

Chapter 2

Dietary Recommendations and How They Have Changed Over Time

Carole Davis and Etta Saltos

The U.S. Department of Agriculture has been issuing dietary recommendations for over 100 years. As the research base underlying these recommendations has expanded considerably over the century, dietary recommendations have evolved to keep pace with both the new findings and the changing patterns in food consumption and activity of the population. In spite of these changes, many of today's dietary recommendations remain impressively similar to those of yesterday.

Introduction

Nutritionists in both the public and private sectors have been giving dietary advice to Americans for more than a century. However, the research base underlying dietary recommendations has expanded considerably in that time.

When the U.S. Department of Agriculture (USDA) published its first dietary recommendations in 1894, specific vitamins and minerals had not even been discovered. Since then, researchers have identified a number of vitamins and minerals that are essential to health, and have determined the minimum levels required to prevent nutritional deficiencies such as scurvy and beriberi. Food policies—such as iodine fortification of salt and the enrichment of flour products with

Davis is Director, Nutrition Promotion Staff, and Saltos is a nutritionist with the Center for Nutrition Policy and Promotion, U.S. Department of Agriculture.

B-vitamins—together with consumer education, have eliminated many nutritional deficiencies in the United States.

With the elimination of many nutritional deficiencies and improved control over infectious diseases, chronic diseases such as heart disease, cancer, and stroke have become more prevalent causes of death. Nutrition research began to focus on the connection between excessive consumption of certain dietary components—fat, saturated fat, cholesterol, and sodium—and the risk for chronic health conditions. More recently, research has expanded to other dietary components such as dietary fiber and antioxidants, and the role that low consumption levels of these may play in the development of certain chronic diseases.

As the knowledge base about nutrition has expanded over the century, dietary recommendations have evolved to keep pace with both the new findings as well as with changing patterns in food consumption and physical activity. Yet, in spite of all these changes, many of today's dietary recommendations remain impressively similar to those of yesterday.

Early Food Guidance—1900 to 1940's

The first published dietary guidance by the USDA was a Farmers' Bulletin written in 1894 by W.O. Atwater, the first director of the Office of Experiment Stations in USDA. He suggested diets for American males based on content of protein, carbohydrate, fat, and “mineral matter” (ash) (Atwater, 1894). Specific minerals and vitamins had not been identified at that time.

Atwater initiated the scientific basis for connecting food composition, dietary intake, and health, and emphasized the importance of variety, proportionality, and moderation in healthful eating:

Unless care is exercised in selecting food, a diet may result which is one-sided or badly balanced—that is, one in which either protein or fuel ingredients (carbohydrate and fat) are provided in excess.... The evils of overeating may not be felt at once, but sooner or later they are sure to appear—perhaps in an excessive amount of fatty tissue, perhaps in general debility, perhaps in actual disease.

(Atwater, 1902)

Atwater's research on food composition and nutritional needs set the stage for development of a food guide. A food guide translates nutrient intake recommendations into food intake recommendations. It provides a conceptual framework for selecting the kinds and amounts of foods, which together provide a nutritionally satisfactory diet.

The first USDA food guide, *Food for Young Children*, by Caroline Hunt, a nutritionist, appeared in 1916 (Hunt, 1916) (table 1). Foods were categorized into five groups—milk and meat, cereals, vegetables and fruits, fats and fatty foods, and sugars and sugary foods. This food guide was followed in 1917 by dietary recommendations also based on these five food groups, targeted to the general public in *How to Select Foods* (Hunt and Atwater, 1917). A guide was released in 1921 using the same five food groups and suggesting amounts of foods to purchase each week for the average family (Hunt, 1921). This publication was slightly modified in 1923 (Hunt, 1923) to include households that differed from the average five-member size. These guides remained popular throughout the 1920's.

In the early 1930's, the economic constraints of the Depression influenced dietary guidance. In 1933, Hazel Stiebelling, a USDA food economist, developed food plans at four cost levels to help people shop for food (table 1). The plans were outlined in terms of 12 major food groups to buy and use in a week to meet nutritional needs (Stiebelling and Ward, 1933). Research to provide guidance on selecting a healthful diet at different cost levels continues at USDA (Cleveland and others, 1983).

