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Origin and Framework of the Development of Dietary Reference Intakes

This report is one in a series of publications resulting from the comprehensive effort being undertaken by the Food and Nutrition Board's (FNB) Standing Committee on the Scientific Evaluation of Dietary Reference Intakes (DRI Committee) and its panels and subcommittees.

ORIGIN

This initiative began in June 1993, when the FNB organized a symposium and public hearing entitled "Should the Recommended Dietary Allowances Be Revised?" Shortly thereafter, to continue its collaboration with the larger nutrition community on the future of the Recommended Dietary Allowances (RDAs), the FNB took two major steps: (1) it prepared, published, and disseminated the concept paper "How Should the Recommended Dietary Allowances Be Revised?" (IOM, 1994), which invited comments regarding the proposed concept, and (2) it held several symposia at nutrition-focused professional meetings to discuss the FNB's tentative plans and to receive responses to this initial concept paper. Many aspects of the conceptual framework of the DRIs came from the United Kingdom's *Dietary Reference Values for Food Energy and Nutrients for the United Kingdom* report (COMA, 1991).

The five general conclusions presented in the FNB's 1994 concept paper are:

1. Sufficient new information has accumulated to support a reassessment of the RDAs.
2. Where sufficient data for efficacy and safety exist, reduction in the risk of chronic degenerative disease is a concept that should be included in the formulation of future recommendations.
3. Upper levels of intake should be established where data exist regarding risk of toxicity.
4. Components of food of possible benefit to health, although not meeting the traditional concept of a nutrient, should be reviewed, and if adequate data exist, reference intakes should be established.
5. Serious consideration must be given to developing a new format for presenting future recommendations.

Subsequent to the symposium and the release of the concept paper, the FNB held workshops at which invited experts discussed many issues related to the development of nutrient-based reference values, and FNB members have continued to provide updates and engage in discussions at professional meetings. In addition, the FNB gave attention to the international uses of the earlier RDAs and the expectation that the scientific review of nutrient requirements should be similar for comparable populations.

Concurrently, Health Canada and Canadian scientists were reviewing the need for revision of the *Recommended Nutrient Intakes* (RNIs) (Health Canada, 1990). Consensus following a symposium for Canadian scientists cosponsored by the Canadian National Institute of Nutrition and Health Canada in April 1995 was that the Canadian government should pursue the extent to which involvement with the developing FNB process would be of benefit to both Canada and the United States in terms of leading toward harmonization.

Based on extensive input and deliberations, the FNB initiated action to provide a framework for the development and possible international harmonization of nutrient-based recommendations that would serve, where warranted, for all of North America. To this end, in December 1995, the FNB began a close collaboration with the government of Canada and took action to establish the DRI Committee. It is hoped that representatives from Mexico will join in future deliberations.

THE CHARGE TO THE COMMITTEE

In 1995, the DRI Committee was appointed to oversee and conduct this project. The DRI Committee devised a plan involving the

work of seven or more expert nutrient group panels and two overarching subcommittees (Figure A-1). The process described below, used to develop this report, is expected to be used for subsequent reports.

The Panel on Micronutrients, composed of experts on those nutrients, was appointed in January 1999. It was responsible to (1) review the scientific literature concerning micronutrients and selected components of foods that may influence the bioavailability of these nutrients; (2) develop dietary reference levels of intake for the selected dietary micronutrients that are compatible with good nutrition throughout the lifespan and that may decrease risk of developmental abnormalities and chronic disease; (3) address the safety of high intakes of these dietary micronutrients and, when appropriate, determine tolerable upper intake limits; and (4) identify a research agenda to provide a basis for public policy decisions related to recommended intakes and ways to achieve those intakes.

The panel was charged with analyzing the literature, evaluating possible criteria or indicators of adequacy, and providing substantive rationales for their choices of each criterion. Using the criterion

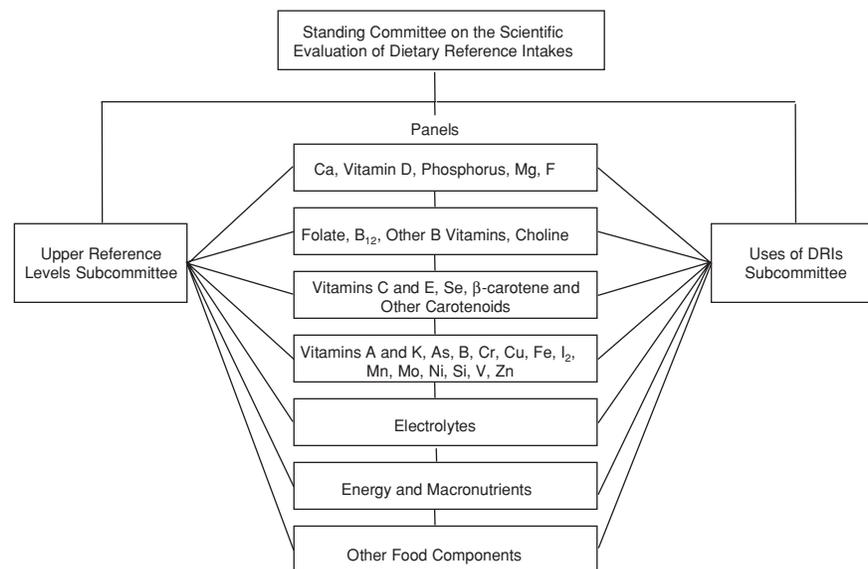


FIGURE A-1 Dietary Reference Intakes project structure.

chosen for each stage of the lifespan, the panel estimated the average requirement for each nutrient or food component reviewed, where adequate data were available. As the panel members reviewed data on Tolerable Upper Intake Levels (ULs), they also interacted with the Subcommittee on Upper Reference Levels, which assisted the panel in applying the risk assessment model (see Chapter 3) to each selected nutrient. The DRI values in this report are a product of the joint efforts of the DRI Committee, the Panel on Micronutrients, the Subcommittee on Upper Reference Levels of Nutrients, and the Subcommittee on Interpretation and Uses of Dietary Reference Intakes.

REFERENCES

- COMA (Committee on Medical Aspects of Food Policy). 1991. *Dietary Reference Values for Food Energy and Nutrients for the United Kingdom*. Report on Health and Social Subjects, No. 41. London: HMSO.
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- IOM (Institute of Medicine). 1994. *How Should the Recommended Dietary Allowances be Revised?* Washington, DC: National Academy Press.