FOR 2017*
Food Distribution Program on Indian Reservations (FDPIR)

WBSCM Code	Product	Pack Size
	VEGETABLES	
110020	Beans Black Can - 24/300	24/15.5 oz cans
100306	Beans Green Can - 24/300	24/15.5 oz cans
100372	Beans Light Red Kidney Can - 24/300	24/15.5 oz cans
110021	Beans Pinto Can - 24/300	24/15.5 oz cans
100361	Beans Refried Can - 24/300	24/15.5 oz cans
100363	Beans Vegetarian Can - 24/300	24/15.5 oz cans
100308	Carrots Can - 24/300	24/15.5 oz cans
100310	Corn Cream Style Can - 24/300	24/15.5 oz cans
100311	Corn Whole Kernel No Salt Added Can - 24/300	24/15.5 oz cans
100904	Hominy Can - 24/300	24/15.5 oz cans
100314	Peas Can - 24/300	24/15.5 oz cans
100337	Potatoes Dehydrated Flks Pkg - 12/1 lb pkg	12/1 lb packages
100331	Potatoes Wht Slices Can - 24/300	24/15.5 oz cans
100322	Soup Tomato Can - 24/1	24/10.5 oz cans
100321	Soup Vegetable Can - 24/1	24/10.5 oz cans
110163	Soup Crm of Chicken RDU Sod Ctn-12/22 oz	12/22 oz cartons
110164	Soup Crm of Mushrm RDU Sod Ctn-12/22 oz	12/22 oz cartons
100335	Spaghetti Sauce Meatless Can - 24/300	24/15.5 oz cans
100323	Spinach Can - 24/300	24/15.5 oz cans
100328	Tomato Diced No Salt Added Can-24/300	24/15.5 oz cans
100333	Tomato Sauce Can - 24/300	24/15.5 oz cans
100320	Veg Mix Can - 24/300	24/15.5 oz cans
	JUICES	
100893	Apple Juice Plst Btl - 8/64 fl oz	8/64 oz bottles
100899	Cranberry Apple Juice Plst Btl - 8/64 fl oz	8/64 oz bottles
100895	Grape Concord Juice Plst Btl - 8/64 fl oz	8/64 oz bottles
100894	Cherry Apple Juice Plst Btl-8/64 fl oz	8/64 oz bottles
100897	Orange Juice Plst Btl - 8/64 fl oz	8/64 oz bottles
100898	Tomato Juice Plst Btl - 8/64 fl oz	8/64 oz bottles

WBSCM Code	Product	Pack Size
	DRY BEANS	
100380	Beans Great Northern Dry Pkg - 12/2 lb	12/2 lb packages
100382	Beans Pinto Dry Pkg - 12/2 lb	12/2 lb packages
	MISCELLANEOUS	
100044	Egg Mix Dried Pkg - 48/6 oz	48/6 oz packages
	FRUITS	
100207	Applesauce Can - 24/300	24/15.5 oz cans
100210	Apricot Halves Can - 24/30	24/15.5 oz cans
100211	Mixed Fruit Can - 24/300	24/15.5 oz cans
100218	Peaches Cling Slices Can - 24/300	24/15.5 oz cans
100223	Pears Can - 2/4300	24/15.5 oz cans
100290	Plums Pitted Dried Pkg - 24/1 lb	24/1 lb packages
100295	Raisins Pkg - 24/15 oz	24/15 oz packages
100297	Fruit and Nut Mix Dried Pkg-24/1 lb.	24/1 lb packages
	MEATS	
100127	Beef Can - 24/24 oz	24/24 oz cans
100159	Beef Fine Ground Frz Pkg - 40/1 lb	40/1 lb packages
100166	Beef Roast Round Frz Ctn - 38-42 lb	20/2 lb cartons
100526	Beef Stew Can - 24/24 oz	24/24 oz cans
110478	Chicken Boned Can - 24/15 oz	24/15 oz cans
110154	Chicken Consumer Split Breast Pkg-6/5 lb**	6/5 lb packages
100880	Chicken Whole Bagged Frz Ctn-36-43 lb**	10/4 lb packages
100194	Tuna Chunk Light Can-24/12 oz	24/12 oz cans
110380	Pork Chops Boneless Frz Pkg - 40/1 lb	40/1 lb packages
110563	Salmon Pink Can-24/14.75 oz	24/14.75 oz cans

