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Planning a Culturally and Linguistically Appropriate Obesity Intervention for Hispanic/Latino Children Living in Rural Nebraska

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Abstract

Childhood obesity is a public health concern in the U.S; however, for the Hispanic/Latino community these concerns have grown to epic proportions. In Nebraska, the rate of childhood obesity is 25.1%; among Hispanic / Latinos students, the obesity rate is 30.9%. Unfortunately, specific Nebraska obesity rates by race and ethnicity are limited among rural communities, and programs that can effectively address this problem in the Hispanic / Latino community are limited or non-existent. Consequently, disparities between urban and rural communities exist. The purpose of this capstone project is to design a culturally and linguistically oriented intervention to address childhood obesity among the Hispanic/Latino community in a rural population. We used secondary data gathered from the literature on evidence-based childhood obesity programs for this population and from focus groups conducted among a Hispanic/Latino community during an APEx Learning project in Colfax County, Nebraska. This capstone project will also provide a full description of the program, logic model, implementation plan, evaluation plan, expected outcomes, strengths and limitations, sustainability, and budget. Finally, this intervention plan hopes to influence community leaders to adopt this project and for it to be implemented by the East Central District Health Department to reduce childhood obesity among the Hispanic/Latino community in Colfax County, Nebraska.

Key words: *Promotoras*: Community Health Workers, Hispanic/Latino, ECDHD: East Central District Health Department, Culturally and Linguistically Oriented Interventions, NDHHS.

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Chapter 1 – Introduction

Childhood obesity is a major public health crisis in the United States, and the prevalence of childhood obesity has disproportionately impacted Hispanic/Latino children (Karnik & Kanekar, 2011; Hales, Carroll, Fryar, Ogden, 2017). This disparity is alarming as Latino children are the biggest, youngest, and fastest-growing minority group, in Nebraska, as well as in the nation (Ramos, Rajaram, Gouveia, Doku, Zhang, 2013). Hispanic/Latino children make up 16.9% of Nebraska's child population. The prevalence of obesity among Hispanic/Latino students in Nebraska is 30.9%, which is greater than the national prevalence among school-age youth 6-19 years of 23.3%. According to the 2018 National Survey of Children's Health, 23.5% of Nebraska youth ages 10-17 are overweight or obese (National Survey, 2018).

A research study conducted by Lutfiyya, Lipsky, Wisdom-Behounek, and Inpanbutr-Martinkus, (2007), found that children in U.S. rural areas are 25% more prone to be overweight or obese than their urban counterparts. Furthermore, childhood obesity is a contributing factor to many health conditions such as diabetes, high blood pressure, heart disease, cancer, and asthma (Araiza, Valenzuela, Gance-Cleveland, 2012; CDC; Dinkel et al., 2017). Childhood obesity is not evenly distributed; disparities exist between urban and rural places, and Latino immigrants residing in rural populations are at a greater risk of obesity (Hill, You, Zoellner, 2014).

A Nebraska rural community disproportionately impacted by this epidemic is Colfax County. The Hispanic/Latino population in Colfax County is 47% vs. 47.6% whites, and 5.4% other races (U.S census, 2010). Most importantly, 42% of the Hispanic / Latino population in Colfax County are children under the age of 18 (U.S Census, 2018a), and the overall obesity rate in Colfax County is 25.6% (East Central District Health Department, Community Health Needs Assessment [ECDHD CHNA], 2017). In addition, 36.3% of school-aged children from kindergarten to sixth grade had a (BMI 25+) and were overweight or obese, and 19.8% were obese with a (BMI 30+) (ECDHD CHNA, 2017). Furthermore, the Hispanic/Latino community in Colfax

County is increasingly growing, and programs that can effectively target childhood obesity in this rural community must be treated with the utmost importance.

Significance of the Problem

Many programs have been developed in Nebraska to address childhood obesity in general such as; 54321 Go; Moving After School policy change initiatives; and Healthy Families, a family-based intervention program, but they have not yet adequately addressed this issue because the overall burden of obesity among Nebraska's children has remained unchanged. For example, in the last 30 years, childhood obesity in Nebraska has more than doubled in children and quadrupled in adolescents according to a 2015 Nebraska's Needs Assessment report. From 2003 to 2007, the ranking of childhood obesity prevalence among Nebraska children has increased from 10th to 31st place (Nebraska Department of Health Human Services [NDHHS], 2015). It is understood, however, that differences in obesity/overweight prevalence between racial and ethnic groups exist because there are a few counties in Nebraska, which have shown elevated obesity rates in Hispanic/Latino children that reflect national information. For instance, in Lincoln, Nebraska, the Hispanic/Latino youth aged 10-17 years who are overweight or obese is 22.4% vs. black 20.2% and white 14.3% (NDHHS, 2015). Unfortunately, specific race and ethnicity information for Nebraska children is limited, especially among rural communities.

Program Objective

The objective of this project is to design an intervention that is culturally and linguistically oriented to address childhood obesity among rural Hispanic/Latino populations living in Colfax County. This intervention will be designed using a combination of evidence-based intervention programs that have been effective in demographically similar rural communities in the U.S. In the Data I collected during my Applied Practice Experience (APEx), where focus groups were done with the Colfax County community, participants shared their perceptions of healthy eating, physical activity, and barriers to a healthy lifestyle. This intervention will provide a full description of the program, logic model, implementation plan, evaluation plan, expected outcomes, strengths and limitations, sustainability, and budget. The long-term objective of this intervention is to

collaborate with community leaders in the adoption and implementation of the proposed intervention in order to reduce childhood obesity among the Hispanic/Latino community in the Colfax County. Additionally, this intervention will target Hispanic/Latino children under the age of 18 years.

Chapter 2 – Background and Literature Review

Studies have found that some of the factors associated with childhood obesity are eating practices, genetics, climate, metabolism, and lifestyle (Speiser et al., 2005; Araiza et al., 2012; Sellayah, Cagampang, and Cox, 2014; Sahoo, 2015). However, among this diverse population, it is essential to know that unique factors are associated with childhood obesity. For instance, many studies have concluded that some factors associated with childhood obesity in the Hispanic/Latino community are poverty, cultural differences, education, as well as access to quality health services that are culturally and linguistically appropriate (Sfundin, 2013; Ramos et al. 2011; Ramirez, Kipling, Despres, Adeigbe, Gonzalez, 2013; De la Torre et al., 2013). Unfortunately, programs that can effectively address this issue among the Hispanic/Latino community are limited or non-existent in Nebraska. In the U.S, there is still a great lack of consciousness regarding the importance of providing culturally sensitive interventions (Gonzalez, 2016). Understanding the unique cultural differences is essential in targeting the rising prevalence of obesity among Hispanic/Latino children in the U.S. (Gonzalez, 2016).