Dietary Guidance—1940's to 1970's

In 1941, President Franklin Roosevelt called the National Nutrition Conference for Defense (National Nutrition Conference for Defense, 1941) memorable for the release of the first set of Recommended Dietary Allowances (RDA's) by the Food and Nutrition Board of the National Academy of Sciences. These RDA's listed specific recommended intakes for calories and nine essential nutrients—protein, iron, calcium, vitamins A and D, thiamin, riboflavin, niacin, and ascorbic acid (vitamin C). The conference also addressed the need for public nutrition education and promoted 10 characteristics of a truly effective program—characteristics still recommended today (table 2).

As part of this effort, USDA released the Basic Seven food guide in 1943 as the leaflet National Wartime Nutrition Guide, and revised it in 1946 as the National Food Guide (table 1). This guide specified a foundation diet that would provide a major share of the RDA's for nutrients, but only a portion of caloric needs. It was assumed that people would include more foods than the guide recommended to satisfy their full calorie and nutrient needs. Little guidance was provided about the use of fats and sugars. The wartime version of the Basic Seven was intended to help people cope with limited supplies of certain foods during the war (USDA, 1943). The 1946 version suggested numbers of food group servings and was widely used for over a decade (USDA, 1946). However, its complexity and lack of specifics regarding serving sizes led to the need for modification.

A new food guide that also specified a foundation diet was released by USDA in 1956 (table 1). Popularly known as the “Basic Four,” the guide recommended a minimum number of foods from each of four food groups—milk, meat, fruits and vegetables, and grain products (Page and Phipard, 1956). This food guide, with its focus on getting enough nutrients, was widely used for the next two decades.

New Directions for Dietary Guidance— 1970's to the 1990's

By the 1970's, a growing body of research had related overconsumption of certain food components—fat, saturated fat, cholesterol, and sodium—and the risk of chronic diseases, such as heart disease and stroke. In 1977, *Dietary Goals for the United States* by the Senate Select Committee on Nutrition and Human Needs (U.S. Senate, 1977) heralded a new direction for dietary guidance. The focus shifted from obtaining adequate nutrients to avoiding excessive intakes of food components linked to chronic diseases. The report specified quantitative goals for intakes of protein, carbohydrate, fatty acids, cholesterol, sugars, and sodium. Because diets developed using these goals were so different from usual food patterns, USDA did not adopt the goals as the basis for its food plans and guides. However, the goals drew attention to the need for new guidance on diet and health.

USDA began addressing the role of fats, sugars, and sodium in risks for chronic diseases in its 1979 publication, *Food* (USDA, 1979). This colorful bulletin presented a new food guide, the *Hassle-Free Guide to*

a *Better Diet* (table 1). This guide modified the “Basic Four” to highlight a fifth food group—fats, sweets, and alcoholic beverages—targeted for moderation. Also in 1979, the Department of Health, Education, and Welfare [now the Department of Health and Human Services (DHHS)] released a study by the American Society for Clinical Nutrition (ASCN) on the relationship between dietary practices and health outcomes. The findings, presented in *Healthy People: The Surgeon General’s Report on Health Promotion and Disease Prevention*, suggested that people reduce their consumption of excess calories, fat and cholesterol, salt, and sugar to lower disease rates.

Responding to the public’s need for authoritative, consistent guidance on diet and health, USDA and DHHS together issued seven principles for a healthful diet. The guidelines, intended for healthy Americans age 2 and older, were based in part on the 1979 Surgeon General’s Report and were published in 1980 as the first edition of *Nutrition and Your Health: Dietary Guidelines for Americans* (USDA and DHHS, 1980). The guidelines called for a variety of foods to provide essential nutrients while maintaining recommended body weight and moderating dietary constituents—fat, saturated fat, cholesterol, and sodium—that might be risk factors in certain chronic diseases. Although the guidelines were directional, not quantitative, their release prompted some concern among consumer, commodity, and food industry groups—as well as nutrition scientists—who questioned the causal relationship between certain guidelines and health.

With the release of the first edition of the *Dietary Guidelines*, USDA began work on development of a new food guide that would help consumers implement the guidelines in their daily food choices. Development and documentation of the research base for the food guide took the Department about 3 years (USDA, 1993). Focusing on the total diet rather than the foundation diet described by earlier guides, the new food guide emphasized how to make food selections to meet both nutrient objectives and to moderate intake of those components related to risk of chronic diseases. It outlined suggested numbers of servings from each of five major food groups—the bread, cereal, rice, and pasta group; the vegetable group; the fruit group; the milk, yogurt, and cheese group; and the meat, poultry, fish, dry beans, eggs, and nuts group—and recommended sparing use of a sixth food group—fats, oils, and sweets.

