

CREATION OF AN EXPERT ADVISORY COMMITTEE ON IMPLEMENTATION OF DIETARY REFERENCE INTAKES FOR VITAMIN D AND CALCIUM

Summary and Objectives of the Work

The Canadian Academy of Health Sciences, through its Standing Committee on Assessments, established an Expert Advisory Committee (EAC) for the purpose of providing timely advice and recommendations to Health Canada on how best to address issues related to the implementation of the revised Dietary Reference Intakes for vitamin D and calcium. The EAC is made up of Canadian experts serving as volunteers. Meetings of the EAC are being coordinated in order to address questions from Health Canada in regard to eventual implementation of recommendations from the updated (2010) assessment of vitamin D and Calcium carried out by the US Institute of Medicine. Reports providing advice on the questions submitted along with the rationale supporting the advice given will be delivered to Health Canada.

Background

The Dietary Reference Intakes (DRIs) are quantitative nutrient reference values reflecting both adequate intake and safe upper levels of intake. They comprise the evidentiary base and reference standards that underpin a number of Canadian and US government food and nutrition programs, policies, and regulations, including for example, food fortification, nutrition labelling, food expenditures and guidelines for food and nutrition assistance programs, and military meals (in the US). They are recognized in the food, nutrition, and health fields as the accepted source on nutrient requirements and allowances for the maintenance of good health. They also serve as a foundation for development and revision of national dietary guidelines and food guides. In addition, many other stakeholders use the DRIs for health delivery, educational, research, and other program initiatives.

The development of DRIs expanded on and replaced two series of reports, the *Recommended Dietary Allowances*, which were published between 1941 and 1989 by the Food and Nutrition Board of the National Research Council, US National Academy of Sciences, and the *Recommended Nutrient Intakes* (RNIs) published between 1938 and 1990 by the Department of Health and its predecessors in Canada. The DRIs were initiated in 1994 and completed in 2004 as a multi-volume project with major support from the US and Canadian governments. Evolving from the consideration of avoiding deficiency and ensuring adequate and healthful levels of intake, the new approach included a review of nutrients that also embraced the reduction of chronic disease risk as a potential endpoint where data allow. Further, the concepts of probability and risk explicitly underpinned the DRIs and their application. A risk assessment approach was employed to evaluate the extent to which excess consumption may lead to health problems.

Basis for evaluating whether a review of the 1997 DRIs for vitamin D was justified

The availability of new and relevant scientific research was the primary consideration for determining whether there was a sound basis for initiating a review of the 1997 DRIs for vitamin D. For this purpose, the availability of relevant research published after 1995 to cover the time period after the DRI Committee likely completed its literature searches in preparation for their 1997 publication date was examined. Recent relevant government-sponsored scientific initiatives served as the basis for this evaluation. The results from these sources were evaluated within the context of key DRI questions.

Justification for reviewing vitamin D

Based on the results of a recent systematic evidence-based review and several National Institutes of Health-sponsored conferences and related activities, there appeared to be new and relevant scientific research for four key DRI questions identified at the beginning of the justification evaluation¹. The newer research, while of larger numbers for elderly populations than for other groups, adds to the scant evidence available for all of the life-stage groups at the time the 1997 DRI committee was meeting and provides a sound basis for implementing a review of the existing DRIs for vitamin D. In making this determination, there was no attempt to evaluate whether or not the new research results are likely to result in changes to the current DRI reference values. These decisions are the purview of the DRI Expert Study Committee because they will require careful consideration of the inconsistencies among study results, the continued paucity of evidence for some life-stage groups, and the significant uncertainties involved in comparing and applying study results within the DRI decision-making context.

Rationale for Including Calcium

In considering whether to initiate a review of the current DRIs for vitamin D, it was also necessary to decide if the review should be limited to vitamin D or should include other nutrients. It was decided that a DRI review of vitamin D should include a concurrent review of calcium. The rationale for reviewing vitamin D and calcium together is based on the nature of their interrelated biology in which the requirements and toxicities of one are highly linked to the requirements and toxicities of the other. Additionally, many of the randomized clinical trials cited in the systematic review used co-interventions of vitamin D and calcium supplementation as treatment arms, making it impossible to separate out the individual effects of vitamin D or calcium. Because these two nutrients are inextricably linked in both biology and study design, their co-review for purposes of the DRIs is logical and appropriate.

Statement of Task

Health Canada, in cooperation with various branches of the US federal government, contrasted the US Institute of Medicine to carry out an assessment of the current state of knowledge regarding vitamin D and Calcium and to make recommendations for appropriate actions to be undertaken by health authorities in both countries. The CAHS Expert Advisory Committee was established to consider questions from by Health Canada in regard to appropriate actions to be taken in response to the IOM report, and to provide advice and recommendations. Meetings and teleconferences of the EAC will be coordinated, and advisory reports will be produced on the questions submitted along with the rationale supporting the advice given and a clear explanation of the issues considered.

It is anticipated that two sets of questions will be provided to the Expert Advisory Committee. However, given the complexity of the Institute of Medicine report on the revised Dietary Reference Intakes for vitamin D and calcium, it is possible that fewer or more than two sets of questions will be provided to the Expert Advisory Committee. The EAC held its first meeting in Ottawa on January 14, 2011 and is expected to complete its work not later than September 30, 2011.

³ Yetley EA et al. (2009) *Dietary Reference Intakes for vitamin D: justification for a review of the 1997 values*. Am J Clin Nutr 89:719-27.