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Nutrition Policy Update

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ABSTRACT

The U.S. government helps to assure an adequate food supply for Americans by sponsoring a wide variety of food, nutrition, and agricultural support programs. These federal activities were developed in the absence of a clearly articulated national policy, a situation that has resulted in the fragmentation of government programs and in their wide disbursement among numerous agencies and departments.

Federal food, nutrition, and agriculture programs include six key areas: food and nutrition surveys, food assistance, nutrition research, food industry regulation, agriculture support, and nutrition education. Some current programs have roots reaching back to the turn of the century, but it is just within the past 25 years that the government has begun to play an active role in policies that affect awareness of inadequate nutrition among the poor, of the function of diet in chronic illnesses, and of the importance of adequate nutrition in early child development.

The effect on the nation's health of food processing and other changes in the U.S. diet is controversial. Salt, sugar, fiber, saturated fats, alcohol, caffeine, calories, vitamins, and food additives—all elicit vigorous debate. In recent years a number of federal agencies have attempted to evaluate the evidence that links diet to health and to recommend dietary changes to improve nutritional status. Despite the controversy surrounding these and other recommendations, an apparent consensus emerges from among the various reports. Nevertheless, certain factors have acted as constraints against the formulation of a coordinated national nutrition policy that would implement these recommendations.

DEVELOPMENT OF A FEDERAL NUTRITION POLICY

The food system is the nation's largest industry. It employs more than 20 million workers and accounts for 16% of all personal expenditures—$218 billion in 1979 (1). Federal policies affect almost every phase and aspect of the food system, from basic research to the price of food in the market. During the past 25 years, national food and

agriculture policies have moved increasingly toward attention to the nutritional health of the population and away from their former emphasis on food production and the financial interests of agricultural producers.

Many of these policy changes occurred in response to altered patterns of American agriculture following World War II. Farm production per hour of farm labor increased almost threefold between 1950 and 1973, and labor use dropped almost 50% (2). These great increases in productivity brought on a variety of adjustments, including complex commodity price and income support programs for farmers (3).

Although the changes in American agriculture and in food and agriculture policies occurred rapidly in the postwar years, domestic nutrition policies have evolved slowly and in a piecemeal fashion. The first major step toward the establishment of current policies was the enactment of the Social Security Act in 1935. This act authorized federal grants-in-aid to the states for health services and for mothers and children, and it provided support for the application of nutrition principles to preventive and curative health care. In 1941, the Food and Nutrition Board of the National Research Council, National Academy of Sciences, issued its first Recommended Dietary Allowances (RDA). Updated periodically, these reports have been used as standards for nutritional adequacy in food assistance programs and for food labeling requirements.

One early policy development was the establishment of the National School Lunch Program in 1946. It was not until the 1960s, however, that the federal government assumed an active role in combating the problems of malnutrition among the poor. Even then, the commitment was piecemeal. The Food Stamp Act of 1965 initiated a small-scale program to meet what was perceived as a limited need. At its inception, the Child Nutrition Act of 1966 expanded the federal role only modestly.

With the 1968 report *Hunger USA* (4) and the 1969 White House Conference of Food, Nutrition and Health (5), national attention began to focus on the nutritional needs of the poor. As a result, the Department of Health, Education, and Welfare, now the Department of Health and Human Services (DHHS), began a major nutrition surveillance program in order to determine the extent of malnutrition in the United States. These surveys revealed substantial nutritional problems among poverty groups, and they contributed a great deal of information on nutritional problems and their impact on health.

Congress responded by expanding a number of food assistance programs in the 1970s—the Food Stamp Program, the School Lunch Program, the Child Care Food Program, and the Child Nutrition Program—and it established the Nutrition Program for the Elderly through an amendment to the Older Americans Act. These programs were greatly enlarged during the 1970s, serving millions of people and costing billions of dollars. Many of these programs appear slated for reduced federal support in the 1980s, as attention focuses on reducing government spending rather than assisting the poor.

In the late 1960s and early 1970s, the Senate Select Committee on Nutrition and Human Needs played a key role in the development of food assistance programs to meet the needs of the poor and to stimulate the evolution of a national nutrition policy. In 1974, the Select Committee issued Guidelines for a National Nutrition Policy (6) prepared by the National Consortium. The consortium defined five basic goals for national nutrition policy that have provided the framework for many subsequent developments. The goals were to:

1. Assure an adequate, wholesome food supply, at reasonable cost, to meet the needs of all segments of the population.
2. Maintain food resources sufficient to meet emergency needs and to fulfill a responsible role as a nation in meeting world food needs.
3. Develop a level of sound public knowledge and responsible understanding of nutrition and foods that will promote maximal nutritional health.
4. Maintain a system of quality and safety control that justifies public confidence in its food supply.
5. Support research and education in foods and nutrition with adequate resources and reasoned priorities to solve important current problems and to permit exploratory basic research (6).

Events entirely outside the fields of health and nutrition, however, have had the greatest impact on nutrition policy during the past decade. Poor harvest in many parts of the world and the extraordinary grain purchases by the Soviet Union in 1972, accompanied by rapid increases in domestic food prices, brought world food policy to the attention of the American public as never before. For the first time, the capacity of the United States to meet its own food needs, as well as its commitments to the rest of the world, was in doubt. The world food crisis arose at a time of extraordinary worldwide inflation and an energy crisis due to skyrocketing oil prices. These events profoundly altered the process of food policymaking (2, 7, 8).

Two major policy developments that followed these events were reflected in the Agriculture and Consumer Protection Act of 1973: (1) income support payments to farmers were continued by the U.S. Treasury Department in order to ensure a stable income for agricultural producers; and (2) the Food Stamp program was expanded to become the principal food assistance program in order to protect the poor from food price inflation (3).

Regulatory policies were also affected by these changes and by dramatic increases in the development and use of processed foods (9). The growing interest in nutrition influenced policies adopted by the Food and Drug Administration (FDA) that regulated the labeling of foods.

Another important nutrition policy of the 1970s was expressed in the Food and Agriculture Act of 1977, which included the Congressional declaration that "nutrition and health considerations are important to the United States agricultural policy" and which directed the U.S. Department of Agriculture (USDA) to establish human nutrition research as one of its distinct missions. As a result, the Department moved to strengthen and expand its human nutrition research programs.

These developments of the 1960s and 1970s changed the role of the federal government in human nutrition policy, and they helped to focus the public's attention on the relationship between nutrition and health.

