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Current Information Levels On Food Labels

Julie A. Caswell

Major regulatory changes will result in new labels for nearly every packaged food product by 1994.¹ In addition, many fresh products will begin to carry nutrition labels on a voluntary basis. These new labels are the joint product of legislative mandates and on-going initiatives undertaken by the regulatory agencies since 1990. The impact of these changes on the food system would likely be substantial under any circumstances. However, several forces are poised that may cause labeling reform to have far-reaching effects on food demand and marketing strategies. The forces include a critical mass of understanding by consumers of diet-health linkages, extensive public nutrition education efforts proposed to accompany introduction of new labels, and food processors' heightened focus on nutritional and health attributes in marketing products. Together, these forces may cause major shifts in the composition of the U.S. food supply. The impact's extent depends on how information changes, which in turn depends on the new regulatory environment; current levels of information on and use of food labels; and strategic responses of food producers, processors, and distributors.

The Changing Regulatory Environment

Nutrition labeling itself has not significantly changed since its initial implementation in 1975 (for details of current regulations see National Academy of Sciences and Kushner et al.). The Nutrition Labeling and Education Act of 1990

mandates that the Food and Drug Administration (FDA) make extensive changes in the nutrition labeling of FDA-regulated products. Its key feature is to make such labeling mandatory, whereas current regulations only require it when a nutrient is added or a nutrition claim is made. Other important features, as detailed in proposed rules published in November 1991 (56 Federal Register 60, 365-891, 1991) and due to be finalized in November 1992, include standardization of serving sizes used in nutrition labeling; strict regulation of use of descriptors such as "free," "less," and "light"; stringent limits on permissible messages linking particular nutrients to specific health conditions or diseases (e.g., linking calcium intake and osteoporosis); and changes in listed nutrients and possibly to the panel's format. The United States Department of Agriculture (USDA) is pursuing parallel changes in labeling of the processed meat and poultry products under its jurisdiction (56 Federal Register 60, 302-364, 1991). The agencies are also developing voluntary labeling programs for fresh products such as fruits, vegetables, fish, and meats, with the potential for labeling to become mandatory if participation is insufficient.

Label reform has not been on hold during the interim period as regulations are finalized and implemented. Following an actively laissez-faire period in the mid to late 1980s, the FDA and the Federal Trade Commission (FTC), which is responsible for protecting consumers from deceptive advertising, have used their existing authorities to increase case-by-case enforcement against misleading food labels and advertisements. The enforcement increase, which in scope and vigor can legitimately be called a crack-down, complements the new regulations and means that change in the regulatory environment in the first half of the 1990s is a rolling process.

Many analysts believe new label regulations will result in extensive reformulation of food products (Ingersoll 1991b). Reformulation is a

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¹ At this writing, new FDA regulations are scheduled to take effect in May 1993 but expected to be delayed until February or May 1994. New USDA regulations are scheduled to take effect in May 1994.

strategic response to two related forces. First is competition for market share from sales to nutrition-conscious, label-using consumers. Because access to product information will presumably improve, and there will be nowhere to hide with mandatory labeling, products with less desirable nutritional profiles may be reformulated to avoid unfavorable comparisons by such users. Second, it is important to note that this rivalrous process can take hold in markets even when only a small portion of consumers are active label users. The third-party role of labels as a significant influence over product design is a key feature of how labels operate (Caswell and Padberg).

Consumer response to label changes depends, as Zarkin and Anderson explore, on the size and nature of the gap between consumers' beliefs about products' nutrient attributes and the reality revealed in the new labels. At present, food processors have better information on the gap than do consumers or regulators because they know or can test their products' nutritional profiles and consumers' beliefs. Strategic positioning is taking place now to gain advantage from or neutralize the effects of new information coming on the market. A major question in analyzing consumer response is, how much will information actually change?

There are several possible bases for arguing that the gap between reality and consumers' beliefs may not be large (or important) and, therefore, their response to new labels will be muted. Nutritional quality may not be a significant attribute in purchase of some or many food products so that adding information on the characteristic will not alter consumer behavior. The new labels could be difficult to use and fail to convey nutritional information, so that consumers' information stock is not improved. Given consumers' growing interest in diet/nutrition issues and mandatory labeling, neither of these scenarios appears likely.

A more central and important basis for arguing that the information gap is not large is the idea that the product market, while not attaining perfect information, currently contains much more information than it is given credit for or than can be measured by, for example, simply counting the number of products with nutrition labels. When quality claims such as nutritional labeling are voluntary, an "unfolding process" may take place where high quality (e.g., high nutrition) products make claims and those with low quality do not (Grossman, Ippolito and Mathios, Caswell and Padberg). Thus, absence of

a nutrition label may be a rather good proxy signal for low nutritional value. If this process is at work and consumers understand it, there may not be a significant gap between perception and reality, so that new labels will not add much to consumers' information base. The FTC appears to have some faith in such a process and has consistently argued that consumers have a good ability to sort through diverse information sources and may learn more from a dynamic market in which processors are competing in developing claims than from a closely regulated labeling language (see, e.g., FTC). We turn to analyzing current levels of information on food labels to further explore this issue.

