

*ADDRESSING OBESITY IN LATINO YOUTH IN
MULTNOMAH COUNTY, OREGON*

Public Health and Community Nutrition, Winter 2017

Marla Ryan, Hannah Ozbun, Amy Ridling, Leo Fischer

NEEDS ASSESSMENT

Overview of the Latino Population:

Latinos make up a vibrant part of our population that is growing both nationwide and in Oregon. “According to the 2010 Census, 308.7 million people resided in the United States, of which 50.5 million (or 16 percent) were of Hispanic or Latino origin.”¹ The word “Latino” encompasses multiple cultures, generally meaning a person of Latin American origin or descent. Latinos or Hispanics (Spanish speaking people), come from many different countries including Mexico, Puerto Rico, Cuba, Central and South America, and Spain.² The Latino community deserves increased focus for many reasons including marginalization by the dominant Anglo culture and due to the fact that Latinos will represent an increasingly large percentage of the U.S. population, as they are the fastest growing community in the United States.³ By 2065, Latinos are predicted to make up 24% of the population or about 120 million and Whites are expected to represent 46%, a significant decrease from their current representation of 62%.⁴ These projected changes in the population will have implications in a variety of cultural areas including, politics, education and healthcare.

Overview of the Latino Population in Oregon:

Latinos have a rich history in Oregon, dating all the way back to the early 1500s.⁵ The 2010 Census reports approximately 11.7% of the population in Oregon and 11.3% in Multnomah County as Hispanic or Latino.^{1,5} This estimated population of 89,000 in Multnomah County represents enormous growth within the Latino community in the past 20 years.⁵ This number is likely under-reflective of the true Latino community due to unknown numbers of undocumented immigrants within the county with a real fear and distrust of the government and its strict immigration policies. In the state of Oregon as a whole, there are approximately 150,000 undocumented immigrants.⁵ Uncertainty regarding status of documentation has

increased in the past several months due to confusion around policies of the new president and the federal government.

Overview of the Latino Population in Multnomah County, Oregon:

Of all the counties in Oregon, Multnomah County is the largest in size and population. Multnomah is one of three counties, along with Washington and Clackamas counties, that surround the city of Portland, Oregon in the beautiful Willamette Valley. The population estimate of Multnomah county in July 2015 was 790,000.⁶ The average income per capita estimated by the American Community Survey in 2009 in Multnomah County is \$32,371 for Whites and \$14,627 for Hispanics or Latinos, \$24,018 for Asians and \$16,000 for African Americans.⁷

Latinos in Multnomah County experience many disparities when compared to the White population including lower homeownership rates, higher vulnerability to losing homes, deteriorating numbers of Latino graduates moving into higher education, lower full-time incomes, and significant disparities in Latino youth being criminally charged.⁶

Poverty is a major concern for Latinos living in Multnomah County. They experience an economic “hit” compared with those living elsewhere in the USA.⁶ Individual Latino poverty levels are 77% higher than Whites and family poverty levels are 152% higher.⁶ About one-third of Latino children are estimated to be living in poverty in Multnomah County or 35.2%, compared to the national Latino average of 29.2%.⁸ Children are particularly affected when living in poverty. Greater risk of morbidity and mortality results from accidental injury, lack of health care and poor education. Additionally, long term stress from living in poverty during childhood has been shown to have negative impacts on physical and mental health. Many adult diagnoses of chronic diseases are correlated to long-term stress from childhood poverty.⁹

When looking at trends in education, almost 44% of Latinos have not completed high school, compared with only 6.3% for Whites.⁶ Also, if Latinos are not fluent in English, the completion rate drops to 39%, with the lowest performance among local school districts in

Portland at 33.5%.⁶ A report conducted by Portland State University declares that Latino children are “far behind White students, among those with limited English suffering the most on benchmark tests.”⁵

Despite population growth and the rise in population share, disparities between Latino and White populations continue to persist. Low socioeconomic status, specifically as related to poverty and obesity, is of great concern. Other factors that contribute to this disparity, specifically concerning obesity, are persisting negative health and environmental conditions that contribute to unhealthy behaviors and undermine opportunities for the Latino community to make forward progress.¹⁰ “The increasing rates of obesity in particular are a concern regarding their contribution to multiple mortality disparities in the futures. In addition to the health implications, health disparities can adversely affect productivity, lead to declines in tax revenues, and elevate costs of social and health services.”¹⁰ The concerns regarding the negative impact of obesity in the Latino population grow with each generation’s acculturation into the American way of life, especially in children.

