

Front-of-Package Nutrition Labeling: Which Labels Benefit Consumers the Most and Why Do They Help?

Christopher L. Newman
University of Mississippi

Elizabeth Howlett
Washington State University

Scot Burton
University of Arkansas

Abstract

Consumers are increasingly exposed to nutrition and health information on food packages. In particular, front-of-package (FOP) nutrition labeling has become a popular way for food marketers to communicate information to customers about the healthfulness of their products. With so many disparate types of FOP labeling systems currently in the marketplace, it is not clear which types of FOP labels might be most helpful to consumers for certain types of evaluative tasks. However, new research sheds light on this issue and offers important implications for food manufacturers, food retailers, and consumers' health.

The processing, comprehension, and utilization of nutrition information by consumers has been a significant concern to food companies and the public health community for many years, and particularly for the 25 years since the implementation of provisions of the Nutrition Labeling and Education Act (NLEA). The NLEA provided the Food and Drug Administration (FDA) with the authority to mandate that all packaged foods include a standardized nutrition labeling format on the back or side of the package (i.e., the Nutrition Facts Panel [NFP]). The Act also required that promoted nutrient content claims ("high fiber," "low calorie," etc.) and health

claims (e.g., “A diet low in total fat may reduce the risk of cancers”) be consistent with government regulations based on public health findings.¹

The overall objective of the NLEA was to provide nutrition information that could aid consumers in making food choices that could help reduce life-threatening diseases, such as coronary heart disease, hypertension, diabetes, and cancer. However, with the significant increases in obesity since the passage of the NLEA in 1990, and more than 250,000 deaths per year in the U.S. due to obesity-related diseases,² there were many concerns that the objectives of the NLEA related to more healthful food choices were not accomplished.³ Food product manufacturers, government agencies, and the public health community all became interested in how this complex set of nutrient information might be communicated to consumers more efficiently and effectively.⁴

Given these concerns, over the past decade, in addition to the mandated NFP, consumers have been exposed to a myriad of voluntary front-of-package (FOP) nutrition symbols and icons. These symbols present consumers with selected nutrition information in a condensed format on the front of food packages. Some notable examples of FOP nutrition labeling symbols include the Grocery Manufacturers of America’s and Food Marketing Institute’s Facts Up Front (FUF) system, Hannaford’s Guiding Stars, the American Heart Association’s Heart-Check mark, the “Smart Choices” icon, Kellogg’s and Mars’ use of the Guideline Daily Amounts, Wal-Mart’s “Great for You” Program, the NuVal Scoring System, and the Institute of Medicine’s (IOM) proposed Healthy Stars system.

Reductive (Nutrient-Specific) Versus Evaluative (Summary) FOP Symbols

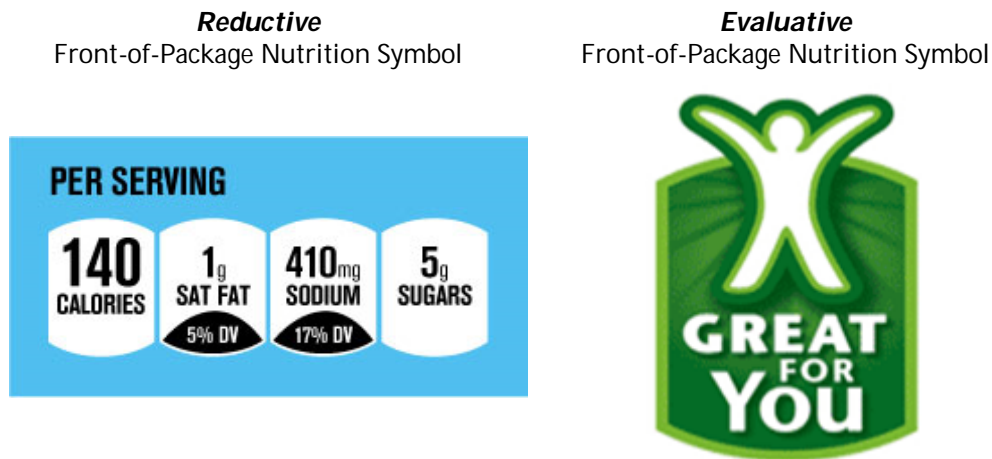
A useful way to understand the diverse array of FOP symbols currently in the marketplace is to categorize them as either *reductive* or *evaluative* (see Figure 1).^{5,6,7} A *reductive* (or nutrient-specific) FOP symbol presents a reduced amount or “snapshot” of nutrient information directly from the Nutrition Facts Panel on the back of the package. Such information is objective, measurable, and impartial, and designed to provide consumers with a simpler information format (compared to the entire NFP). Common examples of reductive FOP symbols include the Facts-up-Front and Guideline Daily Amount icons.

