

University for Horticulture and Food Industry of Budapest

International Agency for Research on Cancer (WHO-IARC).

The European COST project 'Food consumption and composition data' is a rotating member.

The Steering Committee accomplishes much of its work through two regional Technical Committees, one in the United States and one in Europe. The Technical Committee has an open structure, with core members responsible for the maintenance and updating of the Languag descriptor system and invited experts. Special interest groups on different topics are formed as need arises.

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KBS — A Norwegian diet calculation system for professional use. Bodil Blaker^{a*} & Elin B. Løken.^b ^a*National Nutrition Council, Box 8139 Dep, 0033 Oslo, Norway.* ^b*Section for Dietary Research, Box 1117 Blindern, University of Oslo, 0317 Oslo, Norway.*

A diet calculation system is being developed as a Windows client/server application by the National Nutrition Council (NNC), the National Food Control Authority (NFCA) and the Section for Dietary Research (SDR) at the University of Oslo.

The food database comprises approximately 1000 food codes (raw as well as cooked food items, manufactured products, recipes for home-made dishes). The nutrient values are based on the NNC food composition table 1991. The system may also use analytical values from NFCA for food additives and contaminants.

The intake of foods, specified food groups, energy, nutrients and non-nutrients may be calculated from individual diet questionnaires, recalls and records. The system tabulates the intake for individual subjects or for groups of individuals as average, SD, min, max and specified percentiles, and as amounts per day, week, year or kg body weight. For the food additives and contaminants the system may also use analytical values to estimate worst case intakes as well as to simulate intakes in a selected group.

A group of subjects may be selected according to their ratio between calculated intake of energy and estimated BMR, meal specific variables or specified intakes. Comparisons with recommended dietary allowances or other cut-off values may also be performed.

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Nutritional surveillance by the National Nutrition Council, Norway. Arnhild Haga Rimestad* & Bodil Blaker.

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The National Nutrition Council (NNC) is responsible for describing, analyzing and evaluating food supply and diet situations in Norway and making recommen-

dations for improvements. Since 1991, the work of nutritional surveillance has been strengthened through several major projects. The main partners in this work are The Section for Dietary Research, University of Oslo and The Norwegian Food Control Authority (SNT).

*Preparation of a comprehensive food composition database/food composition table:

NNC and SNT will publish a comprehensive food composition database/table in June 1995.

*Diet calculation system:

A professional system was developed for calculating the diet of individual subjects. This system will be used in dietary research to calculate intake of energy and nutrients, as well as food additives and contaminants.

*Dietary surveys:

During 1993, 3300 teenagers answered a quantitative food frequency questionnaire. The results showed that about 2/3 of the teenagers have a higher intake of sugar than recommended and 1/3 had a higher fat intake than 30 energy %.

A nation-wide representative sample of 5000 Norwegians aged 16–79 years of age were asked to answer a quantitative food frequency questionnaire. Intake of both nutrients and non-nutrients will be calculated.

In conclusion: NNC and SNT will maintain this monitoring work.

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Chef manager for integrating basic food composition and related databases. Li-Ching Lyu,* Maj Earle, Yun Oh Jung, David Michaels & Jean Hankin.

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The Epidemiology Program of the Cancer Research Center of Hawaii maintains food composition, dietary supplement, and recipe databases for assessment of individual dietary intakes for six major ethnic groups (Japanese, Caucasian, Chinese, Filipino, Hawaiian and Korean) in Hawaii. Food composition data for selected Pacific Islands, including Cook islands, Fiji, Tahiti, and New Caledonia, are also incorporated in our CHEF database manager system. The system is written in FoxPro Version 2.5 for DOS and provides an interactive environment among databases. The selection of food items for the database is based on dietary patterns obtained from 24-hour recalls and food records of residents in Hawaii and the Pacific Islands. In addition to published values from the U.S. Department of Agriculture, we added other components based on study hypotheses and availability of chemical analysis data. Prototype recipes are developed from basic food composition data and updated simultaneously with the changes in the basic food composition database. Systematic inputting of unknown values in food items and mathematical estimating of ingredients in commercial

products are being developed. The improvement of CHEF manager will enable linkages among relevant databases and improve the efficiency of food composition data management.

