

November 7, 2013

National Institutes of Health
Reduce Obesity Initiative
Proposal Services Unit
9000 Rockville Pike
Bethesda, Maryland 20892

Dear Dr. Francis S. Collins,

Molina Healthcare is committed to making big changes in community health. Obesity is an epidemic threatening the nation as a whole. We not only seek to help members of the community to become aware of current health issues, but we seek to help community members help themselves after being empowered by knowledge.

Molina Healthcare is pleased to put forth the enclosed proposal, *Increasing Awareness of Excess Calorie Consumption among Teenagers and Young Adults*, in response to Reduce Obesity Initiative call for proposals, category 98.0, Reducing Obesity through Improved Nutritional Choices for an Obesity Free America. The proposal request \$19,356 for a one-year project. Enclosed are the original and 17 copies of the here mentioned proposal, as specified by the Request for Proposals.

If you have any questions or need additional information, please contact me. I look forward to your reply.

Sincerely,

Michael Turley, R.D.N
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Molina Healthcare
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Project Title: Increasing Awareness of Excess Calorie Consumption among Teenagers and Young Adults

Grant Program: National Institutes of Health's Reduce Obesity Initiative, category 98.0, Reducing Obesity through Improved Nutritional Choices for an Obesity Free America.

Proposed Start Date: September 19, 2013

Proposed End Date: December 12, 2014

Funds Requested: \$19,356

Project Director:

Michael Turley, R.D.N

Nutrition Services Director

Molina Healthcare

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The award should be made to:

Molina Healthcare

Authorized Organizational Representative:

Samnang Te, Molina Healthcare Utah County Coordinator

Office of Utah County Services

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Springville, UT 84046

Phone: (801) 865-0500

E-mail: sam.te@molinahealthcare.com

Abstract

In the United States today, approximately 154.7 million people are overweight or obese. In the state of Utah, 24.4% of the population is obese or overweight. This is of great concern because of poor health outcomes associated with this chronic disease, namely an increased risk for cardiac disease, type II diabetes, renal failure, and joint failure. It is also concerning because of the challenge it poses to self-esteem, particularly in children and adolescents. One major factor that contributes to this obesity epidemic is poor nutrition habits that lead to a high caloric intake. Although the Food Drug Administration requires that nutrition labels appear on every food item commercially sold, many Americans do not know how to read them. Thus, the proposed research aims to address this through the development of a nutrition education session to teach adolescents how to read nutrition labels and how to identify some of the sources of added calories which Americans typically consume. Our objectives are to (a) develop a lesson plan containing a list of materials needed to instruct students (ages 12 to 22) to identify specific components of a nutrition label and to compare food items, (b) coordinate with the Molina Healthcare Coordinator to schedule presentation times and locations, (c) present the instruction to several groups of students, (d) evaluate the effectiveness of education, (e) make any necessary edits, and (f) give the completed and finished presentation to Molina Healthcare for future use. This project will span until December 20, 2014. The budget request is \$19,356.

Needs Statement

Obesity is a significant public health concern in the United States. In 2009-2010, 16.9% of children and adolescents in the United States were obese.¹ A lifestyle factor that contributes to the development of obesity is the overconsumption of calories, especially empty calories.² Empty calories come from sources that have little or no nutritive value, such as solid fat and added sugars. In the United States, consumption of empty calories far exceeds the corresponding discretionary calorie allowance in every gender and age demographic.² Soda and low-nutrition snack foods are key sources of excess calories in children's diets.³ These foods low in nutrient-density displace other more nutritious foods in children's diets, which is a cause for concern. The top sources of energy for 2- to 18-year-olds in the United States are grain desserts, pizza, and soda.² Half of the empty calories in their diets come from six foods: soda, fruit drinks, dairy desserts, grain desserts, pizza, and whole milk.² A common characteristic of all of these foods is that they contain high levels of fat and/or added sugars. The empty calories from the fat and added sugars in Americans' diets are of high enough concern that this issue is addressed by one of the Healthy People 2020 National Health Objectives: Reduce consumption of calories from solid fats and added sugars in the population aged 2 years and older (NWS-17).⁴