By contrast, an *evaluative* (or summary) FOP symbol provides consumers with an overall evaluation of a product’s healthfulness. Though not as detailed as reductive FOP symbols, evaluative FOP symbols are much more interpretive in nature and are intended to help consumers evaluate food items more quickly and easily. Popular examples of evaluative FOP symbols

Front-of-Package Nutrition Labeling

include the IOM's Healthy Stars, as well as the Smart Choices and NuVal systems.

Figure 1. Examples of Reductive versus Evaluative Front-of-Package Nutrition Symbol



Prior marketing academic research has considered the potential benefits of both reductive and evaluative FOP labeling systems. For example, reductive symbols have initially been shown to help consumers use nutrition information more accurately⁸ and lead to more positive healthfulness evaluations and higher purchase intentions for food items⁶ compared to instances when no such information was available. Similarly, promising findings have also initially been shown for the effects of evaluative FOP symbols on consumers' food-related evaluations, intentions, and choices.^{5,6,7} However, a greater understanding of how consumers process and use these different types of FOP symbols is still needed.^{3,9}

To this end, Newman, Howlett, and Burton (2016) conducted a series of studies to determine what outcomes occur when consumers use reductive vs. evaluative FOP symbols to: 1) independently examine *single* food products in isolation, and 2) jointly examine *multiple* food products simultaneously (i.e., choice options in a category at the grocery store shelf). Findings reveal that reductive FOP symbols are better suited to help consumers evaluate and choose healthy products when they only need to assess a single item at a time. For a single product, consumers can more easily process and use the detailed, quantitative information provided by reductive symbols. Thus, reductive, nutrient-specific icons are able to support consumer understanding and education objectives when the evaluation task involves only one item.

However, when the evaluation task becomes more complex and involves comparing a larger number of items at the grocery store shelf, the more simplistic and interpretive nature of evaluative FOP symbols is shown to be more beneficial to consumers. That is, consumers can more easily evaluate and identify the more healthful food items from within a larger set of brands with the aid of the simpler, more interpretive evaluative FOP symbols (compared to reductive FOP symbols). Thus, when the goal is to assist consumers in making healthful choices at the point-of-purchase by comparing alternative products in a category, evaluative FOP labeling systems appear most helpful. Newman, Howlett, and Burton (2016) show that the perceived ease of processing the nutrition information (or processing fluency) helps to explain the effects of the FOP format on the evaluations and choices of more healthful products across these different product judgment contexts.

What Does This Mean for Food Manufacturers, Food Retailers, and Consumer Health?

This new FOP research, combined with previous findings, has important managerial implications for food manufacturers and food retailers. First, food manufacturers must initially consider whether to implement a FOP nutrition labeling system on their food packages or not. In the U.S., such labeling is voluntary and clearly affects consumers' evaluations and choices (relative to not offering such FOP labeling). Second, if manufacturers do opt to include FOP labeling, they must choose whether to provide reductive or evaluative symbols. Specifically, a key consideration should be the setting in which consumers will be examining their products. Will consumers more often evaluate their products independently (such as in an online setting or in smaller stores with very few options in a given category)? Or will consumers more often evaluate their products simultaneously along with other options in more complex settings (such as in larger grocery stores with large categories and many different items)? Also, food manufacturers may reconsider reformulating some of their products by changing one or more nutrient levels in order to make their chosen FOP symbols more effective (e.g., decreasing sugar in a particular cereal item in order to qualify for 2, rather than just 1, IOM Healthy Stars).