Table 1—Principal USDA Food Guides, 1916-92*(All food guide recommendations are for daily servings (svg), except where otherwise indicated.)*

Food guide	Number of food groups	Protein-rich foods Milk/Meat	Breads
1916 Caroline Hunt buying guides	5	Meats/other protein-rich food 10% cal milk; 10% cal other <i>1 cup milk plus 2-3 svg other</i> (based on 3-oz. serving)	Cereals and other starchy foods 20% cal 9 svg (based on 1 oz. or 3/4 cup dry cereal svg)
1930's H.K. Stiebeling buying guide	12	Milk— <i>2 cups</i> Lean meat/poultry/fish— <i>9-10/week</i> Dry mature beans, peas, nuts— <i>1/week</i> Eggs— <i>1</i>	Flours, cereals— <i>As desired</i>
1940's Basic Seven foundation diet	7	Milk and milk products— <i>2 cups or more</i> Meat, poultry, fish, eggs, dried beans, peas, nuts— <i>1-2</i>	Bread, flour, and cereals— <i>Every day</i>
1956-70's Basic Four foundation diet	4	Milk group— <i>2 cups or more</i> Meat group— <i>2 or more</i> (2-3 oz. svg)	Bread, cereal— <i>4 or more</i> (1 oz. dry, 1 slice, 1/2-3/4 cup cooked)
1979 Hassle-Free foundation diet	5	Milk-cheese group— <i>2</i> (1 cup, 1 1/2 oz. cheese) Meat, poultry, fish, and beans group— <i>2</i> (2-3 oz. svg)	Bread-cereal group— <i>4</i> (1 oz. dry, 1 slice, 1/2 to 3/4 cup cooked)
1984 Food Guide Pyramid total diet	6	Milk, yogurt, cheese— <i>2-3</i> (1 cup, 1 1/2 oz. cheese) Meat, poultry, fish, eggs, dry beans, nuts— <i>2-3</i> (5-7 oz. total/day)	Breads, cereals, rice, pasta— <i>6-11 svg</i> • Whole grain • Enriched (1 slice, 1/2 cup cooked)

--Continued

Table 1—Principal USDA Food Guides, 1916-92—continued*(All food guide recommendations are for daily servings (svg), except where otherwise indicated.)*

Food Guide	Vegetables/Fruit	Other (incl. fats)
1916	Vegetables and fruit 30% cal 5 <i>svg</i> (based on average 8 oz. <i>svg</i> .)	Fatty foods (20% cal)—9; Sugars (10% cal)—10 (based on 1 tbsp. <i>svg</i>)
1930's	Leafy green/yellow—11-12/ <i>week</i> Potatoes, sweet potatoes—1 Other veg/fruit—3 Tomatoes and citrus—1	Butter— <i>na</i> Other fats— <i>na</i> Sugars— <i>na</i>
1940's	Leafy green/yellow—1 <i>or more</i> Potatoes, other fruit/veg—2 <i>or more</i> Citrus, tomato, cabbage, salad greens—1 <i>or more</i>	Butter, fortified margarine— <i>Some daily</i>
1956-70's	Vegetable-fruit group— 4 <i>or more</i> (incl. dark green/yellow veg frequently and citrus daily; 1/2 cup or average-size piece)	
1979	Vegetable-fruit group—4 (incl. vit. C source daily and dark green/yellow veg. frequently 1/2 cup or typical portion)	Fats, sweets, alcohol— <i>Use dependent on calorie needs</i>
1984	Vegetable—3-5 • Dark green/deep yellow • Starchy/legumes • Other (1 cup raw, 1/2 cup cooked) Fruit—2-4 • Citrus • Other (1/2 cup or average)	Fats, oils, sweets— <i>Total fat not to exceed 30% cal</i> <i>Sweets vary according to calorie needs</i>

Source: USDA, Human Nutrition Information Service, 1993.