Current Prevalence of Nutrition Labeling and Health Claims

Often cited figures estimate that "about 60% of packaged products regulated by FDA have nutrition labeling; for USDA, more than 35% of regulated packaged products carry nutrition labeling. This means that almost half of all packaged foods do not bear nutrition labeling (National Academy of Sciences, p. 63)." Of course, very few fresh, food service (restaurants, carryouts), or institutionally served (schools, prisons) foods carry nutrition labeling. While often quoted, these estimates leave much unknown about information levels on labels. First, the amount of nutrient information included on the nutrition information panel varies from the standard minimum format to optional listing of additional vitamins and minerals; breakdowns of total fat content into unsaturated and saturated fats; and cholesterol content. Information on fiber content and other product attributes may also appear.

Second, these estimates do not provide information on the frequency and content of health claims on food products. Health claims include implicit claims such as use of brand names (Healthy Choice), descriptors (light), or graphics (hearts) suggesting a link between consumption of a product and better health. They also include explicit claims (e.g., a diet high in fiber may reduce the likelihood of developing colon cancer). Research suggests that about 32% of packaged foods bore descriptors in the mid 1980s (National Academy of Sciences, p. 232). Information on new product introductions indicates that use of health claims is frequent. For example, one-third of new offerings in 1991 carried a health descriptor (Food Institute Report).

But similar information on current use of health claims by all products is lacking.

Data Sources and Definitions

To measure the prevalence of nutrition labeling and health claims on packaged foods, data were

collected in July/August 1991 on 31 product categories at a large superstore in western Massachusetts (table 1). Within each category, information was collected on all national and private label brands sold by the store. The data are part of an on-going annual survey designed to track the evolution of product offerings and label content as a result of regulatory change. The

Table 1. Prevalence of Nutrition Labeling and Health Claims for Selected Product Categories, 1991

Product Category	#Brands	Breakdown by Level of Nutrition Labeling						
		Brands with Nutrition Labeling			Category ^a			Brands with Health Claims
		#	%	#	#	#	#	
Vegetables								
Canned Tomatoes	26	10	38.5	3	7	0	2	7.6
Other Canned Vegetables	37	20	54.1	10	10	0	6	16.2
Frozen Vegetables	11	10	90.9	6	4	0	5	45.5
Juices								
Bottled	26	19	73.1	16	3	0	18	69.2
Refrigerated	20	9	45.0	9	0	0	19	95.0
Frozen	16	5	31.3	5	0	0	12	75.0
Other Grocery Products								
Cereal	53	52	98.1	1	37	14	45	84.9
Soup	44	29	65.9	29	0	0	8	18.2
Pasta Sauces	20	14	70.0	11	0	3	17	85.0
Peanut Butter	13	6	46.2	2	0	4	7	53.8
Fats & Condiments								
Oils	34	31	91.2	6	0	25	33	97.1
Butter	6	6	100.0	6	0	0	1	16.7
Margarines & Spreads	20	19	95.0	4	0	15	17	89.5
Salad Dressings	34	20	58.8	13	0	7	20	58.8
Condiments	24	10	41.7	3	0	7	9	37.5
Dairy Products								
Processed Cheese	25	22	88.0	17	0	5	9	36.0
Hard Cheese	29	9	31.0	5	0	4	10	34.5
Yogurt	28	28	100.0	19	9	0	27	96.4
Meats								
Bacon	15	4	26.6	4	0	0	5	33.3
Other Processed Meats	49	29	59.2	29	0	0	25	51.0
Entrees & Dinners								
Shelf-Stable Entrees	10	8	80.0	6	0	2	7	70.0
Frozen Entrees/Dinners, Single Serving	51	34	66.6	15	0	19	26	51.0
Frozen Entrees, Family-Pack	24	15	62.5	14	0	1	11	45.8
Frozen Pizza	12	3	25.0	1	0	2	3	25.0
Salted Snacks								
Potato Chips	24	22	91.7	15	5	2	18	75.0
Other Salted Snacks	30	22	73.3	9	9	4	17	56.7
Baked Goods (Sweet) & Crackers								
Sweet Bakery Goods	35	25	71.4	10	0	15	16	45.7
Cookies	44	35	79.5	8	0	27	26	59.1
Crackers	34	30	88.2	3	0	27	29	85.3
Frozen Desserts								
Ice Cream/Frozen Yogurt	23	18	78.3	12	4	2	15	65.2
Frozen Novelties	40	21	52.5	17	4	0	16	40.0
TOTAL	857	585	68.3	308	92	185	479	55.9

^a See text.