Food retailers face a similar, yet perhaps more complex, situation. Since many different food manufacturers use different types of voluntary FOP labeling systems (reductive vs. evaluative vs. no system at all), food retailers must consider the aggregate effects that these disparate, competing systems may have on their shoppers' evaluations and choices. For example, shoppers may begin to switch brand loyalties based on the specific type of FOP labeling

Front-of-Package Nutrition Labeling

that a particular manufacturer uses, which may impact category profits, store profits, and ultimately, buying patterns for the store. Changes in shopper behavior might also lead to changes in pricing and promotional strategies for the retailer.

Additionally, rather than use systems created by manufacturers or third parties, a number of food retailers have opted to create and implement their own FOP nutrition labeling systems instead (e.g., Wal-Mart's "Great for You" program; Hannaford's Guiding Stars). Like food manufacturers, food retailers must also consider what type of FOP labeling system to incorporate, and further, how it might interact with (dis)similar FOP labeling systems already being used by manufacturers. Retailers may have additional incentives for offering FOP labeling other than merely helping their customers make more informed, healthier choices. Prior research suggests that retailers that choose to voluntarily provide FOP nutrition labeling to their customers are viewed as more concerned about their customers. In turn, customers reward these retailers by expressing more positive attitudes and higher repeat patronage intentions toward them.⁶ Food retailers therefore may be able to effectively leverage FOP nutrition labeling as a major point of differentiation from their competitors.

Lastly, from a consumer health perspective, consumers may at times consider the healthfulness of single products *or* choose from several alternative brands in a consideration set at the retail shelf. A goal of the NLEA, as well as more recent government initiatives,^{1,9} has been to provide information that could aid consumers in making more healthful food choices that could promote long-term health. Improving the healthfulness of selections made by consumers within a set of alternative brands seems like the most effective way to accomplish this goal, highlighting the benefits of evaluative FOP systems. Further research involving hybrid systems that merge evaluative and reductive components, such as FOP traffic lights, are of interest.

Overall, FOP nutrition labeling is growing in importance for a number of constituencies, including food marketers, policy makers, public health officials, and consumer welfare advocates. By matching the type of FOP symbol (reductive vs. evaluative) to the type of tasks most often faced by the majority of their customers, food manufacturers and food retailers may be able to better serve their customer bases. Consumers also benefit from making more informed and healthful choices that can have a favorable impact on their long-term well-being.

Authors

*Christopher L. Newman is an Assistant Professor of Marketing in the School of Business Administration at the University of Mississippi. His primary research interests include food labeling and consumption, consumer health and welfare, shopper marketing, and retailing. Dr. Newman's research has been published in the Journal of Consumer Research, Journal of the Academy of Marketing Science, Journal of Retailing, Journal of Business Research, and the American Journal of Health Promotion, among others. He has twice been named the Co-Outstanding Junior Researcher of the Year by the Ole Miss Business School, and has additionally been twice honored with the Outstanding Publication of the Year Award. He is also a past recipient of the Brenda Derby Memorial Award, which is presented nationally to the doctoral student who best demonstrates excellence as an emerging marketing and public policy researcher. Dr. Newman has taught a variety of courses including Advanced Studies in Consumer Behavior, Data Analysis and Interpretation, Retail Strategy, and International Marketing.
email: cnewman@bus.olemiss.edu*

