

Consumer Use of Health-Related Endorsements on Food Labels in the United Kingdom and Australia

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ABSTRACT The objective of this research was to examine how consumers use health-related food endorsements on food labels. Three endorsement programs were examined: those of the two major retailers in the United Kingdom, Tesco and Sainsbury's, and the "Pick the Tick" program of the National Heart Foundation of Australia. The main methodology used was protocol analysis. This involves the subject "thinking aloud" while performing a task—in this case, (a) shopping normally and (b) shopping "healthily" for foods on a predetermined list—to generate a protocol. Each subject was also interviewed to investigate reported use of endorsements. Subjects were a quota sample (N = 44) of shoppers representative of the U.K. and Australian populations. Information about the subjects, the protocols, and interview data were analyzed quantitatively; the protocols were also analyzed qualitatively. Sainsbury's and Australian shoppers never used the endorsements when shopping but Tesco shoppers did, albeit rarely. Tesco shoppers used the endorsement in complex ways and not just as a trigger to food selection. They sometimes used the endorsement to reject endorsed foods. Subjects claimed to use the endorsements even though the protocol analysis revealed no actual use. There are features of the Tesco endorsement program that make it more helpful to consumers than the other programs.

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INTRODUCTION

Nutrition information on food packaging is often difficult for consumers to understand. A recent study in the United Kingdom explored consumer understanding of nutrition labeling and found, for example, that "when asked to read figures from a nutrition label, or make comparisons of nutrient levels

between two labels, almost a third of respondents were unable to answer each time."¹ Improvements to the format of nutrition information on food packaging can aid understanding.²

Health-related food endorsements mark out individual food products as healthy or healthier choices with an on-pack symbol.³ The heart foundations in Australia, New Zealand, Canada, South Africa, Finland, and the United States operate such programs. The National Heart Foundation of Australia's "Pick the Tick" program was the first of these programs.⁴ Sometimes, government agencies run health-related food endorsement programs: the National Food Administration in Sweden, for example, operates the well-known Green Keyhole program.⁵ Food retailers and manufacturers sometimes operate their own endorsement programs. In the U.K., the two major retailers—Tesco and Sainsbury's—run such programs.

The operators of health-related food endorsement programs argue that they not only help consumers make healthier food choices but also have an impact on product development: encouraging food manufacturers to alter the nutritional composition of their foods in beneficial ways. Health professionals, consumer groups, and regulatory authorities have expressed concern about such programs, arguing, for example, that "there are no healthy and unhealthy foods, only healthy and unhealthy diets" and that health-related food endorsement may mislead consumers into thinking that individual foods can be categorized into healthy and unhealthy.

It is difficult to establish whether health-related food endorsement helps consumers make healthier food choices while shopping because of the lack of good research.⁶

The research that has been carried out on health-related food endorsement has tended to use individual or group interviews to explore attitudes to, awareness of, understanding of, and declared use of particular programs. Noakes and Crawford, for example, approached shoppers at random and asked them to complete a short self-completion questionnaire about the Australian "Pick the Tick" program.⁷ This survey revealed a high level of consumer awareness of the symbol and a good understanding of what the symbol was intended to mean. However, studies of endorsement programs such as

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“Pick the Tick” have never, to our knowledge, explored actual as opposed to reported use of endorsements by consumers.

In this study, we chose to use protocol analysis⁸ as the main methodology for investigating how consumers actually use endorsements when shopping. Protocol analysis involves eliciting the thoughts of a subject while he or she is performing a task to generate a protocol—a transcript of the subject’s “thinking aloud.” The researcher seeks to be as unobtrusive as possible, merely prompting the subject to say what he or she is thinking. Various methods, including protocol analysis, have been proposed as suitable for examining how consumers actually use food labelling.⁹ An alternative method to protocol analysis might have been to use video-tape cameras with or without subsequent interviews.

Protocol analysis can be used to explore a subject’s thought processes without interfering with the sequence. That is not to say that protocol analysis provides a complete record of everything that is going on in the subject’s mind. The completeness of the record depends on a number of factors, including the degree to which the subject is consciously aware of what he or she is thinking.⁹ However, protocol analysis gives insights into at least a subset of the information heeded and thoughts generated while completing a task.