FEDERAL FOOD, NUTRITION, AND AGRICULTURE PROGRAMS

This brief historical outline serves to demonstrate that federal food, nutrition, and agricultural support activities were developed in the absence of a clearly defined national nutrition policy. They were established in response to particular needs or problems at different times by discrete Congressional committees, and they were designed for highly diverse political constituencies. As a result, various related functions came to be fragmented among many agencies and departments. Because no single federal organization has been designated to oversee these programs, it becomes a formidable task to determine their scope and content or to evaluate their quality and effectiveness.

In response to Congressional concern about the diversity, possible duplication, rapid growth, and high cost of these programs, the General Accounting Office prepared an inventory of federal food, nutrition, and agriculture programs. By late 1979, the inventory had identified 359

Table 1. Various Domestic Food, Nutrition, and Agriculture Activities of the United States Government

Department	Agency	Food and Nutrition Surveys	Food Assistance	Nutrition Research	Food Quality Regulation	Agricultural Support	Nutrition Education
Agriculture	Animal and Plant Health Inspection Service				X		
	Agricultural Stabilization and Conservation Service					X	
	Agricultural Marketing Service					X	
	Agricultural Research Service			X			
	Economics, Statistics and Cooperatives Service			X			X
	Farmers Home Administration					X	
	Federal Crop Insurance Corporation					X	
	Food and Nutrition Service		X	X			X
	Food Safety and Quality Service				X		X
	Nationwide Food Consumption Service	X					
	Office of Policy, Planning and Evaluation			X			
	Office of Governmental and Public Affairs						X
	Science and Education Administration			X			X
Commerce	National Oceanic and Atmospheric Administration			X		X	
Community Service Administration			X				
Defense				X			

Department	Agency	Food and Nutrition Surveys	Food Assistance	Nutrition Research	Food Quality Regulation	Agricultural Support	Nutrition Education
Environmental Protection Agency				X	X		
Federal Trade Commission				X			
Health and Human Services	Alcohol, Drug Abuse, and Mental Health Administration			X			X
	Center for Disease Control	X		X			
	Food and Drug Administration			X	X		X
	Health Resources Administration			X			X
	National Institutes of Health			X			X
	National Center for Health Statistics	X		X			X
	Office of Human Development Services		X				
	Social Security Administration		X				
National Aeronautics and Space Administration				X			
National Science Foundation				X			X
State	Agency for International Development						X
Treasury							
Veterans Administration	Department of Medicine and Surgery			X			

separate programs distributed among 28 federal departments and agencies (10). The 1980 update of this inventory includes 1305 pages of computer listings (11). A partial listing of the agencies and their most important programs is provided in Table 1. Most activities are conducted by the Department of Agriculture and the Department of Health and Human Services, but a great many other government agencies are also responsible for portions of national nutrition policy.

The food, nutrition, and agriculture programs of the U.S. government include six key areas: (1) food and nutrition surveys, (2) food assistance, (3) nutrition research, (4) food industry regulation, (5) agriculture support, and (6) nutrition education.

No single agency has complete responsibility for any one area. Instead, many agencies are assigned partial responsibility for one or more major functions. The result of this shared responsibility is that lines of authority for program policies intersect and overlap.

The difficulties generated by multiple responsibility for specific functions are best illustrated by food assistance programs. The 13 most important food assistance programs are distributed among agencies in three separate federal departments. The organizational chart of administrative authority for these programs is as complex as a wiring diagram for a computer chip (12). It reveals that children of low-income parents may be eligible to receive food assistance from as many as 11 separate city, county, state, or federal agencies. This situation immediately suggests that at least some coordination of these programs might be desirable or necessary to ensure that they are effective in meeting federal goals.

FOOD AND NUTRITION SURVEYS

In order to develop a rational program that ensures an adequate nutrient intake for all U.S. residents, policymakers must identify standard food consumption practices and trends among the general population to determine the relationship between these practices and overall nutritional status, to establish the extent of malnutrition (whether from under- or overconsumption of nutrients), and to identify specific groups within the population that are most likely to be malnourished or to have special needs for food assistance or education.

As officials began to uncover vast amounts of hunger and malnutrition among U.S. citizens (4), the Department of Health, Education, and Welfare (now DHHS) conducted the Ten-State Nutrition Survey (1968–1970) and the Preschool Nutrition Survey (1968–1970), and the National Center for Health Statistics initiated periodic Health and Nutrition Examination Surveys (HANES) I

(1971–1974) and II (1976–1979). In addition, the Center for Disease Control established a program for gathering data that could be used to determine nutritional status. These surveys examined the extent of inadequate food intake among specially identified low-income groups (the Ten-State Survey), young children (the Preschool and Center for Disease Control surveys), and a representative sample of the general population over time (HANES I and II).

These surveys provided only limited data on the relationship of food consumption patterns to health. The federal nutritional surveillance program has been criticized for its duplication of effort, its inadequate population samples, its inability to identify high-risk groups or to relate food intake to health status, and its failure to use and to report the data in a manner that would reveal the groups most in need of assistance (13). Some of these problems occurred because of political pressures. Certain states did not want the federal government to reveal the extent of poverty and malnutrition within their boundaries (14). Some federal policymakers did not want to identify groups in need because federal funds would then be required to meet the needs. With many of these problems uncorrected, it has not been possible to identify with confidence the extent of malnutrition within the general population or within high-risk groups or to evaluate the success of federal nutrition intervention programs.

Even with these limitations, the results of the various surveys have been quite consistent. Malnutrition is associated with poverty. It is found most frequently among Blacks and least frequently among Caucasians. Young children, adolescents, pregnant women, and the elderly, especially those of low socioeconomic status, are the groups at highest risk (13). Thus, it is toward these groups that most federal food assistance efforts have been directed (12).

FOOD ASSISTANCE PROGRAMS

The federal government sponsors 13 major programs designed to increase the amount of food available to high-risk segments of the population (15). These programs and their sponsoring agencies are listed in Table 2. Most food assistance programs are administered by the Department of Agriculture. The DHHS is responsible for two food assistance programs and two cash assistance programs targeted to food needs. The Community Services Administration has one program that is designed to increase participation in all government food assistance programs.

