

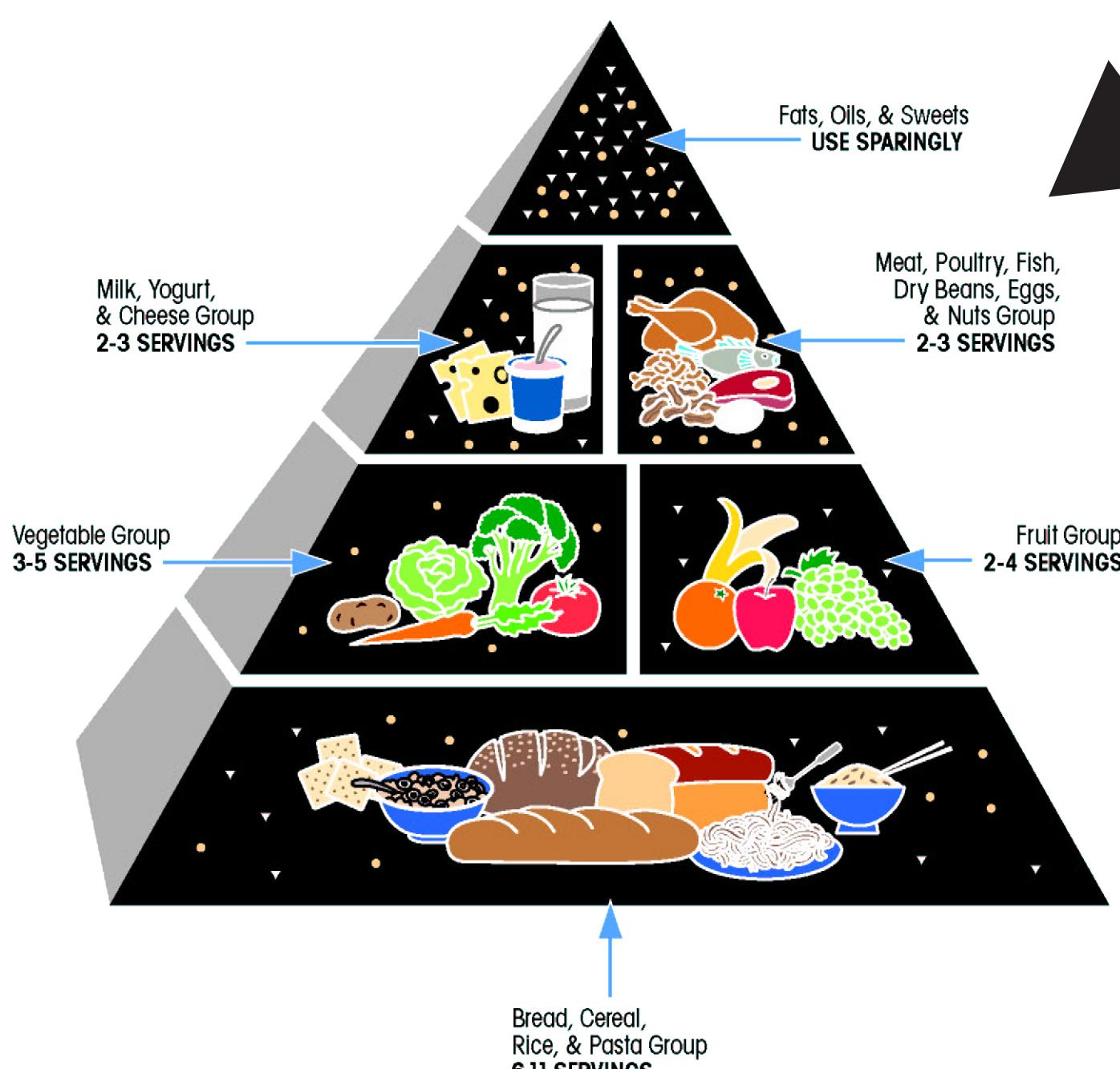
Contextual Nutrition: More than Just Numbers

An investigation on how to transform nutrition facts into meaningful information

What does this mean?