United States Department of Agriculture

USDA FOODS AVAILABLE FOR 2017*
Food Distribution Program on Indian Reservations (FDPIR)

WBSCM Code	Product	Pack Size
	DAIRY, PASTA, GRAINS, NUTS AND OIL	
100918	Bakery Flour Mix Lowfat Bag - 6/5 lb	6/5 lb bags
100001	Butter Print Salted Ctn - 36/1 lb	36/1 lb cartons
100921	Buttery Spread Light Tubs-12/15 OZ	12/15 oz tubs
110198	Cheese Blnd Amer Skm yel Reg slc Lvs-6/5lb	6/5 lb packages
110199	Cheese Process Reg Lvs-6/5 lb	6/5 lb loaves
100471	Cornmeal Degermed Yellow Bag - 8/5 lb	8/5 lb bags
100403	Crackers Unsalted Tops Box-12/16 OZ	12/16 oz boxes
100433	Egg Noodle 1/2 Inch Wide Pkg - 12/1 lb	12/1 lb packages
100473	Farina Wheat Pkg - 24/14 oz	24/14 oz packages
100400	Flour All Purp Enrch Blch Bag - 8/5 lb	8/5 lb bags
100410	Flour Whole Wheat Bag - 8/5 lb	8/5 lb bags
101024	Macaroni & Cheese 1404 Pkg - 48/7.25 oz	48/7.25 oz packages
100050	Milk 1% Milkfat UHT 1500 Box - 12/32 fl oz	12/32 oz packages
100065	Milk Instant NDM Pkg - 12/25.6 oz	12/25.6 oz packages
110162	Milk Skim Evaporated Can-24/12 fl oz	24/12 fl oz cans
100465	Oats Rolled Tube - 12/42 oz	12/42 oz tubes
100441	Oil Vegetable Btl - 9/48 oz	9/48 oz bottles
110511	Pasta Macaroni Plain Elbow Box - 20/1 LB	24/1 lb boxes
110450	Pasta Spaghetti Box - 20/1 lb	20/1 lb packages
110741	Tortilla Whole Wheat Fzn 8" Ctn-24/1 lb	24/1 lb cartons
100395	Peanut Butter Smooth Jar - 12/18 oz	12/18 oz jars
100391	Peanuts Roasted Reg Unsl Pkg - 12/16 oz	12/16 oz package
100492	Rice US#2 Long Grain Pkg - 30/2 lb	30/2 lb packages
100435	Whole Grain Pasta Rotini Mac Pkg - 24/1 lb	20/1 lb packages
100449	Cereal Corn Flks 1080 Pkg-12/18 oz	12/18 oz packages
100929	Cereal Oat Circles 1344 Pkg-12/14 oz	12/14 oz packages
110374	Cereal Wt Shredded 2160 Pkg- 10/16.4 oz	10/16.4 oz packages
100457	Cereal Rice Crisp 1008 pkg-16/12 oz	16/12 oz packages
100933	Cereal Wt Bran Flks 1344 pkg-14/17.3 oz	14/17.3 oz packages
100446	Cereal Corn Squares 1344 pkg-14/14 oz	14/14 oz packages
	SPECIALTY/SEASONAL/TRADITIONAL ITEMS	
100182	Pork Ham Waterad Frz Ctn - 12/3 lb ***	12/3 lb carton
100319	Pumpkin Can - 24/300	24/15.5 oz cans
100213	Cranberry Sauce Can-24/300	24/15.5 oz cans
110673	Cornmeal Whole Grain Blue Bag - 12/2 lb	12/2 lb bags
110778	Bison Ground Lean FRz Pkg-20/2 lb***	20/2 lb packages
110779	Bison Ground Lean Frz Pkg-12/1 lb***	12/1 lb packages
110792	Bison Ground Lean Frz Pkg-32/1.25 lb***	32/1.25 lb packages
110692	Rice Wild Pkg-40/1 lb***	40/1 lb packages
110830	Rice Wild Pkg-25/1 lb***	25/1 lb packages
110750	Salmon Fillets Wild Frz Pkg-40/1 lb***	40/1 lb packages

**Purchases are subject to market conditions.*
***Product available rotating every other quarter.*
****Purchases are subject to availability of funds.*