These programs provide eligible households or individuals with meals, food, vouchers for food, or food stamps to buy food. The largest

Table 2. Federal Food Assistance Programs

Department of Agriculture
Food Stamps
Food Distribution
National School Lunch Program
School Breakfast Program
Child Care Food Program
Special Milk Program
Summer Food Service Program for Children
Special Supplemental Food Program for Women, Infants, and Children (WIC)
Department of Health and Human Services
Headstart
Nutrition Program for the Elderly
Aid to Families with Dependent Children
Supplemental Security Income
Community Services Administration
Community Food and Nutrition Program

and most important programs are the Food Stamp Program, the National School Lunch Program, and the Special Supplemental Food Program for Women, Infants, and Children (WIC). By the late 1970s, these three programs served more than 43 million recipients at a cost of over $7.6 billion (12).

The cost of federal food assistance efforts has been of great concern to Congress. Between 1967 and 1976, federal expenditures for food assistance rose from $664 million to $8.5 billion and in 1981 they exceeded $11 billion (16). This 16.5-fold increase occurred in the early 1970s, at a time of relatively liberal eligibility requirements. Inflation and increased unemployment also contributed to the sharp rise in expenditures.

As the cost of food assistance programs increased, so did the controversy surrounding them. Various reports to Congress have noted their fragmentation and duplication of benefits, their inconsistent eligibility requirements and lack of common goals, and their failure to demonstrate improved nutritional or health status among recipients (12, 13).

The two largest and most expensive programs, Food Stamps and School Lunches, have been singled out for critical comment. The Food Stamp Program has been particularly controversial because of concern by Congress that it has been abused by its beneficiaries. Critics argue that the program fails to monitor food stamp recipients adequately, so that some people who receive stamps are not "truly" eligible. Also, because the program does not include a major nutrition education component, there is no guarantee that recipients are using stamps to purchase nutritious foods (13).

The School Lunch Program has also been scrutinized by Congress, particularly concerning the quality and acceptability of food served to eligible children. However, no effort has been made to evaluate the program's health benefits.

Fragmentation and lack of adequate evaluation of food assistance programs are weaknesses that have left the programs vulnerable to criticism and to attempts to reduce their budgets. As part of the Reagan administration's effort to reduce federal spending for domestic social programs, the Food Stamp and School Lunch programs were specifically targeted for major budgetary reductions amounting to over $3 billion in 1981 (16). In order to accomplish these reductions, application requirements have been modified to reduce the number of individuals who are eligible for benefits. Because attempts to limit these programs are likely to continue, the future of food assistance remains uncertain.

Throughout the arguments over the quality and cost-effectiveness of food assistance programs, the WIC Program has remained relatively untouched. Although Congress has noted some problems with WIC (13), the program has been both popular and successful. Perhaps one reason for its at least partial immunity from serious criticism and budgetary reduction is that it has been carefully evaluated. Several studies have documented WIC's effectiveness in improving the health of its recipients. WIC beneficiaries demonstrate improved infant survival and child growth rates (17). This information has been of value in protecting the program from attempts to eliminate it, and it suggests strongly that evaluation should be a major priority of the remaining food assistance programs.

In 1978, the Comptroller General reported to Congress that, in spite of the large number of federal food assistance programs and the large amount of money spent on them, it was not possible to state with certainty that all eligible persons receive benefits or that all U.S. residents receive adequate food intake (12). Because food assistance programs have been designated for expenditure reduction, it becomes

especially important to identify high-risk groups and to document the effectiveness of intervention.

NUTRITION RESEARCH

Nutrition research is the responsibility of a large number of federal departments and independent agencies. In 1979, the major nutrition research agencies devoted nearly $200 million to basic research in nutrition, to nutrition research manpower development and training, and to nutrition education research (18). The need for coordination of these efforts has been an expressed recommendation of many federal reports during the past decade.

Because the Food and Agriculture Act of 1977 provided major roles for both the Department of Agriculture and the Department of Health and Human Services in human nutrition research, the White House convened the Nutrition Research Interagency Working Group to recommend coordinated priorities for nutritional research among the various agencies. This report was the first to reflect genuine cooperation among the federal agencies that support nutrition research. The Working Group proposed that primary responsibility for disease-related human nutritional research be assigned to the National Institutes of Health; for food sciences research and food consumption surveys, to the Department of Agriculture; and for health and nutritional status surveillance, to the National Center for Health Statistics (19).

The report classified human nutritional research into four essential areas: (1) studies of human nutrient needs, (2) food sciences, (3) nutrition education research, and (4) monitoring of diet and nutrition-related health status. The authors emphasized the importance of each of these areas and identified specific research needs within each category. They recommended four urgent research needs: (1) a rapid and relatively inexpensive food consumption survey capability, (2) more precise clinical and laboratory methods for measuring changes in nutritional status, (3) analysis of the HANES data, and (4) expansion of nutrition-related epidemiologic studies.

Within the next year, two additional reports supported these recommendations but also criticized federal activities for their lack of coordination and duplication of effort (20) and suggested specific options that Congress might follow to increase the coordination of federal research activities (21).

In response to these recommendations, the Director of the Office of Science and Technology Policy appointed representatives from nine federal agencies to form a Joint Subcommittee on Human Nutrition Research. This Subcommittee began meeting toward the end of 1978

". . . to ensure that the nutrition research efforts of the federal agencies be mutually reinforcing" (18).

In its December 1980 report (18), the Subcommittee commended the federal government for its increased support of nutrition research since 1977. It identified the many agencies that support nutrition research but it found little duplication of these efforts. In fact, it observed that many agencies had developed joint programs to coordinate research activities. The Subcommittee recommended increased support for research training and for several specific areas of applied nutrition research, but it emphasized that applied research must be ". . . conducted in close collaboration with basic biomedical and behavioral research so that these causal relationships and their modulating factors can be understood and precisely defined to prevent or ameliorate disease" (18).

FOOD INDUSTRY REGULATION

Three federal agencies—the Food and Drug Administration, the Department of Agriculture, and the Federal Trade Commission (FTC)—regulate food quality and food safety standards in manufacturing, interstate commerce, and food labeling and advertising. In addition, the Environmental Protection Agency is responsible for maintaining the quality of drinking water.

Standards of food sanitation, safety, contamination, quality, and labeling are enforced separately by the FDA and the USDA. The FDA ensures that all foods consumed by the American public are safe, sanitary, and labeled properly. Through its Food Safety and Quality Service, the USDA regulates these aspects of the meat and poultry industries. This agency also inspects food packing plants, condemns and destroys contaminated food, and regulates many additional aspects of the food industry (13). The Federal Trade Commission oversees food advertising.

