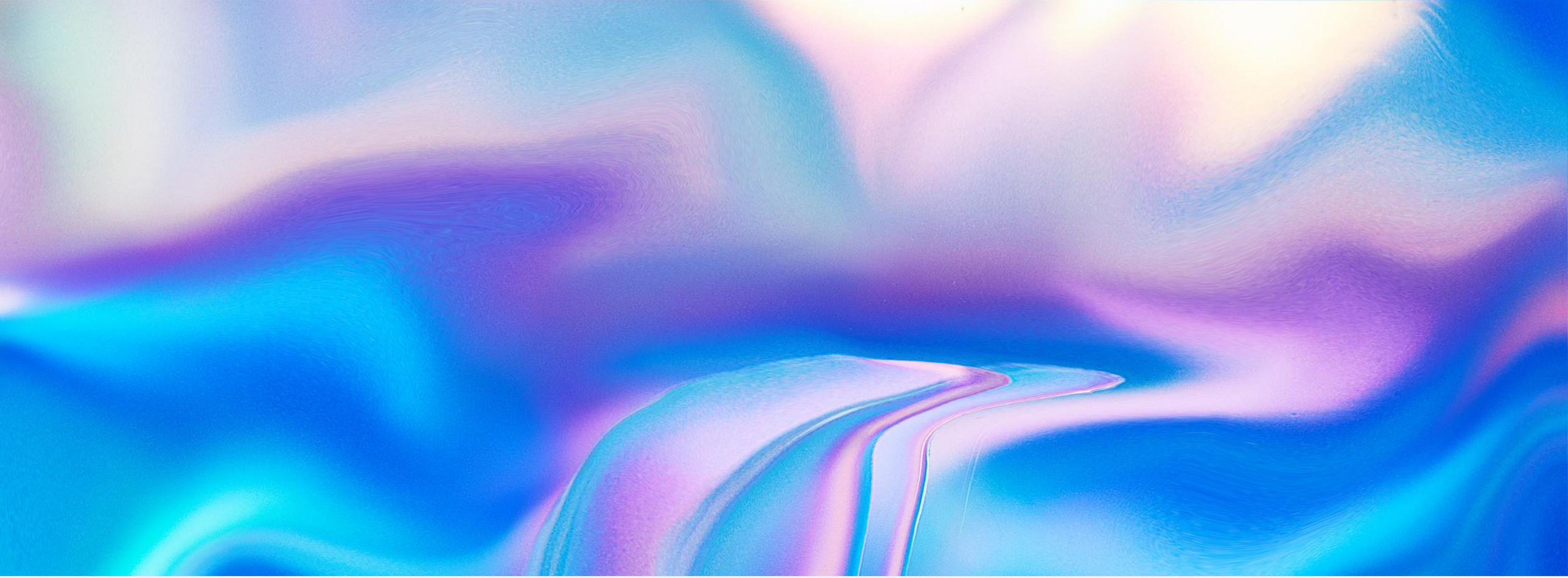


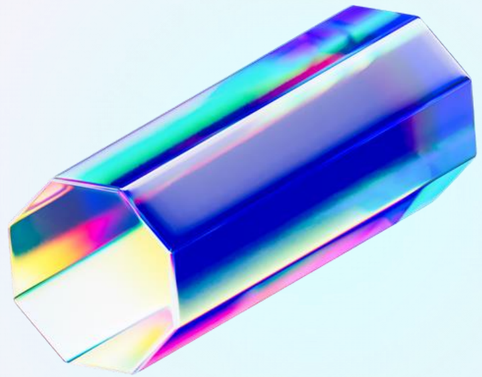
Nutritional Literacy: Enhancing Community Health Through Pamphlet Education

Nuvance Brookfield

Jordan Franco

September 2023

Problem:



Health literacy can be defined as the ability of one to obtain, understand, and apply basic health related information. Health literacy as a concept is a social determinant of health.[1] Nutritional literacy is a subcomponent of health literacy, as viewed through the lens of food and nutrition.[2] Poor nutritional choices can contribute to serious disease processes such as atherosclerotic cardiovascular and cerebrovascular disease, inflammatory bowel disease, and many cancers.[3] Research suggests that individuals with limited nutritional literacy may struggle to make informed decisions about their food choices. Such individuals could derive significant benefits from targeted interventions aimed at enhancing their comprehension and utilization of nutrition label information.[4] This project addresses this issue by enhancing the nutritional literacy of local food pantry clients through the distribution of an informative pamphlet designed to improve their understanding of nutrition.