Poverty

In Nebraska, 24% of Hispanic/Latino children live in poverty (Children in Poverty, 2018). Low-income families tend to live in low-income neighborhoods where they lack access to healthy foods (Ramirez et al. 2013; *The State of Obesity*, 2014; Nyberg, Ramirez, Gallion, 2011). Latino families tend to purchase cheap, less nutritious, caloric dense meals to stretch the budget, and the children drink a higher number of sugar-saturated beverages (*The State of Obesity*, 2014). Studies have shown that families that have better access to supermarkets and fresh fruits tend to have a healthier diet and a reduced risk of obesity (Larson et al., 2009; Bell et al., 2013). If healthy food is available, it can be more expensive or be of lower quality. With the excessive cost of healthy foods, fruits, and vegetable consumption decreases, as does the ability among low-income

families to make healthy food choices. A study done among first-generation low-income Latino mothers living in rural Iowa found that barriers to healthy eating among Hispanic families were not having access to fresh food in their community; fresh food was more expensive; food was old and did not taste the same as it did in Mexico. In addition, limited access to all-year-round fresh fruit resulted in eating more frozen or pre-cooked food (Greder, Romero-de Slowing, and Doudna, 2012).

Access to physical activity resources is also essential in maintaining a fit, healthy body. Hispanic/Latino children in rural areas have less access to recreational facilities for physical activity than non-White adolescents. (Rodriguez, Weffer, Romo, Aleman, & Ortiz 2011). In general, Hispanic/Latinos live in neighborhoods where the availability of parks, green spaces, and recreational facilities are limited, making it very difficult to lead an active lifestyle. Eighty percent of Hispanic/Latino neighborhoods lack a recreational facility, compared to 38% of White neighborhoods (*The State of Obesity*, 2014). Rodriguez et al. (2011), also concluded that rural community' low levels of physical activity and sedentary behaviors are directly related to the limited access to recreational facilities. Additionally, Hispanic/Latino children are less likely to participate in after-school activities, and organized sports; this is due to lack of transportation, the cost of participation, and parental language barriers (*The State of Obesity,* 2014; Ramirez et al., 2013). Twenty-five percent of Hispanic/Latino children aged 9-13 years are involved in organized physical activities in comparison to 46.6% of Whites (National Collaborative on Childhood Obesity Research, n.d.).

Another reason for low participation in physical activity is that Hispanics/Latinos are more likely to live in an unsafe neighborhood in comparison to White children and have less access to safe places where they can lead a healthy lifestyle (*The State of Obesity,* 2014). In Nebraska, 96% of White children reported living in safe neighborhoods, in comparison to 70.1% African American and 75.7% of Hispanic children (NDHHS, 2015). Children in unsafe neighborhoods are less likely to go outside to play and are more likely to spend most of their time indoors engaging in sedentary activities, such as watching television and playing video games. In addition,

poor access to physical activity programs, as well as the stress associated with racism and poverty may increase social isolation reducing physical activity (Kristen, 2006).

Cultural Differences and Beliefs

Culture and beliefs can also affect the perception of risks associated with obesity in Hispanic/Latino families. Parents' lifestyle and beliefs influence obesity among Hispanic/Latino youth, and it can significantly influence children's health behavior, nutrition knowledge, and participation in physical activity. (Ramirez et al., 2013). For example, an overweight body is a sign of wealth or good health in the Latino culture (Kristen, 2006). Also, Latino mothers define obesity according to its limitations on physical activity, not by weight. For example, an overweight child who can run and play is considered by his/her mother as having a healthy weight, but a child who is having difficulty running and keeping up with his peers would be considered overweight (Gonzalez, 2016). Elders' beliefs can also be a barrier to a child's weight loss. Many times, mothers are less likely to follow doctors' recommendations if they contradict their grandparents' beliefs (Gonzalez, 2016; Zoorob et al., 2013). Additionally, Kristen (2006) suggests that Latino mothers believe that the more robust their kids are, the healthier they are. This is supported by a study done by Caprio et al. (2008) that concluded that many Latino mothers of obese children are not concerned about their children's weight and perceive their children as being healthy; therefore, they do not feel the need to seek help from nutritionists or physicians.

Language Barrier and Access to Culturally and Linguistically Appropriate Services

Parental language barriers significantly affect the health of Latino children, including access to health care services, health education, and use of services. When providers and patients do not speak the same language, this is the first barrier medical providers' encounter in addressing obesity in Hispanic children (Gonzalez, 2016). Also, many programs and necessary health information that provides healthy childhood nutrition and physical activities are not in Spanish and is not sensitive to cultural differences. This reduces the chances for Latino parents to consume this information. In addition, the lack of bilingual health care professionals trained to work with Latinos in many prevention programs affects parents' understanding and

participation. According to Flores et al. (2002), cultural competency training is still not an integral part of the training for pediatricians, family physicians, pediatric dentists, or nurses in the U.S.; and only 26% of medical schools teach Latino cultural issues. Latino health care professionals are also underrepresented. Latinos comprised only 6.3% of physicians, 6.1 % of dentists, and 5.7% of registered nurses (U.S Department of Health, 2017). Additionally, only 12 U.S. states and the District of Columbia provide Medicaid and SCHIP reimbursement for medical interpreters (Youldelma, 2007), and less than one-quarter of all U.S. hospitals provide any training for medical interpreters (Flores et al., 2002).

Language barriers significantly impact communication with the health provider, leading providers to not informing parents that their child is overweight. One in five Latino parents are told directly by their pediatricians that their child is obese (Gonzalez, 2016). Many times, doctors do not talk about the topic of weight, especially obesity. Additionally, Hispanic/Latino parents are less likely to receive weight management information, healthy choice resources, culturally relevant dietary advice, or follow up visits to address the issue (Turer et al., 2014). When bilingual providers are not available, well-trained medical interpreters are essential.

Education and Low Literacy Skills

Studies have shown that parental education is directly associated with the prevention of childhood obesity in Hispanic/Latino families (Perkins, 2013; Health Literacy, 2015). Parents, many times, do not understand how many calories their kids are putting into their bodies. For example, they have difficulty understanding food labels, portion sizes, and body mass index (BMI) (Huizinga et al., 2008). Sanders, Shaw, Guez, Baur, Rudd, (2009), suggest that low education is directly linked to low literacy skills, which is the capacity to understand, access, and use health information to make a healthy decision. Low literacy skills can directly affect the parents' ability to understand health information and use health services for their children; this is because low literacy skills can affect caregivers' perceptions of obesity and health-related behaviors. Parents with low literacy skills have poor access to preventative information and care for their children, in comparison to parents who have high literacy skills (Sanders et al., 2009). A study concluded that Hispanics

have lower literacy skills in comparison to any other racial/ethnic group (Zoorob et al., 2013; Health Literacy, 2015). Additionally, the health information provided is not culturally relevant for Latino parents. For example, healthy food choices that are not commonly consumed in the Latino community (Huizinga et al., 2008). Understanding all these unique factors is essential in implementing evidence-based programs that have taken all these factors into account to target childhood obesity in the Hispanic/Latino community.