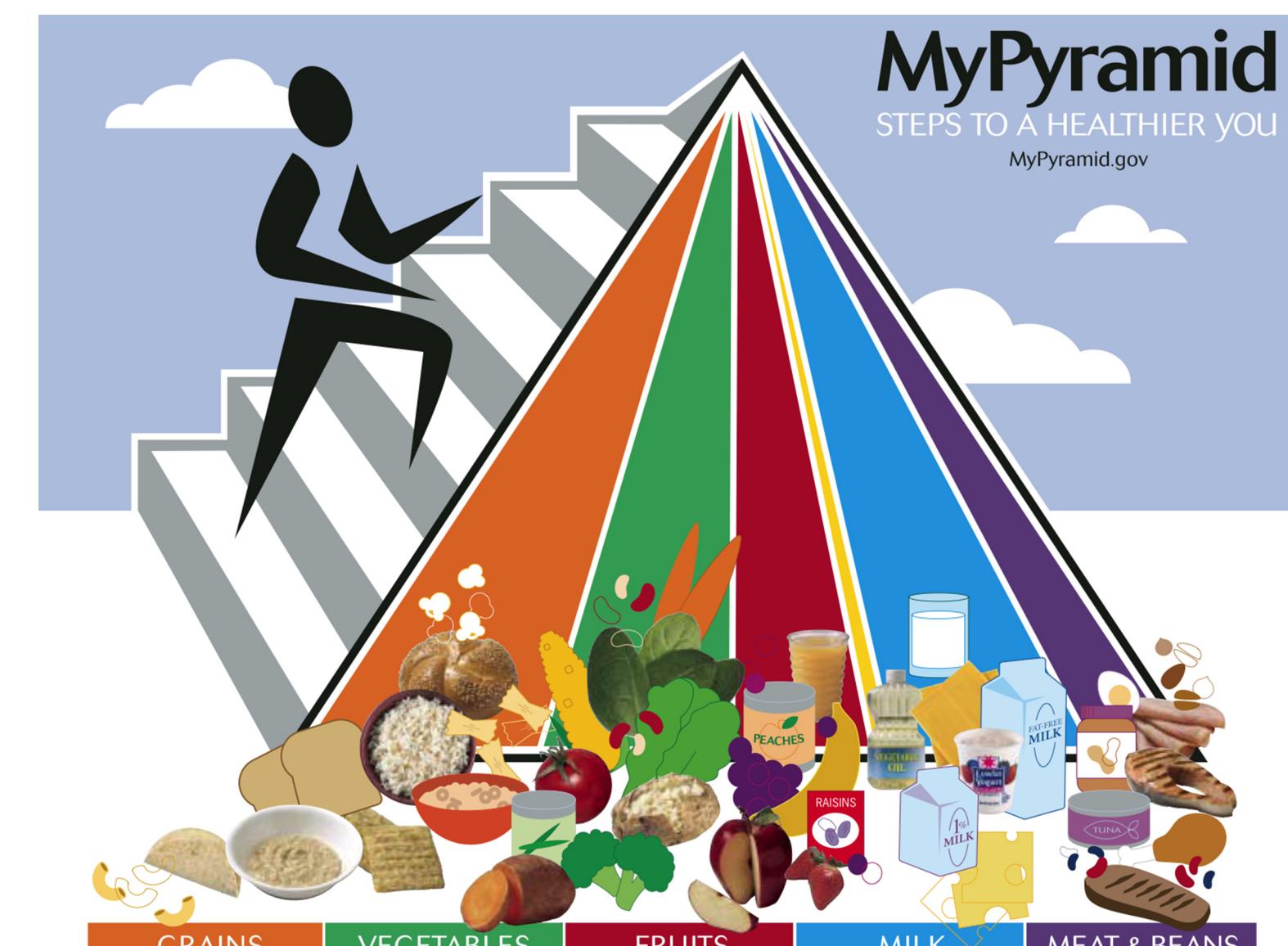
Instituted in 1994¹, the Nutrition Facts Label represents a huge step forward in the reporting of accurate nutrient content.² However, the nutrient reference data for percent recommended daily values referred to on the label is inaccurate for much, if not most, of the American population. Basing the standards on a 2000 Calorie diet indicates that this is the normal, or average, intake requirement. However, Calorie requirements for adults, range from 1500 to 2500^{3,4}, depending on age, gender, activity levels, and other factors. This and other factors, such as a lack of context for this data, is reflected in the continued confusion concerning the Nutrition Facts Label and its use.

