

Ten-Year Plan for Nutrition Monitoring and Related Research: Food Composition Data Activities

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Food composition and nutrient data bases are a major component of the National Nutrition Monitoring Program. Accordingly, several specific activities have been designated in the Ten-Year Plan for Nutrition Monitoring and Related Research to strengthen the nutrient data bases that are maintained to support nutrition monitoring programs. These activities will have a major effect on the food composition information available in the future.

Thirteen separate activities in the Ten-Year Plan are related to food composition. For each of these activities, the Plan designates the responsible government agency as well as contributing and collaborating agencies. USDA's Human Nutrition Information Service (HNIS) is the sole responsible organization for 7 of the 13 activities. HNIS shares responsibility for four others--one with the Agricultural Research Service (ARS) and three with the Department of Health and Human Services' National Center for Health Statistics (NCHS). ARS and NCHS are each solely responsible for one of the two remaining activities. The Plan also includes a time-line for each activity and indicates the year in which products can be expected.

Background

Many of the food composition activities are rooted in recommendations previously prepared by an interagency working group on food composition data. This working group, the Food Composition Data Working Group, was formed in 1989 by the Interagency Committee on Nutrition Monitoring, the predecessor organization of the Interagency Board for Nutrition Monitoring and Related Research. The group was originally established to identify food composition data needs for the National Nutrition Monitoring Program, to propose options and priorities for improving the utility of food composition data for nutrition monitoring and related research applications, and to facilitate coordination among member agencies in the area of food composition measurement and research. Eight government agencies in three Federal Departments are members of this group: From the U.S. Department of Agriculture, members are the Agricultural Research Service, Human Nutrition Information Service, Economic Research Service, and Food Safety and Inspection Service. From the Department of Health and Human Service, members are the National Center for Health Statistics, Food and Drug Administration, and National Institutes of Health.

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From the Department of Commerce, the National Marine Fisheries Service is a member.

Over the last 2 years, this group identified several food composition issues needing attention and recommended activities to address those issues. As stated previously, these recommendations form the basis for many of the Ten-Year Plan activities.

The Plan

Two important elements within the food composition component of the Ten-Year Plan are the National Nutrient Data Bank (NNDB) and the Survey Nutrient Data Base. The NNDB is a repository maintained at HNIS for the collection of food composition information from all different sources. Nutrient data bank operations include procedures to evaluate, categorize, and summarize those data into meaningful sets of food composition values, which are then released in published tables or computerized data sets.

The Survey Nutrient Data Base is a special-purpose data set based on information from the NNDB. While the NNDB is used to collect data for all known nutrients or health-related food components, the Survey Nutrient Data Base includes only those nutrients for which information is sufficient to permit reasonable estimates of dietary intake. It is the data base used most often for food composition information within the National Nutrition Monitoring Program. Presently, it is being used by HNIS for nutritional analysis of food consumption data collected in the Continuing Survey of Food Intakes by Individuals (CSFII) and also by the National Center for Health Statistics for the National Health and Nutrition Examination Survey (NHANES).

Several activities are in the plan to improve the overall base of information within the National Nutrient Data Bank. Others will directly affect the Survey Nutrient Data Base.

Issues and Activities

Need for additional data. Every year, several thousand new items are introduced into our marketplace; and almost every year, additional food components are identified as being a factor in the public's health. The need for more data for new foods and for additional food components will continue to increase. This issue is complex. First, we need more cost-effective laboratory procedures. Second, we must carefully set priorities for funding nutrient analyses so that the greatest needs will be covered. Third, we must continue to encourage the private sector to contribute data to the NNDB. All of these needs are covered by specific activities.

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Inadequate methodologies. Not only are some nutrient analyses very costly, the analytical methods for others are basically inadequate. The Nutrient Composition Laboratory has been addressing this issue for several years. It is also addressed by the Ten-Year Plan.

Brand names. One of the most frequently raised issues regarding food composition data is the use of brand names in the data base. Data users feel brand names are needed for two reasons. First, they are needed for the accurate identification of products. For example, probably no survey respondent will describe his breakfast cereal as "oats with added wheat gluten." He will simply report the cereal by the brand name. The second reason is to ensure an accurate representation of the nutrient content of foods. This reason is important when different brands are really unique, but is not always readily justified when the variation within brands can be as great as the variation across brands. This situation may actually reduce the reliability of the overall data base if adequate sample sizes for each brand are not available. One of the Ten-Year Plan activities addresses the brand name issue. HNIS and NCHS are both designated as responsible agencies. Currently, separate data base entries are present for breakfast cereals and candies. Other brand names are linked to sets of generically defined foods. We need to systematically examine food groups to determine if additional brand name designations are needed and to decide how these will be coded for food consumption surveys. The activity addressing this issue has been broadened to cover other areas where increased specificity in food descriptions may be needed--ethnic foods, for example.

Consistent use across agencies. Even though both HNIS and NCHS use the Survey Nutrient Data Base, we know there are some differences in the ways it is used. For example, different default values are sometimes used when respondents cannot provide adequate detail of foods consumed. The need to identify and resolve these discrepancies have become two separate activities within the Ten-Year Plan. One deals with documenting the linkage between dietary data being collected in current surveys and the nutrient data base; the other involves developing guidelines for improving consistency in coding of foods and of amounts.

Requirements for Trend Analysis. We need to compare nutrient intake data over several years. However, as food composition values improve, adjustments may have to be made to nutrient intake data from previous years so that comparisons from one time period to another are accurate. Before preparation of the Ten-Year Plan even began, the Food Composition Data Working Group had agreed upon a basic design for a data base for trend analysis. It will permit reanalysis of food consumption data from previous years by containing multiple sets of nutrient values when necessary to reflect changes that have occurred in foods. Development of the system to produce this data base is designated as an activity in the Ten-Year Plan. HNIS is already preparing history files and procedures to use in the system. NCHS

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has reviewed and commented on the HNIS plans, and the Working Group will provide oversight to ensure that the system meets the needs of other nutrition monitoring agencies.

Prioritizing future needs. Another major issue covered in the Ten-Year Plan is identification of nutrients for addition to the Survey Nutrient Data Base. Developing methods of analysis, conducting the analyses, and incorporating the data into the data base cannot be accomplished overnight. It is not unreasonable to begin targeting nutrients now for inclusion in the data base in 1997 and beyond.

Other Activities

An activity grouped with food composition data is the development of a nutritional supplements data base. This is an NCHS activity, with a Schedule to allow it to be used for analysis of NHANES III.

Another activity is concerned with producing appropriate documentation for USDA's nutrient data bases. At the 16th Nutrient Data Bank Conference in San Francisco, June 1991, the Food Composition Data Working Group held a special session with users to determine their needs for nutrient data base documentation. Approximately 70 people attended that session and several participants shared their ideas about useful documentation. One month later, the information collected at that session was the topic of a Working Group meeting. Upon examining the comments and comparing them to the documentation that already exists, we discovered that most of the information requested by data users is already available, though not always readily accessible by the average data user. Therefore, the working group recommended that construction of a "roadmap" to existing documentation be the first step toward improving the situation. Ensuring availability and accessibility of appropriate documentation is a Ten-Year Plan activity, and the working group has suggested that the "roadmap" be the first product for that activity.

The Ten-Year Plan for Nutrition Monitoring and Related Research will likely be the driving force behind the government's food composition activities for the next decade. It will serve to strengthen the existing base of food composition information, to expand data coverage to additional foods and food components, and to improve the utility of the data bases by increasing access to documentation of the development, maintenance, and use of the data bases. Through these activities, we can meet the challenges of the National Nutrition Monitoring Program.