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Development of an information system on inherent bioactive compounds in food plants. Andy D. Walker, Robert K. Heaney, Michael J. C. Rhodes,* G. Roger Fenwick, Roger D. Preece & Caroline Epps.

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An information system containing data on occurrence and levels of inherent bioactive compounds in food plants has been designed and validated. The system uses a relational database management system running under Microsoft Access version 2, and is currently operating on a IBM 486 PC clone. The user interacts with the system via a series of screen based forms. Initial user trials have provided very positive feedback and have indicated that the interface design is easy to use. The data structure is such that the system can be used to access both numerical data on compositional levels of compounds within food plants and textual information on factors affecting compositional variation such as storage, agronomy and processing, together with associated references.

The system currently holds critically assessed data on several classes of compounds (glycoalkaloids, alkenyl benzenes, glucosinolates, organic hydrazines, saponins, furanocoumarins, cucurbitacins, oligosaccharides) in 120 food plants and is currently being expanded to include assessed data on a wider range of compound classes (xanthine alkaloids, cyanogenic glycosides, coumestans, isoflavones, trypsin inhibitors, hemagglutinins, lathrogens, biogenic amines, oxalate, pyrrolizidine alkaloids). The feasibility of merging the data within this UK information system with a similar system currently used within Denmark is actively being explored. This programme is funded by the Ministry of Agriculture, Fisheries and Food.

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Improving our confidence in intake assessments: methodologies for maximising the use of existing data. Barbara Petersen.

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Dietary intake assessments are needed for evaluation of the safety of proposed new food additives as well as for the evaluation of the nutritional adequacy of today's diets. A recent evaluation by Nutriscan highlighted the difficulties of using existing food consumption information for this purpose. In this paper we will evaluate the opportunities for improving our assessments by taking advantage of the strengths of the different methodologies and by using current computer technologies for analyzing the data using Monte Carlo methods. We will

also propose methods for using Total Diet Studies and other monitoring information to more realistically estimate dietary intake. Specifically, we will present assessments using the Danish Budget Method, UK data and US data to identify differences in methodology versus differences in data. Since no single method for survey will be best for all situations, we will propose the development of criteria for different types of analyses and suggest appropriate data and methods to achieve those criteria. Finally, we will propose methods for accessing these different data types through a Language-based International Interface Standard.

Development of a food composition database: methods and goals for the future. Simonetta Salvini. The Italian Food Composition Database: A Joint Project.

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Nutritional epidemiological studies have highlighted the importance of diet in chronic disease. In Italy, food composition tables that are used to transform measured dietary intake into energy, macro- and micro-nutrients are based on limited lists of food items and nutrients. Extensive databases are needed for the analysis of the food consumption of large populations, such as those investigated in epidemiological studies. Databases are usually compiled starting from the existing local food composition tables completed by means of other published material and food composition tables from other countries. The National Nutrition Institute of Rome, Italy (INN) developed a large database for the analysis of data from the national survey 1980-84: a collaborative effort, coordinated by the European Institute of Oncology, was organised between the INN and several institutions to revise and complete that database. In particular, some nutrients were added, and special care was taken in trying to have complete data for all foods. An *ad hoc* software was developed to manage the data: for each nutrient the source of the value is stored, together with its original code number and details of all calculations, wherever appropriate.

The strategies to revise and complete this database are presented, together with information on the sources of nutrient data, discussion of the main problems encountered, as well as suggestions for the future development of the project.

Food composition data as a tool in food and nutritional surveys: which issues does their utilization pose? Aida Turrini.

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Food composition is essential to process data from food and nutritional studies. Because of the issues related to the quality of food composition databases, i.e. missing values and analytical methods, their utilisation poses