Overview of the Prevalence of Childhood Obesity:

Obesity is a worldwide epidemic which has more than doubled in prevalence since 1980.¹¹ Although it is a major concern in the adult population, even more alarming is the rate at which childhood obesity is growing. Childhood obesity rates have tripled in the U.S. in the past three decades, with one out of six children now considered obese.¹²

Obesity is defined by the World Health Organization as “abnormal or excessive fat accumulation that impairs health and is regularly measured by body mass index (BMI)”.¹¹ Obesity can lead to, or be associated with other conditions such as cardiovascular disease, type 2 diabetes, certain cancers, fatty liver disease, kidney disease, infertility, metabolic syndrome, depression, and more.

Overview of Obesity in the Latino Community:

In 2014, the prevalence of overweight and obesity was 77% in Latino adults compared to 67.2% in White adults in the United States.³ Latino youth also have higher rates of obesity (21%) than White youth (14%).¹² A report of obesity in the Latino community in the United States in 2014 showed that Latino children ages 2-5 were more than four times as likely to be obese than White children of the same age and Latino children ages 6-11 were two times as likely to be obese.³

Key informant interviews of local leaders in Multnomah County have also confirmed rates of overweight and obesity in the Latino population. Laura C. Hernandez, a nutrition program manager for SUN & EI Programa Hispano Catolico was interviewed to increase our knowledge of the Latino youth population in Multnomah County. When asked what percentage of her students are overweight or obese, she estimated approximately 75%.¹³ Given the growing rates of obesity seen in Hispanic youth, childhood obesity in the Latino population is a major topic of concern.

Factors Relating to Obesity Rates in Latino Youth in Multnomah County, Oregon:

Possible causes of higher incidents of obesity in the Latino population in Multnomah County are most likely multifactorial. One possible factor is limited access to healthy food. The food that people are able to obtain in their local environment can have an influence on their diet. “*Food desert* is a term commonly used to describe low-income areas where community members do not have access to fresh and/or healthy foods and is typically measured by the number of supermarkets in a given area.”¹⁴ Food deserts have been linked to higher instances of fast food chains, convenience stores, and obesity.¹⁴ If unable to access nutritious food such as fruits, vegetables, and whole grains, people are more likely to purchase low-price, calorically dense convenience foods. Eating more fruits and vegetables is associated with maintaining a healthy weight, while eating highly processed, convenience foods is a proven associated risk of

obesity confirmed by the U.S. Department of Agriculture in the 2009 report.¹⁵ Within urban and low-income neighborhoods, studies have found that there is less access to supermarkets and nutritious fresh foods and within Latino neighborhoods specifically, there are one-third the number of supermarkets as non-Latino neighborhoods.³

The Retail Food Environment Index (RFEI) is used to measure ratios of unhealthy food sources to healthy food sources in areas around populated cities. The higher the score, the greater quantity of unhealthy food sources there are compared to healthy sources in a certain area. Multnomah County Census Report Card on Racial and Ethnic Disparity in 2014 found that areas with a Latino population in Multnomah County with 15% or greater representation had an RFEI score two to three times higher than other areas with 90% Whites.⁷ This decreased access to supermarkets providing fresh, nutritious foods is consistently linked to increased rates of overweight and obesity.³ Other factors impacting ability to access nutritious fresh foods may include lack of transportation to a store or lack of proper storage for foods.

The most likely predictor of obesity in America today is a person's wealth.¹⁶ Each dollar of income can be used to purchase a large amount of calories from processed foods such as fast food, cookies, or potato chips, while the dollar does not stretch far when purchasing whole foods. For low income individuals and families especially, there is a link between income, food choice, and health. Less expensive food options are often lower in nutritional quality and can be associated with increased risks of obesity, especially for children in the household.³ Data shows that for every White child living in poverty there are three Latino children living in poverty in Multnomah County.⁷

The western diet in the U.S. has made a dramatic shift towards refined, overly processed foods in the last few decades. The prevalence of these nutrient void, calorically dense, processed foods in our everyday diets dramatically changed the food landscape of the U.S., for the worse. More Americans are consuming greater amounts of fast food and convenience foods and eating less whole, fresh foods. After immigration to the U.S., many

Latino families find it difficult to maintain cultural food traditions. American culture includes habits such as driving more instead of walking, adopting bigger portion sizes, and using more processed ingredients. These habits can be easily adopted, especially by Latino children attempting to assimilate with peers in a new culture. These changes impact traditional food customs and can strain family relationships. Studies have shown that acculturation among Latinos has a negative influence on the quality of diet consumed by children, adolescents, and adults.¹⁷ This was also confirmed by our key informant interview with Laura C. Hernandez. She stated that, “in her opinion, change of food habits from one country to another” is one of the major causes driving overweight and obesity rates in the Latino population that she works with in Multnomah county.”¹³

Access to nutritious food in schools is also a contributing factor to childhood obesity in the Latino community. Schools with a higher proportion of Latino students will likely qualify as a Title I school, meaning many students will eat free and reduced school lunches, and often breakfast also. These meals are commonly made from highly processed foods, either because of a desire to conform to the standard American diet or budget constraints. This exposure to highly processed foods often leads Latino students to nutritional deficiencies and an increased risk of developing chronic disease.