In this study, the technique was adapted to explore consumers’ use of endorsements while shopping for food during a “normal” shopping trip and then on a second trip when they were asked to shop “healthily” for foods on a predetermined list. The endorsement programs we chose to investigate were those of Tesco and Sainsbury’s in the U.K., and the “Pick the Tick” program of the National Heart Foundation of Australia.

A summary of some of the features of these three programs is given in Table 1. The symbols of the programs are shown in Figure 1.

METHODS

Forty-nine shoppers were recruited into the study. A total of 15 were recruited from outside two branches of Tesco (one in the north of England and one in the south). Eighteen were



Figure 1. The symbols of the Tesco, Sainsbury’s, and Australian endorsement programs.

recruited from outside Sainsbury’s stores (again one in the north of England and one in the south) and 16 from outside two stores in Melbourne, Australia. One Tesco shopper was excluded from analysis because she did not return for the second shopping trip; one Sainsbury’s shopper and three Australian shoppers were excluded because the tapes for one or more of the trips were untranscribable.

The sample was small because the study was primarily designed to be qualitative. Prior to carrying out the study, we could make no predictions about how many shoppers would use the endorsements. With 15 shoppers, we had enough power (80%) to say that 3 shoppers (20%) using the endorsement at that location was significantly different from no shoppers doing so at $p < .05$. We would have needed 125 shoppers to have had sufficient power to say that 5% of shoppers using the endorsement was significantly different from zero at $p < .05$ or, in other words, to detect use of the endorsement by less than 5% of shoppers.

The fieldwork took place in February, March, and April 1997. Data collection methods were piloted in a supermarket store in Oxford, U.K. Subjects were recruited using a questionnaire to identify main shoppers for their households who usually shopped at that particular store and who were doing a large shop on that day. Potential subjects were only excluded if they were accompanied by small children or employed at the store. The questionnaire was also designed to collect demographic and other information about the shoppers recruited into the study and on those who refused to take

Table 1. Key characteristics of the three endorsement programs investigated.

<i>Program</i>	<i>Date of Launch</i>	<i>Number of Products Carrying Symbol at Time of Study</i>	<i>Nutritional Criteria</i>
Tesco (U.K.)	1985 (relaunched 1995)	250	Three categories of products: (a) foods that contribute most fat to the diet, (b) other foods high in fat, (c) foods naturally low in fat. Each with different criteria for fat, saturated fat, sodium, etc.
Sainsbury’s (U.K.)	1994 (“re-emphasized” 1996)	2000	Unpublished
National Heart Foundation of Australia —“Pick the Tick”	1989	1000	Foods grouped into 10 food categories (cereals and cereal products, milk and dairy foods, etc.) with different criteria for fat, saturated fat, sodium, etc.

part. A quota system was used to recruit a sample representative of the national population of the U.K. and Australia by age, socioeconomic status, and family circumstances. The recruits were told that the object of the study was to explore food choice in general and were only told at the end of the second shopping trip that the main object of the study was to investigate health-related endorsements. Each subject was offered the equivalent of £30 (approximately \$45 U.S.) for participating in the research.

Before the first shopping trip, the subjects were asked to practice thinking aloud using sets of pictures of kettles, vacuum cleaners, or toasters together with details of features, price, etc. Once the subject felt comfortable with the technique, the first trip began. Subjects were asked to think aloud for the tape for the duration of the trip. A set of agreed prompts were used to encourage the shopper to keep thinking aloud. These prompts were "Keep thinking aloud," "Any other thoughts?," "Why do you say that?," "What do you mean?," "In what way?," "Any other reasons?," "What are you looking at?," "Where are you going?," "So you say... [repeating what subject had already said]." These prompts were only used when the subject appeared to have stopped thinking aloud. The researcher made a note of the brand and type of any endorsed product the subject purchased and at the end of the trip the subject was asked for the cash register receipt.

During the second shopping trip (a week later), the same shoppers were asked to buy a specific list of 13 foods (a spread, a breakfast cereal, a ready meal, etc.), all the while imagining that their doctor had told them to eat more healthily. During the trip, they were again asked to think aloud for the tape. The researcher made a note of the brand and type of products purchased and whether the product was endorsed. Again, the cash register receipt was retained by the researcher. At the end of the second trip, the researcher carried out a short semistructured interview with the shopper to investigate the reported use of endorsements and attitudes toward endorsements.