Although federal regulation of the food industry dates back 75 years, the amount of regulatory activity has accelerated recently, largely as a result of advancing technology in food production and processing, in the increased use of pesticides and chemical fertilizers in crop production, and in the use of antibiotics and hormones to promote the growth of animals.

Food Standards

The FDA maintains standards of identity for more than 280 food products. These standards specify the ingredients and the method of processing that must be followed if a product is to be sold under its common name. Once a food product is standardized, its ingredients do

not have to be listed on the label. This recipe format precludes deceptive modifications of a food, but it may prevent consumers from knowing what substances a food contains. More importantly, it prevents the elimination of unnecessary or potentially harmful ingredients. Thus, the FDA recently was required to propose regulatory changes in the standard of identity for cola-type soft drinks in order to allow manufacturers to remove caffeine as an ingredient (22).

Food Safety

The FDA and the USDA share responsibility for the safety of the food supply. Together they protect consumers from food-borne disease, environmental contaminants, food toxicants, and dangerous additives.

The food safety activities of the Department of Agriculture are conducted by its Food Safety and Quality Service. This agency inspects plant, animal, and poultry foods for disease or contamination, supervises meat processing, inspects facilities where animals are slaughtered, and controls plant and animal food pests. The role of the Department of Agriculture in food safety has always generated controversy (23). In the past, the Department of Agriculture has been accused of conflict of interest because it favored commercial over consumer interests in its meat inspection program. More recently, it has been accused of too much concern for the consumer and neglect of its primary constituency—agribusiness. Part of that concern arises because of its much more vigorous pursuit of food safety policies, particularly as they relate to carcinogens.

The FDA has an even wider range of responsibilities for food safety. Its programs range from control of food sanitation to regulation of food packaging and testing the safety of food additives. The agency is required to ensure that deficiencies in food safety control are corrected. This aspect of its responsibility has brought the FDA into conflict with consumer groups, who find its regulatory policies insufficient, as well as with leaders in the food industry who criticize it for overregulation. The inability of the FDA to prohibit the use of saccharin as an additive, due to Congressional action specifically exempting it from provisions of the Food, Drug, and Cosmetic Act, provides one recent example of the FDA's vulnerability to political pressure (24).

The most important food safety issue to be debated in the 1980s is the Delaney Amendment to the Food, Drug, and Cosmetic Act. This amendment prohibits the use in any form of a substance that is demonstrated to be carcinogenic. In permitting the marketing of saccharin, Congress made a specific exclusion to the requirements of the Delaney Amendment. Whether Congress will continue a case-by-

case approach to the use of substances found to be carcinogenic or whether they will adopt a policy based strictly on safety and cost remains to be seen.

Food Advertising

The role of the Federal Trade Commission in regulation of food advertising is to prevent deception and to improve the reliability of advertisements, so that consumers may make informed choices (25). In recent years, the Commission has become increasingly concerned about the nutritional quality of the processed foods being advertised. A former chairman of the FTC observed that the great majority of food advertisements promote foods that are high in fat, cholesterol, refined sugar, salt, or alcohol (9).

The agency has long been handicapped in its regulatory efforts by inadequate funding; it spent less than $150,000 on nutrition advertising regulation in 1977 (25). By comparison, the 29 leading food, candy, chewing gum, soft drink, and alcoholic beverage advertisers worked with a combined advertising budget of over $3.5 billion in 1979 (26).

As the FTC has taken an increasingly active role in attempting to regulate claims made in food advertisements and to modify food commercials during children's television programs, it has come into conflict with the food industry and with Congress. Congress has withheld funding in order to force the Commission to modify its positions, and it now has the power to veto FTC rules. The deregulation policies espoused by the Reagan administration have left the future role of the FTC in question. Early in 1981, the Commission suspended an investigation into regulation of children's television advertising, largely in response to political pressures (27).

Food Labeling

The FDA requires that nutrition information be listed on food labels when nutritional claims are made in advertising or when certain additives, such as vitamins and minerals, are present. All additional food labeling is voluntary. According to FDA regulations, food labeling must include the following information: size of normal serving; grams of carbohydrate, fat, and protein per serving; calories per serving; and percentage of the U.S. Recommended Dietary Allowances for vitamins and minerals per serving. Currently, more than 60% of processed foods are labeled with this limited information, primarily on a voluntary basis (28).

In response to demands by consumer groups and by some members of Congress for compulsory, detailed food labeling legislation, the three

major regulatory agencies developed two joint proposals for changes in food labeling regulations. Their proposals called for more complete information on food ingredients, greater federal control over food fortification, and nutrition labeling of more foods.

These proposals were considered by Congress, and they were supported by the Carter administration. They were opposed, however, by the food industry, which prefers a voluntary labeling program. Without strong public and Congressional support, it is unlikely that more rigorous, comprehensive labeling requirements will be instituted in the near future. This situation is especially unfortunate because improved food labeling is an essential part of any rational food policy. It provides consumers with information about food composition and the losses that occur during food processing. It enables consumers to control caloric intake and to avoid an excess of certain ingredients, such as fat, sugar, and salt. Adequate food labeling would help bring the country closer to the National Nutrition Consortium's 1974 goal of developing a level of public knowledge and understanding of nutrition and foods that will promote maximal health (6).

In the absence of comprehensive labeling reforms, however, important steps can be taken by the FDA to extend voluntary labeling, particularly with respect to sodium and sodium chloride. Millions of patients with hypertension might benefit from such labeling. Recent indications are that the FDA, with support by the Secretary of Health and Human Services, will move forward with such proposals.

AGRICULTURAL SUPPORT

The Department of Agriculture is the primary agency responsible for federal agricultural support programs. More than 50 separate programs ensure the adequacy and stability of the domestic food supply, regardless of national or international economic fluctuations. Agricultural support programs provide a remarkable variety of services to food growers and producers: pest control, commodity loans and purchases, income protection, indemnity payments, incentive payments, product grading, education, technical assistance, marketing information, crop insurance, grants, and loans (29).

The fact that these programs protect the specific interests of agricultural producers has brought the Department of Agriculture into conflict with consumer groups, who accuse it of strengthening the economic interests of U.S. agricultural businesses at the expense of the general population. Nowhere is this conflict more apparent than within the Department of Agriculture itself. For many years, the Agricultural Stabilization and Conservation Services protected sugarcane and

sugarbeet growers through a complex system of price supports that guaranteed producers a minimum price per pound of sugar (30). Now, a different USDA agency advises the public to "avoid too much sugar" (31). The balance between these differing viewpoints, however, is not equal; the USDA's budget for agricultural support is far greater than that for consumer education.