Table 2—Characteristics of an effective nutrition education program

A truly effective nutrition education program will—

- Reach the whole population—all groups, all races, both sexes, all creeds, all ages.
 - Recognize motives for action and include suggestions on what to do and how to do it.
 - Develop qualified leadership.
 - Drive home the same ideas many times and in many ways.
 - Employ every suitable education tool available.
 - Adapt those tools to the many and varied groups to be reached and use them with intelligence and skill.
 - Consider all phases of individual, family, and group situations that have a bearing upon ability to produce, buy, prepare, conserve, and consume food.
 - Afford opportunity for participation in making, putting into effect, and evaluating local nutrition programs.
 - Enlist the fullest participation of all citizens and work through every possible channel to reach the people.
 - Be adequately financed.
-

Source: National Nutrition Conference for Defense, 1941

The food guide, *A Pattern for Daily Food Choices*, was first presented to consumers in a food wheel graphic as part of a 1984 nutrition course developed by USDA in cooperation with the American National Red Cross (American Red Cross, 1984). The food guide was also used in tabular form in several USDA publications published in the 1980's (USDA, 1986, 1989).

Since 1980, the *Dietary Guidelines for Americans* have been revised and issued jointly by USDA and DHHS every 5 years, after thorough review of its scientific basis by nongovernmental experts invited to participate in a Federal Dietary Guidelines Advisory Committee. The second edition of the *Dietary Guidelines*, released in 1985, was very similar to the first. Some changes were made to provide guidance about nutrition topics that became more prominent after 1980, such as following unsafe weight-loss diets, using large-dose supplements, and drinking of alcoholic beverages by pregnant women (USDA and DHHS, 1985). This edition received wide acceptance and was used as the framework for consumer nutrition education messages. It was also used as a guide for healthy diets by scientific, consumer, and industry groups.

Throughout the 1980's and into the 1990's, USDA developed and disseminated a number of publications and other materials designed to help the public use the *Dietary Guidelines*. These included *Ideas for Better Eating* (USDA, 1981), which presented sample menus; *Dietary Guidelines and Your Diet* (USDA, 1986, 1988), providing more detailed information and ways to apply the guidelines; *Dietary Guidelines and Your Diet: Home Economics Teacher's Guide* (USDA, 1988) and *Dietary Guidelines and Your Health: Health Educator's Guide to Nutrition and Health* (USDA, 1993a), two specialized curricula for use by junior and senior high school home economics and health education teachers; *Making Healthy Food Choices* (USDA, 1993c), targeted toward low-literacy adults; and *Food Facts for Older Adults* (USDA, 1993b), targeted toward healthy older adults.

In 1989, USDA and DHHS established a second advisory committee to review the 1985 *Dietary Guidelines* and make recommendations for revision. *The Surgeon General's Report on Nutrition and Health* (DHHS, 1988) and the National Research Council's 1989 report *Diet and Health: Implications for Reducing Chronic Disease Risk* were key resources used by the committee.

The Surgeon General's Report on Nutrition and Health provided a comprehensive review of scientific evidence in support of Federal nutrition policy as stated in the 1985 *Dietary Guidelines for Americans*. Recommendations in the report promoted a dietary pattern that emphasized consumption of vegetables, fruits, and whole-grain products—foods rich in complex carbohydrates and fiber—and of fish, poultry without skin, lean meats, and low-fat dairy products selected to reduce consumption of total fat, saturated fat, and cholesterol.

The National Research Council's *Diet and Health* report concluded that reducing total fat and saturated fat consumption was the most important dietary change needed to reduce risk of chronic diseases such as cardiovascular disease and certain cancers. The Council's Food and Nutrition Board recommended a total fat intake of 30 percent or less of calories, saturated fat intake of less than 10 percent of calories, less than 300 mg of cholesterol daily, five or more daily servings of vegetables and fruits, and six or more daily servings of breads, cereals, and legumes.

The 1990 Dietary Guidelines Advisory Committee's review also considered the utility of the 1985 *Guidelines* to the public, drawing on

USDA-sponsored research conducted at the University of Wisconsin and Pennsylvania State University on use of the bulletin by professionals and consumers.

The Wisconsin study found the Guidelines to be well accepted and valued as a consensus document by Federal, State, and local professionals involved in the communication of food and nutrition information (Steele, 1990). These professionals recommended that the *Dietary Guidelines* be kept constantly before the public, in a variety of presentations. The Pennsylvania State University study indicated that consumers wanted more specific food-related guidance, definition of technical terms, and practical tips for behavior change strategies (Achterberg and others, 1989; Achterberg and others, 1991).