During an exploration of the literature, a few evidence-based programs were discovered, that successfully targeted childhood obesity in rural Latino populations across the U.S (Araiza et al., 2012; De la Torre et al., 2013; Schmid, Parada, Horton, Ibarra, Guadalupe, 2015). These interventions were: *Salud con Sabor Latino, Niños Sanos, Familia Sana; Entre familia: reflejos de salud*. All three interventions targeted rural low-income, first-generation Hispanic/Latino immigrants in the U.S. These communities were characterized by having high poverty and obesity rates. Some of these communities had no access to health education, recreational resources, or transportation. The components of these rural interventions vary from cooking classes, nutrition education classes, and physical activity. Interventions focused on portion sizes, reading labels, taking small steps to change, eating traditional healthy foods, and the importance of physical activity. All of these programs had *promotoras (*community health workers) that conducted family-based interventions using culturally sensitive educational materials. These interventions lasted from four weeks to three years. These interventions were proven to be successful in increasing knowledge and making positive behavioral changes in nutrition and physical activity. Also, they were shown to incorporate strategies to recruit and retain hard to reach populations. Additionally, they reduced the consumption of fast food and increased consumption of vegetables in families (Araiza et al., 2012; De la Torre et al., 2013; Schmid et al., 2015).

Description of Evidence-based Programs

Salud con Sabor Latino, is an intervention program that was implemented in West-Central Phoenix. The target population was primarily low-income first-generation Hispanic/Latino immigrants. Obesity and diabetes prevalence is high in this community, and it has limited or no access to health resources. The community is a

federally designated underserved area and stated designated Health Professional Shortage Area. (Araiza et al., 2012). Furthermore, this community has no access to recreational resources and health education (Araiza et al., 2012). *Salud con Sabor Latino* was proven effective in increasing healthy behaviors, knowledge, and physical activity among participants. Physical activity and vegetable consumption were increased post-intervention. This program was successful in targeting the underserved rural Hispanic/Latino community due to some key elements (Araiza et al., 2012).

Key elements for the success of the program:

- They used *promotoras* to teach the classes or used previous graduates of the course.
- Curriculum was taught in a small group, which created a trust, networking, and social support among participants.
- Education materials were culturally appropriate.
- Incentives were provided to promote continued attendance and participation.

Niños Sanos Sanos, Familia Sana, this program was implemented in two rural communities in California's Central Valley. The community's population were of Mexican descent and farmworkers. These neighborhoods are located within one of the poorest Congressional districts in the country. This is a community-based intervention that is delivered through the school system. There are four main components to the intervention, namely nutrition, physical activity, economics, and art-community engagement (De la Torre et al., 2013).

The nutrition intervention has two components: (A) Family nights and (B) A school-based curriculum for nutrition prevention. Local health educators/*promotoras* perform the family night portion where a focus group meets to understand the understanding the issues of childhood obesity in the city, as well as promote the recruitment of hard to reach families. The school-based portion is administered in the classroom to children and taught by school teachers. Children receive nutrition education that is suitable for their age and other events related to food tasting. Because of certain key elements, this intervention was successful in reaching the underserved rural Hispanic / Latino community (De la Torre et al., 2013).

Key elements for the success of the program:

- The program provided a $25 monthly product voucher
- A community-based intervention program involving school and family alike
- Strict adherence to the use of *promotoras*
- Spanish-speaking workers
- Culturally oriented family-centered education
- Free childcare was offered
- Demonstration of healthy food recipes

Lastly, *Entre familia: reflejos de salud* is a family-center that successfully addressed the dietary habits of Hispanic / Latino children. This family activity was carried out together with the U.S.-Mexico border, in a small and agricultural town in Imperial County, CA. The participants were primarily of Mexican descent. Imperial County has one of the highest levels of poverty and has one of California's highest rates of childhood obesity (Horton et al., 2013).

This was a home-based intervention design that was provided by *promotoras*. These were members of the same community who understand the obstacles to healthy eating within the culture. The intervention entailed 11 home visits with a *promotora* as well as three follow up phone calls. Focus groups were performed in the community that contributed to the creation of a culturally sensitive educational material in the form of DVD television series, similar to a telenovela (soap opera). The DVD series had nine episodes containing goal setting, skill-building activities, and parent child-focused activities (Horton et al., 2013).

The intervention decreased weekly fast food intake and increased the variety of vegetables they consumed monthly, which resulted from the interaction between the *promotora*s and the children (Schmid et al., 2015).

Key elements for the success of the program:

- Cultural and linguistically focused instructional resources *promotoras-based* intervention as a key to the success of the program.

- Home-based family intervention design allows as many family members as possible to encourage family support for healthy eating and optimize family behavior changes.
- No need for transportation or childcare since the intervention was carried out at home.

Each of these programs has key elements that have made them successful in targeting childhood obesity among the Hispanic/Latino population, key elements include a family-center approach, providing culturally sensitive and linguistically tailored programs, as well as addressing social environmental factors of the community.

Most of the interventions have a family-centered approach. "This is particularly important in the Hispanic/Latino communities, given the sense of *familismo*, which is valuing the family as the center to behaviors and decision making" (Boudreau, Kurowski, Gonzalez, Dimond, Oreskovic, 2013; p. S248). Culturally competent intervention must always include the importance of family as the unit of change within Latino populations. Parents especially have a large influence on the children's health behaviors (Boudreau et al., 2013).

Another key element in obesity intervention programs is providing culturally sensitive and linguistically tailored programs (Falbe, Cadiz, Tantoco, Thompson, Madsen, 2015; Dinkel et al., 2017; Gonzalez; Taverno Ross, 2018). What this means is that interventions must be provided in Spanish, or through bilingual providers. If bilingual providers are not available, the use of well-trained, competent interpreters or *promotora*s/community health workers are essential. Araiza et al. (2012), concluded that "culturally tailored outreach and education programs, delivered by trained community health workers (CHWs), can significantly improve self-care behaviors and decrease body mass index (BMI), when compared with the care that case managers or standard providers offer" (Araiza et al., 2012, P. 53S). *Promotora*s are proven to be successful in family and community interventions because they can help teach culturally appropriate educational material among Hispanic/Latino families and build trust (Zoorob et al., 2014; Crespo et al. 2012; De la torre et al., 2013; Schmied et al., 2015; Horton et al., 2013; Araiza et al., 2012; Taverno Ross, 2018). Additionally, a study done by De la Torre et al., 2013) concluded that *promotoras* could become an effective recruitment strategy to

promote participants' participation in unique environmental conditions such as rural and isolated locations. A study by Falbe et al. (2015) also included *promotoras* into their intervention that was delivered through a group of medical appointments to improve BMI.

Linguistically-appropriate programs include but are not limited to providing all materials in Spanish that is written at a level of education that will be appropriate for the community needs. In addition, Latinos prefer health communication that is culturally relevant and visually interesting (Baquero et al., 2009; Araiza et al., 2012). Finally, and most importantly, culturally competent interventions must take into consideration the cultural beliefs, barriers, attitudes, and practices of the target population in their design (Gonzalez, 2016; Zoorob et al., 2014, Horton et al., 2013).