Physical activity is a simple disease prevention action that can help to improve the quality of life for many people. Physical activity dramatically reduces all chronic disease such as type 2 diabetes, hypertension, cardiovascular disease and more.⁷ Cutbacks on physical education in schools and limited access to areas for physical activity and other recreational activities may impact obesity rates for youth.

Access to health care is an important factor related to the prevalence of obesity within the Latino community. Lack of health insurance in the Latino population of Multnomah County compared with the White population shows there is a significant disparity. In 2011, Latinos were twice as likely to not have health insurance compared to their White counterparts.⁷ Although the

Affordable Care Act has made progress to reduce the number of uninsured Latinos in the U.S., about one in four remain uninsured.¹⁸ Overweight and obesity appears to be highly prevalent in the uninsured population.¹⁹

Latino culture often demonstrates a lack of trust in government systems, for a variety of reasons. This distrust can be seen most notably in a lack of enrollment in the Supplemental Nutrition Assistance Program (SNAP). Approximately 35% of all Latinos in the U.S. were eligible for SNAP in 2011, but only 21.4% took advantage of the benefits they were eligible for.³ Participation in SNAP can help provide access to healthier foods. One study found that Latino children living in food-insecure homes were more likely to be at risk for obesity than children living in homes participating in SNAP.³ Immigration status can also have an effect on eligibility and can impede on access to these programs.

Education levels can also correlate to an individual's health status. Nutrition education is the foundation to understanding which diet is the best for personal health. Overall, there is a current lack of nutritional education in the United States. Besides affecting one's own health, education also has implications for future generations. A 2007 National Survey of Children's Health, found that children of parents with less than 12 years of education have an obesity rate of 30.4%, which is three times higher than those whose parents have a college degree.²⁰

Strengths of the Latino Community in Multnomah County, Oregon:

The Latino community, especially first generation immigrants are able to hold onto many of their cultural beliefs and traditions. A few of these traditions include deep cultural bonds, respecting elders and strong family and community ties. These strong family values can be a positive influence on Latino children and can present higher levels of obligation to the family and the community. Latino children have also been shown to enter school with mature social skills, an eagerness to learn and emotional confidence.²¹ The Latino community has also been shown

to demonstrate a strong work ethic. Every day, the Latino community works hard to better themselves and to make America stronger.

Services for the Latino Community in Multnomah County, Oregon:

In addition to the strengths imparted by their culture, there are many Latino organizations that serve Multnomah County and the greater Portland Area. These include Catholic Charities' El Programa Hispano, the Latino Network, Hacienda Community Development Corporation, Miracle Theater, Hispanic Chamber, Verde, VOZ, Educate Ya, Familias en Acción and the Portland Guadalajara Sister City Association, among others.⁵ These services work to provide "family services, mental health and substance abuse treatment, gang prevention and outreach programs, domestic violence and sexual assault services, school based programs and housing assistance, in which all services are bilingual."⁵ These programs and others are successful because of their ability to connect with and draw from cultural and community strengths in order to meet program goals.

INTERVENTION

Rationale for Intervention Plan/Problem Analysis:

Based on the needs assessment of the Latino youth population in Multnomah County, it was determined that there are multiple factors that can be contributing to the problem of childhood obesity. Our group elected to concentrate on the lack of nutrition education provided to children, the problem of acculturation and the lack of access to nutritious foods to create an intervention for our population of focus. To aid in alleviating these problems for a small portion of the population, we decided to create a Latino Community Cooking Class (LCCC) that will be available for both children and their families to participate. The LCCC will include short cooking demonstrations, nutrition education, healthy meals and community discussions. All aspects of the program will be offered in Spanish and will be culturally appropriate. We thought that this

intervention could help in improving the problem of childhood obesity in the Latino community of Multnomah County because it offers an opportunity for both children and adults to learn the benefits of eating a well-balanced diet. It also will expose this group of individuals to fresh, nutritious foods that they might not have access to on a regular basis. Providing an opportunity to learn to cook nutritious foods and to learn how to purchase the healthiest foods with a small budget, may take some of the mystery out of healthy eating and encourage this population to improve their diet and quality of life. Nutritional education provided to Latino youth can have an impact on themselves in the future and generations to come.

