

Promoting Health and Preventing Disease: National Nutrition Objectives for 1990 and 2000

*Status of 17 nutrition guidelines is evaluated, and
their implementation by the food industry is encouraged*

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□ SINCE THE LATE 1970s, the Department of Health and Human Services has been engaged in an intensive effort to establish a public health agenda for the United States. This agenda focuses attention on key target areas of health promotion and disease prevention; calls for the development of specific, measurable objectives for improved health status in these areas; and suggests ways in which federal, state, community, and private agencies can participate both in the agenda-setting process and in the achievement of its goals. Because nutrition is included as one of these key target areas, the food industry has an especially important role to play in the development of health objectives and in their implementation.

National Health Goals

The objectives-setting process began with the increasing realization that the most prevalent causes of death and disability in the U.S.—heart disease, cancer, diabetes, liver and lung diseases, accidents and injuries, infant mortality, infectious diseases, and others—can be prevented or reduced through changes in existing diet, exercise, and other lifestyle practices. With this recognition, Title XVII of the Public Health Service Act of 1976 instructed the Secretary of Health and Human Services to establish national goals for disease prevention and health promotion and to design strategies to achieve them (U.S. Congress, 1976). To that end, the Surgeon General issued the first federal report on the relationships between controllable risk factors and disease. This report, *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention*, called for increased national attention to reduction of deaths and disabilities from preventable causes (DHEW, 1979). The report defined five broad goals for promotion of health among Americans to be

achieved within the following decade. These goals were:

- To continue to improve infant health, and by 1990, to reduce infant mortality by at least 35%, to fewer than nine deaths per 1,000 live births.
- To improve child health, foster optimal childhood development, and, by 1990, reduce deaths among children ages one to 14 years by at least 20%, to fewer than 34 per 100,000.
- To improve the health and health habits of adolescents and young adults, and, by 1990, to reduce deaths among people ages 15 to 24 by at least 20%, to fewer than 93 per 100,000.
- To improve the health of adults, and, by 1990, to reduce deaths among people ages 25 to 64 by at least 25%, to fewer than 400 per 100,000.
- To improve the health and quality of life for older adults and, by 1990, to reduce the average annual number of days of restricted activity due to acute and chronic conditions by 20%, to fewer than 30 days per year for people ages 65 and older.

As a strategy to attain these goals, the report designated 15 priority areas for development of specific objectives to reduce health risks. These areas were chosen by identifying behavioral risk factors associated with the leading causes of morbidity and mortality at each life stage, and selecting for action those on which the health-care system could reasonably be expected to have an impact (McGinnis, 1985). These health priority categories are listed in Table 1. They include preventive services to be delivered to individuals by health providers, measures by governmental and other agencies—as well as industry—to protect people from harm, and activities to be used by individuals and communities to promote healthy lifestyles.

Development of 1990 Objectives

The following year, the Public Health Service published a set of measurable objectives to be achieved by the year 1990 for each of the target

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areas (DHHS, 1980). Because implementation of any national strategy necessarily requires the cooperation of state and local governments as well as the private sector, these objectives were developed through extensive consultation among experts representing diverse public and private institutional perspectives. At a conference in Atlanta in 1979, these experts were assigned the task of identifying the most important health problems in each priority area and specifying the intervention steps most likely to be effective against these problems. In doing so, they were asked to consider the availability of data on these issues, especially among groups at highest risk, and to view the objectives more as flexible guidelines than as fixed obligations (McGinnis, 1985). The results of this process were 226 discrete objectives distributed among the 15 target categories as indicated in Table 1 (DHHS, 1980).

As already noted, the objectives were intended to be national in scope with implementation dependent upon collaborative efforts among the private and public sectors. Although lead responsibility was assigned to designated agencies of the federal government, achievement of the objectives was expected to demand a substantial commitment not only from local, state, and federal governmental agencies, but also by industry and labor, voluntary health organizations, schools and churches, physicians and other health professionals, and private citizens (DHHS, 1983).

With this background, we can now examine the nutrition component of the objectives-setting process. In recognition of the growing consensus on the role of diet in health, nutrition was designated as one of the principal target areas, thus focusing attention on its increasingly prominent position in the national health policy agenda. In 1979, *Healthy People* emphasized the relationship between diet and disease prevention and urged Americans to improve their health by reducing dietary intake of saturated fat, cholesterol, salt, and sugar, by increasing consumption of complex carbohydrate foods, and by taking in only enough energy to maintain desirable body weight or to reduce overweight (DHEW, 1979).

