

## The search continues for a tool to evaluate dietary quality<sup>1,2</sup>

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Nutritional scientists have been searching for a tool that can link dietary or nutrient intakes to chronic disease incidence and perhaps even to morbidity and mortality. Much of what has been published focuses on individual nutrients, with dietary fat receiving the trophy for being the most explored. However, most nutritionists believe that the answer lies not in the intake of a specific nutrient but in dietary patterns or the intake of foods or food groups (1). Because of the lack of validated research tools and methods to capture patterns of food intake, the default has been to document specific nutrient intakes and to relate the data to disease incidence.

A major advance in this quest for such a tool was accomplished by the nutrition staffs of several offices from the US Department of Agriculture under the direction of Kennedy et al (2). They developed the Healthy Eating Index (HEI) as a tool to evaluate overall diet quality. The HEI is composed of 10 food components adapted from the *Dietary Guidelines for Americans* (3) and the *Food Guide Pyramid* (4) and is now available online (5).

The most recent validation study of the HEI, reported in this issue of the Journal by Hann et al (6), compares HEI scores with plasma biomarkers. Nutrient intakes, obtained from 3-d food intake records, were analyzed by using a popular nutrient analysis program (NUTRITIONIST IV, version 4.1, 1997; First Data-Bank, The Hearst Corporation, San Bruno, CA), and servings were enumerated by using the Continuing Survey of Food Intake by Individuals database (7), which classifies food records into *Food Guide Pyramid* servings.

The report by Hann et al showed that diets with a high HEI score correlate with plasma concentrations of several carotenoids and vitamin C. Certainly, the dietary intake of fruit and vegetables, the primary source of carotenoids and vitamin C, is associated with a reduced disease risk. Biomarker data support prior suggestions from epidemiologic studies that associate a reduced disease risk with increased plasma carotenoid concentrations. However, elevated concentrations of these biomarkers do not necessarily indicate a reduced disease risk, and the correlation between food intakes, plasma biomarkers, and disease outcomes awaits further study.

Studies such as Hann et al's that correlate HEI scores with plasma biomarkers support the concept that food choices based

on the *Food Guide Pyramid* lead to a healthier diet. However, not all studies have had such positive results. The recent use of the HEI as a tool for evaluating food-frequency data from the Nurses' Health Study and the Health Professionals Follow-up Study showed a nonsignificant correlation or only a weak association between HEI scores and chronic disease risk, particularly cardiovascular disease and cancer (8, 9). Although we still have a long way to go to define a reliable and valid tool for the evaluation of dietary quality, the HEI appears to be adequate for this purpose. 

### REFERENCES

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