Review of Similar Interventions:

Nutrition related education programs are scattered throughout Oregon, with the largest efforts based in Portland and its greater metropolitan areas. Nutritional support is available for individuals and families via SNAP (Supplemental Nutrition Assistance Program) and families via WIC (Women, Infants, and Children) for those who meet program requirements. SNAP includes an education component (SNAP-Ed), which advocates for healthy eating habits, and offers a wide variety of online resources, such as recipes and shopping guides. All lessons and materials are provided in Spanish and English. The existing culturally specific health education SNAP-Ed uses, Eating Smart-Being Active, is primarily directed towards adults with low literacy and limited resources. The curriculum was developed by staff at Colorado State University and the University of California at Davis, but is utilized by multiple university extension programs including Oregon State University. This evidence based nutrition curriculum is designed to prevent obesity in its participants by teaching nutrition fundamentals through food preparation and physical activities. The classes consist of eight 60-90-minute core lessons which cover topics such as navigating the food system on a budget, food safety, meal planning, nutritious cooking, and the importance of physical activity. There are additional lessons that expand on maternal and infant nutrition. Each lesson includes materials meant to enable participants to

practice their learned skills at home and include color-in worksheets, recipe handouts, water bottles, grocery list pads, measuring cups and spoons, cutting boards, exercise bands, physical activity booklets and cookbooks, all provided free of charge.²²

In addition to the education services of SNAP-Ed, the Oregon Food Bank (OFB), which coordinates a network of 21 food banks statewide, partners with nearly 970 non-profit partner agencies, many of which also incorporate nutrition education. One partner of OFB is the national non-profit Cooking Matters program, which is part of the No Hungry Kid campaign.²³ Since its formation in 1993, the Cooking Matters program has served over 265,000 low income families. Professional level curriculum includes cooking classes for children and their families, guided shopping trips, volunteer training, and instructional materials. These classes and materials are provided for free under this national organization. Local partners like OFB provide the hands-on support to foster community relationships. In addition, Cooking Matters provides support from bicultural and bilingual volunteers, as well as handouts and recipes that have been written in Spanish.

Another program in Oregon working with culturally diverse children and families is the Linus Pauling Institute (LPI), a research center located on the Oregon State University campus in Corvallis. Most research programs at the LPI focus on the role of micronutrients in aging, immune function and chronic disease.²⁵ Healthy Sprouts is another hands-on nutrition education program which was developed under the Linus Pauling Institute, Healthy Youth Program. It is an interactive preschool program where children and parents engage in activities such as cooking nutritious meals together, learning about the benefits of healthy eating and practicing communication with their peers. Stories, songs, outdoor play, and craft projects are included in the Healthy Sprouts program and each activity ties into its focus on nutrition education, offering a fun and comprehensive school environment that appeals to both children and parents. The main objectives of the Healthy Sprouts are to support families by helping prepare children for kindergarten, increasing parent knowledge about nutrition and fostering healthful eating habits.

Healthy Sprouts is offered to low income families at no cost and is designed for children aged 2 ½ -5 years.²⁶

Review of Possible Limitations:

There are limitations to the research regarding obesity and its social determinants. The relationship between poverty, obesity, and overall health is complex. Among others, factors including socioeconomic status, ethnicity, gender, location, and culture should be taken into account and studied further. It is important to note as well that obesity alone is a complex phenomenon with multiple pathways to consider. Obesity is affected by factors such as genetics, metabolic processes, level of education, access to healthcare, lifestyle choices, financial status, and environment. With these components in mind, it is difficult to determine which factor or factors are contributing to the problem of obesity.

Another possible limitation to consider when reviewing research is that caution must be used when comparing statistics and estimates both nationally and within state lines. The models and agencies which collect the information may be different due to state level factors and disparate organization interests. Furthermore, the Center for Disease Control's (CDC) Behavioral Risk Factor Surveillance System (BRFSS) measures for BMI, as well as self-reported measures have high reliability and repeatability. However, analysis has found that the BRFSS may underestimate measures of obesity in a population compared to those that directly study height and weight.²⁷

Despite best efforts in reviewing current research, a possibility that must be considered includes omission, inclusion, reporting bias, or other measurement biases that skew important data and would, therefore, negatively impact the design and implementation of a health intervention. Certain data pertinent to the topic of obesity in Latino communities may have been overlooked or poorly reported. Errors in data collection may also have occurred, resulting in misleading disseminated information. Interview responses and interpretations are also subject

to bias due to subtle body language and cognitive biases of the interviewer or interviewee. Interviewers may frame questions or convey tones that lead the interviewee to desired answers. Conversely, interviewees may respond with answers that they think the interviewer wants to hear, instead of accurate information.²⁸

Lastly, it should be considered that the research included in this paper is preliminary. The intervention and evaluation design is based off a limited pool of collected data. No focus groups or survey questionnaires have been conducted with members of the target population. A more comprehensive needs assessment and intervention plan would include these key components. As such, there are major limitations to the claims that can be made about this intervention, evaluation, expected outcomes and objectives and appropriate materials and curriculum for the Latino community in Multnomah county.