31 product categories represent all major store departments except fresh commodities and range from simple products such as canned tomatoes to complex ones such as frozen entrees and dinners.

As noted, information contained on nutrition labels is not uniform. Three categories of nutrition label formats are identified:

Category I: For products under FDA jurisdiction, the label includes the minimum information in prescribed format of serving size, number of servings per container and, on a per serving basis, the number of calories, amount of protein (in grams), amount of carbohydrate (in grams), amount of fat (in grams), amount of protein, and the percentage U.S. RDA of each of seven micronutrients (vitamin A, vitamin C, thiamin, riboflavin, niacin, calcium, and iron). For products under USDA jurisdiction, the minimum disclosure may be abbreviated to include only calories, and amounts per serving of protein, carbohydrate, and fat, all stated in grams.

Category II: The label includes information in Category I plus optional listing of one or more of twelve other vitamins and minerals, in terms of percentage of U.S. RDA.

Category III: The label includes information in Category I plus a breakdown of fat content into unsaturated and saturated fats. The label may also, but not necessarily, include Category II expanded information on additional vitamins and minerals.

A brand was counted as carrying a health claim if either an implicit or explicit claim, as defined above, appeared on the product's principal display panel (the portion of the product facing a consumer as he or she looks at the product on the store shelf).

Information Levels on Labels: Evidence of the Unfolding Process at Work?

Nutrition labeling and health claims appear to have been somewhat more prevalent in 1991 among the 31 product categories studied than would be forecasted based on previous estimates for the entire packaged food supply. Overall, nearly 70% of the over 850 brands analyzed carried nutrition labeling. Among the categories, in

8 less than 50% of the brands carried nutrition labels, while 11 had between 50% and 75% with labels and in the remaining 12 more than 75% had labels (table 1).

If the unfolding process is at work, we would expect to find nutrition labeling on products with good nutritional profiles and absent on those with less desirable profiles.² A previous study of national brand meat and poultry products conducted in 1991 by Public Voice for Food and Health Policy could be interpreted to show such a pattern (Ingersoll 1991a). Evidence from these product categories lends less support to the unfolding process. For example, while nutrition labeling is less frequent among higher fat products such as bacon, frozen pizza, peanut butter, and cheese, it is also frequently absent from low fat products such as canned tomatoes, refrigerated juice, and frozen juice. Similarly, product categories with a high frequency of nutrition labeling have a variety of nutrition profiles. Within product categories, the presence of nutrition labeling appears to be more often a function of manufacturers' policy than individual products' profiles.

Once a nutrition label is included on a product, the level of information disclosed (categories I, II, or III) is, as would be expected, partially explained by the type of food product. When nutrition labeling is chosen, products with no or very low fat content generally use category I or II labeling formats. (In fact, these products are not routinely permitted to include such a breakdown, although some do.) Several product categories (e.g., oils, margarines and spreads, crackers) that appeal to nutrition-conscious consumers chose category III labeling with breakdowns into unsaturated and saturated fats. At the same time, product categories with less desirable saturated fat profiles (butter, bacon, other processed meats, frozen pizza, and frozen novelties) generally opt for category I labeling, which withholds fat breakdown information. Here, a rough approximation of the unfolding process does appear to be at work, with the caveat that the consumer must be able to discern whether a fat breakdown is not provided because the food is low fat in any case (e.g., canned tomatoes) or because the product is high fat and the manufacturer chooses not to disclose the fat breakdown. This is a convoluted reasoning pro-

² Care is required in referring to individual foods as having good or bad nutritional profiles, since what is ultimately important to good health is the composition of a person's entire diet.

cess that probably works for the most committed consumers, although not very precisely, but is beyond the patience of most people.

Health claims of one kind or another appear on the principal display panels of over 55% of all brands studied. Within many product categories, a significant proportion and often a large majority of brands carry such claims. While the definition of health claims used here is broad, the data document the degree to which health claims have become a routine part of marketing food products. This use will be significantly altered by the new labeling regulations, which establish strict definitions for use of descriptors and, importantly, introduce what can be termed cross-compliance requirements (e.g., percentage fat-free claims can only be used in describing foods that qualify as low-fat).

Impacts of Specific Label Changes

Beyond mandatory nutrition labeling, major impacts of the new regulatory regime are expected to emanate from standardization of serving sizes and control of use of health claims, such as descriptors. The possible scope of these impacts may be gauged by further examination of current information carried on brands in the 31 product categories discussed above.