*Elizabeth Howlett is a Professor in the Department of Marketing, Sam M. Walton College of Business, University of Arkansas, Fayetteville. She completed her Ph.D. degree from Duke University in Marketing (primary field) with an emphasis in Behavioral Decision Research and Theory. She has been a member of the faculty at New York University and the University of Iowa. Dr. Howlett teaches integrated marketing communications, marketing research, public policy, and consumer behavior at both the undergraduate and graduate levels. Her research has appeared in a number of top journals including the Journal of Consumer Research, Journal of Marketing, Journal of the Academy of Marketing Science, Journal of Retailing, Journal of Public Policy & Marketing, and the American Journal of Public Health. She has also served as a consultant and expert witness in numerous litigation matters involving consumer confusion. Dr. Howlett's major research focus is on issues related to consumer decision making within the context of consumer health and welfare issues.
email: bhowlett@walton.uark.edu*

Scot Burton is Distinguished Professor and Tyson Research Chair in Food and Consumer Products Retailing, Department of Marketing, Sam M. Walton College of Business, University of Arkansas–Fayetteville. His primary research interests include consumer well-being, public policy concerns, and retail consumer promotion issues. He has published more than one hundred refereed articles in a variety of journals in marketing, psychology, and health, including the Journal of Marketing, Journal of Marketing Research, Journal of Consumer Research, Journal of Public Policy & Marketing, American Journal of Public Health, Journal of Applied Psychology, Journal of Retailing, Journal of the Academy of Marketing Science, Tobacco Control, Nicotine and Tobacco Research, Public Opinion Quarterly, Journal of Management, and MIS Quarterly. Two of his coauthored articles have

Front-of-Package Nutrition Labeling

received the Thomas C. Kinnear Journal of Public Policy & Marketing outstanding article award, and he will begin serving as a co-editor of JPP&M in July, 2017. He also has served as a special external consultant to the FDA Risk Communications Advisory Committee.

email: sburton@walton.uark.edu

Endnotes

1. Nutrition Labeling and Education Act (NLEA) (1990). Public Law No. 101-535, 104 Stat. 2353 (codified in part at 21 U.S.C. 343).
2. CDC (2016). Overweight and Obesity. U.S. Department of Health and Human Services, <http://www.cdc.gov/nccdphp/dnpa/obesity/index.htm>.
3. Kees, J., S. Burton, & Andrews, J.C. (2015). Government Efforts to Aid Consumers' Well Being: Understanding Federal Health Warnings and Disclosures. In *Cambridge Handbook of Consumer Psychology* (pp. 530-562), Norton, M., Rucker, D., & Lambertson, C. (Eds.), New York, NY: Cambridge University Press.
4. Burton, S., Cook, L.A., Howlett, E.H., & Newman, C.L. (2015). Broken Halos and Shattered Horns: Overcoming the Biasing Effects of Prior Expectations Through Objective Information Disclosure. *Journal of the Academy of Marketing Science*, 43(2), 240-256.
5. Andrews, J.C., Lin, C.-T. J., Levy, A.S., & Lo, S. (2014). Consumer Research Needs from the Food and Drug Administration on Front-of-Package Nutritional Labeling. *Journal of Public Policy & Marketing*, 33(1), 10-16.
6. Newman, C.L., Howlett, E.H., & Burton, S. (2014). Shopper Response to Front-of-Package Nutritional Labeling Programs: Potential Consumer and Retail Store Benefits. *Journal of Retailing*, 90(1), 13-26.
7. Newman, C.L., Howlett, E.H., & Burton, S. (2016). Effects of Objective and Evaluative Front-of-Package Cues on Food Evaluation and Choice: The Moderating Influence of Comparative and Non-Comparative Processing Contexts. *Journal of Consumer Research*, 42(5), 749-766.
8. Andrews, J.C., Burton, S., & Kees, J. (2011). Is Simpler Always Better? Consumer Evaluations of Front-of-Package Nutrition Symbols. *Journal of Public Policy & Marketing*, 30(2), 175-190.
9. Food and Drug Administration (FDA) (2015). Front-of-Package Labeling Initiative Questions & Answers, <http://www.fda.gov/Food/IngredientsPackaging/Labeling/Nutrition/ucm202734>.