INTERVENTION PLAN

Mission Statement:

The Latino Community Cooking Class aims to reduce the disparities in obesity and obesity related health outcomes between populations, increase access to nutritious foods, increase knowledge about nutrition and strengthen families through parent-child learning.

Intervention Objective:

To decrease obesity rates and lower BMI's in 25% of participating Latino youth in Multnomah County within three years of completion of first set of 6 classes.

Pre-Intervention Objectives:

- Hire program administrator. Deadline is 6 months before intervention start date.
- Connect with and form partnerships with 3-6 program sites. Deadline is 5 months before intervention start date.
- Hire assistant administrators. One assistant administrator for each intervention site. Deadline is 5 months before program start date.

- Hire volunteer coordinator. Deadline is 5 months before program start date.
- Form partnerships with Urban Gleaners, Oregon Food Bank and SUN coordinated food pantries. Deadline is 4 months before intervention start date.
- Develop volunteer training course. Deadline is 4 months before intervention start date.
- Develop marketing strategies for promoting the Community Cooking Class program and raise awareness within community. Begin 4 months before program start date.
- Recruit and train all volunteers. Deadline is 1 month before intervention start date.
- Develop cooking demonstration recipes and curriculum. Recipes should be simple and should reflect affordable, culturally relevant foods available to the community. Deadline is 1 month before intervention start date.

Approach:

The LCCC program has been designed for parents and children who want to learn about nutrition as a family. The LCCC program will be designed to address a variety of issues, including nutrition education and community empowerment, held in a culturally specific community space. To determine specific needs for the Latino population in Multnomah county, the first 1-3 months of program sessions will be a facilitated discussion to direct future programming. This open communication will give adequate opportunity for participants to be engaged in, and therefore, more invested in, the program and making healthy changes in their own community. This will give adequate opportunities to discuss and centralize on community needs, begin fostering relationships with community leaders and members, and recruit participants for future sessions. By using the initial class sessions as an opportunity to generate topics for the program curriculum, it allows the areas of learning to be tailored to the specific interests of the target population. Parents or guardians must sign up to have their children participate in the program. (Special circumstances are always considered.) Sign up for the program entails the participating adult signing a consent form which outlines details of each class session and the time commitment involved. Participants will also provide pertinent contact

information such as name, phone number, mailing address, and email, with the understanding that follow up communication should be expected and continued involvement in the program is strongly encouraged. Demographic information intake forms may also be filled out by participants for future data analysis and program evaluation, but this step is optional.

Location: All Latino Community Cooking Classes will be held at Title I middle schools and community churches with ties to the Latino community in Multnomah County. The goal is to target low income Latino youth and parents interested in expanding their nutrition knowledge who are willing to attend community events.

Schedule: Classes will be held on days and times to be determined based on community and volunteer feedback. Each set of classes will be six sessions long, resulting in a three-month long program that ends in a ceremony of celebration. Each class will be one hour long, every-other week. Participants who finish all six sessions will be presented with a certificate, a cookbook and a small set of kitchen supplies during the ceremony of celebration. This ceremony is intended to be separate from the six class sessions, participants are encouraged to invite family and friends to attend, and the event is open to anyone in the community. The ceremony is meant to be a celebration of food and learning as well as a time for those who have completed the series to share what they have learned with the community. It is also an opportunity to recruit new participants, maintain open communication with participants, and retain previous participants as volunteers.

Curriculum: All classes would be conducted in Spanish. The classes include a short cooking demo followed by an informational workshop and an open forum for voicing feedback and concerns. Cooking demos will be designed to be culturally sensitive, easy, healthy and affordable. Food will be donated by programs partners and additional materials will be supplemented using dollars within the budget provided. Informational workshops and food demonstrations will coincide with participant interests and will include topics such as food preparation, food safety, maternal and infant nutrition, and making healthy food choices on a

budget. Each three-month series will include 30 registered participants who will engage in hands-on activity during the one hour session. All sessions are open for to attendance with permission of program staff.

Handouts: At least one recipe will be distributed each class. Other handouts designed by program administrators may be offered periodically. These can include shopping guides, additional recipes, information on how to read food labels, determining unit prices, and more. Additional topics for handouts may include SNAP enrollment, running for political office, scholarship application, English literacy skills, or computer skills.

Staff responsibilities: All staff would need to be bilingual and pass a background check.