Addressing social environment factors of the community is also a key element in the success of a program. For example, intervention programs in rural areas should consider the need for transportation and childcare services. Many studies have shown that transportation and childcare are factors among Hispanic/Latino rural participants in missing intervention sessions or dropping out of programs. (Dinkel et al., 2017; Boudreau et al., 2013). Also, adding incentives such as providing participants with food vouchers or other monetary incentives for a family to buy fresh fruit and vegetables can maintain the participation of participants in a program (De la Torre et al., 2013).

Chapter 3 – Methods

Needs Assessment

Because each community is unique, the Colfax County Family Health and Wellness coalition conducted focus groups among the Colfax county community. In 2017, ECDH conducted a community health needs assessment, and obesity was the second top-perceived concern in Colfax County (ECDHD CHNA, 2017). The Colfax County Wellness Coalition had created programs to try to reduce obesity, such as Water Aerobics Night, Color Run, Farmer's Market, 54321 Go Update, and Healthy Families Intervention. Some of those programs were offered only during different seasons and during special occasions, such as the County Fair. One

significant issue with these programs was that they were not in Spanish and not appealing to the Hispanic/Latino community. During my APEx Learning activity, I was assigned to conduct a research study and find evidence-based obesity programs that have successfully worked in rural Hispanic/Latino communities. A successful program is one that will be appealing to the Hispanic/Latino community, and that was successful in improving the community's nutritional habits and increased physical activity. Additionally, a focus group activity was completed to understand the Colfax county community's perception of obesity, the barriers to healthy eating, and physical activity. The results of the focus groups assisted in the planning and development of the intervention program.

Focus groups Design and Data Gathering

The focus group was conducted modeling a focus group study done among adults and adolescents immigrants and refugees in Rochester, Minnesota (Tiedje et al., 2014). The research questions were taken from this study and formatted to our focus group. The three research questions were 1) How do immigrant adults and adolescents conceptualize healthy eating? 2) What are the primary barriers to a healthy diet and physical activity identified by adults and adolescents among the immigrant population? 3) What are the immigrants' recommendations for the development of an intervention program for healthy eating and wellbeing to overcome existing barriers? (Tiedje et al., 2014).

Participants:

Participants were recruited at three different masses over one weekend at the Schuyler Catholic Church, and participants were limited to members of the Catholic church. Moreover, the goals of the focus group were presented through a small presentation during church announcements. Sixty-five adult church members signed up for the focus group. Two focus groups were conducted. One week before the focus group was conducted, 14 adult participants were contacted and confirmed, and a total of nine completed the session (age range 37-66). Adolescent recruitment was done through a high school teacher. Most of the participants were part of a community service student club composed of mostly Latino students. During our adolescent focus group, we

had seven participants (age range 14-17). A $25-dollar incentive was given to adults and adolescents for their participation (see table 1. for participants' demographic information).

Procedure and Qualitative Data Analysis

The focus groups were conducted with the assistance of the ECDHD Minority Health Coordinator and helped in coordinating, planning, and approving focus groups among adolescents and adults in Colfax County. Focus groups were conducted at the East Central District Satellite office in Schuyler, Nebraska. Focus group questions were drafted modeling the study done in Minnesota, and the ECDHD revised and approved the final questions. Six questions were approved by the Colfax County Wellness coalition and were assigned to different themes (See tables 2-5). Focus groups sessions lasted one hour and were tape recorded. I acted as the moderator, and Minority Lead Coordinator from ECDHD acted as the note taker. The focus group sessions were translated into Spanish as necessary. Parents and legal guardians signed informed consents provided in their preferred language (Spanish or English). The total number of participants were (n=18), which consisted of 53 % women and 47% men. Participants were 100% Hispanics/Latinos.

Focus group questions were drafted, modeling the study done in Minnesota, and the ECDHD revised and approved the final questions. Six questions were approved by the Colfax County Wellness coalition and were assigned to different themes (See table 2-4). Themes were derived from research questions, focus group questions, Minnesota study, and data itself. I analyzed transcripts using qualitative content analysis by the systematic process of coding. Keywords and codes were defined before (derived from research questions/focus group questions) and from a thorough reading of all transcripts. Once entire transcripts were coded (transcript from adults and youths), data were categorized into four different themes: knowledge about healthy eating; knowledge about physical activity; eating practices and recommendations; and barriers to healthy eating and physical activity. Themes and questions were organized into tables. Questions 7-8 resulted from data analysis (See table 5).

Focus Group Results:

Table 1: Demographics of focus group participants

Focus Group	N	Gender (% Female)	Gender (% Male)	Age (Mean)	Education (% high school equivalent or higher)	Children in Household (% more than one child)
Adult	*10*	*70%*	*30%*	*49*	*50%*	*60%*
Adolescent	*8*	*20%*	*60%*	*15*	*100%*	*90%*

Note: One adult participant did not provide age

Theme 1. Knowledge about Healthy Eating.

Q.1 What does "healthy eating" mean to you?

Healthy eating meaning: Adult and adolescent participants agreed that healthy eating meant eating a balanced meal. There was a consensus that eating fruit, vegetables, and fish were important parts of a healthy diet. Also, small portion size was important. Example responses were "Small portions to lower my cholesterol," "It is when there are some portions that you take from different varieties of foods that you eat." Participants also agreed that fast food, red meat, sodas, and salt, were not part of a healthy diet.

Q.2 What motivates you to eat healthy?

Motivation: Adults and adolescents agreed that losing weight and being in good shape was a reason for eating healthy. Adults consistently mentioned that it was "better for your health" and they eat healthy to "reduce illnesses." Adults mentioned that they wanted to be healthier "for their children "so that I can take care of them longer."

Table 2

Theme: Healthy Eating Knowledge	Adults	Adolescents
What does "healthy eating" mean to you?	Not eating a lot of red meat, less fat, more fruits and vegetables" "Drinking more water" "Eating more fish" "Eating less salt" "Small portions to lower my cholesterol" "Not buying sodas"	"Eating three meals a day, and a few snacks in there" "Is when there are some portions that you take from different varieties of foods that you eat" "Eating naturals sugars" "it does not matter what kind of food you eat, junk food, you just have to have limits"

What motivates you to eat healthy?	"To reduce illnesses" "To be in good shape" "I gained weight and noticed it when I will go up the stairs and I will get short of breath and felt floated all the time" "For my children, so that I can take of them longer" "To lose weight"	"Weight lost" "Better your health" "Having energy" "Being in a good shape" "I do eat unhealthy most of the time, actually all the time and I don't know how to do that"

Theme 2. Knowledge about Physical Activity

Q.3 What type of activities do you perform and where?

Knowledge about physical activity: Across age groups, participants expressed knowledge of physical activity associated with walking. Walking was mentioned consistently among adults and adolescents. Adolescents expressed knowledge about physical activity related to sports, doing physical activity at schools, and helping parents at home. Adult women associated exercise with doing physical work at work and adult males associated with physical activity with organized sports, such as soccer.

