Brand Names in the USDA Survey Food Coding Data Base

Linda A. Ingwersen, Human Nutrition Information Service, U.S. Department of Agriculture

How is Data Collected in the CSFII Interview?

For the Continuing Survey of Food Intakes by Individuals (CSFII) 1989-91, interviewers conducted dietary recalls in respondent's homes, usually in the kitchen, using the Food Instruction Booklet, called the FIB. Conducting interviews in the kitchen helped to set the stage for a discussion of food and also made it convenient for respondents to open the refrigerator and cupboards to check for product labeling information, including brand names.

The Food Instruction Booklet contains a series of probes—questions the interviewer asked respondents in order to obtain complete descriptions of foods and amounts of them eaten the previous day. Probes vary according to the particular food reported and reflect the design of the food coding data base.

Respondents were asked about the form of the food (such as fresh, canned, frozen, cooked), the cooking method used (such as baked, broiled, fried), and use of fat in cooking. Respondents were also asked if they ate the skin on chicken or the fat on meats. Other identifying or unique characteristics were probed for, such as type of grain in breads, type of syrup in canned fruit, the presence of low calorie sweetener and type of nutrient modification to lower or increase calories, fat, cholesterol, sodium, or calcium in foods. They were also asked for brand names of many foods.

There are brand name probes for 52 out of 90 food subcategories in the FIB. Of course, brand name probes are not appropriate for many foods, including fresh vegetables, fruits, eggs and meats. And their usefulness is limited for some foods such as milk, sugar, condiments and plain pasta. Their value may be limited for brands from small companies and for generic or store brands.

The descriptive information collected from the respondent is matched to codes in the survey food coding data base used for CSFII and for NHANES III. The data base presently contains 6,700 food codes which fall into nine major food categories. Code descriptions range from very general to very specific. For example, there is the very general code with the description "chicken, NFS" and the very specific code with the description "chicken breast, prepared with skin, battered, fried, skin and coating eaten."

Why Do We Collect Brand Names in the Survey?

One major reason brand names are collected in the survey is simply that it is easier for respondents to give brand names than to describe many foods that are on the market. For example it is easier to give the brand name than to describe frozen desserts such as Simple Pleasures, margarine blends or spreads such as I Can't Believe It's Not Butter or Shedds Spread, and sugar substitutes such as Sugar Twin and Equal. The same is true for meal replacements and protein supplements such as Slim Fast, "fat-free" coffeecake or pastries such as Entenmann's new product line, and soup with one-third less salt such as Campbell's Healthy Request soups.

For many foods, the brand is actually the name of the food. Coke Classic, Rice Krispies, Similac Infant Formula, Cheez-its and Baby Ruth are the names of foods. These brands are easy for respondents to report and helpful in the coding process.

Near the conclusion of data collection for CSFII 1991, interviewers completed a debriefing questionnaire. They were asked to rank the ability of respondents to provide brand names for various foods. Interviewers thought respondents were most able to report brands of breakfast cereals, soft drinks, margarines, baby foods, baby formulas, and soups; and least able to report brands of cookies, rice mixes, snack cakes, popcorn, and lunch meats. They thought women were more likely than men or children to recall brands. Eighty-one percent of the interviewers rated women's ability to give brands as good or very good; 33 percent rated men's ability as good or very good and 22 percent rated children's ability as good or very good. Perhaps this reflects that women still are purchasing most of the groceries for the household. It also shows that respondents are not equally likely to provide brand information.

How Are Brand Names Used in Coding?

The brand name information we collect is useful in several ways. Brand names often assist us in finding a good code match in the existing coding scheme. Brands immediately identify a particular product possessing certain characteristics. Examples of this are breakfast cereals, infant formulas, and frozen meals. Knowing the characteristics of brand name foods enables us to classify them with other similar foods in the data base or to classify them separately in a unique food code.

Brand names can clarify the description of the food given by the respondent. Orange juice might be reported along with the brand name Tang, which identifies the "juice" as a fruit-flavored beverage with vitamin C added. It seems that "beverages" are "juice" to many people. Butter may be reported, but the brand name Smart Beat identifies it as a reduced calorie margarine-like spread. Cream may be reported, but the brand name Cremora identifies it as a cream substitute. These cases do occur and illustrate the importance of brand names for food identification purposes and for nutrient summaries. By using brands, respondents do not have to be knowledgeable about specific food characteristics or classifications in order to have accurate recalls.