Between 2003 and 2006, sugar-sweetened beverages were among the top two sources of added sugars in children's diets and among the top five sources of children's energy intake.⁵ This statistic includes children in all age, racial, and income categories in the United States.⁵ On average, students' intakes of sugar-sweetened beverages accounted for an average of 159 additional calories and 9 teaspoons of added sugar being consumed on a typical school day.⁵ Because sugar-sweetened beverages contribute a significant amount of extra calories to children's energy intake, a critical focus in the prevention of childhood obesity should be to reduce the amount of sugar-sweetened beverages that children consume.⁵⁻⁶ A survey of vending machines in middle schools and high schools throughout the United States found that 75% of the drinks and 85% of the snacks sold are of poor nutritional value.³ Of the drinks sold in over 13,500 vending-machines surveyed, 70% were sugary drinks such as soda, juice drinks with 50% juice, iced tea, and sports drinks.³ Based on this evidence, we suspect that overconsumption of empty calories is especially a problem among students in middle schools and high schools, where vending machines are frequently accessible.

High fast food consumption is significantly associated with a higher prevalence of overweight and obesity.⁷ Children who consume fast food have higher intakes of total energy, total fat, and saturated fat when compared to children who do not consume fast food.⁷ They also have lower fiber intakes due to a lower intake of milk, fruit, and vegetables.⁷ Dietary fiber plays a role in controlling energy intake by promoting satiation and prolonging satiety.⁸ Because of this, a diet low in dietary fiber may increase the risk of obesity.⁸ Thus, regular consumption of fast foods that are high in fat and calories and low in dietary fiber likely contributes substantially to the development of obesity. Many adolescent students are exposed daily to an environment where getting food from fast food venues is convenient and popular. It is also increasingly accessible as teens reach the age when they can obtain a driver's license and drive to fast food venues on their own. Studies have shown that fast food venues in close proximity to schools affect students' eating habits, overweightness, and obesity.⁹

Our proposed program supports the Healthy People 2020 Objectives by increasing adolescents' awareness of empty calories from solid fats and added sugars in foods.⁴ This will be accomplished by teaching adolescents how to find this information on a nutrition label. Studies have shown that using nutrition labels can be useful for people trying to limit their fat intake.¹⁰ By teaching students how to assess the fat and added sugar content of foods through reading nutrition labels, we hope to increase their awareness of excess calories from these sources. As part of our program, we will develop a lesson plan that can be followed by volunteers who will teach this lesson to adolescent students in the community. This contributes to the sustainability of our program and will allow it to be ongoing. By providing this education to local adolescents, our goal is to help them to understand and correct unhealthy habits before they move on into adulthood. With an understanding of how to reduce their consumption of extra calories from fat and added sugar, they will be able to pass on healthy habits to their future families and help decrease their risk of developing obesity.

GOALS AND OBJECTIVES

Goal

To increase students' awareness of the amount of fat and added sugars in convenience foods and increase students' ability to use nutrition labels to identify foods high in these nutrients.

Process Objectives

1.1 By October 4th, four nutrition students will create one lesson plan containing a list of materials needed to instruct students (ages 12 to 22) to identify specific components of a nutrition label and to compare food items using food nutrition labels.

1.2 By October 16th, coordinate with Molina Healthcare Coordinator to schedule two presentation times and locations.

1.3 By November 1st, create twenty one fat and sugar models and two posters to be used as visual aids in lesson plan.

Impact Objective

By the end of the class session, 60% of students (ages 12 -22) will be able to verbally identify and compare foods high in fat and added sugars.

Outcome Objective

By 2014, our nutrition team will decrease the total amount of calories consumed from added sugars and fats in individuals (ages 12-22) in Utah County School District by 5%.