The tapes of the subjects' protocols and of their responses to the final semistructured interview were transcribed for analysis. Each transcript was imported into NUDIST 3.0 for data management. Data were extracted manually from the transcripts using a data collection form. One researcher extracted data from the protocols from the first shopping trip, but two researchers, working independently, extracted data from the protocols of the second shopping trip and the responses to the final semistructured interview. Differences between these two researchers were resolved with reference to a third researcher. Intercode reliability was determined for data extraction from the protocols from the second shopping trip and the final semistructured interviews in the standard way.¹⁰

RESULTS

Subjects. Table 2 shows demographic and other information about the subjects for whom tapes were transcribable.

Table 2. Summary of sample characteristics by location.

	<i>Tesco</i> (U.K.)	<i>Sainsbury's</i> (U.K.)	<i>Australia</i>	<i>Quota</i>
Sex				
Female	86%	76%	92%	
Male	14%	24%	8%	
Age				
18–34	43%	47%	31%	35%
35–54	36%	29%	31%	35%
55 and over	21%	24%	38%	30%
Family circumstances				
Children aged 0–5 living at home	21%	29%	31%	25%
Children aged 6–17 living at home	36%	29%	46%	25%
No children (under 18) living at home	50%	47%	38%	50%
Socioeconomic group*				
A, B, or C1	57%	59%	38%	50%
C2, D, or E	43%	41%	62%	50%
Avoid foods†				
You/they are a vegetarian	14%	18%	15%	
You/they are dieting	29%	6%	0%	
For medical reasons	7%	24%	8%	
For other reasons	14%	0%	0%	
n	14	17	13	

*Categorized by chief income earner in household. A, B, and C1 = non-manual occupations, C2 and D = manual occupations, E = unemployed or casual workers without a regular income.¹⁷

†These questions were asked in the form "Do you or any member of your household avoid eating certain foods because ...?"

Because the sample was small, there were no detectable differences between the Tesco, Sainsbury's, and Australian shoppers nor between our samples and the quota sample (Fisher's exact test two-tailed p value < .05).

Intercode reliability. Analysis of the protocols first involved assessing whether the subject mentioned an endorsement when purchasing a food and second how the subject used the endorsement when he or she did so. Intercode reliability was "good" for coding whether a subject did or did not mention an endorsement when purchasing a given food during the second shopping trip ($\kappa = 0.76$), but mentioning the endorsement turned out to be very rare (see below), so it was not possible to give a reliable estimate of intercode reliability for coding how the subject used the endorsement. Intercode reliability for coding for the responses to the final semistructured questionnaire was "very good" ($\kappa = 0.87$).

Use of health-related food endorsements. Table 3 shows that endorsed products were only rarely purchased when shopping normally or when shopping more healthily. Even in Sainsbury's stores, where the endorsement was on the greatest range of food products, less than 13% of food purchases were endorsed when the subjects were shopping normally and only 17% of food purchases were endorsed when the subjects were shopping more healthily. Table 3 shows that shoppers were generally more likely to buy endorsed products when shopping more healthily than when shopping normally. However, since the shopping trips involved purchasing large numbers of foods, a large number of endorsed foods were purchased (179 endorsed items during the 88 shopping trips analyzed) and most (84%) of the sample bought at least one endorsed item.

Sainsbury's and Australian shoppers never referred to the endorsement when purchasing foods. However, 43% (95% CI 18%–71%) of Tesco shoppers did mention the Tesco endorsement when thinking aloud about their purchasing decisions, but this was only for a total of 16 purchases (less than 1 purchase per shopping trip). The endorsement was mentioned more often when the subjects were shopping more healthily. The difference in the proportion of Tesco shoppers mentioning the endorsement on their normal shopping trips was significantly greater than for Sainsbury's and Australian shoppers combined (Fisher's exact test two-tailed p value = .0275) and on the healthier shopping trip was significantly greater than for Sainsbury's shoppers (p = .004), Australian shoppers (p = .016), and Sainsbury's and Australian shoppers combined (p = .0004).

All of the subjects who mentioned a health-related endorsement were therefore Tesco shoppers. When we compared subjects who mentioned an endorsement with those who did not for differences in the demographic and other variables shown in Table 3, we could detect no other significant differences (Fisher's exact test two-tailed p value < .05).