Q. 4 What kind of programs would you like to see in the community that would encourage you to exercise?

Recommendations: Participants expressed that the community needs programs that would be culturally-oriented to the community. For example, both adults and adolescents mentioned "Zumba or dance classes" and traditional "folklore dances," Adolescents and adult males, mentioned more organized sports such as soccer tournaments. Adults also mentioned that programs needed to have childcare included or programs that could include their children. Participants also wanted to see more parks and low cost or free programs. Adolescents constantly expressed their interest in competitive sports or marathons, a program that would give participants incentives where they can work towards an award, or certificate of any price. Adolescents mentioned that schools should have every now and then non-frozen, processed food for lunch, but fresh warm food and non-canned fruit during lunch, "At the middle school a chef did come, and they had special lunches, fresh cut-up vegetables and fresh fruit salads, cantaloupe, and non-canned fruits."

Table 3

Theme: Physical Activity Knowledge	**Adults**	**Adolescents**

For those that do exercise: What type of activities do you perform and where?	"During the summer I play football" "I go for a run instead going to my house to rest" "I walk 1 hour or more" "I walk with my children"	"PE class, basketball in school" "Sport, soccer and basketball" Walking" "I kind of help my dad" "Usually when I am walking, working and I am always moving around, I help my dad, Soccer, weightlifting at work and gym"
What kind of programs would you like to see in the community that would encourage you to exercise?	"In California there were exercise machines at the park" "Zumba classes or dance classes" "Maybe a playground in downtown" "A program that would have childcare" "Programs for seniors" "A program that will incorporate your child"	"Free food" "community marathons" "We had the Labor Day run, is around the park like five times, like 23 people showed up" "Soccer tournaments" "We have soccer tournaments, but not a lot people go because they don't want to pay for it" "At the middle school a chef did come, and they had special lunches, fresh cut up vegetables and fresh fruit salads, cantaloupe and non-canned fruits"

Theme 3. Eating Practices and Recommendations

Q. 5 Can you think of some things that your family could do to improve eating habits?

Adults expressed that they could eat all together at the dinner table. Adults and adolescents agreed that they had to drink more water and less sugary drinks. Adults stated that they could have healthy options for kids ready when they come home from school. They also agreed on eating more organic food or vegan snacks. Adults identified that they have to start leading by example and learn how to eat healthy. Adolescents identified that Hispanic/Latino families cook a lot of food, portions are big, and they eat for three people.

Q. 6 What would you like to see the community do or provide that would lead you and your family to have better-eating habits?

Adults and adolescents expressed that programs need to demonstrate what to do. For example, they both agreed on cooking workshops, a hands-on activity. Adults mentioned that cooking programs should incorporate their children too, as well as providing childcare. Adolescents said that information about healthy eating could be handed out at work (Cargill) or church, posted Facebook, or using banners. Adolescents also mentioned that the information should be brief, attractive, and in Spanish for their parents. Like a pamphlet, "not like a bible."

Table 4

Theme: Eating Practices and Recommendations	**Adults**	**Adolescents**
Can you think of some things that your family could do to improve eating habits?	"Eat all together at the table all the same food" "At dinner water first then pop" "Eating more organic food" "Learning how to eat healthy" "Have fruits ready for kids when they get home"	"Eating less tortillas, less oils, less sodium, small portions. In our Hispanic families we make a lot of food, portion wise we eat a lot, for three people" "less snacks, vegan options" "Less fat, more water, less juice" "We eat out a lot because my mom works"
What would you like to see the community do or provide that would lead you and your family to have better eating habits?	"Workshops that will teach you how to cook and will include your children" "Programs that will include kids, we adult kind of know, but the kids need to be taught" "Cooking programs that will tell us what to bring and we bring it and then take it home, so we can have it for dinner"	"People likes competitive program, I am going to win and get first place in it, I am going to show that I am the best at it" "Have a class, handing out food, healthier restaurants, food choices at restaurant" "Health information can be handed out at Cargill, Facebook, church, advertisement on the bulletin, and banners will work too. "Information should not be like a bible, just basic information" "Basic and brief like a pamphlet. Doing and hands-on activity, demonstration, it does help a lot, especially, I am a visual learner"

Theme 4. Barriers to Eating Healthy and Physical activity

Q.7 Barriers to Physical Activity:

Adult participants described fatigue from heavy jobs as a barrier to exercise, "I do not exercise because my job is very heavy, I walk all day going up the stairs, and I lift boxes that weight 25 pounds" Adults and adolescents also described that cost of access to facilities a limiting factor to physical activity. For example, one participant said, "It is expensive you have to choose between paying your bills or going to the gym." Not having time and willpower were also mentioned as a barrier to physical activity. Additionally, adults and adolescents mentioned that the community lacks a low-cost place to gather and exercise. They mentioned that

they have the school fieldhouse, but most of the time it is full. "The Fieldhouse gets very crowded in the afternoons, and there's only soccer and basketball, and big kids hurt the little ones." Adolescents also mentioned that the community lacks good parks, “the Park is not attractive, some things are old and rusty, and it needs a new paint job... “The Fieldhouse was built for the community, but you have to pay 5 dollars”. Adults mentioned that the few exercise classes that exist are not taught in Spanish. “There are yoga classes at the hospital, but I do not go because I do not speak English.” Likewise, another problem is that programs are not effectively advertised among the Hispanic community. Adolescents mentioned that not a lot of people show up for the marathon activity because they do not know about it.

Q. 8 Barriers to Eating Healthy:

Adults and adolescent participants described that barriers to healthy eating were associated with not having money to afford healthy food. For example, one participant stated, “Poor families buy bad food so that they can fill up since they have so many mouths to cover.” Adults constantly mentioned lack of time due to work as a barrier to healthy eating, and it was their fault that their kids have bad eating habits. Parents also mentioned that their children want to eat American food, pizza, and hamburgers. Adults recognized that it was their fault for giving their children something quick and not healthy. Families are having a hard time getting their kids to eat all the same food at the table. Adolescents identified that Hispanic families eat a lot. Hispanic families cook a lot of food, portions are big, and they eat for three people. Another barrier to healthy eating mentioned by adults was school lunches. For example, they stated, “School has gotten the kids into eating unhealthy food” “The school is partly to blame because it does not teach them how to eat healthy.” Parents mentioned that the kids have access to the vending machine where they buy unhealthy snacks, and the school lunch is all frozen and unhealthy. Adolescents also described that the food served at school is all frozen, pre-cooked, and processed.