Project Description and Methodology

Month 1

Our first goal is to develop the mission, vision, and case for support for our program. During the 1st month, our team leaders will talk to the Molina Healthcare Community Coordinator about why this program is needed, who will benefit, and why our organization is the best group to undertake the project. To ensure our program is addressing a specific need in our community, we will also do research and identify potential stakeholders during the first month as well. During researching, we will solicit ideas from the Provo School District high schools, Utah Health Department, and other organizations about who might share interests in our program. During this time we will also talk to local high schools about how our program can benefit their interests, and schedule a community/partner meeting timeline for the next 3 months before we implement our program. The next step is to communicate with stakeholders. We plan to prepare invitations and ask folks who recommended individuals to invite them personally to build credibility among contributors. To initiate a relationship with potential stakeholders, we will prepare a lesson plan and gather the appropriate materials to conduct our community lesson on added sugars and fats to these stakeholders and offer their feedback.

Month 2

To continue to cultivate our stakeholders, we will hold weekly meetings which will include shared vision exercises to get input and expand vision to more stakeholders. During these weekly meetings, we will include revised drafts of lesson plan after the correct revisions have been made. This plan will also include developing a plan to determine the follow-up steps necessary to re-contact participants quickly. During month 2, we will also develop plan for a smooth transition for our program to allow Molina Healthcare to take over. Organizing lesson and materials will allow new teachers to be able to teach in future years. This will also ensure that our lesson plan is usable for non-nutrition professionals. After month 2, our program will implement our teaching plan in the community. Our program will begin teaching our lesson plan to the community to two different organizations as a test trial. After these lessons, we will get feedback from the appropriate community partners and organization directors and adjust lesson plan/materials as needed. After the test trial period, our final lesson plan will be completed. Molina Healthcare professionals will continue to use the lesson plan as needs are observed in the community in the following years. Attached is the detailed project Gaant chart, timeline, on page 12 and the lesson plan is detailed on pages 13-18.

Evaluation Plan

Process Evaluation

Our evaluation plan will consist of process evaluations where we: (Obj. 1.1) Identify the number of lessons developed that help learners to identify specific components of a nutrition label and compare food items, (Obj. 1.1) Assess previous lesson plans given to the Molina Healthcare Coordinator, (Obj. 1.2) Identify the number of presentation times and locations scheduled, (Obj. 1.3) Assess the creation of models and visual aids that match those required by the lesson plan.

Impact Evaluation

Our evaluation will also consist of outcome evaluations where we: (Obj. 1) Observe the ability of students to identify foods high in fat and added sugars in the nutrition label activity. (Obj. 1) Evaluate verbal responses given at the end of the lesson compared with verbal responses at the beginning of the lesson.

Outcome Evaluation

(Obj. 1) Our team leaders will provide a 24 hour recall information sheet for all students to fill out prior to our presentation. After 3 weeks, our team leaders will return and have the same students fill out a second 24 hour recall. This information will allow us to assess whether students are making dietary changes after learning about fats and added sugars.

Sustainability Plan

After our final lesson plan is completed, our team leaders will then train additional teachers to take over teaching responsibilities for future classes. This will ensure our program will continue to be meaningful in the future. By continuing to be a good steward over our program, we will continue to cultivate current partners and new stakeholders through: 1) offering opportunities for continued involvement in shaping the program through regular meetings and dialogue, 2) Sharing the credit of activities, information, and teaching practices with the appropriate people, 3) Celebrating small successes with everyone within or program's organization, and 4) Making sure the program is mutually beneficial to all partners by conducting monthly reflection meetings on the program's successes and limitations within the community by team leaders, Health coordinators, and other appropriate health professionals and stakeholders.

Budget

Direct Cost

A. Salaries and Wages	
1. Project Personnel	
a. 1 Project Director (RD): Michael Turley	\$4,000
b. 3 Senior Associates (RD): Rachel Crawford, Natalie White, Ellie Stanger	\$10,000
2. Other Personnel	
b. Molina Healthcare Coordinator	\$1,000
a. Assistant to Molina Healthcare Coordinator	\$600
c. Graphic Design team	\$250
B. Total Salaries and Wages	\$15,850
C. Travel	\$80
D. Materials and Supplies	\$200
E. Total Direct Costs (Items A to D)	\$16,130

Indirect Cost

A. Total Indirect Costs (20% of direct cost)	\$3,226
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Total Costs \$19,356

Budget Narrative

The total amount budgeted for this project is \$19,356. The majority of the grant will be spent compensating project personnel and materials.