AHEC Focus: ***Social Determinants of Health***, *education*, *social and community context*

Public Health Costs and Community:

The category of atherosclerotic cardiovascular disease (ASCVD) is a prime example for highlighting the potential adverse consequences of limited nutritional literacy. Among ASCVD conditions, Coronary artery disease (CAD) is the most prevalent. Approximately 5% of the American adult population over age 20 has CAD[5], and in 2021 at least 375,476 Americans died from this disease.[5] While genetics certainly play a role in CAD, environmental factors are significant. One of the biggest modifiable risk factors for coronary heart disease is the consumption of an unhealthy diet.[5]

Nutritional literacy has been shown to be linked to food insecurity[6], a metric that is directly correlated to unemployment and poverty, and inversely correlated to homeownership.[7] As of 2022, the food insecurity rate is 9.6% in Fairfield County, Connecticut.[7] Giving Back is a 501(c)(3) Food Pantry located in Southington, CT whose mission is to alleviate food insecurity.[8] They have been in continuous operation for 16 years, and are well known in the community for organizing two food distribution events on an alternating weekly basis: a fresh produce distribution and a non-perishable grocery distribution. In 2022, Giving Back dispensed more then 162,000 lbs. of food (approximately 231,238 meals) to households in need across Western and Central Connecticut.

Community Perspective:

SF

Sally Farrell – Director at *Giving Back Food Pantry*

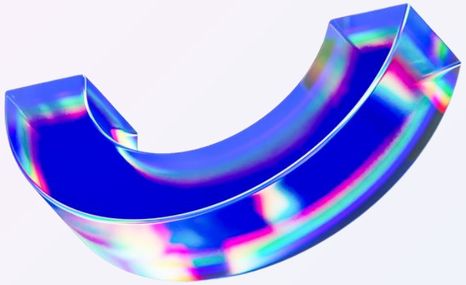
“Even though Connecticut is one of the richest states on a per capita basis, 1 in 10 residents experience food insecurity. We service 27 towns and have many people who require our assistance because if they had to pay for all of their food, they wouldn’t be able to afford rent. We aim to provide clients with well-balanced, nutritional meals because we know that purchasing fresh fruit and vegetables, in addition to buying non-perishable food items, is a challenge to many in our community.”

SS

Shawn Simons – Program Lead at *Giving Back Food Pantry*

“Nutritional misconceptions are common, and I don’t think people necessarily have a good handle on nutritional literacy. We provide a balanced and diverse range of food options, but I am concerned that many our of clients aren’t getting adequate nutrition outside of us. If this pamphlet can educate our clients on making correct nutritional choices I think it would be beneficial for everyone.”

Intervention and Methodology:



1

A 6-panel pamphlet was created containing useful information about key aspects of nutritional literacy such as “understanding nutrition basics”, “decoding food labels”, “building a healthy plate”, and “common nutritional pitfalls.” Attempts were made to produce a pamphlet with a readability level below that of the 10th grade.

2

A focus group of one food pantry client and three food pantry staff was conducted to evaluate the printed pamphlet’s ability to clearly and concisely communicate nutritional and health information to people of any educational level.