Table 5

Theme: Barriers to healthy eating and physical activity	**Adults**	**Adolescents**
Barriers to Healthy Eating	“Eating healthy is expensive” “Poor families buy bad food so that they can fill up since they have so many mouths to cover” “Food banks they are bias in the area all canned and expired foods so not the best either way” “It is hard due to work”	“Hispanic families cook a lot of food, portions are big, they eat for three people” “The food they serve at school not healthy and disgusting and bad, in the fridge not a lot people grab it, people want to eat warm food, chicken salads, processed food, not healthy” They have frozen all pretty much frozen and pre-cooked”

Barriers to Physical Activity	"I don't exercise because my job is very heavy, I walk all day going up the stairs and I lift boxes that weight 25 pounds" "I don't have time to walk" "I lack willpower" "It is expensive you have to choose between paying your bills or going to the gym" "There are yoga classes at the hospital, but I don't go because I don't speak English"	"The Park is not attractive, and somethings are old and rusty, and it needs a new paint job" "Fieldhouse is that is only for people at school who has a lunch card and you have to pay 5 dollars, it was made for the community, but you have to pay 5 dollars" "We had the Labor Day run, is around the park like five times, like 23 people showed up, not a lot of people know about it" "We have soccer tournaments, but not a lot people go because they don't want to pay for it" "I lack motivation"

Program Description, Logic Model

The intervention I have designed is a combination of all three evidence-based intervention programs: *Salud con Sabor Latino*, *Niños Sanos*, *Familia Sana; Entre familia: reflejos de salud*, as well as key results from focus groups. The focus groups provided me with very insightful information that helped me guide the development of this intervention. For example, adult participants expressed that they needed to start eating healthier foods like, fruits and vegetables, and drinking more water instead of sugary drinks. Also, adults expressed that they need to start leading by example and would like to learn to have healthier options for kids when they get home from school. They also noted that healthy eating is very expensive and that low-income families buy bad food so they can fill out. Furthermore, adolescents mentioned that Hispanic/Latino parents cook a lot of food and that one portion size is for three people. Participants articulated that they do not exercise because their jobs are very heavy, and they lack willpower. Adults and adolescents also mentioned that the cost of access to facilities is a limiting factor to physical activity. Additionally, the community lacks a low-cost place to gather and exercise. Also, the existing exercise group classes in the community are not taught in Spanish. Some community's

suggestion from adults and adolescents on possible programs that could motivate them to engage in physical activity and healthy eating were programs that will teach them to eat healthy and teach them to eat as a family. Also, Zumba classes, cooking workshops that will teach them how to cook, and exercise and cooking programs that will include their children or offer childcare. Finally, adolescents expressed that health information should be brief, appealing, and visually attractive. Using these key findings, I have tried to design a plan that would match the local needs and capabilities of this unique community. Also, I have adapted a few core elements to this intervention. For example, this intervention has a family-centered approach since families are at the center of behavioral changes and decision-making. Second, the program has a completed, culturally and linguistically appropriate curriculum, which will address the participants' level of education, beliefs, barriers, and practices, and will be culturally relevant. Third, personnel guiding the intervention will be fully bilingual. Finally, and most importantly, this program would have an at home and *promotora*-based approach. These *promotoras* would be paid or non-paid graduates that would have completed the intervention program. This is very important because one objective of this intervention is to train individuals who are part of the community to become future *promotras;* consequently, *promotoras* can create trust among community members. Most importantly, having community members as *promotoras* can become an asset to the sustainability of this intervention.

Key elements of this intervention

- Cultural and linguistically focused instructional resources and *promotoras*-based intervention as a key to the success of the program.
- Home-based family intervention will allow as many family members to participate and encourage healthy eating and behavior changes.
- Strict adherence to the use of *promotoras*.
- Spanish-speaking workers.
- Culturally-oriented, family-centered education.

- Free childcare will be offered during the first part of the intervention.
- Demonstration of healthy food recipes.
- Intervention must always include family members.
- The program will provide a $25 monthly product voucher per family.

Program Goal:

Reduce childhood obesity by 5-10% among Hispanic/Latino families in Colfax County by 2025.

Objectives:

- Educate Hispanic/Latino families on eating healthy and increasing physical activity
- Increase family skills and confidence preparing healthy meals and participating in physical activity at home
- Recruit program graduates to become community health workers p*romotoras*

Logic Model

Inputs	Activities	Outputs	Outcome Impact		
			Short-term	Intermediate	Long-term
Medical Providers (staff) CHI Clinic Good Neighbor Clinic *Promotoras* East Central District Health Department Stakeholders Sponsors Community Groups Fitness Facility Venue Supplies Equipment Funding	Provide nutritional, physical, and cooking workshop for parents and children at center Provide a family-based approach intervention Provide Nutritional and physical education classes in Spanish by professional bilingual educators Provide at-home and family-based intervention by *Promotora*	Nutrional and physical education for whole family for both parents and Children at center and at home Provide training to community graduates to become community health worker Provide transportation and childcare services to participants	Increase awareness, about healthy eating, eating fruits and vegetables, making traditional meals healthy, decreasing fats. Learn to cook healthy traditional recipes at home Gain awareness, knowledge and skills related to health benefits of increased physical activity Recruit program graduates to become community health workers/ *promotoras*	Families increased consumption of healthy food: ▪ Increased fruit and vegetables ▪ Decreased fat ▪ Healthier beverages ▪ Appropriate portion size Increase skills and confidence preparing healthy meals at home Increase physical activity among family members Increase the number of community members/ *promotoras*	Reduce the percentage of children who are obese

Chapter 4 – Results

Implementation Plan

The program will last 16 weeks and is divided into three parts (see table. 6). Part one of the program will include eight weeks of in-person group family meetings. Families will meet two times a week (days and time chosen by the families) at a community center that is convenient for families, for a total of 1 hour 10 minutes each session. Part one is divided into two components: education on healthy eating and physical activity (see program curriculum table. 7). The education on healthy eating includes a cooking workshop, where this educational component will put into practice what they have learned. Group family meetings will focus on increasing awareness of nutrition and fitness issues, increasing levels of physical activity, and improving habits leading to a healthy diet. Ideally, there will be at least 12 families maximum for each session.

Part two of the program includes four weeks of home-based intervention provided by the *promotoras*/community health workers to families that that completed the first eight weeks. The *promotoras* will provide 1-hour, at-home visitations every week. The *promotora* in-home intervention focus is to demonstrate traditional healthy recipes and continue encouraging physical activities at home, to increase skills and confidence in making healthy behavioral choices among families.

Part 3 of the program will be one phone call the second week of the month and one final home visit (1 hour) on the fourth week of the month to review what families have learned, answer any questions, provide resources, and complete a post-assessment. Ideally, the intervention will be funded for five years.

Table 6: One Year Intervention Plan

1 YEAR INTERVENTION	Part 1	Part 2	Part 3
	Family Group Meetings	***Promotora* Home Visits**	***Promotora* Follow-up and Home Visits**
Cohort 1: JANUARY-APRIL Cohort 2: APRIL-JULY	Duration: 8 Weeks Mode: In-person Group Session at center Intensity: 2x a Week for 1 hour 10 minutes each time	Duration: 4 Weeks Mode: In-home Intensity: 1x a week for 1 hour each time	Duration: 4 Weeks Mode: Phone call and In-home

Cohort 3: JULY-OCTOBER Cohort 4: OCTOBER-JANUARY Maximum of 12 families	Location: Continent community centers When: Day and time convenient for the most # of families	Location: Participants' home When: Day and time convenient with families' schedule	Intensity: Phone call the third week of the month and home visit the fourth week of the months. Location: Phone call and Participants' home When: Day and time convenient with families' schedule

- Participants will meet two times a week for 1:10 hours each session.
- Participants will meet at Saint Agustin Church Hall Center or Head Start.
- Daycare and transportation will be provided if needed.