Wages and Fees: \$15,850 total

Project Personnel: \$14,000. Project director Michael Turley will lead his team of 3 senior associates to create and implement the project. They will create a lesson plan, gather a few materials, and teach the lessons. Fees are based on a percentage of total annual salary. This percentage is based on the estimated proportion of time each team member will devote to this project of their total work hours for the year. Please see the table below for their fees for the project.

Personnel	Project Fee	Salary percentage
Michael Turley	\$4,000.00	5% of annual salary (\$80,000.00)
Rachel Crawford	\$3,333.33	5% of annual salary (\$66,666.66)
Natalie White	\$3,333.33	5% of annual salary (\$66,666.66)
Ellie Stanger	\$3,333.33	5% of annual salary (\$66,666.66)

Other Personnel: \$3,600. The project personnel will coordinate with the Molina Healthcare Coordinator to gather most materials. The Healthcare Coordinator and his assistant will also set up all appointments to teach lessons and communicate with the Molina Healthcare's graphic design team to create all educational handouts and printed props that will be used in the lesson. Fees are based on a percentage of total annual salary. This percentage is based on the estimated proportion of time each personnel member will devote to this project of their total work hours for the year. Please see the table below for their fees for the project.

Personnel	Project Fee	Salary percentage
Healthcare Coordinator	\$1,000.00	1% of annual salary (\$100,000.00)
Assistant	\$600.00	1% of annual salary (60,000.00)
Graphic Design Team	\$250.00	0.5% of annual salary (50,000.00)

Travel: \$80.00

This will cover the costs of travel to and from meetings with the Healthcare Coordinator and to the sites where lessons will be delivered. It is estimated that all lessons will occur within Utah County or within driving distance.

Materials and Supplies: \$200.00

This will cover the cost of the physical materials used in the lessons (science fair poster boards- 3 @ \$15.00 each= \$45.00; clear plastic jars- 20 @ \$2.00 each= \$40.00; colored paper- 1 package @ \$5.00= \$5.00; tape rolls- 3 @ \$1.00 each= \$3.00; laminated materials= \$50.00; fast food item containers and drink containers= \$45; Bag of sugar- 1 @ \$2.00= \$2.00; Clear plastic drink cups- 1 @ \$2.00= \$2.00; clear Tupperware pack- 1 @ \$5.00= \$5.00; post-it notes- 1 @ \$2.00= \$2.00; marble pack- 1 @ \$1.00= \$1.00)

Total Direct Costs: \$16,130

Indirect Costs: \$3,226. Our indirect costs are estimated at 20% of our direct costs.

Total Costs: \$19,356

Gaant (Timeline) Chart

Molina Healthcare Community Project

		2013				
Project Task		September	October	November	December	Date Completed
1	Initial meeting with Molina representative	X				Sept. 19, 2013
2	Discuss project idea with Dr. Richards	X				Sept. 26, 2013
3	Create nutrition education plan draft	X	X			Oct. 01, 2013
4	Report progress to Molina representative	X	X			Oct. 03, 2013
5	Revise nutrition education plan	X	X			Oct. 17, 2013
6	Create project timeline		X			Oct. 17, 2013
7	Develop project budget and budget narrative		X			Oct. 17, 2013
8	Write evaluation/sustainability plans & logic model		X			Oct. 22, 2013
9	Report progress to Molina representative		X			Oct. 24, 2013
10	Obtain materials needed for visual aids		X			Oct. 24, 2013
11	Put together visual aids		X	X		Nov. 10, 2013
12	Write and submit grant proposal draft		X	X		Nov. 07, 2013
13	Report progress to Molina representative			X		Nov. 07, 2013
14	Practice lesson presentation			X		Nov. 10, 2013
15	Report progress to Molina representative			X		Nov. 11, 2013
16	Present lesson to special needs class			X		Nov. 12, 2013
17	Prepare and submit final grant proposal			X	X	Dec. 12, 2013
18	Prepare oral presentation				X	Dec. 04, 2013
19	Present oral presentation to the class				X	Dec. 12, 2013
20	Submit evaluation report				X	Dec. 12, 2013