3

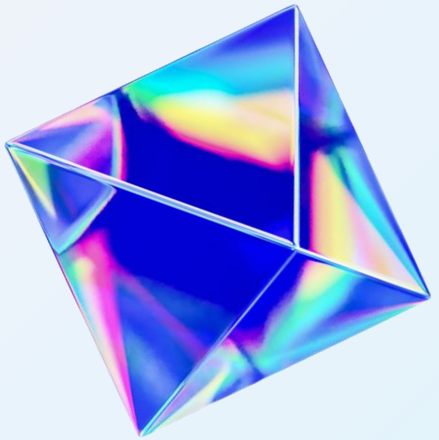
FUTURE PLANS: Implementing the feedback provided from focus group participants, the pamphlet will be revised and enough copies will be printed to distribute to all clients of this food pantry at one of their upcoming food distribution events.

Focus Group Response Data:

- The focus group to evaluate the pamphlet was comprised of 2 directors, 1 volunteer, and 1 client of *Giving Back Food Pantry*.

Points discussed:

- Senior citizens are a significant demographic of this food pantry's clientele. From this fact, two ideas followed: 1) It is important that the printed text is large for readability. Most focus group participants felt the current text size was sufficient. 2) The "resources" section of the pamphlet should include phone numbers if possible, as some older clients may not be comfortable using URL's and online resources. Unfortunately, many of the resources printed on the pamphlet are web-based and don't have corresponding phone numbers.
- The "decoding nutritional labels" section was particularly well received, it came up in conversation that most people probably don't look at the nutritional labels of the foods they buy and eat, but if they ever decided to do so in the future, likely many wouldn't be sure of what to look for in order to judge the nutritional quality of the item.
- There was a consensus that the information on the pamphlet was easily understood and that the graphics were intuitive.



Evaluation of Effectiveness:

- The future of this project involve a continuation of the aforementioned proposed methodology. There should be an implementation of changes to the pamphlet based on feedback received from focus group members. Once the pamphlet is refined, it should be printed in numbers enough to allow for it to be distributed to each household that participates in one of the Giving Back food distribution events. According to the program director of Giving Back, approximately 120 printed pamphlets would be required. After this, a survey could be crafted to ascertain its impact. Such a survey could include questions to participants regarding the pamphlet's readability, it's influence on the reader's attitude towards, and knowledge of nutrition, and questions to gauge if the reader made any change to their dietary behavior.

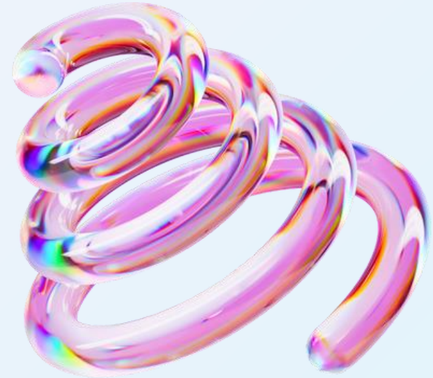
Evaluation of Limitations:

- There are limitations inherent to the teaching of complex material such as nutrition when using such a simple medium as a double-sided pamphlet. This pamphlet was designed to use sentence structure and vocabulary not exceeding a 10^{th} grade reading level, so as to maximize readability to as a broad an audience as possible. Because of this it was challenging to present any one idea in detail.

Future Directions:

- Future directions for this project might explore the possibility of education through pamphlet on more nuanced topics within nutrition. This would allowed the pamphlet to have a more focused scope while more thoroughly conveying important aspects of nutrition and nutritional health. Examples of such topics may include:
  - “The safety and proper use of OTC supplements and vitamins”
  - “Ensuring you get all your nutrients on a vegetarian diet”
  - “Eating healthy while on a budget”

- Future pamphlets could be tailored to the clientele of the food pantry they are being distributed at. For instance, a location with a more predominant senior citizen demographic may benefit from a pamphlet around the topic of “Nutrition for Healthy Aging” that discusses how dietary needs often change based on the aging process. Such a pamphlet could talk about how prescription medications can affect nutrition, such as how proton pump inhibitors can interfere with iron and magnesium absorption in the stomach.