Manipulation of Serving Sizes. Standardization of serving sizes used in nutrition labeling would have limited impact if manipulation of serving sizes is not significant. Such manipulation involves stating a serving size different from (and nearly always smaller than) the approximate average amount of food consumed per eating occasion by a person over 4 years of age. Without standardization, at least two patterns of manipulation are possible: (i) brands within a product category employ a range of serving sizes that deviates from the average amount consumed or (ii) brands in a category use a uniform serving size, but it deviates from the average amount consumed. In practice, among the 31 categories studied, the second pattern does not occur. In the 22 categories with fairly consistent labeling, serving sizes cluster around FDA's proposed standard sizes. Where manipulation does appear, in 9 product categories, it follows the first pattern with a range of serving sizes that deviates from the proposed standard servings. Manipulation of serving size is defined as present in product categories where the smallest

serving sizes were less than 50% of the largest serving sizes used in the category. Normally, the largest serving size closely reflected the proposed FDA standard so manipulation involved shrinking serving sizes to attain better nutrition profiles. This practice appears to be significant and is more prevalent among products with higher fat and sodium contents.

Product categories that display serving size manipulation are soup, butter, margarines and spreads, bacon, other processed meats, sweet bakery goods, cookies, crackers, and frozen novelties. Several examples are instructive. In the soup category, serving sizes used on nutrition panels in 1991 ranged from 4 to 11 ounces, with most in the 10-11 ounce range. However, 7 soups used a serving size of 4 ounces. Three of these were regular chicken noodle and minestrone soups, but 4 were special-use products marketed by Campbell Soup including Special Request, Healthy Request, and Kid's soups. Here serving size manipulation rather than product reformulation appears to have a larger role in attaining improved nutrition profiles. A similar pattern emerges in the other processed meat category where very small serving sizes were used by products pursuing a "thin" image.

Serving size for the butter and margarines and spreads categories has long been a bone of contention. The FDA proposes a standard serving size of one tablespoon. The serving size manipulation in these categories involves using 1 teaspoon rather than 1 tablespoon as the standard. The incentive to attain better profiles through using the smaller serving size appears equally strong for brands in both categories. A similar pattern is evident in the cookies and sweet bakery goods categories, where nearly 50% of the products used serving sizes half that of the FDA's proposed standards. In these product categories, serving size standardization will bring significant changes in the amount and quality of information available to consumers.

A Case Study of Health Claims. The new labeling regulations will necessarily have extensive impacts on patterns of health claims made on food products because of their comprehensiveness. This comprehensiveness and the need for food companies to reposition their products in anticipation of the new regime are, along with the actual costs of analyzing and relabeling products (French et al.), potent explanations of industry's plea for a later implementation date. As detailed above, use of health claims is prev-

alent in a large number of the studied product categories. The impact of new regulations will be varied because of differential impacts among the categories depending on current use levels and the extent to which claims go beyond those allowed under the new regulations.

An interesting case study is the potato chips category. Despite its identification among the general public as a classic "junk food," 18 or 75% of the 24 brands studied carried health claims in 1991. Of these 18, 14 claim "No Cholesterol" and another 3 claim "Low Cholesterol." Under the proposed regulations, claims of "Cholesterol Free" and "Low in Cholesterol" may only be made if the product meets cholesterol content standards and has 2 grams or less of saturated fat per serving. Nutrition labeling shows that most of the 17 products with cholesterol claims have about 10 grams of fat per 1 ounce serving. The 2 brands with a fat breakdown show 9 grams of fat per serving, 2 of which are saturated. It is unclear from this information how many of the products would meet the new criteria for making cholesterol claims, but it is likely that reformulation to lower saturated fat content will be required for many manufacturers to continue use of such claims after the new regulations take effect. Similar reformulation and repositioning is likely across numerous product categories.

Concluding Thoughts

Forecasting the strength of consumer response to changes in nutrition and health claim labeling is a complex proposition. Labels are only one source of information among many, including advertising, word-of-mouth information, general educational programs, and advice from medical professionals, government, and health and consumer advocacy groups. The central issue here is to what degree new labels will improve the consumer's information set.

The data presented on current levels of information contained on food labels show room for substantial improvement in the scope and quality of nutritional and health claim information provided. Under voluntary nutrition labeling, a very substantial proportion of the brands studied do carry nutrition labeling. However, there is no clear, consistent pattern in what types of products carry labeling and health claims. For example, a consumer could not reliably assume that

a product that does not carry a nutrition label has a poor nutrition profile. In addition, variation in the amount of nutrition information disclosed, when a label is present, also makes comparisons across products and product categories difficult. Finally, the data show significant manipulation of serving sizes and health claims. Given these information gaps, mandatory, consistent labeling of all food products under the new regulatory regime is destined to greatly increase the amount of information available and bring far-reaching changes to the U.S. food marketing system.

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