NUTRITION EDUCATION

Individuals in the United States receive information about food, nutrition, diet, and health from a bewildering array of sources, only one of which is the federal government. Although nutrition education is a specified function of several federal agencies and an important minor activity of many more of them, the government has no central program for nutrition education. Instead, nutrition information is disseminated independently by the various agencies to their target population groups. Because these groups range from schoolchildren to professional scientists, educational materials produced by the government are exceptionally diverse; they include dietary advice to the public, nutrition information for consumers, technical materials for farmers, and research reports for professionals.

The Department of Agriculture produces many of these materials. In 1979, it made available 313 separate items for distribution to scientists and health professionals, the general public, and recipients of food assistance (32). In addition, it sponsors training programs, scientific conferences, and education programs for school teachers and workers in food service, procurement, and regulation. These activities accounted for an expenditure of more than $100 million per year in the late 1970s (25). Much of this funding supports cooperative extension services, which provide consumers with information to improve diets and to fight inflation, and the Expanded Food and Nutrition Education Program, which has taught improved dietary practices to more than 1.5 million families since 1969 (32).

The need to provide more and better nutrition instruction to the general public, to food assistance recipients, and to health professions' students and practitioners has been a major recommendation of a great many federal reports. One of these reports notes that government educational materials are often "... uninteresting, simplistic, repetitive, or irrelevant," and that whether or not they make a difference in the health of the American people is simply not known (13). This report also emphasizes that, no matter how effective current federal efforts might be, they cannot possibly counteract the enormous educational impact of televised food advertising on young children.

Yet another report comments that federal nutrition education activities are neither coordinated nor evaluated. In order to direct education efforts toward "the common good of the consumer," the government must develop a clear statement of educational goals; a systematic process for developing, evaluating, and disseminating nutrition information; and a coordinated mechanism to ensure that all necessary areas are covered and that duplication of effort is avoided (25).

DIETARY RECOMMENDATIONS AND NUTRITION POLICY

Although the federal government plays an important part in nutrition education, its role is minor when compared to the activities of a multitude of other sources of nutrition information, particularly the food industry. Major changes are occurring both in the sources of information and in the nutrition information communicated to the public. In the past 5 years alone, more than 20 public and private organizations have produced nutrition reports and dietary recommendations for the U.S. population (33). These recommendations generally have focused on the relationship between diet and chronic diseases, such as heart disease, stroke, cancer, diabetes mellitus, arteriosclerosis, and cirrhosis—six of the nation's 10 leading causes of death. The most important of these reports and their recommendations are summarized in Table 3.

The recent emphasis on diet and chronic diseases represents a major change in focus for nutrition education, information, and policy. Prior to the mid-1970s, adequate nutrition was considered to be the absence of undernutrition, and nutrition education centered on micronutrients (vitamins and minerals) and nutrition deficiency diseases. The major sources of nutrition information for the public were advertisements by industry, books and articles, and a few government publications, particularly the Basic Four Food Groups, published by the Department of Agriculture in 1957 (34), and the Recommended Dietary Allowances, published and updated periodically by the Food and Nutrition Board of the National Academy of Sciences (35). By the mid-1970s, however, a growing body of epidemiologic and clinical evidence suggested a relationship between diet and a number of degenerative diseases. Nutritional adequacy was redefined to emphasize the role of macronutrients (fat, carbohydrate, and protein) and overnutrition in the prevention of these diseases.

The publication of policy statements reflecting these new findings represented a major change in the United States government's nutrition policy. Formerly, government policies paid relatively little attention to

Table 3. Dietary Advice to the Public by Various U.S. Reports[a]

Group	Maintain Ideal Body Weight	Reduce Total Fat	Reduce Saturated Fat	Increase Polyunsaturated Fat	Reduce Cholesterol	Reduce Sugars	Increase Starches	Increase Fiber	Reduce Salt
Dietary Goals, 2nd ed. 1977 (36)	yes	yes (30%)	yes	yes	yes (300mg)	yes	yes	yes	yes (~5g)
American Heart Assoc., 1978 (38)	yes	yes (30-35%)	yes	yes	yes (300mg)	yes	yes	no	yes
Healthy People, 1979 (37)	yes	yes	yes	no	yes	yes	yes	no	yes
American Diabetes Assoc., 1979 (41)	yes	yes	yes	no	yes	yes	yes	yes	yes
American Medical Assoc., 1979 (39)	yes	yes, if at high risk	yes, if at high risk	yes, if at high risk	yes, if at high risk	moderate	no	no	yes (<12g)
National Cancer Inst., 1979 (40)	yes	yes	no	no	no	no	no	yes	no
USDA Guidelines DHEW, 1980 (31)	yes	yes	yes	no	yes	yes	yes	yes	yes
Food & Nutrition Board, *Toward Healthful Diets,* 1980 (42)	yes	adjust to calorie need	no	no	no	adjust to calorie need	yes for diabetes	no	yes (3-8g)

[a]This table was adapted from one designed by Dr. Kristen McNutt (33).

meeting the public's need for nutrition information. That situation changed with the work of the Select Committee on Nutrition and Human Needs, chaired by Senator George McGovern. In 1977, after extensive hearings, extending over several years, that examined the relationship between nutrition and health, the Select Committee issued its controversial report, *Dietary Goals for the United States* (36). Although a Congressional committee report, *Dietary Goals* was perceived by much of the U.S. public as official government policy. The government has since issued two official publications containing dietary advice: *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention* (37) and *Nutrition and Your Health: Dietary Guidelines for Americans* (31), published jointly by the USDA and the DHHS.

These reports stimulated widespread discussion. There are those who question whether the government should be making such recommendations at all. Others debate the merits of specific recommendations. Fueling the controversy in recent years have been the sometimes contradictory recommendations from organizations such as the American Heart Association (38), the American Medical Association (39), the National Cancer Institute (40), the American Diabetes Association (41), and the Food and Nutrition Board of the National Academy of Sciences (42). Additionally, numerous foreign governments have issued major nutrition policy statements (43–45).