References

1. Nutbeam D, Lloyd JE. Understanding and Responding to Health Literacy as a Social Determinant of Health. *Annual review of public health* **2021**;42:159-73
2. Carbone, E. T.; Zoellner, J. M. Nutrition and Health Literacy: A Systematic Review to Inform Nutrition Research and Practice. *Journal of the Academy of Nutrition and Dietetics* **2012**, 112 (2), 254–265.
3. Coulston; Rock; Monsen. Nutrition in the Prevention and Treatment of Disease; Elsevier, **2001**.
4. Malloy-Weir, L.; Cooper, M. Health Literacy, Literacy, Numeracy and Nutrition Label Understanding and Use: A Scoping Review of the Literature. *Journal of Human Nutrition and Dietetics* **2016**, 30 (3), 309–325.
5. Heart disease facts. https://www.cdc.gov/heartdisease/facts.htm (accessed Sep 17, 2023).
6. Begley, A.; Paynter, E.; Butcher, L.; Dhaliwal, S. Examining the Association between Food Literacy and Food Insecurity. *Nutrients* **2019**, 11 (2), 445.
7. Feeding America Research: Map the Meal Gap - The Economic Drivers of Food Insecurity. https://public.tableau.com/app/profile/feeding.america.research/viz/MaptheMealGap-TheEconomicDriversofFoodInsecurity/CorrelationofFactors (accessed Sep 17, 2023).
8. Giving Back. http://www.tabernacleonline.com/giving-back (accessed Sep 17, 2023).

Calories (continued):

- As a basic guideline for healthy eating, many people aim for around 2,000 calories a day. However, the exact number of calories your body requires depends on factors like your age, weight, height, whether you're male or female, your genes, and how active you are.

Sugar:

- Sugar is the smallest and most simple type of carb. It is found naturally in many foods such as fruits, grains, dairy, and even some vegetables.

- When you eat, the sugar from your food enters your bloodstream. Having too much sugar in your blood is like having a harmful substance in your blood. After a meal, your pancreas releases insulin to help your body take in the sugar from your blood to use for energy or store as fat.

- Diets high in sugar increase the risk of Type 2 Diabetes, a condition where the body becomes unable to clear the bloodstream of sugar. The sugar then acts like a poison and damages your blood vessels. This can lead to cardiovascular, kidney, nerve, and eye damage.

- It's a good idea to cut down on extra sugar that's added to your food (not the sugar naturally in the food itself). When you eat too much added sugar, it can be tough to get all the necessary nutrients you need each day without going over your calorie limit.

Resources:

Nutrition:

MyPlate | U.S. Department of Agriculture
www.myplate.gov

Nutrition Data for foods, store brands, and restaurant items | CalorieKing
www.calorieking.com

Food Safety:

Recalls and Public Health Alerts | USDA
www.fsis.usda.gov/recalls

Recalls, Outbreaks & Emergencies | FDA
www.fda.gov/food/recalls-outbreaks-emergencies

Assistance:

Food, Housing, Mental Health, Utility Assistance, Basic Needs | 211 Connecticut
www.211ct.org

Improve Your Health Today with Nutritional Literacy!

GIVING BACK FOOD PANTRY

1445 West Street
Southington CT, 06489
860-276-0400
info@tabernacleonline.com

Understanding Nutrition Basics

Sodium:

- Sodium is a nutrient you should try to eat less of. If you have too much of it, it can make your blood pressure go up, which is called hypertension. Having high blood pressure can lead to heart problems, strokes, kidney damage, and even losing your eyesight.