Responsibilities would include communicating with school and church staff, communicating with all program partners, setting up and tearing down materials before and after program sessions, running and facilitating demonstrations and workshops, and keeping files on pertinent information regarding participants, staff, volunteers and curriculum. Volunteer coordinator is responsible for recruiting, training, scheduling and maintaining volunteers. Staff would also be responsible for implementation of evaluation process, making changes based on evaluation feedback, and making follow up contact with previous program participants to continue data collection efforts and program improvements.

Volunteer responsibilities: All volunteers must pass a background check. Responsibilities would include prepping for cooking demonstrations, participating in fundraisers, helping set up and tear down before and after program sessions and monitoring younger children.

Partners: The Community Cooking Class program will partner with Urban Gleaners (A non-profit which gleaned donated food from grocery stores and farmer's markets), the Oregon Food Bank and various SUN coordinated food pantries to provide food for demonstrations and help to recruit new program participants.

Marketing/Outreach: Program administrators and assistant administrators will be responsible for advertising the Community Cooking Class program through the development and posting of

flyers at program sites, around the community, and through social media accounts. Information about the Community Cooking Class program will also be disseminated to Students and parents during PTA meetings, parent-teacher conferences, assemblies, and before and after school in the school office. Sign up for the program can be completed at all locations.

Budget: Costs for the program have not been estimated, but funds will be provided and supplemented through government grants, public donations, and fundraising. Program administrators will be responsible for searching for local sponsors and developing fundraising initiatives as part of their job responsibilities. Partnerships in the community can facilitate donation of goods to offset a portion of the program cost.

Child care component: On-site child care will be offered during all Community Cooking Class sessions. Children will be encouraged to participate and learn alongside parents, but younger children will be provided with a space to play and rest while monitored by a trained volunteer.

EVALUATION

Objective:

The objective of our evaluation is to monitor the progress of our intervention by measuring the weight loss of our participants as well as the lifestyle changes they report regarding their daily food intake. We expect our participants will be mostly composed of our target population, obese and overweight Latino youth and their families. Our goal is to have participants achieve a healthy weight status. We want to see 25% of our participants decrease their weight, close to or within a normal weight classification, within 3 years of completion of the first set of Latino Community Cooking Classes.

In adults, overweight is a BMI greater than or equal to 25 and obese is a BMI greater than or equal to 30.¹¹ Age is taken into consideration for children when calculating BMI. For youth ages 2-19, overweight is classified as having a weight in the 85th to 95th percentiles and obese is above the 95th percentile of children the same age.²⁹

It is commonly found in programs that are focused on dieting and weight loss that they are often ineffective. Our program will most likely see short-term fluctuations in participant's weights, similar to other weight management programs. However, unlike other programs, ours is not a diet program, but rather a lifestyle change. Our program is education focused and intended to create long-term, healthy, permanent lifestyle and habit alterations. Our goal, by the end of the 3rd year of the program, is that we will have 25% of participants reach healthy weight categories. Unlike most industry diet programs, a key strength of our program is giving participants early educational tools to build upon and to use in the future to maintain those health weight statuses indefinitely.

We believe that statistically significant short-term changes in adolescent overweight or obese participants should be possible in our target population. We believe this because our target population is young and in the stage of life in which they are growing and have strong metabolisms. Additionally, even if we do not see significant statistic short-term changes in adolescent obesity, we might have a long-term impact on their future and future generations by planting the seed of increased nutritional knowledge.

Outline/Timeline of Evaluation:

All participants in our program will complete a basic nutritional evaluation either prior to the first class, or at the beginning of the program. These evaluations will include an in-person evaluation with anthropometric measurements and a paper questionnaire. Separate questionnaires will be developed for children and adults. Those initial basic nutritional evaluations will be the reference point for determining and evaluating progress in later assessments. One year after the initial evaluations, we will send out follow-up questionnaires and invite each person to come to our locations for another in-person evaluation, if available.

We will continue to send follow-up questionnaires each year, for as long as the program continues.

1. Conduct initial nutritional evaluations including anthropometric measurements and completed written or oral questionnaire.
2. One year after first evaluation, conduct follow-up questionnaire and request in-person evaluation, if possible.
3. Two years after first evaluation, conduct follow-up questionnaire and request in-person evaluation, if possible.
4. Three years after first evaluation, conduct follow-up questionnaire and request in-person evaluation, if possible.
5. General questionnaires regarding program effectiveness and content will be available at the end of each class and required to be completed during the last (6th) class in each set of classes. Information gained from these questionnaires, as well as returned questionnaires from previous class participants, and anthropomorphic measurements from follow-up in-person evaluations will be used on a continuous basis to make needed program changes to maximize success.