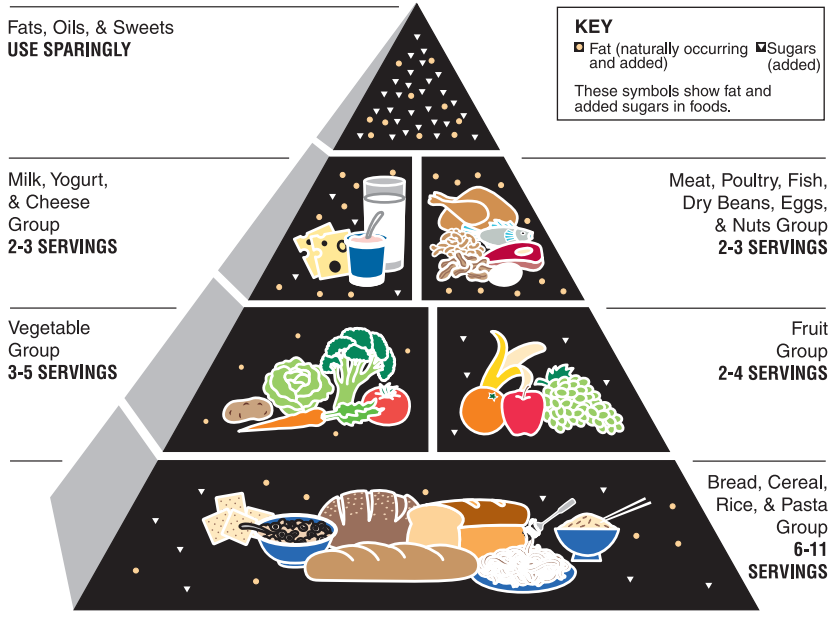
The basic tenets were reaffirmed in the third edition of the *Dietary Guidelines* (USDA and DHHS, 1990), which promoted enjoyable and healthful eating through variety and moderation, instead of dietary restriction. For the first time, the guidelines suggested numerical goals for total fat—30 percent or less of calories—and for saturated fat—less than 10 percent of calories. The goals were for diets over several days, not for one meal or one food. These goals were consistent with recommendations in the Diet and Health report and those suggested for the National Cholesterol Education Program of the National Heart, Lung, and Blood Institute in DHHS (National Cholesterol Education Program, 1993). The *Dietary Guidelines* brochure provided more practical advice on how to implement the *Guidelines* in daily food choices by including the food guide—*A Pattern for Daily Food Choices*—developed by USDA in the early 1980's.

Release of the Food Guide Pyramid and the Nutrition Facts Label—1990's

Although USDA's food guide, *A Pattern for Daily Food Choices*, had been used in Department publications since the mid-1980's, it was not well known. Therefore, work began in 1988 to develop a graphic presentation of the food guide that conveyed the key concepts of the guide—variety, proportionality, and moderation. Consumer studies were conducted with adults having a high school education who were not overly constrained by food cost concerns and who had eating patterns typical of the general U.S. population. After this testing, the food guide graphic was presented as a pyramid design (fig. 1).

Figure 1

Food Guide Pyramid



Source: U.S. Department of Agriculture/U.S. Department of Health and Human Services

Additional testing was done with those at nutritional risk—children, low-literate adults, and low-income adults—who are beneficiaries of USDA’s nutrition assistance programs.

A consumer booklet devoted entirely to a description of the food guide and how to use it was developed by USDA and supported by DHHS. The *Food Guide Pyramid* was released in 1992 with the objective of helping consumers put the *Dietary Guidelines* into action (USDA, 1992). In it, variety among food groups is shown by the names of the food groups and by the separate sections of the pyramid. Variety within food groups is illustrated by pictures of typical food items. Proportionality is conveyed by the size of the food group

sections and the text stating numbers of servings. Moderation of foods high in fat and added sugars is represented by the small tip of the pyramid and text specifying that they be used sparingly. Moderation related to food choices within food groups is shown by the density of the fat and sugars symbols in the food groups. The text of the food guide booklet provides additional information on how to choose foods that are low in fat, saturated fat, cholesterol, added sugars, or sodium within each food group.

Since its release, the *Food Guide Pyramid* has been widely used by nutrition and health professionals, educators, the media, and the food industry. Its use in a variety of materials—including posters, textbooks, school curricula, computer software, and on food labels—has helped to disseminate the *Dietary Guidelines* message.

The Nutrition Labeling and Education Act of 1990 (NLEA) mandated the use of nutrition information on virtually all packaged and processed foods. The law, implemented in mid-1994, provided an additional tool—the Nutrition Facts Label—consumers could use to select a healthy diet within the framework of the *Food Guide Pyramid*.