Increasing Consensus and Ongoing Debate

The controversy generated by these reports has obscured the gradual emergence of an apparent consensus among nutrition experts on many important nutritional issues. Most nutrition experts agree that the present U.S. dietary recommendations should be modified to emphasize the importance of variety in food intake, to urge an increase in the consumption of complex carbohydrate foods (starch and fiber), and to advocate a restriction in the consumption of fats, sugars, alcohol, and salt. In addition, breast feeding of infants now receives broad support. While specific details of these recommendations may differ, they generally support the proposals outlined in the *Dietary Goals* It is noteworthy that, on the basis of evidence linking diets high in starch and fiber to increased control of blood insulin, glucose, and lipid levels (46), the American Diabetes Association now recommends for patients with diabetes mellitus a diet with proportions of fat, carbohydrate, and protein paralleling those outlined in the *Dietary Goals*

Despite the increasing consensus in dietary recommendations, much public attention has been directed toward differences among the various reports. The most controversial recommendations are those that

describe dietary intake of total fat, saturated and unsaturated fat, and cholesterol. Many of the reports urge a decrease in the percentage of total calories derived from fat (31, 36–40). As indicated in Table 3, however, they differ in specific percentages of caloric intake, proportion of polyunsaturated to saturated fat, limitation in amounts of cholesterol; and whether the recommendations should be directed to everyone or only to individuals in special high-risk groups.

At the heart of this dispute is the controversial relationship between dietary lipids and coronary heart disease. In a careful analysis of the problem, Hulley et al. argue that the data clearly support dietary intervention for individuals with certain risk factors for coronary heart disease, but that "to be effective, public health measures should be applied uniformly to the entire population" (47). Thus, these authors support the recommendations set forth in *Dietary Goals* and stress the importance of informative nutrition labeling regarding fat and cholesterol. At the same time, they urge clinicians to suggest dietary interventions tailored to the particular needs and beliefs of individual patients.

Recommendations for fiber intake are also controversial. Despite an increasing consensus in the medical literature about the importance of dietary fiber in the prevention of certain diseases of the intestines, such as appendicitis, diverticulosis, and, perhaps, colon cancer (48, 49), and the maintenance of normal blood sugar (46) and blood lipid levels (50), several groups omit recommendations for dietary fiber intake in their recommendations (38, 39, 42).

Most reports simply avoid the subject of food additives or present the issue without a conclusion (37, 40). Similarly, the effects of food processing on nutrient content receive little attention other than the recommendation for "decreased consumption of refined sugars" (31) or "increased attention to the nutritional quality of processed food" (37). *Dietary Goals* does recommend "decreased consumption of refined and processed sugars and foods high in such sugars" (36). The Surgeon General notes that increased attention needs to be paid to the nutritional qualities of processed food (37).

Implications for Nutrition Education Policy

The apparent inability of different groups of nutrition "experts" to reach agreement on specific recommendations, although agreeing on the need to modify the American diet, underscores several major problems in formulating national nutrition policies. Who should develop a national policy? How should the policy be developed? What is the nature of the evidence required for nutrition policy? How should the policy be implemented?

Who Should Develop Nutrition Education Policy?

Federal policy may be made by Congress, by federal agencies implementing the laws enacted by Congress, or by the courts in interpreting Congressional intent. Experts often play a key role in advising policymakers, particularly in areas such as health and nutrition where there is a large body of scientific evidence germane to public policy.

Few areas have generated more difference of opinion, scientifically and politically, than nutrition policy. Nearly all of the authors of the various nutrition/dietary recommendations in recent years have been criticized for bias, self-interest, or possible conflict of interest. Although the U.S. Senate's *Dietary Goals* was prepared in response to testimony by a large number of food and nutrition experts, the Select Committee's motivation for producing the report was criticized as a political document designed by lawyers rather than nutritionists. It was suggested that if diet did affect chronic disease morbidity and mortality, costs for National Health Insurance would decrease, aiding the legislative program and generating votes for its advocates (51). A second example is the Food and Nutrition Board's controversial decision in a recent report, *Toward Healthful Diets*, to make no recommendation regarding dietary intake of saturated fat and cholesterol. Board members have been accused of lack of expertise in this area and of potential conflict of interest, because several of them have ties to various food industries, particularly the meat, egg, and dairy industries (52).

The USDA/DHHS report *Dietary Guidelines* (31) has also been criticized for a potential conflict on the part of USDA, since its "political raison d'être . . . is to make it easier for farmers to make money" (53). In contrast to the Surgeon General's report *Healthy People* (37), the USDA/DHHS report makes little mention of the potential danger of food additives, the growing consumption of processed foods, or the role of advertising and the media in formulating food preference (53).

Scientific Research Findings as a Basis for Policy

Although consideration of who should develop a national policy influences how that policy is developed, additional controversy surrounds the transformation of scientific data into health policy. Some groups demand established proof of benefit while others feel that the recommendations should reflect the best available evidence even

without proof of benefit. The Food and Nutrition Board goes even further, demanding proof that the recommendations themselves will not be harmful (42). Other authors point out that nutritionists and other health professionals historically have made recommendations based upon the best available scientific knowledge without such proof (54).

The Food and Nutrition Board has been further criticized for applying a sliding scale of scientific standards to its various recommendations (55). In support of its decision to omit recommendations for reduced intake of fat and cholesterol, the Board reviewed seven intervention trials that failed to demonstrate a decrease in overall mortality. Yet, in the same report, the Board strongly recommended weight reduction and salt restriction, despite the lack of adequate clinical trials to demonstrate decreased mortality for these interventions.

Many authors emphasize the technical difficulties involved in conducting a well-designed clinical trial to test the role of dietary factors in cardiovascular mortality (47, 56). Yet, numerous groups that support reduction in dietary fat and cholesterol note that clinicians often must make decisions in the absence of proof, and that current dietary recommendations are prudent (47). Furthermore, it is likely that we will never have sufficient proof (47), and that decisions must be made on the basis of the best possible scientific judgment (57).

Application of Dietary Recommendations

Even with agreement on the content of a national nutrition policy, major controversy remains on the application of the policy. In concluding *Dietary Goals for the United States*, for example, the Senate Select Committee recommended that Congress support a public education program in nutrition, require more extensive food labeling for all foods, sponsor research on the effects of food processing on health, coordinate human nutrition research undertaken by the Department of Agriculture and the Department of Health and Human Services, and consider the implications of nutritional health concerns on agricultural policy. Unfortunately, few of these proposals have been implemented in the 6 years since their publication. Powerful interest groups within the food industry have actively opposed them, as have some influential farm-state Representatives and Senators, as well as nutrition scientists. Congress abolished the Select Committee that made the recommendations.