EMPTY CALORIES LESSON PLAN

Target Audience: Teenagers (age 12-18)	Community Agency: Molina Healthcare
<p>Terminal Objective Learners will be able to identify fat and sugar content from food labels and will be able to explain how added fats and sugars can lead to increased risk of chronic disease.</p>	<p>Terminal Concept Added sugar and fat content can be determined by reading food labels. A high intake of added sugars and fats can increase risk of chronic diseases.</p>
<p>References http://www.choosemyplate.gov/downloads/NutritionFactsLabel.pdf http://www.choosemyplate.gov/weight-management-calories/calories/empty-calories.html http://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm20026097.htm http://www.fda.gov/downloads/AboutFDA/Transparency/Basics/UCM221216.pdf http://www.choosemyplate.gov/preschoolers/daily-food-plans/about-empty-calories.html</p>	
<p>Preparation Materials:</p> <ul style="list-style-type: none"> - 3 giant nutrition label posters (mounted on foam board): one of original lays nutrition label, one of 100% apple juice fruit nutrition label, and one of fruit punch nutrition label. - 1 bag of chips - 2 Tupperware containers - Collection of random laminated real-sized nutrition labels. - Labeled jars of fat with premeasured amounts of Crisco inside: 5 gram, 15 grams, 30 grams - Labeled jars of sugar with premeasured amounts of sugar inside: 5 gram, 15 grams, 30 grams - (9) Premeasured jars of fat content of the foods on the menu: (3) In-N-Out Jars (Healthiest option, healthier option, least healthy option), (3) Subway (Healthiest option, healthier option, least healthy option), (3) Café Rio (Healthiest option, healthier option, least healthy option) - Premeasured jars of sugar content of the drinks on the menu: there should be one jar for each of the following: Diet Coke, Powerade, Water bottle, Mountain dew, energy drink, Rootbeer, Coca-Cola, Orange SunKist - Toilet paper tube, cotton balls, marbles - 2 science fair display boards: Fat and Sugar 	
<p>Pre-assessment Ask by raise of hands:</p>	<p>Introduction Statistics on overconsumption of sugars/fats</p>

<ul style="list-style-type: none"> • How many of you use food labels? <p>Ask: Of those of you who use food labels, what do you look at on the label? (ask for student responses)</p> <ul style="list-style-type: none"> • How many of you choose foods based on their food labels? <p>Time: 2 minutes</p>		<p>Ask (rhetorically): Did you know you can determine fat and sugar content of foods by reading nutrition labels?</p>	
Supporting Objectives	Content Outline	Time	Learning Experiences
<p>Learners will be able to identify food items high in fat and added sugar using daily value percentages and the ingredient list.</p>	<p><u>Nutrition Label</u></p> <p>Food labels contain lots of information:</p> <ul style="list-style-type: none"> • Total calories per serving • Ingredient list • Serving size • Fat (point out that we will be focusing on total fat, saturated, and trans today because these are unhealthy fats) • Carbohydrates • Protein • Vitamins/minerals 	2 mins	<p>Hold up laminated blown-up food labels and point to locations of specific nutrition label items.</p>
	<p>Today we're going to focus on how to decide if a food is high in fat and sugar using a food label.</p> <ul style="list-style-type: none"> • Daily value percentages <ul style="list-style-type: none"> ○ Based on 2,000 kcal diet—Based on your body's energy needs these percentages may differ but they are always useful in helping to identify high and low fat and sugar foods. ○ 5% or less is low in that nutrient. 	10mins	

