

Consumer Diet-Disease Knowledge and Food Label Usage

Conrad J. Choinière, Food & Drug Administrationⁱ
Anu Mitra, American Universityⁱⁱ

Abstract

Diet-related conditions, such as heart disease and cancer, represent \$250 billion per year in health costs. In an attempt to reduce the burden of these diseases, the government has embarked on two general strategies: educating consumers about relationships between diet and disease and labeling foods for nutritional information. The implied rationale for this approach is that knowledgeable consumers will be motivated to improve their health by consuming more healthful foods and moderating intake of less healthful foods. The food label is meant to facilitate this endeavor by supplying nutrition information to consumers in a standard fashion. Label usage has been associated with a number of habits that could lead to the reduction of certain diseases, such as choosing diets that are lower in total fat and include greater consumption of fruits and vegetables.

We examine the impact of consumer beliefs about diet-disease relationships on food label usage using data from two FDA surveys: the Food Label Usage and Nutrition Education Survey of 1994 and the Health and Diet Survey of 2002. Both surveys asked consumers to name foods related to specific health outcomes, namely, the prevention of cancer, the causation of heart disease, and the prevention of heart disease. The two surveys also asked consumers a number of questions related to food label usage. Consumers are asked how frequently they use the food label the first time they purchase a product and how frequently they use the label for eight various tasks (seeing how high or low a product is in a nutrient, planning meals, etc.)

Between 1994 and 2002, general awareness that a link exists between diet and health outcome increased for cancer prevention from 66% to 81% and for heart disease prevention from 75% to 81%. However, the percentage of consumers aware that a link exists between diet and the onset of heart disease remained flat from 84% in 1994 to 83% in 2002. The same data show that more practical awareness, i.e., the ability to name a specific food or nutrient related to these health conditions, increased for cancer prevention from 51% in 1994 to 63% in 2002. This result corresponds with the 5-a-day program of the 1990s. However, the ability to name foods or nutrients associated with the prevention and causation of heart disease appears to have reached a plateau in that period going from 74% to 73% for the onset of heart disease and 54% to 56% for prevention.

As for the frequency with which consumers use the food label, only 44% said “often” in 2002 to using the label for a first-time purchase compared to 50% in 1994. Among label users, the general pattern of using the label for various tasks did not change much over the time period. Each of the eight purposes is ranked identically in 1994 and 2002, with roughly the same percentage of label users responding “often” to each task in both years. However, the total percentage of consumers that say they use the label has declined in that period.

To gauge the magnitude of decline in label usage among consumers, we construct a measure that we call “label usage intensity.” The measure aggregates the responses for the eight different purposes by assigning a weight to each response. “Often” is given a weight of 3, “Sometimes” 2, and so on. These weights are then summed across tasks for an individual consumer to get an intensity “score” ranging from 0 to 24. We then defined an “intense label user” as one that scored higher than the median consumer in each year. The average intensity declined from 14.2 in 1994 to 12.9 in 2002 and the median intensity declined from 17 to 15.

We test the hypothesis that a “knowledgeable” consumer, i.e., one that is able to name a food or nutrient related to disease, is more likely to use the label for the first time purchase of a product. We use probit regression analysis to determine the impact of practical knowledge on label usage behavior. We then used our estimates from the regressions to determine the increased likelihood that knowledgeable consumers would use the label the first time they purchased a product. In both years, a knowledgeable consumer is more likely to use the label for a first-time purchase. Knowledgeable consumers are from 11% to 17% more likely to respond “often” to the question of using the label for a first-time purchase. We test the hypothesis of whether an aware consumer was more likely to be an intense label user. We find a similar pattern in both years, where a knowledgeable consumer is from 10% and 17% more likely to be an intense label user.

Our analysis provides evidence that consumer beliefs of diet-disease links have a positive impact on label usage, both for a first time purchase and for more routine tasks. However, the a significant increase in general awareness of diet-disease links and moderate increase in practical knowledge of these links that was observed from

1994 to 2002 was not accompanied by an increase in label usage. In fact, label usage declined. This is disconcerting, as it has been shown that label usage is correlated with other healthy behaviors. Despite the apparent success of government programs at increasing consumer awareness and knowledge of diet-disease relationships, the increased awareness did not translate into positive label reading behavior.

The results suggest that government programs for raising consumer awareness of diet-disease relationships, including simple messages like the National Cancer Institute's 5 A Day for Better Health may be effective. However, the analysis also suggests that government may need to be more vigilant at offering continual or periodic reminders of the value of this practical information for maintaining one's health. Consumers seem to have the motivational knowledge to make healthy decisions, e.g., what to eat and what to avoid, yet this type of motivational knowledge may not be enough to spur consumers to use the information about food attributes supplied by the food label. Consumers may need reminders about the value of using the food label. The results may also underscore the need for interventions, or training, to help the consumer translate their practical knowledge into better dietary choices.

ⁱ Consumer Science Specialist, Office of Regulations and Policy, Center for Food Safety and Applied Nutrition

ⁱⁱ Associate Professor, Department of Marketing, Kogod School of Business