| Nutrition Facts | | |
|--|-------------------|-----------------------|
| Serving Size 1 cup (228g) | | Calories from Fat 120 |
| Servings per Container 2 | | % Daily Value* |
| Amount Per Serving | | |
| Calories 280 | | |
| Total Fat 13g | | 20% |
| Saturated Fat 5g | | 25% |
| Trans Fat 2g | | |
| Cholesterol 2mg | | 10% |
| Sodium 660mg | | 28% |
| Total Carbohydrate 31g | | 10% |
| Dietary Fiber 3g | | 0% |
| Sugars 5g | | |
| Protein 5g | | |
| Vitamin A 4% | | Vitamin C 2% |
| Calcium 15% | | Iron 4% |
| *Percent Daily Values are based on a 2,000-calorie diet. Your daily values may be higher or lower depending on your calorie needs. | | |
| Calories: 2,000 2,500 | | |
| Total Fat | Less than 65g | 80g |
| Sat. Fat | Less than 20g | 25g |
| Cholesterol | Less than 300mg | 300mg |
| Sodium | Less than 2,400mg | 2,400mg |
| Total Carbohydrate | 300g | 375g |
| Fiber | 25g | 30g |
| Calories per gram: | | |
| Fat 9 | • Carbohydrate 4 | • Protein 4 |



Developed in 1992, the Food Guide Pyramid, sponsored by the USDA, is one of the most powerful public education campaigns. Over 58% of Americans recognize the image. Yet of that 58%, just 13% actually understand it. One of the reasons for this is that it was out of date before it was even published. The pyramid was based on research from the late 1970s and early 1980s, which had an excessive focus on reducing dietary fat, yet did not differentiate between different types of dietary fat, some of which are part of a healthy diet and some which are not.⁵ An additional problem is that the serving size indicated on the pyramid is not comparable to serving sizes either in normal food consumption nor the Nutrition Facts Label. This leads to misunderstanding as people believe themselves to be choosing food wisely, whereas they may not be.

How about this?



Overview

Nutrition information is difficult to understand and has been since the dissemination of the first Recommended Dietary Allowances.⁵ The difficulty in the Nutrition Facts Label lies in the fact that we don't eat nutrition, we eat food. It is difficult for non-experts to understand the relationships between nutrients and the foods that contain them. The contextual framework is so large few Americans can fully grasp it just by looking at the label. Additionally, there is no informational support for the adjustments that must be made to make the very general recommendations relevant to oneself. What tools are needed to support understanding of the nutrition label and how it relates to one's personal diet needs?

The Food Guide Pyramid was the USDA's attempt to create such a tool in order to educate the American public on what exactly a healthy diet consists of. However, it has no connection to the Nutrition Facts Label, regulated by the FDA, making them two separate campaigns, neither of which are adequate for complete understanding of personal nutrition.

While information itself does not modify behavior, information that is understood can support consumers who already care about nutrition in making good decisions. This thesis will explore how nutrition information can be communicated in a way that is easier to understand as well as what types of tools can be created to allow consumers to relate the information on the packages to their specific nutrient needs.

In 2005, the USDA replaced the Food Guide Pyramid with the MyPyramid system which includes the revised food pyramid, as well as a website that allows personalized nutrient intake and activity information. This change recognizes the difficulty of applying general requirements to the entire population. However, the MyPyramid graphic cannot function without the website. The USDA attempted to simplify the information into a single image that required little if any text. In doing so however, they have removed much of the important information, leaving vague generalizations of how much of each food group one should consume relative to the others.^{6,7}