	<ul style="list-style-type: none"> ○ 20% or more is high in that nutrient. ○ # of servings matters: Each additional serving increases the daily value percentage. For example if you eat two servings the daily value is doubled. ● Ingredients list: Ingredients are listed by the weight in the food. So, if sugar is the first ingredient, the food is mostly made of sugar by weight. So a high portion of the product contains sugar. Sugars do not have a daily value % so we use the ingredients list. <ul style="list-style-type: none"> ○ Natural vs. added sugars: Natural sugars come from a source that has other nutrients our body needs. Added sugars give calories but not vitamins and minerals ○ Examples are: High Fructose Corn Syrup, Dextrose, Sucrose, Fructose ● When you choose foods that are high in fat and sugar content, you are increasing your calorie intake and not getting as many nutrients that are found in 	10 min	<p>Chip Activity: See addendum 1</p> <p>Hold up laminated nutrition label of 100% fruit juice and fruit punch. Point to the sources of added sugar in the fruit punch label.</p>
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<p>Learners will be able to identify the benefits of fat as well as the risks of overconsumption.</p>	<p>healthier foods like fruits and vegetables.</p> <p><u>Fats</u></p> <ul style="list-style-type: none"> • Fats are necessary for your body to function. They—give your body energy and—transport certain vitamins in the body. • When you eat more fat than your body needs, extra calories are stored as fat. Fat provides more calories per gram consumed than sugar. Eating more calories than your body needs leads to weight gain and can increase your risk of getting certain chronic diseases like diabetes, obesity, and heart disease. • Eating too much fat can also increase the chances of having plaque clog your arteries, making it harder for your blood to get where it wants to go. 	<p>12 Mins</p>	<p>Learning activity: Laminated Food Labels</p> <ul style="list-style-type: none"> • Group discussion, pass out laminated food labels and ask: Who has a food high in fat? Who has a food low in fat? Who has a food high in sugar? Who has a food low in sugar? How do you know? <p>Arterial plaque visual: Instructor will pass marbles through an empty toilet paper tube to demonstrate normal blood flow. The instructor will then place cotton balls in tube and then pass marbles through the clogged tube to demonstrate how plaque clogs arteries.</p>
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<p>Learners will be able to identify the benefits of sugars as well as the risks of overconsumption.</p>	<ul style="list-style-type: none"> • You can make healthy choices anywhere by choosing foods lower in fat or eliminating sides high in fat. <p><u>Added Sugars</u></p> <ul style="list-style-type: none"> • Sugars are not a bad thing. Your brain uses glucose, a form of sugar, for energy. We get sugars from foods and from drinks that contain natural and/or added sugars. • When you eat more sugar than your body needs, your body stores it as fat. Eating more sugar than you need may also lead you to eat more calories than your body needs—which puts you at an increased risk for developing chronic diseases like obesity, diabetes, and cardiovascular disease. <ul style="list-style-type: none"> ○ Diet sodas, like water, do not contain any calories. 	<p>12 mins</p>	<p>Visual of 5, 15, and 30 grams of fat: Place prepared jars of fat labeled 5 gram, 15 grams, and 30 grams on a table. Tell them to think about how many grams of fat were on their nutrition label that we gave them for the laminated Food labels discussion and point to the jar that is closest to their amount. That is what they would be eating if they ate 1 serving of that food.</p> <p>Fat content demonstration: see addendum 2</p> <p>Sugar usage demonstration: Have learners stand up and spread out, arms-length apart. Have the learners do jumping jacks or hop for one minute. Ask: how they feel?</p>
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	<p>They may be a better choice than drinks with added sugars because they do not contribute to total caloric intake. See addendum 3.</p> <ul style="list-style-type: none"> ○ Drinking soda is not bad but should be done in moderation to avoid consuming excess calories. 	<p>Soda and flavored drinks sugar content demonstration: see addendum 4.</p> <p>If there is extra time at the end, call up a volunteer and hand them a laminated food label. Help them locate the sugar content on the nutrition label and hold up whichever of the prepared jars of sugar—labeled 5 gram, 15 grams, and 30 grams—contains the closest amount to amount listed on their nutrition label. Help them locate the ingredients list and see if the sugar in the food is added sugar or natural sugar. Emphasize that natural sugar is not a different kind of sugar but that it is found in foods that contain vitamins and minerals and so is a better source of sugar than foods that provide fewer vitamins and minerals, such as is the case with added sugars.</p>
<p>Assessment Have students identify ways to use nutrition labels to discern between high fat and low fat foods.</p>		
<p>Closure Fats and sugars should fit in any healthy diet. Challenge learners to practice reading labels the next time they select a food or drink to evaluate whether the food is high or low in fats and added sugars.</p>		

Addendum 1: Chip Activity

- Ask for student volunteer.
- Have student volunteer pour a normal serving size of chips (how much they actually eat).
- Ask: How many servings of chips do you think you just poured into this bowl?
- Count chips to determine the actual serving size poured into the bowl.
- Multiply the daily value percentage by the number of servings.
- Ask: “If we have 3 servings, how much will the daily value percentages increase?”