Fourth Edition of the *Dietary Guidelines for Americans—1995*

A Dietary Guidelines Advisory Committee was appointed in 1994 by USDA and DHHS to review the 1990 edition of the *Dietary Guidelines* to determine if, based on current scientific knowledge, revisions were warranted. Whereas the 1980, 1985, and 1990 editions of the *Guidelines* had been issued voluntarily by the two Departments, the 1995 edition was the first report mandated by statute—the 1990 National Nutrition Monitoring and Related Research Act (7 U.S.C. 5341). This legislation requires the Secretaries of Agriculture and Health and Human Services jointly to publish a report titled *Dietary Guidelines for Americans* at least every 5 years.

Although the titles of the dietary guidelines have changed over the past 15 years, there have been few changes in the overall concepts. There are seven guidelines for each of the four editions (table 3). The target audience has remained the same—healthy Americans 2 years of age and older.

Table 3—Dietary guidelines for Americans, 1980-95

1980	1985	1990	1995
Eat a variety of foods.	Eat a variety of foods.	Eat a variety of foods.	Eat a variety of foods.
Maintain ideal weight.	Maintain desirable weight.	Maintain healthy weight.	Balance the food you eat with physical activity—maintain or improve your weight.
Avoid too much fat, saturated fat, and cholesterol.	Avoid too much fat, saturated fat, and cholesterol.	Choose a diet low in fat, saturated fat, and cholesterol.	Choose a diet with plenty of grain products, vegetables, and fruits.*
Eat foods with adequate starch and fiber.	Eat foods with adequate starch and fiber.	Choose a diet w/plenty of vegetables, fruits, and grain products.	Choose a diet low in fat, saturated fat, and cholesterol.*
Avoid too much sugar.	Avoid too much sugar.	Use sugars only in moderation.	Choose a diet moderate in sugars.
Avoid too much sodium.	Avoid too much sodium.	Use salt and sodium only in moderation.	Choose a diet moderate in salt and sodium.
If you drink alcohol, do so in moderation.	If you drink alcoholic beverages, do so in moderation.	If you drink alcoholic beverages, do so in moderation.	If you drink alcoholic beverages, do so in moderation.

* In the 1995 edition, the order of the third and fourth guidelines was reversed.

Source: USDA/DHHS, 1980, 1985, 1990, 1995..

New information in the 1995 *Dietary Guidelines* included:

- use of the Nutrition Facts Label and Food Guide Pyramid graphic
- boxes highlighting good food sources of key nutrients such as iron and calcium
- a statement recognizing that vegetarian diets can meet RDA's and conform with the dietary guidelines
- changes in the weight guideline to emphasize the benefits of physical activity, to encourage weight maintenance as a first step to achieving a healthy weight, and to discourage weight gain with age for adults

- replacement of the weight table with a chart that illustrates weight ranges for healthy weight, moderate overweight, and severe overweight
- movement of the grain products, vegetables, and fruits guideline from fourth to third position to give it more prominence, and a slight change in the title to be consistent with the placement of food groups in the *Food Guide Pyramid*
- addition of specific guidance regarding dietary fat intake among children (gradual decrease to no more than 30 percent of calories from fat between the ages of 2 and 5 years) and more information about types and sources of fatty acids
- increased emphasis on sugars as a calorie source and less on the relationship of sugars to health
- information about the relationship of nutrients other than sodium to blood pressure
- referral of readers to food label standards for dietary cholesterol and sodium intake without making specific recommendations
- a statement about the potential benefit of moderate alcohol intake in reducing the risk for heart disease in some individuals.

For the first time, the *Dietary Guidelines* brochure was also made available electronically through the World Wide Web. The *Dietary Guidelines* continue to form the basis of Federal nutrition policy and have provided a consensus as to what makes a healthy diet.

The Future for Dietary Guidance

Dietary guidelines will continue to be revised as the science base evolves. In the *Report of the Dietary Guidelines Advisory Committee on the Dietary Guidelines for Americans, 1995* (USDA, 1995), the Committee recognized the difficulty of having a single bulletin address the needs of consumers, policymakers, and health professionals. The Committee recommended changes in the process used to develop the guidelines, following a two-step approach—first, to determine the most important nutrition-related public health issues and dietary strategies on which to focus; and second, to determine effective communication messages to educate the public and change their behavior.