The recent political victory of anti-big-government forces in the 1980 national elections may signal the formal end of the efforts of the past

decade to develop a comprehensive, consumer-oriented federal nutrition policy. The effect of governmental withdrawal from leadership in dietary recommendations and nutrition information for the public is likely to turn the responsibility for nutrition education back to private industry. The potential effect of such a change in leadership is controversial. While some experts believe that a more active role by the food industry would be highly beneficial (5), others are concerned that the food industry's profit motivation and enormous capacity to alter the dietary habits through processing and advertising will have increasingly deleterious effects on U.S. diets. To avoid this catastrophe, it has been proposed by consumer advocates that the federal government support a "comprehensive federal program to change the American diet" (58).

Such programs are already in place in other countries, most notably Norway and Sweden. Interestingly, these countries and others with less comprehensive programs are primarily those in which the government has assumed major fiscal responsibility for the population's health care. Thus, in the same way that it is in the self-interest of a prepaid health plan to reduce health care costs, it has become in the self-interest of these national governments to change eating habits to minimize risk of widespread chronic diseases. Whether these programs will accomplish their goals has yet to be proven, but they hold great promise for the future efficacy of federal nutrition intervention.

NUTRITION POLICY RECOMMENDATIONS

The lack of coordination of federal food and nutrition activities does not necessarily doom them to failure. Indeed, programs may flourish under a flexible and responsive organizational structure. It does, however, subject the government to charges that it is not adequately meeting the nation's needs for food and nutrition services. More important, the lack of coordination leaves individual programs open to criticism that they are redundant and dispensable. Without a coherent national policy and clearly defined departmental and agency responsibility within this policy framework as vital parts of a coordinated national effort, the specific programs are vulnerable to budgetary reductions and restrictions. The most urgent need for the 1980s is the development of a coherent national nutrition policy.

A coordinated policy and administrative structure, coupled with stronger evaluation procedures, would help to ensure that federal food and nutrition programs are meeting national needs, thus protecting them from the vagaries of political fortune. These policy changes would go a long way toward ensuring maximum nutritional health for all residents of the United States.

REFERENCES

1. U.S. General Accounting Office. *Food, Agriculture and Nutrition: Issues for Planning*, U.S. Government Printing Office, Washington, D.C., 1980.
2. M. Chou, Changing food policies. In M. Chou and D. Harmon, eds., *Critical Food Issues of the Eighties*, Pergamon Press, New York, 1978, p. 103.
3. W. Boehm, A U.S. food policy. *Natl. Food Rev.* (USDA) 6, 34 (Winter 1979).
4. Citizens Board of Inquiry. *Hunger USA*, Beacon Press, Boston, 1968.
5. *White House Conference on Food, Nutrition and Health. Final Report.* Government Printing Office, Washington, D.C., 1970.
6. U.S. Congress, Senate, Select Committee on Nutrition and Human Needs. *National Nutrition Consortium Guidelines for a National Nutrition Policy*, U.S. Government Printing Office, Washington, D.C., 1974. [Reprinted in *Nutr. Rev.* 32, 153 (1974).]
7. P. Lee, Nutrition policy—from neglect and uncertainty to debate and action. *J. Am. Diet. Assoc.* 72, 581 (1978).
8. T. Warley, *Agriculture in an Interdependent World: U.S.–Canadian Perspectives*, National Planning Association, Washington, D.C., 1977.
9. T. H. Stafford and J. H. Wills, Consumer demand increasing for convenience in food products. National Food Review (USDA) 6, 15 (Winter 1979).
10. Comptroller General of the U.S. Inventory of federal food, nutrition and agriculture programs. CED–79–125. U.S. Government Printing Office, Washington, D.C., 1979.
11. U.S. Department of Agriculture. *Federal Food, Nutrition, and Agriculture Programs, Prototype Inventory: 1980 Update*, U.S. Government Printing Office, Washington, D.C., 1980.
12. Comptroller General of the U.S. *Federal Domestic Food Assistance Programs: A Time for Assessment and Change*, CED–78–113. U.S. Government Printing Office, Washington, D.C., 1978.
13. U.S. General Accounting Office. *National Nutrition Issues*, CED–78–7. U.S. Government Printing Office, Washington, D.C., 1977.
14. U.S. Congress, Senate, Select Committee on Nutrition and Human Needs. *Nutrition and Health II*, U.S. Government Printing Office, Washington, D.C., 1976.
15. U.S. General Accounting Office. *Food, Agriculture, and Nutrition: Issues for Planning*, U.S. Government Printing Office, Washington, D.C., 1980.

16. Anon., Reagan food cuts would cost recipients at least $4.3 billion, *CNI Weekly Report* 11 (11), 1, March 12, 1981.
17. J. Berkenfield and J. B. Schwartz, Nutrition intervention in the community: The WIC program. *N. Engl. J. Med.* 302, 579 (1980).
18. U.S. Congress, Joint Subcommittee on Human Nutrition Research, Federal Coordinating Council on Sciences, Engineering, and Technology. *Federally Supported Human Nutrition Research, Training, and Education: Update for the 1980s.* I. *Human Nutrition Research and Training*, U.S. Government Printing Office, Washington, D.C., 1980.
19. Executive Office of the President, Office of Science Technology Policy, Nutrition Research Interagency Working Group. *New Directions in Federally Supported Human Nutrition Research*, U.S. Government Printing Office, Washington, D.C., 1977.
20. Comptroller General of the U.S. Report to the Congress of the U.S., *Federal Human Nutrition Research Needs a Coordinated Approach to Advance Knowledge*, PSAD–77–156–A, U.S. Government Printing Office, Washington, D.C., 1978. 2 vols.
21. Office of Technology Assessment. *Nutrition Research Alternatives*, OTA–F–74, U.S. Government Printing Office, Washington, D.C., 1978.
22. *Federal Register.* October 21, 1980, and December 23, 1980.
23. M. Chou, The preoccupation with food safety. In M. Chou and D. Harmon, eds., *Critical Food Issues of the Eighties*, Pergamon Press, New York, 1978, p. 18.
24. R. J. Smith, Latest saccharin tests kill FDA proposal. *Science* 208, 154 (1980).
25. Comptroller General of the U.S. Report to Congress of the U.S., *Informing the Public about Nutrition: Federal Agencies Should Do Better*, CED–78–75, U.S. Government Printing Office, Washington, D.C., 1978.
26. M. Elmquist, Top 100 advertisers spend $11.7 billion. *Advertising Age*, September 11, 1980, p. 1.
27. A. O. Sulzberger, A bleak mood pervades F.T.C. *The New York Times*, 25 May 1981, business section, p. 1.
28. J. Weimer, Nutrition labeling: the unresolved issue. *Natl. Food Rev.* (USDA) 11, 20 (Summer 1980).
29. U.S. Office of Management and Budget. *Catalog of Federal Domestic Assistance: 1980*, U.S. Government Printing Office, Washington, D.C., 1980.