Ways in which Tesco shoppers used the health-related food endorsements. On the basis of information processing models,¹¹ we suggest that choosing foods while shopping can be broken down into the following stages (or processes):

Stage 1. The shopper *looks* at one or more food packets.

Stage 2. The shopper *gathers* information either from the immediate environment—food packets, shelf labels, etc.—or from memory.

Stage 3. The shopper *processes* this information principally by comparing it with other information, for example, by comparing information from the packet (e.g., the calories per serving) with recalled information (e.g., the person's calorie target) or by comparing information (e.g., calorie information on the packet) from two or more products.

Stage 4. The shopper *evaluates* information that may or may not have been processed. If calories per serving are high in comparison with the person's calorie target, then the product may be rejected, depending on other information gathered (e.g., about price). If one food has fewer calories than the other, it may be accepted.

Stage 5. The shopper *selects* a product.

Tesco shoppers appeared to use the endorsement at all stages of the food choice process. In some instances, the shopper actively looked for the symbol while gathering information to help them make a food choice:

I am looking to see what they've got for the low fat or what Tesco call Healthy Eating. (Northern Tesco shopper 4, trip 2)

The symbol of a health-related food endorsement program is normally designed to obviate the need for much information processing. This is particularly the case with the symbol of the Tesco endorsement program, which incorporates the words "Healthy Eating," and indeed we found that

Table 3. Consumer use of endorsements by location.

Program	Number of Subjects	Mean Number of Food Items Purchased per Subject	Number, Percentage, and 95% Confidence Intervals for Percentage of Subjects Purchasing Any Endorsed Items	Mean Number of Endorsed Food Items Purchased per Subject	Number, Percentage, and 95% Confidence Intervals for Percentage of Subjects Mentioning Endorsements	Total Number of Food Purchases Where Endorsement Mentioned	Mean Number of Food Purchases Where Endorsement Mentioned per Subject
Trip 1 (normal shop)							
Tesco (U.K.)	14	45	8 (57%) (29%–82%)	1.1	3 (21%) (5%–51%)	4	0.3
Sainsbury's (U.K.)	17	30	11 (65%) (38%–86%)	3.8	0 (0%) (0%–20%)	0	0
Australia	13	35	3 (23%) (5%–54%)	0.2	0 (0%) (0%–25%)	0	0
Trip 2 (healthier shop)							
Tesco (U.K.)	14	15	12 (86%) (57%–98%)	1.7	6 (43%) (18%–71%)	12	0.9
Sainsbury's (U.K.)	17	15	14 (82%) (57%–96%)	2.5	0 (0%) (0%–20%)	0	0
Australia	13	15	11 (85%) (35%–98%)	1.5	0 (0%) (0%–25%)	0	0

shoppers sometimes used the endorsement to simplify information processing:

The Healthy Eating logo—I've seen it before so I'd probably just trust it and stop wasting any more time reading every single label...I can't be bothered to do all the calculations. (Northern Tesco shopper 5, trip 2)

The shoppers also used the symbol when evaluating the information they had gathered and processed. Sometimes, shoppers seemed to use the symbol as the sole reason for selecting a product: just reading the name of the product on the label and putting the product in their shopping cart without reflecting further on why they were selecting it. On most other occasions, the symbol was just one of many pieces of information that shoppers used to make their purchasing decision:

Oh, it's breakfast cereal now, healthy breakfast cereal so we could have Tesco Healthy Eating Sultana Bran. I suppose we wouldn't eat All Bran on its own. You can't really get through a bowl of All Bran. [It's] hard work. So I'll have a Sultana Bran 'cause it's supposed to be healthy according to them and it's got sultanas in, so it makes it a bit more interesting. (Southern Tesco shopper 17, trip 2)

I like cheese but Healthy Eating doesn't really—it's protein. So I like something with a bit of flavor and usually something on offer as well so what have we got? Got half-fat cheese. [Prompt.] Well, I'm looking at the fat content 'cause some of them now have got low, half fat...I'll just have a look at the cheeses that I would normally buy. They're on special offer. Is there much difference about them? Well, it says Healthy Eating and the price isn't that much different—so I'll go for the Healthy Eating, the strong flavor. (Northern Tesco shopper 12, trip 2)