Evaluation Questions:

Evaluation questions will be made to be simple. Questions will include: types of food eaten, how many times they eat out at restaurants, how many servings of vegetables they eat a day, how many servings of fruit they eat per day, how much sugar and processed foods they are consuming, what types of beverages do they consume, how many times per week do they cook food at home and where do they usually shop for their food.

Questionnaires given to participants at the end of class will include questions about how interesting the subjects taught in classes are, if they feel as though they are learning, if they

enjoy their instructor, are there any other subjects they would like to be taught in class, etc. These questionnaires will consist of answers on a scale of 1-10 and short answers.

Evaluation Methods:

Initial evaluation will take place prior to the first class or at the beginning of the program. This initial evaluation will include paper questionnaires and anthropometric measurements such as height, weight, age, gender and waist to hip ratio. Additional questionnaires will be sent home with children or parents to encourage participants to have other family members answer the questions to learn more about the nutritional environment of the extended family and the larger community. We will also obtain data by mailing or emailing questionnaires, personal phone calls made by staff, or in-person office or home visits, as available.

These same type questionnaires will be sent at one year period intervals to check up on progress made by participants and the effects they have had on their families and community. If available, program participants would attend an in-person follow up evaluation with a staff member to gain more accurate and perhaps, additional information. The program will send follow up questionnaires and request in-person contact annually, for as long as the program continues.

Evaluation Outcomes & Program Alterations:

As a public non-profit program, we want to make sure the money being put into our Latino Community Cooking Class program is accomplishing our stated goals and that the effects are positive for the community at large. Stakeholders for the program might include government agencies, community health groups, grant-makers/funders, and the target community. Our program will ensure that the money and effort these different groups put into our program are being rewarded with measurable, statistically significant results, proven by the information from our evaluations.

Alterations:

The alteration guidelines have been created to determine what actions should be taken based on specific outcomes from the evaluation process. Possible alterations to the programs could include class time changes, frequency of classes, changes to material taught, increased or different type of incentives or even termination of the program if results do not warrant continued investment in the program.

It may be possible that even without changes in statistically significant numbers, there may be enough evidence of community benefit to warrant continuation of program. The long-term effects on the community from targeting nutrition at an early age might have a beneficial, positive impact. An indicator of this might be community leaders and LCCC program participants deciding to continue the program when funding is lost due to failure to meet stated goals and objectives. If the program's 3-year evaluation shows positive changes with more than 25% of participants, the program should be expanded to include additional communities and schools.

Conclusion

Because of increased rates of obesity and overweight youth in Latino populations, the need for programs such as the Latino Community Cooking Class is warranted. It is important to support implementation of programs such as this because much can be learned, both by the community as well as service providers, to improve overall health of the community, decrease rates of obesity and overweight youth in the Latino population, and increase the success of future programs. In conclusion, we are confident this program will meet goals and expectations set and have a lasting, positive impact on the target population and community at large.

References:

1. Sharon R. Ennis, Merarys Rios-Vargas, Nora G. Albert. *The Hispanic Population: 2010*. U.S. Department of Commerce, United States Census Bureau; 2011. <https://www.census.gov/prod/cen2010/briefs/c2010br-04.pdf>. Accessed February 16, 2017.
2. Kara Nyberg, Ph. D., Amelie Ramirez, Dr. P.H., Kipling Gallion, M.A. *Addressing Nutrition, Overweight and Obesity Among Latino Youth*. Salud America! The Robert Wood Johnson Foundation Research Network to Prevent Obesity Among Latino Children; 2011. <http://salud-america.org/sites/saludamerica/files/NutritonBrief.pdf>. Accessed March 27, 2017.
3. *Special Report: Racial and Ethnic Disparities in Obesity - Latino Communities*. Robert Wood Johnson Foundation; 2014. <http://stateofobesity.org/disparities/latinos/>. Accessed February 1, 2017.
4. D’Vera Cohn. Future immigration will change the face of America by 2065. Pew Research Center. <http://www.pewresearch.org/fact-tank/2015/10/05/future-immigration-will-change-the-face-of-america-by-2065/>. Published October 5, 2015. Accessed March 27, 2017.
5. Curry-Stevens A, Cross-Hemmer A, & Coalition of Communities of Color (2012). *The Latino Community in Multnomah County: An Unsettling Profile*. Portland, OR: Portland State University; 2012. http://pdxscholar.library.pdx.edu/socwork_fac/90/. Accessed March 12, 2017.
6. *Community Health Assessment: Multnomah County Racial and Ethnic Disparities*. Multnomah County Health Department: Public Health Division; 2015. <https://multco.us/file/47115/download>. Accessed March 27, 2016.
7. Joanne Fuller M.S.W. *2014 Report Card on Racial and Ethnic Disparities*. Portland, OR: Multnomah County Health Department; 2014. <https://multco.us/file/37530/download>. Accessed March 27, 2017.
8. Barry Edmonston, Sharon M. Lee. *American Community Survey Case Study Project: Portland, Oregon*. Population Research Center: Portland State University; 2001. https://www.pdx.edu/sites/www.pdx.edu.prc/files/prc_ACS_for_Schools.pdf. Accessed March 27, 2017.
9. Greg J. Duncan, Jeanne Brooks-Gunn. Consequences of Growing Up Poor | RSF. <https://www.russellsage.org/publications/consequences-growing-poor-1>. Accessed March 22, 2017.
10. Vega WA, Rodriguez MA, Gruskin E. Health disparities in the Latino population. *Epidemiol Rev.* 2009;31:99-112. doi:10.1093/epirev/mxp008.
11. WHO | Obesity and overweight. World Health Organization. <http://www.who.int/mediacentre/factsheets/fs311/en/>. Published June 2016. Accessed February 14, 2017.