Addendum 2: Fat content demonstration

- Ask for a volunteer.
- Have the volunteer pick one of the three fast food restaurants located on the fats poster.
- Hold up the jar that contains the most fat for that restaurant. Each jar contains the amount of fat found in a specific food combination from a specific restaurant. Each jar is labeled with the total amount of fat it contains, the restaurant the menu items are taken from, and the foods combination that it contains.
- Compare the jar with the most amount of fat from that restaurant to the jar with the second most amount of fat from that restaurant and the least amount of fat from that restaurant.

Addendum 3: Diet Soda Controversies

There is some controversy about diet sodas. Some people think that the artificial sweeteners lead to cancer or increased weight gain. However, no research has proven that artificial sweeteners have negative effects.

Addendum 4: Soda and flavored drinks sugar content demonstration:

- Place 8 bottles of drinks on table. Behind the soda place the appropriate jar with the correct amount of sugar for each drink. Make sure learners cannot easily see the jars.
- Ask the class: Rank the drinks from most to least amount of sugar.
- After 1 minute, rank the bottles as a class. After ranking, reveal how much sugar is in each bottle of soda by placing the jars in front of the drinks.

Logic Model: Molina Health Care Community Project

Goal(s): To increase students' awareness of the amount of fat and added sugars in convenience foods and increase students' ability to use nutrition labels to identify foods high in these nutrients.

Inputs

- NDFS 400 instructor
- NDFS 400 students
- Molina Healthcare Utah County Coordinator
- Molina Healthcare resources (handout materials, etc.)
- Computers
- Flash drive
- Print cartridges, paper, copies of project materials
- Materials for lesson (posters, laminated food labels, example drinks and chips, jars of fat, jars of sugar, etc.)
- Transportation costs
- Time
- Grant \$

Outputs (Implementation/Process Obj.)

Activities

1.1 By October 4th, four nutrition students will create one lesson plan containing a list of materials needed to instruct students (ages 12 to 22) to identify specific components of a nutrition label and to compare food items using food nutrition labels.

1.2 By October 16th, Coordinate with Molina Healthcare Coordinator to schedule two presentation times and locations.

1.3 By November 1st, create twenty one fat and sugar models and two posters to be used as visual aids in lesson plan.

Participants:

Students (ages 12-22) in Utah County

Impact – Outcome

Short/Medium-Term Objectives

1. By the end of the class session, 60% of students (ages 12 -22) will be able to verbally identify and compare foods high in fat and added sugars.

Long-term Objectives

1. By 2014, students (ages 12-22) in the Utah County School District will decrease the total amount of calories consumed from added sugars and fats by 5%.

Assumptions:

We anticipate that this lesson plan will be effective in teaching students how to understand and use nutrition labels to compare food choices, and that they will be able to use this information to guide their food decisions outside of the classroom. Teaching students about food labels will help students make healthier food choices.

External Factors:

- Willingness of teachers to allow us to take classroom time to teach their students.
- Other programs educating about food labels, added fats, and added sugars.
- Students' willingness to participate and learn.
- Students' who have learning disabilities due to mental handicaps.

Evaluation Plan

- *Process evaluation:* (Obj. 1.1) # of lesson plans created; (Obj. 1.2) # of presentations scheduled, times, and locations; (Obj. 1.3) # of food models and visual aids created.
- *Impact evaluation:* (Obj. 1) Observation and Verbal Evaluation.
- *Long Term outcome evaluation:* (Obj. 1) 24 hour recall

References:

1. 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.
2. Reedy J, Krebs-Smith SM. Dietary sources of energy, solid fats, and added sugars among children and adolescents in the United States. *J Am Diet Assoc*. 2011;111:222-223.
3. Center for Science in the Public Interest. 85% of snacks from school vending machines are unhealthy, finds CSPI. *CSPI*. 2004:1-13.
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