Evaluation of information can take place after selection. Sometimes, the endorsement was used by shoppers to reassure themselves that the product they had selected for other reasons was indeed healthy:

That Healthy Eating logo has reassured me that this recipe that I was going to cook is reasonably healthy anyway. (Northern Tesco shopper 5, trip 2)

Shoppers did not just mention the endorsement on products that they then purchased. On 12 of the 16 occasions when the shopper mentioned the endorsement, it was for the product they then purchased. But on four other occasions, the endorsement was mentioned in connection with a rejected product:

Um big decision on yogurts it's whether you go for a Healthy Eating one or a low-calorie one or an ordinary. Right, I'm going for the Tesco organic raspberry yogurt [prompt] 'cause I'm hoping that it's as they say organic and it's purer than the others. (Southern Tesco shopper 33, trip 2)

The symbol was not always regarded uncritically. Shoppers were sometimes concerned about what had been added to endorsed products to make them “healthier”:

I'm looking to see what they've got for the low fat or what Tesco call Healthy Eating. I suppose virtually fat free. They've got some fromage frais...Right then Tesco's virtually fat free but have they loaded it with sugar? It's got artificial sweeteners in it. I'm reading the ingredients panel again. It's got artificial sweeteners in it which I'm trying to stay away from...It's swings and roundabouts. (Northern Tesco shopper 4, trip 2)

Declared use of health-related food endorsements.

At the end of the second shopping trip, each shopper was asked a series of questions to explore his or her declared use of endorsements and to see how this differed from any actual use that might be uncovered by the protocol analysis. Table 4 shows responses to four questions put to the subjects.

In general, declared use of the endorsement was higher than actual use revealed by protocol analysis. For all shoppers, subjects were more likely to claim that they noticed the endorsement when shopping that day than to mention the endorsement when shopping (McNemar chi-squared = 14.1, $df = 1$, $p < .001$), and, similarly, they were more likely to claim to have used the endorsement that day than to mention it (McNemar chi-squared = 4.17, $df = 1$, $p < .05$). Some Sainsbury's and some Australian shoppers claimed use of the endorsement during their shopping trips that day, but their protocols showed no evidence for this. All Tesco shoppers who claimed use of the endorsement that day had previously mentioned it.

Recall of the symbol was high, particularly for the symbols of the Tesco and the “Pick the Tick” programs. Shoppers who recognized the endorsement, but claimed not to use it, identified a number of reasons for this. Shoppers in all three locations said that they bought by habit and did not need an endorsement to help them. Some shoppers said that they had ignored the symbol because they thought healthy food did not taste as good as unhealthy food. Others (particularly Sainsbury's shoppers) thought that the symbol did not have enough impact.

Table 4. Declared use of endorsements by location.

	Tesco	Sainsbury's	Australia
Did you notice this symbol when you were shopping today?	10 (83%)	6 (46%)	5 (38%)
Did you use it to help you choose products?	5 (42%)	3 (23%)	2 (23%)
Do you recall seeing this symbol before?	12 (100%)	8 (62%)	12 (92%)
Have you ever used it to help you choose products?	8 (67%)	4 (30%)	4 (31%)
n*	12	13	13

*Lower than in Tables 2 and 3 because background noise in the supermarket cafeterias or foyers where these interviews were carried out made some tapes untranscribable.

DISCUSSION

The methods used in this research provide a way of going beyond the research into attitudes to and self-reported use of health-related food endorsement frequently cited to support the existence of current endorsement programs. They allowed an exploration of how three different programs are actually used at point of purchase.

A clear finding of the research was the limited use of the endorsements, both when shoppers were shopping normally and when they were asked to shop more healthily. This was particularly surprising in relation to the National Heart Foundation of Australia's "Pick the Tick" program. Research carried out for the National Heart Foundation in 1995 found that "80% of all grocery buyers surveyed [said that they] used it always, often or sometimes" and 8% said that they always used it.¹²

Protocol analysis may not detect all uses of an endorsement while shopping: shoppers might subconsciously note the endorsement but not mention it while thinking aloud about their purchasing decisions. Moreover, if subjects were shopping from habit—particularly likely during the first "normal" shop—then they might have used an endorsement in the past to make food choices but not mention it during the trips.