The Dietary Guidelines Advisory Committee's recommendation is consistent with a shift in emphasis, both in USDA and the nutrition

education profession, from simply providing knowledge to allow consumers to make informed decisions about healthy eating practices to actually motivating them to bring about behavior change. Encouraging audiences to adopt different eating practices is a large undertaking. Behavioral change is motivated not by knowledge alone, but also by a supportive social environment and the availability of facilitative services. Thus, future research efforts will be devoted to learning more about the target audience—their environment and what motivates their food decisions. Research is also needed to develop methods to evaluate the effectiveness of nutrition education programs to determine if behavior is changing.

Recent research shows that consumers feel frustrated when they hear different nutrition messages from different sources. In a USDA survey of main meal planners/preparers, over 40 percent strongly agreed with the statement, “There are so many recommendations about healthy ways to eat, it’s hard to know what to believe” (USDA, 1996). Almost half of respondents to an American Dietetic Association (ADA) telephone survey of adults responded that they found news reports on nutrition to be confusing. Eighty-one percent of respondents reported that they would prefer to hear about new research only after there is acceptance among nutrition and health professionals (versus hearing about all studies individually) (ADA, 1995). Therefore, it is important for nutrition educators to speak with one voice. At the same time, many government agencies and private sector organizations are faced with budget constraints. Nutrition educators are being asked to do more with less. Because of these trends, there will continue to be an increase in partnerships and cooperation between the public and private sector.

An example of one such cooperative effort is the Dietary Guidelines Alliance, which has participation from USDA, DHHS, industry groups, and the American Dietetic Association. The Alliance was formed to develop effective, consumer-focused nutrition education messages based on the *Dietary Guidelines for Americans*. Nutrition education messages jointly produced in this way will increasingly focus on motivating behavior change.

Nutrition educators will also be faced with increasing questions from consumers concerning the nutritive value and safety of the many new food products appearing in the marketplace. Some of these products are due to new technology (e.g., fat replacers and sugar substitutes).

Other new food products result from the introduction of ethnic foods into the market in response to demand for such products from a more culturally diverse population. New dietary guidance materials will need to address the use of these foods and how they fit into the diet. For example, the 1995 *Dietary Guidelines* bulletin (USDA and DHHS, 1995) includes ethnic foods in the list of good food sources of nutrients and includes a special discussion of the role of sugar substitutes in the diet.

Since the initial release of the *Dietary Guidelines for Americans* in 1980, each edition has gained in acceptance and use by both professionals and consumers. As nutrition guidance advances into the 21st century, the underlying themes of variety, proportionality, and moderation—initiated about 100 years ago and reinforced by the dietary guidelines—will likely still apply to choosing healthful diets for many years to come.

References

- Achterberg, C.L., V.M. Getty, M.A. Pugh, J.G. Durrwachter, and L.L. Trenkner. *Evaluation of "Nutrition and Your Health: Dietary Guidelines for Americans."* Pennsylvania State University. Unpublished Final Report, Contract 53-3198-8-024, 1989.
- Achterberg, C.L., M.A.P. Ozgun, J. McCoy, and V.M. Getty. *Evaluation of "Nutrition and Your Health: Dietary Guidelines for Americans," Part II: A Men's Sample.* Pennsylvania State University. Unpublished Final Report, Contract 53-3198-8-024, 1991.
- The American Dietetic Association. *1995 Nutrition Trends Survey. Executive Summary.* Conducted by the Wirthlin Group for the American Dietetic Association, 1995.
- American Red Cross. *Better Eating for Better Health: Instructor's Guide and Participant's Packet.* Washington, DC: American National Red Cross, 1984.
- Atwater, W.O. *Foods: Nutritive Value and Cost.* U.S. Department of Agriculture, Farmers' Bulletin No. 23, 357 pp., 1894.
- Atwater, W.O. *Principles of Nutrition and Nutritive Value of Food.* U.S. Department of Agriculture, Farmers' Bulletin No. 142, 48 pp., 1902.
- Cleveland, L.E., B.B. Peterkin, A.J. Blum, and S.J. Becker. "Recommended Dietary Allowances as Standards for Family Food Plans." *Journal of Nutrition Education*, Vol. 15, pp. 8-14, 1983.