Table 7: Program Curriculum

Program Curriculum Program Intervention: 16 weeks Total Program Duration: 5 Years			
Curriculum: Part 1	**Time frame**	**Location**	**Educator**
Educational Component: • Importance of eating healthy • Importance of physical activity • Portion size • Reading food labels • Use My Plate to plan family meals • Reduce the consumption of sugary beverages • Making traditional food healthy • Provide resources on exercising from home • Offer healthy snacks *The educational curriculum has been taken from *Niños Sanos Sanos, Familia Sana* program intervention. **Physical Activity Component:** • Fun physical activity exercise with and without kids • Kids-Zumba or Yoga	Eight Weeks	St. Mary Church Hall Center/Head Start	Minority Health Coordinator Health Promotion Coordinator WIC Nutritionist Bilingual Dance Instructor

*Zumba, Yoga, or Aerobic Classes would be provided during weekly meetings. Additionally, participants would also be able to participate in regular Yoga and Aerobic classes provided by CHI at no cost.			
Curriculum: Part 2	**Time Frame**	**Location**	**Educator**
AT HOME INTERVENTION: <u>Educational Component:</u> • Focus on family meals ❖ Teach healthy recipes • Eat more fruits and vegetables • Shop with a list • Read the labels • Enjoy family meals at home • Serve kid-sized portions • Continue encouraging physical activity at home and provide resources *The educational curriculum has been taken from *Niños Sanos, Familia* Sana program intervention.	4 Weeks	Home	*Promotoras*/Community Health Workers.
Curriculum: Part 3	**Time Frame**	**Location**	**Educator**
Home visit: Provide resources, touch-based on what families were taught, and final post-assessment.	4 Weeks Home/Telephone	Home	*Promotora*

Citation: *University of California Cooperative Extension, Niños Sanos, Familia Sana: Family Nutrition Education.* *https://ucanr.edu/sites/NSFSNutEduc/Educators/Curriculum/*

Table 8: Example Class Schedule

Content	Timing	Logistic
Nutritional and Physical Education Class	10-11:10am	St. Mary's Center Hall
a. Importance of Healthy Eating	10:00-10:15am	15 Minutes
b. Zumba Class	10:15-10:45	30 Minutes
c. Cooking Workshop	10:45-25:00	25 Minutes

Table. 9 First week: content and schedule for nutritional education, dance class, cooking workshop

	Time	**Activity**	**To Do**
TUESDAY	**10:00-10:45**	Introduction, individual goals, administrative pretest	Bring pens, consents forms, pretests, scale
	10:00-11:10	Importance of healthy eating	Power-point
THURSDAY	**10:00-10:15**	Importance of physical activity	Power-point
	10:15-10:45	Dance, Zumba	Stereo, appropriate CD, Water
	10:45-11:10	Cooking workshop	Semi-prepare food Kitchen, utensils, plates

1. ***Logistic:*** Education will be provided by ECDH Hispanic/Latino bilingual staff,

   Possible Educators.

   a. Minority Health Educator

   b. Health Promotion Educator

   c. WIC Bilingual Educator/Nutritionist

   d. Bilingual Yoga and Zumba Instructor (will hire)

   e. Bilingual Community Health Worker *(Promotora)*

      - Paid or non-paid (Volunteers, graduates of the program).

2. ***Staff training:***

Training will be provided to all staff members, but most importantly to community workers/*promotoras.* The goal is to hire at least two *promotoras,* and after the first class has graduated, we can recruit a graduate to become a *promotora*.

3. ***Recruitment plan:***

Participants will be recruited through referrals from medical providers, CHI, Good Neighbor Clinic, private pediatric clinics, and self-referrals. Other eligibility criteria are families who self-identifies as Hispanic/Latino, speak Spanish, and have a least one child that is under 18 years old.

4. ***Important points about logistics and other considerations***

Educational and physical activity classes can be given at St. Mary Church Center Hall. Location is important because it needs to have a large area with access to a kitchen and an adequate area for daycare.

The program will provide $25 every month to each family during workshop sessions.

Promotoras will provide healthy groceries during in-home visitation to prepare healthy meals.

Daycare services will be provided during sessions outside the house and transportation services will be provided if needed.

5. ***Pilot Study:*** A pilot study will be conducted with our first 40 families from the Colfax County community. This will be conducted from January to July.

6. ***Data management plan***

ECDHD/*Promotoras* will collect data, ECDH, and health promotion coordinator will conduct data analysis and write a report. The instrument used during this data collection will be questionnaires. To assess families' nutritional status, we will use a questionnaire that was developed for *Niños Sanos, Familia Sana* intervention. Having a previously used instrument is important because it was developed for the Hispanic/Latino community. The intervention questionnaire was focused on children, but we will modify it to

focus on the whole family. We will contact *Niños Sanos, Familia Sanas,* to obtain permission and use their questionnaire since it is very easy to read and has helpful visual aids. This questionnaire can be accessed from https://ucanr.edu/sites/NSFSNutEduc/files/263016.pdf. To assess families' physical activity, we will use a modified Global Physical Activity Questionnaire that can be accessed from www.who.int/chp/steps/GPAQ/en. This questionnaire can be accessed in all different types of languages. This survey provides information on self-reported physical activity in a typical week in different activity domains: work, transport, and leisure.

Final details: Consent forms will be developed both in both English and Spanish.

Evaluation Plan

The main outcomes for evaluating this program will be families' status on healthy eating and physical activity behaviors, and children's weight. This will be measured before and after the program, a pre-test and post-test evaluation. An impact evaluation will be conducted every year, and outcome evaluation will be done every two years. Participants will be randomly selected from intervention graduates. An impact evaluation will examine whether the short term or intermediate objectives from the logic model were achieved.