12. Ogden CL, Carroll MD, Kit BK, Flegal KM. Prevalence of Obesity and Trends in Body Mass Index Among US Children and Adolescents, 1999-2010. *JAMA*. 2012;307(5):483-490. doi:10.1001/jama.2012.40.
13. Laura C. Hernandez. Key Informant Interview: SUN Family Outreach & Plaza Comunitaria Coordinator. February 2017.
14. Brundage-Moore A. Food deserts, hunger and obesity. *Stanford Daily*. <http://www.stanforddaily.com/2015/05/03/food-deserts-hunger-and-obesity/>. Accessed March 15, 2017.
15. Nord M, Andrews M, Carlson S. *Household Food Security in the United States, 2008*. Washington, D.C.: Economic Research Services, U.S. Department of Agriculture; 2009. https://www.ers.usda.gov/webdocs/publications/err83/10986_err83_reportsummary_1_.pdf. Accessed March 27, 2017.
16. Pollan M. You Are What You Grow. *The New York Times*. <https://www.nytimes.com/2007/04/22/magazine/22wwInlede.t.html>. Accessed February 21, 2017.
17. Pérez-Escamilla R. Dietary Quality among Latinos: Is Acculturation Making us Sick? *J Am Diet Assoc*. 2009;109(6):988-991. doi:10.1016/j.jada.2009.03.014.
18. Health Coverage and Care. National Council of La Raza. <https://NCLRNewSite/issues/health/coverage-and-care/index>. Accessed February 1, 2017.
19. Morgan Downey, J.D. *Obesity and Health Care Reform*. STOP Obesity Alliance http://stopobesityalliance.org/wp-content/assets/2009/07/Obesity_and_Health_Care_Reform_MDowney.pdf. Accessed March 27, 2017.
20. Socioeconomics and Obesity: The State of Obesity. *The State of Obesity*. <http://stateofobesity.org/socioeconomics-obesity/>. Accessed February 22, 2017.
21. The Cultural Strengths of Latino Families: Firm Scaffolds for Children and Youth. United Way. https://conferences.unitedway.org/sites/default/files/THE%20CULTURAL%20STRENGTHS%20FOR%20LATINO%20FAMILIES-%20Abriendo%20Puertas%20United%20Way%20of%20Central%20Jersey_0.pdf. Accessed February 22, 2017.
22. Eating Smart Being Active | SNAP-Ed Connection. <https://snaped.fns.usda.gov/materials/eating-smart-being-active>. Accessed March 27, 2017.
23. Statewide Network - Oregon Food Bank. <https://www.oregonfoodbank.org/our-work/partnerships/statewide-network/>. Accessed March 27, 2017.
24. What We Do | Cooking Matters. <https://cookingmatters.org/what-we-do>. Accessed March 27, 2017.

25. About the Linus Pauling Institute. Linus Pauling Institute.
<http://lpi.oregonstate.edu/about/about-linus-pauling-institute>. Published May 9, 2014.
Accessed March 27, 2017.
26. Healthy Sprouts. Linus Pauling Institute. <http://lpi.oregonstate.edu/healthyyouth/healthy-sprouts>. Published November 11, 2014. Accessed March 27, 2017.
27. About the Surveillance Resource Center | SRC | CDC.
<https://www.cdc.gov/surveillancepractice/about.html>. Accessed March 27, 2017.
28. Pannucci CJ, Wilkins EG. Identifying and Avoiding Bias in Research. *Plast Reconstr Surg*. 2010;126(2):619-625. doi:10.1097/PRS.0b013e3181de24bc.
29. Defining Childhood Obesity | Overweight & Obesity | CDC.
<https://www.cdc.gov/obesity/childhood/defining.html>. Accessed March 27, 2017.