- Hunt, C.L. *Food for Young Children*. U.S. Department of Agriculture, Farmers' Bulletin No. 717, 21 pp., 1916.
- Hunt, C.L., and H.W. Atwater. *How to Select Foods*. U.S. Department of Agriculture, Farmers' Bulletin No. 808, 14 pp., 1917.
- Hunt, C.L. *A Week's Food for an Average Family*. U.S. Department of Agriculture, Farmers' Bulletin No. 1228, 25 pp., 1921.
- Hunt, C.L. *Good Proportions in the Diet*. U.S. Department of Agriculture, Farmer's Bulletin No. 1313, 18 pp., 1923.
- McGinnis, J.M., and W.H. Foege. "Actual Causes of Death in the United States." *Journal of the American Medical Association*, Vol. 270, pp. 2207-2212, 1993.
- National Cholesterol Education Program. *Second Report of the Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel II)*. NIH Publication No. 93-3095, 1993.
- National Nutrition Conference for Defense. *Proceedings of the National Nutrition Conference for Defense*. Federal Security Agency, Washington, DC, 1941.
- National Research Council. *Diet and Health: Implications for Reducing Chronic Disease Risk*. Washington, DC: National Academy Press, 1988.
- Page, L., and E.F. Phipard. *Essentials of an Adequate Diet... Facts for Nutrition Programs*. U.S. Department of Agriculture, ARS-62-4, 1956.
- Steele, S.M. *Cooperative Extension's Use of Dietary Guidelines and Your Diet and Suggestions About Revision*. Unpublished report prepared for U.S. Department of Agriculture, Human Nutrition Information Service, 1990.
- Stiebeling, H.K. and M. Ward. *Diets at Four Levels of Nutrition Content and Cost*. U.S. Department of Agriculture, Circ. No. 296, 59 pp., 1933.
- U.S. Department of Agriculture. *National Wartime Nutrition Guide*. NFC-4, 1943.
- _____. *National Food Guide*. AIS-53, 1946.
- U.S. Department of Agriculture, Agricultural Research Service. *Nutrition Attitudes and Dietary Status of Main Meal Planners/Preparers, 1989-91*. NFS Report No. 91-1, 274 pp., 1996.
- U.S. Department of Agriculture, Agricultural Research Service. Dietary Guidelines Advisory Committee. *Report of the Dietary Guidelines Advisory Committee on the Dietary Guidelines for Americans 1995, to the Secretary of Health and Human Services and the Secretary of Agriculture*, 58 pp., 1995.

U.S. Department of Agriculture, Human Nutrition Information Service. *Dietary Guidelines and Your Diet*. Home and Garden Bulletin No. 232-1 to 232-7, 1986.

_____. *Dietary Guidelines and Your Diet: Home Economics Teacher's Guide*. Miscellaneous Publication No. 1457, 1988.

_____. *Using the Dietary Guidelines*. Home and Garden Bulletins No. 232-8 to 232-11, 1989.

_____. *The Food Guide Pyramid*. Home and Garden Bulletin No. 252, 1992.

_____. *Dietary Guidelines and Your Health: Health Educator's Guide to Nutrition and Health*. Miscellaneous Publication No. 1490, 1993a.

_____. *Food Facts for Older Adults: Information on How to Use the Dietary Guidelines*. Home and Garden Bulletin No. 251, 68 pp., 1993b.

_____. *Making Healthy Food Choices*. Home and Garden Bulletin No. 250, 17 pp., 1993c.

_____. *USDA's Food Guide: Background and Development*. Miscellaneous Publication No. 1514, 38 pp., 1993d.

U.S. Department of Agriculture, Science and Education Administration. *Food*. Home and Garden Bulletin No. 228, 64 pp., 1979.

_____. *Ideas For Better Eating: Menus and Recipes to Make Use of the Dietary Guidelines*. Washington, DC, 1981.

U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Nutrition and Your Health: Dietary Guidelines for Americans*. Home and Garden Bulletin No. 232, 1980.

_____. *Nutrition and Your Health: Dietary Guidelines for Americans* (2nd ed.). Home and Garden Bulletin No. 232, 1985.

_____. *Nutrition and Your Health: Dietary Guidelines for Americans* (3rd ed.). Home and Garden Bulletin No. 232, 1990.

_____. *Nutrition and Your Health: Dietary Guidelines for Americans* (4th ed.). Home and Garden Bulletin No. 232, 1995.

U.S. Department of Health, Education, and Welfare, Public Health Service. *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention*. DHEW (PHS) Publication No. 79-55071, 1979.

U.S. Department of Health and Human Services, Public Health Service. *The Surgeon General's Report on Nutrition and Health*. DHHS (PHS) Publication No. 88-50210, 1988.

U.S. Senate Select Committee on Nutrition and Human Needs. *Dietary Goals for the United States* (2nd ed.), 1977.