And following in this vein, brands may provide insight on features of food of which the respondent may be unaware. Several food components of a food may be modified, but the respondent only may mention the one most important to him. He may describe the beverage as "reduced calorie" but not correctly answer probes that it was also fortified with vitamin C. A processed cheese may be described as low in fat but not as also low in sodium. A new oat flake cereal may be described as having raisins but not as also containing dates, apples and pecans.

Brand names are also useful in that they provide us with a lead we use to contact manufacturers for product descriptions, ingredient listings, and package and unit measure weights. With manufacturer's information, reasonable assumptions can be made about foods reported with brand names but with incomplete descriptions.

Use of Brand Names for Assigning Weights to Quantities

In addition, brand names may assist us in assigning gram weights to quantities of a food eaten when the respondent is unable to give or recall the weight. For example, the respondent may report eating all of a chicken teriyaki with rice Budget Gourmet dinner but not know the weight of the meal. We can, with a measure of confidence, use the package weight, 10 ounces, for that type of Budget Gourmet dinner for the person's intake.

Weights of brand foods may be linked in the data base to packages, to individual items, or to common household measures like cups, fluid ounces, and tablespoons. Package weights are common for dinners; individual item weights are common for cookies, candies, and crackers; and household measures are common for nearly all foods. Information on weights is a definite benefit gained from the use of brand names.

The food laboratory at HNIS is responsible for providing specific gram weights for measures of foods respondents report. Respondents may be able to give household measures for brand name breakfast cereals and beverages, for example, but not know their actual weight in grams. It is sufficient for the respondent to estimate eating ½ cup of cereal—the lab will provide the gram weight of that particular cereal for the data base. Of course, weights in grams of foods eaten are important because these weights are used to obtain estimates of amounts of foods and of nutrients consumed by groups of people.

The usefulness of brand name food information to specialists responsible for calculating nutrient composition of foods in the Nutrient Data Research Branch will be discussed by Sue Gebhardt, our next speaker.

Types of Food Codes in the Data Base

There are different levels of detail and brand name incorporation in codes in the survey coding data base. The following are some classifications of the types of codes:

Codes with a direct one-to-one correspondence to a brand name food—infant formulas, breakfast cereals, some candies. The brand name of the food is the code description. There is no "include" in the code listing other products.

- Codes with very specific descriptions or descriptors relating to one brand name food listed in the "include" statement. An example of a code description is "Chocolate pound cake, very low fat, no cholesterol. Include Entenmann's fat free, cholesterol-free chocolate loaf cake." The "include" usually gives examples of similar foods or brands that belong in the same classification as the code description. This example has only one include. This is not a direct one-to-one correspondence, although there is only one brand listed in the include and the nutritive values are based on the description of that product.
- Codes with general descriptions and several brand names in the "include" statement with gram weights specific to each brand. Some examples are ice cream novelties, fast food sandwiches, frozen meals, hard candies and chocolate bars. Using brand-specific weights is important because respondents may not easily recall the weights of these foods. This is a valuable aspect of brand names.
- Codes with general descriptions, several brand names in the "include" statement, and weights not keyed to brand. Weights for common units of measure apply to all brands. Examples are fruit juices, cheeses, and potato chips. Foods are similar in ingredients, nutrients, and weights.

- Codes with detailed or general descriptions but no brand names in the "include." These may be ethnic foods such as Hispanic and Puerto Rican style dishes, a great variety of cooked meat and mixed dishes, and fresh, unprocessed foods. Many foods do not have brand names. The information collected on all foods is captured in a data base which matches the amount of detail collected.

How Has the Food Coding Data Base Expanded in Recent Years?

There were 1,034 new food codes created for items reported in CSFII 1989-91 and the first phase of NHANES III. We work closely with the National Center for Health Statistics (NCHS) in determining when to create new codes for brand name items and when to include them in existing codes. New codes are created for brand name foods when no code exists for a similar food, when sizable amount of nutrients are present in the food, if the food is modified in some way, if it is likely to be reported again, or if the form or type of food is of interest.

New codes have been created for many ethnic foods, for breakfast cereals, frozen dinners, juice blends, processed cheeses, soups, frozen dairy desserts, fast-food items and new lines of baby foods; as well as for foods low in sodium, cholesterol, fat, and calories. In other cases, brand name foods were incorporated in the "include" statement of existing food codes and were assigned portion size weights specific to these foods.

