



Health Connections

LINKING NUTRITION RESEARCH TO PRACTICE

NUTRIENT PROFILING, SCORING AND SYMBOLS —

What's Behind the Label?

Retail markets worldwide are introducing signs and symbols based on a variety of nutrient-profiling systems to help consumers make healthier food choices at point-of-purchase. Is it possible to develop a food guidance system that consumers can understand intuitively—at a glance? Although too much information can be confusing, oversimplification can be misleading, often not conducive to individualized nutrition guidance. This issue of *Health Connections* discusses some elements of these systems so health professionals can explain their purpose, limitations and benefits, and customize them to meet client needs.

Background and History

With obesity and its consequences looming large on the chronic-disease horizon, there is a need for consumers to choose a nutritious diet and manage their weight without having to navigate through the Nutrition Facts panel or evaluate various and often confusing health claims. Food manufacturers, supermarket chains, trade associations and health organizations have developed independent nutrition-symbol systems based on different nutrient-scoring or -profiling criteria to direct consumers to 'healthier' choices in a matter of seconds.

Labeling food products as more or less healthy is not a new concept—the American Heart Association's HeartCheck mark was an early example—but has gained momentum in a world sometimes described as 'overfed and undernourished.' It is estimated that there are over 25 different icon systems in the U.S. marketplace, with others emerging globally.¹

The Basis of Nutrient Profiling

Nutrient profiling is defined as the science of ranking or classifying foods based on their nutrient composition. Measures of nutrient density or quality, previously applied to total diets, are being adapted to evaluate individual foods with

applications ranging from consumer education to policy development and/or regulation.²

Nutrient-profile models often include nutrients to encourage and nutrients to limit, and can be calculated on a 100 gram, 100 calorie or per-serving basis. Transparent scoring systems that have been published or derived from open-source data enable health professionals to accurately communicate the science behind the profiling and instill confidence in ranking systems that consumers might interpret as marketing ploys.

Selecting criteria in the development of the nutrient-profile model is a key decision—and results in variation among the different scoring systems. In general, nutrients beneficial to health are referred to as positive, recommended, desirable or shortfall nutrients such as certain vitamins and minerals; those less beneficial to health often are described as negative, restricted, less desirable, problematic or avoidance nutrients (those to limit) such as different types of fats, added sugars and sodium. Nutrient-profile scores are derived mathematically (for example, the sum of positive nutrients minus the sum of negative nutrients) using algorithms or equations and communicated to consumers graphically on the front of the package or on shelf tags.

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Mary Jo Feeney specializes in nutrition communications and marketing. With over 30 years experience in public health nutrition and education, she currently is a leading consultant to the food, agriculture and health care industries. A charter Fellow of the American Dietetic Association, Mary Jo served on the Board of Directors of both the American Dietetic Association (ADA) and its Foundation (ADAF) and received the association's Medallion Award in 1996.

Ranking or profiling systems can have limitations. By itself, nutrient profiling provides little information on the use of a food in the context of a meal or how a food can be incorporated into daily food choices to build a healthier total diet. Across-the-board scores—especially those emphasizing negative nutrients—could lead to foods failing a nutrient-profile ‘test.’ For example, nuts, cheese, reduced-fat milk and lean meats are rich sources of important nutrients, yet due to fat and calorie contents may be scored lower and considered less healthy. Profiling criteria need to ensure that no one nutrient contributes disproportionately to the overall score.

Additional limitations to scoring systems include the failure to score foods on their complete nutrient profile due to limitations of standard databases (www.ars.usda.gov/ba/bhnrc/ndl), or due to using only nutrients required for labeling. For example, there is limited information on vitamin D in standard databases, a nutrient now recognized as having expanded functions and benefits beyond calcium metabolism (see <http://www.dairycouncilofca.org/PDFs/Vitamin%20D.pdf>). These limitations place foods high in vitamin D — including milk, some fortified juices and cereals — at a disadvantage in some scoring systems.

Consumer Research and Regulatory Compliance

The Food and Drug Administration (FDA) is monitoring the emergence and use of the various symbols that can constitute nutrient content claims subject to federal regulations. The agency’s “Dear Manufacturer” letter (<http://www.cfsan.fda.gov/~dms/flsymgui.html>) restates regulatory

requirements that the claims not be false or misleading.

FDA’s focus-group research to understand how front-of-package (FOP) symbols performed in conveying nutritional characteristics of a product discovered that few participants remembered seeing the various existing product symbols or shelf tags used in the current marketplace. When shown model product labels with variations of FOP symbols, participants considered nutrient-specific symbols (such as a traffic light) better at conveying nutrition characteristics than a summary symbol (such as a check or star). Participants found colors and indicators such as “high/medium/low” useful. However, personal needs and interests affected preferences of the symbols.

In summary, many gaps remain in our knowledge of consumer use and understanding of symbols conveying nutrition information at a glance. Research is needed to link the use of these symbols and the nutrient criteria upon which they are based to some independent measure of nutrient quality or health outcome. In the meantime, health professionals are encouraged to visit program-sponsor websites to evaluate the science behind the symbols using tips in the sidebar.