However, protocol analysis did detect use of the Tesco endorsement program by Tesco shoppers (on 16 occasions). Furthermore, it also detected use of other aspects of food labelling. In a report giving further results from this study, we report, for example, that the U.K. shoppers mentioned the nutrition labelling panel in a total of 45 purchasing decisions (of a possible 403) during the second, healthier shopping trips.¹³

In this study, none of the Australian or Sainsbury's shoppers and only three Tesco shoppers mentioned the relevant endorsement when shopping for their normal groceries. This apparent lack of use may be because health is only rarely a factor when choosing foods or because they were largely shopping from habit.

But even when asked to shop more healthily, endorsements were rarely mentioned compared to other aspects of food labelling. Shoppers in Sainsbury's and Australia did not mention the endorsement when making any of their purchases. Nearly half of Tesco shoppers did use the endorsement but for only a few purchasing decisions: a total of 12 in this study. This can be compared with results presented in our previous report of this study: there we report, for example, that the shoppers (U.K. only) used a nutrition claim such as "low fat" or "low calorie" on 76 occasions.¹⁴

The reasons for the fact that two of the three endorsements were not used were touched upon in the semistructured interviews. The interviews with Sainsbury's shoppers suggested that the shoppers had a relatively poor awareness of the endorsement program compared with the other two programs (see Table 4). This low awareness is confirmed by research carried out for the Health Education Authority^{3,14} and the Co-op Wholesale Society¹⁵ in the U.K.

Awareness of the National Heart Foundation of Australia's "Pick the Tick" is high: all but one shopper in our study recognized the symbol (see Table 4). The various (much larger) surveys carried out for the National Heart Foundation suggest that between 80% and 90% of Australians are aware of the program,^{4,16} suggesting more complex reasons for the low use including perhaps even overfamiliarity with the endorsement.

That the Tesco endorsement was sometimes used by shoppers—particularly when making healthy food choices in the second trip (see Table 3)—suggests that there may be aspects of the program that make it more likely to be used than the other two programs. The recent research carried out by the Health Education Authority and the Co-op found that the Tesco symbol was well recognized. The Health Education Authority found that consumers thought the Tesco symbol both "bold and impactful" in contrast to the Sainsbury's symbol, which was "least impactful" and "ambiguous." The Co-op research suggests that this may be because the Tesco symbol is backed up with some explanation through the words "Healthy Eating" and associated nutrition claims. But there may be other reasons for its apparent success: for example, the Tesco program was launched before the other two programs.

Furthermore, because our sample was small, and we measured only a limited number of the characteristics of our subjects, we cannot entirely discount the possibility that there were differences between Tesco shoppers and Sainsbury's and Australian shoppers, which meant that they were more likely to mention an endorsement rather than differences between the endorsement programs.

The analysis of the few occasions on which the Tesco endorsement was used by shoppers when making food choices provides some useful insights into how one particular endorsement program is used by consumers. Some shoppers seemed to use the symbol to simplify decision making, which accords with the assumption that endorsement programs help shoppers interpret other information, particularly the numeric information in the nutrition labelling panel, which they find confusing. On the other hand, the use of the symbol when rejecting products suggests a more complex role for endorsements than a simple "trigger" to purchasing decisions.

It is evident that an endorsement is far from being a simple alternative to other information on food packets. Instead of replacing existing information, endorsements seem to constitute an extra piece of information to be gathered, processed, and evaluated. Many of the shoppers who used the endorsement looked for evidence to support the endorsement rather than putting all of their faith in it.

IMPLICATIONS FOR RESEARCH AND PRACTICE

In summary, this research suggests that current health-related food endorsements, and in particular the Australian "Pick the Tick" program, are less frequently used by shoppers than the advocates of such programs sometimes suggest. When shop-

pers do use them, they do so in a much more complex way than hitherto generally thought, even using them to reject food purchases on health grounds.

There is no other study we know of investigating actual, as opposed to reported, use of such programs, but we acknowledge that this is a small, cross-sectional study, the implications of which need further investigation. In particular, there is an urgent need for experimental research to establish the impact of health-related food endorsement programs on food purchasing behavior.

There are features of the Tesco endorsement program that seem to make it more helpful to consumers than other existing programs: for example, the explicit nature of the symbol. These should be borne in mind in designing any new program.

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