30. W. Robbins, I. Conflicting interests over sugar create unwanted U.S. surpluses. (14 Jan., p. 1) II. Lobbyists worked off stage to shape sugar laws. (15 Jan., p. 1) III. Powerful rivals clash over sugar price supports. (16 Jan., p. 1) *The New York Times*, 1979.
31. U.S. Department of Agriculture and U.S. Department of Health, Education and Welfare. *Nutrition and Your Health: Dietary Guidelines for Americans*, U.S. Government Printing Office, Washington, D.C., 1980.
32. U.S. Department of Agriculture. *Food and Nutrition in the 1980s: Moving Ahead. Comprehensive Plan for Implementing the National Food and Human Nutrition Research and Education and Information Programs*, U.S. Government Printing Office, Washington, D.C., 1979.
33. K. McNutt, Dietary advice to the public: 1957 to 1980. *Nutr. Rev.* 38, 353 (1980).
34. U.S. Department of Agriculture, Agricultural Research Service. *Essentials for an Adequate Diet. Home Economics Research Report No. 3.* U.S. Government Printing Office, Washington, D.C., 1957.
35. Committee on Dietary Allowances, Food and Nutrition Board, National Research Council. *Recommended Dietary Allowances*, 9th ed., National Academy of Sciences, Washington, D.C., 1980.
36. U.S. Congress, Senate, Select Committee on Nutrition and Human Needs. *Dietary Goals for the United States*, 1st and 2nd eds., U.S. Government Printing Office, Washington, D.C., 1977.
37. U.S. Department of Health, Education, and Welfare. *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention*, U.S. Government Printing Office, Washington, D.C., 1979.
38. American Heart Association, Committee on Nutrition, Diet and Coronary Heart Disease. *Circulation* 58, 762A (1978).
39. Council on Scientific Affairs, American Medical Association, Concepts of nutrition and health. *J. Am. Med. Assoc.* 242, 2335 (1979).
40. National Cancer Institute. *Statement on Diet, Nutrition and Cancer*, National Cancer Institute, Washington, D.C., 1979.
41. American Diabetes Association, Committee on Food and Nutrition. Principles of nutrition and dietary recommendations for individuals with diabetes mellitus: 1979. *Diabetes* 28, 1027 (1979).
42. Food and Nutrition Board, National Research Council. *Toward Healthful Diets*, National Academy of Sciences, Washington, D.C., 1980.

43. G. T. T. Molitor, National nutrition goals: How far have we come? In M. Chou and D. Harmon, eds., *Critical Food Issues of the Eighties*, Pergamon Press, New York, 1979, p. 134.
44. Canada, Department of National Health and Welfare. *Recommendations for Prevention Programs in Relation to Nutrition and Cardiovascular Disease*, Bureau of Nutritional Sciences, Health Protection Branch, Ottawa, Canada, 1977.
45. B. Winikoff, ed., *Nutrition and National Policy*, MIT Press, Cambridge, Mass., 1978.
46. J. A. Anderson and K. Ward, High carbohydrate, high fiber diets of insulin treated men with diabetes mellitus. *Am. J. Clin. Nutr.* 32, 2312 (1979).
47. S. Hulley, R. Sherwin, M. Nestle, and P. Lee, Epidemiology as a guide to clinical decision. II. Diet and coronary heart disease. *West. J. Med.* 135 (7), 25–33 (1981).
48. D. P. Burkitt, A. R. P. Walker, and N. S. Painter, Dietary fiber and disease. *J. Am. Med. Assoc.* 229, 1068 (1974).
49. W. S. Worthington–Roberts, Dietary fiber. In W. S. Worthington–Roberts, ed., *Contemporary Developments in Nutrition*, C. V. Mosby, St. Louis, 1981.
50. D. A. Jenkins, Dietary fiber, diabetes and hyperlipidemia. *Lancet* 2, 1287 (1979).
51. R. W. Olson, The U.S. quandary: Can we formulate a rational nutritional policy? In M. Chou and D. Harmon, eds., *Critical Food Issues of the Eighties*, Pergamon Press, New York, 1979, p. 119.
52. J. Turner, We feel compelled to break relations. *CNI Weekly Rep.* 10 (24), 4 (1980).
53. D. S. Greenberg, Nutrition: A long wait for a little advice. *N. Engl. J. Med.* 302, 535 (1980).
54. D. M. Hegsted, Rationale for change in the American diet. *Food Technol.* 32 (9), 44 (1978).
55. P. Hausman, Academy gets egg on its face. *Nutr. Action* 7 (7), 10 (1980).
56. R. Sherwin, Controlled trials of the diet–heart hypothesis: some comments on the experimental unit. *Am. J. Epidemiol.* 108, 92 (1978).
57. A. E. Harper, Dietary goals: A skeptical view. *Am. J. Clin. Nutr.* 31, 310 (1978).
58. L. Brewster and M. Jacobson, *The Changing American Diet*, Center for Science in the Public Interest, Washington, D.C., 1978.

ADDITIONAL RECENT REFERENCES

Committee on Diet, Nutrition, and Cancer, National Research Council, National Academy of Sciences. *Diet, Nutrition, and Cancer*, National Academy Press, Washington, D.C., 1982.

S. M. Grundy, Chairman, Nutrition Committee of the American Heart Association, Rationale of the Diet–Heart Statement of the American Heart Association: Report of Nutrition Committee. *Circulation* 65(4), 839A (1982).

Comptroller General of the U.S., *Progress Made in Federal Human Nutrition Research Planning and Coordination: Some Improvements Needed.* CED–82–56. U.S. Government Printing Office, Washington, D.C., 1982.

Multiple Risk Factor Intervention Trial Research Group, Multiple risk factor intervention trial: risk factor changes and mortality results. *J. Am. Med. Assoc.* 248, 1465 (1982).