Additionally, the impact evaluation would provide ECDH information to modify the program if objectives were not being met. The impact evaluation can be done after the first year of the intervention. The instrument evaluation used will be questionnaires used during *Ninos Sanos, Familia Sanos* intervention; this will help us determine if a change has occurred or needs are being met. Data will be collected by outreach coordinator and *promotoras* and analyzed by the health promotion coordinator, and the minority health coordinator (See Data Management above). Internal evaluators can conduct the evaluation because it would be less costly. An outcome evaluation needs to be completed every two years to understand if the intervention effectively decreased childhood obesity in the Hispanic/Latino community. Additionally, we can measure the feasibility of the program. We can conduct focus groups every two years and obtain participants feedback regarding the content of the intervention and experiences and barriers they face in completing the program. Finally, we also want to evaluate the program's effectiveness in forming new *promotoras.* This can be done

internally by assessing the number of graduates that have become *promotoras*, as well as developing a survey to gain participants' feedback on their experiences as *promotoras.* Also, another survey can be drafted to understand the participants' reasoning for not becoming *promotoras.*

Table. 10 Study Measures

Outcome	Measures	Psychometrics/Source	Collection Times
Children's Weight	Weight	Scale	Pre and Post Eval
Physical activity behavior	PA Questionnaire	*Niños Sanos, Familia Sana* Nutricional Assessment Survey	Pre and Post Eval
Dietary behavior	Nutritional Questionnaire	Global Physical Activity Questionnaire	Pre and Post Eval
Feasibility	Focus Groups Survey	Questions will be drafted	Every two years
Promotoras			Every six months

Dissemination of Data:

After data has been analyzed, information would be shared with stakeholders, and a report will be shared with the community. Additionally, data results will also be used to improve intervention and obtain more funding.

Budget Plan

Table 11

Personnel	Amount	Justification and Responsibilities	
Health Promotion Coordinator	$5,000	10% full-time equivalent x $50,000 annual salary =$10,000. Responsible for the overall implementation of the program, training, will also assist in hiring, training *promotoras*, and supervision of staff and volunteers. Will be responsible	

		for data analysis and report writing and dissemination.	
Minority Health Assistant Coordinator	$4,000	10% full-time equivalent x $40,000 annual salary =$10,000. Will assist coordinator in the overall implementation of the program, training, hiring, supervision of staff, and volunteers. Will participate in data analysis and report writing.	
WIC Nutritionist	$7,000	20% of full-time equivalent x 35,000 Responsible for nutritional education, will also assist in training *Promotoras* and collaborate in data analysis and report writing	
Outreach and enrollment coordinator	$15,000	50% of full-time equivalent X 30,000 =$15,000 Responsible for recruiting participants and recruiting intervention graduates to become *promotoras.* Arranging venues, making copies, translating consent forms to Spanish, assisting in data collection for evaluation.	
Dance instructor	$2,400	2 classes every week 8 classes (1 hr.) every month x 12 25.00 per hour	
Promotora	$12,000	50% of full-time x 24,000 annual salary=$12,000 Responsible for implementation of at home intervention, data gathering and evaluation.	
Promotora	$12,000 **Personnel Total: 57,400**	50% of full-time x 24,000 annual salary=$12,000 Responsible for implementation of at home intervention, data gathering and evaluation.	
Other Than Personnel			
Payment for venue	$7,200	St. Mary Center Hall with kitchen and daycare rooms	
Payment for participants transportation and childcare	$2,000	Private transportation for participants	
Vouchers	$4,200	$100 per family per month	
Groceries for Cooking worship	$10,000	Healthy groceries to cook healthy recipes during worship and home visits	
Refreshment at presentation	$2,000	Introduction refreshment/ water during classes at Center	
Office supplies	$1000	Paper and ink cartridges for intervention activities	
Plates and Silverware	$500	Utensils needed during cooking workshops	
	$26,900		

GRAND TOTAL	**$84,300**		

Chapter 5- Discussion:

Expected Outcomes, Strengths, and limitations

This program design is focused on the core elements of evidence-based interventions that were successful in increasing knowledge and producing positive behavioral changes in nutrition and physical activity among Hispanic/Latino families. This culturally sensitive and linguistically tailored intervention will have the same results if implemented in the Colfax County community.

The strengths of our intervention are in the success of the evidence-based interventions; those interventions listed above, and that were proven successful in changing behaviors in the Hispanic/Latino community.

One significant limitation of the program design has been the process of balancing between adapting the design of the intervention to meet community needs while ensuring program fidelity to original intervention programs. Since we are adapting three different evidence-based programs to our plan, this has been challenging.

For example, this program has taken some of the core evidence-based elements from each of the evidence-based programs, such as a family-centered approach, striving to be culturally and linguistically appropriate, and a *promotora*-based intervention. Regarding the curriculum, I have mainly adapted our design to mirror most of the curriculum from *Ninos, Sanos, Familia Sana.* The small group session, and working workshop, and physical activity, have been taken from *Salud con Sabor Latino*, while the home-based intervention with *promotoras* was taken from *Reflejos de Salud*. In this design, I am choosing not to use the CD-*Novela* (Soap opera) education series in order to avoid placing families in front of a TV. On the other hand, I want to do more hands-on activities such as preparing healthy meals at home, helping families search for physical activity resources, as well as continue to provide nutritional and physical education.

In addition, since each community is unique, a research study can be conducted to test the feasibility of this intervention in the community. The research study will hold focus group discussions among the Colfax County community. The goal of these focus groups will be to inform the community of the development of this culturally appropriate intervention and test the feasibility and effectiveness of this intervention. After obtaining feedback and recommendations from the community on content, curriculum, and implementation of the intervention, the intervention will be implemented during the pilot study with the first 40 families; and a process evaluation can assess what aspect of the intervention worked and which elements need to be revised.

Finally, other future research studies can be performed using intervention mapping as a method to identify which of the three evidence-based programs listed above can be adapted to this specific community.

Sustainability Plan

Funding:

The goal is to apply for a grant. Some possible funding institutions could be CHI mission and Ministry Fund. Other potential sources of funding for this intervention can be from:

1. Government and state agencies:
    - United States Department of Agriculture
    - Nebraska State Department of Health
2. Philanthropic Foundations
3. Robert Wood Johnson
4. Corporate Foundations
    - Bank of America
    - Verizon

Recommendations

The childhood obesity epidemic in the Hispanic/Latino community is real and is a public health crisis. This program design incorporates elements that have been successful in targeting childhood obesity among

Hispanic/Latino communities while also reflecting the needs of the community. Successfully adopting this program can reduce childhood obesity in this vulnerable population.

Although it is essential to know that this intervention can effectively reduce childhood obesity at the community level, there are other higher levels of influences on the individual's ability to change health behaviors. For example, the government needs to provide these families with a safe place to live, learn, and work; this is vital to making healthier choices.

In addition, communities, stakeholders, the state, and the federal government need to come together to support and implement the infrastructure for rural communities. By changing the infrastructure of a community, we can provide safe areas where children can have access to parks, recreational areas, and healthy supermarkets. Development of infrastructure in conjunction with school-based healthy eating programs can increase physical activity and healthy eating at school.

Finally, this intervention does not address the issue of cultural competency among medical providers. Medical providers need to understand the unique challenges facing the Hispanic/Latino community as they play a key role in the quality of health care services Hispanic/Latino children received. Health professionals educate and provide information to parents and provide guidance in reducing childhood obesity in this vulnerable population. We need policies that will increase cultural competencies among medical providers, as well as increasing bilingual professionals or having trained interpreters on-hand if bilingual providers are not available.

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IRB Requirements

According to the IRB Requirements on page 4 of the Capstone Experience Handbook, this program planning will not require IRB approval. Also, focus groups were conducted during my APEx Learning activity under the supervision of ECDHD.