PRACTICE POINTS FOR THE HEALTH PROFESSIONAL

- Communicate the concept of nutrient-rich foods independent of any point-of-purchase system to help clients ensure adequate intake of nutrients while managing their weight. Nutrient-rich foods include low-fat and fat-free dairy, fruits, vegetables, whole and enriched grains, lean meats and legumes. (See Nutrient Density: A tool to communicate healthier choices at http://www.dairycouncilofca.org/PDFs/hp_hc_spr_06.pdf) and the Nutrient-Rich Foods Coalition “Live Well: Your guide to nutrient-rich eating” at <http://www.nutrientrichfoods.org/index.html>.)
- Educate clients that nutrient-profiling systems and symbols are **one** factor to consider—a starting point—in making food choices. Nutrition guidance is more complex than a single symbol for each food relevant to everyone. Encourage clients to ‘think bigger’ and consider their own individual nutrient needs and food preferences that influence their food choices and overall health. These include their life stage; other family member preferences; economic flexibility; activities in which they participate; and enjoyment of food.
- Communicate the importance of serving sizes to avoid over-consumption of any food.
- Help clients avoid classifying foods as ‘good’ or ‘bad;’ instead help them moderate their intake of foods that are enjoyable yet scored or identified as less nutritious.

SIDE BAR: Tips on How to Evaluate P-O-P Icons, Symbols and Programs

Become familiar with the science behind the label to answer questions on the various point-of-purchase icons. Visit the sponsor, organization, supermarket or food manufacturer website for additional information. Review the programs and consider:

- **Are the scoring or program nutrient criteria:**
 - Known, publicly available or published in scientific journals?
 - Objective and balanced between positive and negative nutrients?
 - Scientifically representative of consensus dietary guidance—2005 *Dietary Guidelines for Americans* and *MyPyramid*—and flexible to accommodate changes anticipated with the 2010 revision of the Dietary Guidelines?
- **Are there additional program support tools such as websites, in-store cooking classes, tours and other education programs to help consumers understand the use of specific foods in planning meals and in the total diet?**
- **Can the program information be transferred to other settings when food choices are made outside the supermarket?**

Interview — Eileen Kennedy, D.Sc., Dean, Friedman School of Nutrition Science and Policy, Tufts University, Medford, MA. The first Executive Director of the USDA Center for Nutrition Policy and Promotion (CNPP), Dr. Kennedy has focused her research on measures of diet quality and strategies to move consumers toward nutritious food choices.

Q. Why is there such a current emphasis on point-of-purchase icons and symbols?

A. Years ago, meals at home were fairly repetitious and made from limited ingredients. The many products at retail, coupled with more of the food budget spent away from home—or on food prepared outside the home to be eaten in-home—make it difficult for consumers to make better-for-you food choices. Some of the previous technical work with consumers at CNPP suggested that while consumers found the 1992 *Food Guide Pyramid* and the 2005 *MyPyramid* helpful, they needed more of a road map. The five food groups do not get to how consumers purchase and eat. The grain group identifies product categories such as whole grains, rice, breads and cereals, but when a consumer is in the cereal aisle, the consumer wants to know the better-for-you cereal choice. Also, younger generations get information in many different ways. They have seen the Nutrition Facts panel for over a decade. To be relevant, nutrition information at point-of-purchase may need to be refreshed.

Q. What are some lessons learned throughout the development of the different programs and symbols?

A. Guidance must both be science-based AND meet consumer needs. Consumers want simple, easy-to-use and quick guidance. The average consumer spends about 7 seconds choosing a food product—it is not realistic to think that a complicated guidance system will be effective. The Keystone Center's roundtable and coalition have developed the Smart Choices Program™ that applies and communicates science-based nutrient criteria through a checkmark icon to 19 product categories including entrees, sandwiches and meals. These categories represent HOW consumers eat, so the use of this icon front-of-package can help advance what government agencies have done through the food group system.

Q. How can nutrition professionals use the different symbols and programs to support the goals of the Dietary Guidelines?

A. We want to move consumers toward the Dietary Guidelines recommendation to get the most

nutrients from their calories—which these scoring systems attempt to do. All build on nutrients to encourage (many identified in the Dietary Guidelines) and nutrients to limit and diverge from there—although this is not apparent to the consumer. Because consumers react to positive messages, not to 'good' or 'bad' foods, consider the similarities rather than the differences in the symbols/programs and encourage nutritious food choices.

Q. What can we expect to see in the future in terms of nutrient-profiling systems and symbols?

A. There is a desire to bring consistency to the marketplace because a worldwide variety of front-of-package systems may, in fact, confuse rather than inform consumers. Food manufacturers appear willing to move away from their own systems with the Smart Choices Program™ (<http://smartchoicesprogram.com/>). Consumer research using the Smart Choices icon alone, the icon with calories, or nothing indicate that the icon helps consumers make choices more consistent with nutrition goals. The successful system will be the one that encourages better food purchases and dietary patterns. Retailers with loyalty-card programs can track purchases and help contribute to program evaluation.

It will simply not be enough to use traditional nutrition education approaches to improve consumer food choices. The private sector must be engaged—perhaps extending the application of science-based symbols at the restaurant level. In contrast to the involvement of food manufacturers who already had a database in the Nutrition Facts panel, application at the restaurant level will require time to develop an extensive ingredient database.

Some suggest that the private sector is being forced to adopt a standardized approach to front-of-package symbols to avoid regulation. I suggest that it may be the other way around—the FDA can and will benefit from the private sector's experience with the different systems. The advantage of the private-sector involvement is that food manufacturers and retailers can move more quickly.



Eileen Kennedy, D.Sc.

REFERENCES

- ¹ Policy position statement front-of-package food icon systems July 2007. American Heart Association. <http://www.americanheart.org/downloadable/heart/1194885826220Policy%20Position%20-%20Statement%20-%20front%20of%20package%20food%20icon%20systems.pdf> Accessed 11/28/08.
- ² Drewnowski A, and Fulgoni V. Nutrition Reviews 2007. 66(1)23-39.