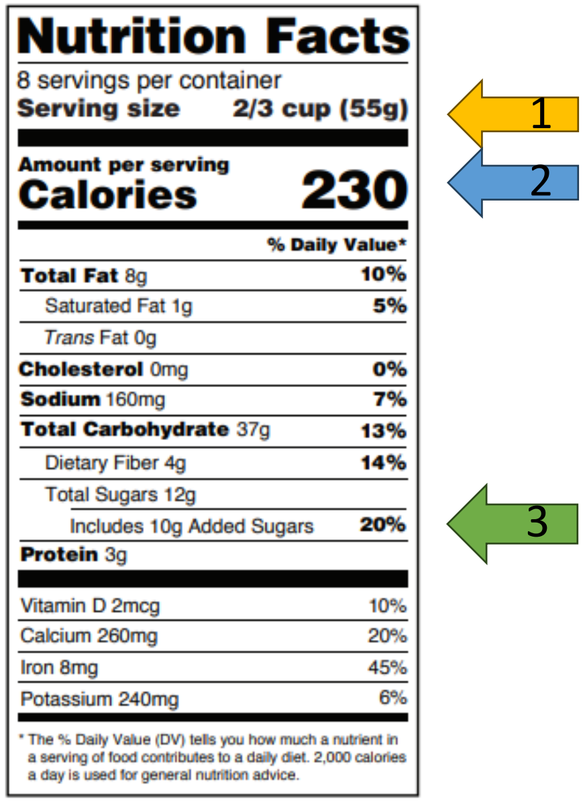
- The majority of the sodium in your diet comes from pre-packaged and ready-made foods. Surprisingly, only a tiny portion of the sodium you consume is from the salt you add to your food at the table. To give an example, a plain bagel by itself contains 560mg of sodium, which is more than 25% of the recommended daily limit of 2,000mg!

Calories:

- A calorie is a unit of energy. Fats, carbs, protein, and alcohol all contain calories. Calories truly are the currency of weight gain and loss. Think of calories like money in the world of weight. If you eat more calories in a day than your body needs, your body saves the extra calories as fat. If you eat the same number of calories your body needs, your weight stays the same. And if you eat fewer calories than your body needs, your body takes some from your stored fat, and you lose weight.

- If you've ever lost weight by working out or following a diet (no matter which diet or exercise you did), it worked because it helped you use up more calories than you ate, so your body started burning its stored fat.

Decoding Food Labels



Nutrition Facts

8 servings per container

Serving size **2/3 cup (55g)**

Amount per serving

Calories **230**

	% Daily Value*
Total Fat 8g	**10%**
Saturated Fat 1g	**5%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 160mg	**7%**
Total Carbohydrate 37g	**13%**
Dietary Fiber 4g	**14%**
Total Sugars 12g	
Includes 10g Added Sugars	**20%**
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 240mg	6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

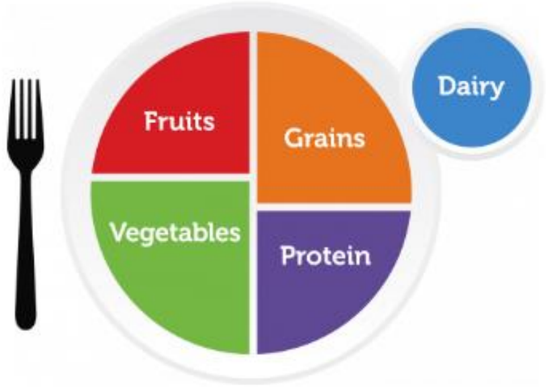
1. Be mindful, serving sizes are often much smaller then the portions you will actually eat! This number lets you put the rest of the label in context

2. This is the biggest number on the label for a reason! This is the most important number to glance at.

3. Manufacturers must declare how much sugar they are adding to their products! This is an important number to glance at.

Building a Healthy Plate

- MyPlate, as depicted in the image below, was introduced by the FDA as a replacement for the traditional food pyramid. It offers a visual representation of how your meal should be portioned. Below, you can see that half of the plate is dedicated to fruits and vegetables, while grains occupy a relatively smaller portion of the meal.



Common Nutritional Pitfalls

- **Emotional Eating:** When you eat to deal with feelings like anxiety or sadness, it can lead to overeating and create a cycle where you're using food as a way to cope with emotions. Instead, try to pay attention to your body. Eat when you're actually hungry, and only have enough to satisfy your hunger.

- **Excessive Caffeine:** Try to limit your daily caffeine. Too much can contribute to poor quality sleep, hypertension, and it can worsen certain medical conditions such as anxiety and gastric reflux disease.