Possibilities of Identification of Brands in the Future

As we prepare for CSFII 1994, we are considering ways to expand the identification of brands in the survey data base and how this affects the coding data base and the efforts of the staff.

As part of this effort, we can study the food groups most appropriate to the collection of brand name information. NCHS has offered the results of the collection of brand name foods in the first phase of NHANES III when the information is available. These results will show which foods respondents report with brand names. Results will point to the food groups that will benefit from brand name expansion in the code book from an identification point of view.

At HNIS, we have the option of creating subcode numbers for selected foods and brands that are included under the main or generic code. This subcode can be used to capture brand use and also allow for a weight to be keyed to the product when necessary. This subcode can be used for food identification purposes but not have to be linked to nutrients specific to the brand. Nutrients can be linked to subcodes at any point in time, if desired. Tomorrow Randy LaComb will speak in greater detail about subcodes in the codebook in the workshop on file formats used in the USDA Survey Nutrient Data Base System.

However, before all brand names are divided into subcodes, we must consider how useful those subcodes will be. In a survey, the number of observations for some brands may be too low to be useful. What number of observations are adequate for study by a researcher using subcodes? In the survey, for example, a total of 30 respondents might report eating high fiber crackers made by five different companies. Is this information useful? Is it worth the effort to collect in the field, to process, and to maintain in the food coding data base?

And, how finely should the generic code be split into subcodes? There are many manufacturers across the country making chocolate chip cookies. How many and which ones should be included as subcodes? When we spoke before the National Nutrition Monitoring Advisory Council, we were reminded that it is not necessary to put a "razor's edge on an ax" when collecting dietary data for a nationwide sample. We must consider purposes of our data and the amount of information that can be collected.

Maintenance of the food coding data base is another important issue because it involves the time and skills of staff throughout our agency. Keeping the food coding data base up to date means—

1. We must ensure the accuracy of brand names already in the food coding data base. Products frequently are discontinued, changed in name or in formulation. We presently review food lists from distributors. Staff contact manufacturers, and review all labels and manufacturer brochures received. This type of information is not always current. The success of manufacturer contacts depend upon such factors as size, attitude and resources of the company, rate of product turnover and new product development, and so on. I am hopeful that in the future we might be able to tie into an already existing data base with brand names. This would be particularly helpful after food companies adjust and respond to the new food labeling regulations.

2. Keeping the food coding data base up-to-date also means we must check and verify weights of brand name products already in the food coding data base on a regular basis. Again, as manufacturers react to the new labeling regulations, it is expected that product sizes will change to reflect serving sizes. The appropriate time to change weights for a brand name food must be determined—how long after a manufacturer changes the weight of a product should the changed weight be added to the data base?

3. We must add new brand name foods and weights as appropriate. The HNIS food laboratory will assist in maintaining the data base by purchasing and weighing foods on a regular basis. As I mentioned earlier, they determine gram weights for food items and for cups and other common unit measures of the food when needed. They also obtain cooking directions, ingredient information, and any available nutrient information.

4. After all information has been reviewed, staff must incorporate changes and additions in the data base. The history of each change of food name and weight must be documented in a historical file.

All of this work is related to the identification of foods, not to the development of nutrient values for these foods. The Nutrient Data Research Branch of HNIS is responsible for assigning nutritive values to the food codes in the coding system. Sue Gebhardt will address this shortly.

If brands are collected for more foods in upcoming surveys and are tracked in the data base, we anticipate that the need for additions and changes to codes would dramatically increase, and so would the staff time necessary to update our food coding data base.

In summary, and in looking to the future, we will continue the on-going process of providing individual portion size weights for brand name foods when appropriate. Codes will continue to be created for ethnic foods and for new foods, including brand name foods, as they are reported in CSFII and in NHANES III. In other cases, HNIS and NCHS will coordinate efforts to link brand names to suitable generic food descriptions, nutrient data, and product weights. We will together consider: 1) respondent burden and respondent ability to report brand names, 2) the benefits gained in using brands to code foods and to present data, and 3) the importance of this information for use by data researchers and by other government agencies.

It is the goal of HNIS and NCHS to collect quality food intakes and to process them in ways suitable for our purposes and for those of data users. Brand names contribute much to this goal.