This advice was reinforced the following year by joint publication by the Departments of Agriculture and of Health and Human Services of the *Dietary Guidelines for Americans* with their now familiar recommendations to eat a variety of foods to maintain desirable body weight, to eat foods with adequate starch and fiber, and to avoid too much fat, saturated fat, cholesterol, sugar, salt, and alcohol (USDA/DHHS, 1985). Collectively, the *Dietary Guidelines* comprise the basis of current federal policy on dietary reduction of chronic disease risk factors, and their implementation is an important component of the 1990 nutrition objectives.

Development of the objectives represented a first attempt by the nutrition community to

Table 1—National Health Objectives for the Year 1990

Category	No. of Objectives
Preventive services	
High blood pressure control	9
Family planning	9
Pregnancy and infant health	19
Immunization	18
Sexually transmitted diseases	11
Health protection	
Toxic agent control	20
Occupational safety and health	20
Accident prevention and injury control	17
Fluoridation and dental health	12
Surveillance and control of infectious diseases	13
Health promotion	
Smoking and health	17
Misuse of alcohol and drugs	19
Nutrition	17
Physical fitness and exercise	11
Control of stress and violent behavior	14
Total	226

convert widely-accepted priorities into precise, measurable goals (Sorenson et al., 1987). The results of this attempt are the 17 nutrition objectives summarized in Table 2. Reflecting the diverse interests of the experts who designed them, these objectives aimed to improve maternal and child health (objectives 1, 2, and 8), to reduce dietary and diet-related risk factors for chronic disease (3-7 and 13), and to promote the education of consumers (9-12), foodservice personnel (14), school children (15), and health professionals and their patients (16). A final objective (17) calls for a national system to monitor these and other indicators of nutritional status in the population. Among this collection, two—relating to nutrition labeling (12) and to sodium intake (13)—require direct action by the food industry.

Status of Objectives

Built into the objectives process is systematic evaluation of achievement. In 1985, progress examined halfway through the decade was reported in the *Midcourse Review* (DHHS, 1986). Of the 226 health objectives, 13% already had been accomplished by 1985 and another 35% appear likely to be achieved by 1990, on schedule. For 26% of the objectives, data are insufficient to permit evaluation. Objectives in the remaining 26% seem unlikely to be achieved by 1990 if current trends continue.

Table 2 also summarizes the current status of the nutrition objectives. By comparison, their progress appears to lag behind the health objec-

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Table 2—National Nutrition Objectives for the year 1990 and summary of current progress toward their achievement^a

IMPROVED HEALTH STATUS

1. By 1990, the proportion of pregnant women with iron deficiency anemia (as estimated by hemoglobin concentrations early in pregnancy) should be reduced to 3.5%. In 1971-74, the proportion was reported as 31.9% (NCHS, 1986). However, because hemoglobin is only a limited indicator of anemia (LSRO/FASEB, 1986), surveys typically measure iron status during later stages of pregnancy when hemodilution is normal (DHHS, 1986). Since most states collect data on hematocrit values (Kaufman et al., 1987), the current status of this objective cannot be evaluated.

2. By 1990, growth retardation of infants and children caused by inadequate diets should have been eliminated in the U.S. as a public health problem. In 1972-73, 10-15% of infants and children in selected low-income groups were estimated to suffer diet-related growth retardation; estimates ranged from 11% to 24% in 1983 (DHHS, 1986). This objective is unlikely to be met.

REDUCED RISK FACTORS

3. By 1990, the prevalence of significant overweight (120% of desired weight) among the U.S. adult population should be decreased to 10% of men and 17% of women, without nutritional impairment. In 1976-80, 24.4% of men and 26.7% of women aged 25-74 were found to be overweight (NCHS, 1987). Despite use of a somewhat different definition, these figures did not differ significantly from those reported in 1971-74 (NCHS, 1986), suggesting that this objective is unlikely to be achieved.

4. By 1990, 50% of the overweight population should have adopted weight loss regimens, combining an appropriate balance of diet and physical activity. Although nearly 50% of overweight people report that they are trying to lose weight (Stephenson et al., 1987), in 1985 only 27% of overweight women and 21% of the men were doing so through both diet and exercise (NCHS, 1986), indicating this objective is unlikely to be met.

5. By 1990, the mean serum cholesterol level in the adult population aged 18 to 74 should be at or below 200 mg/dl. In 1971-74, the level was 214 mg/dl for men and 217 mg/dl for women aged 18-74 years; in 1976-80, it was 211 mg/dl and 215 mg/dl (NCHS, 1986). At this rate of decline, the target is unlikely to be met by 1990, but current plans for extensive education of the public about cholesterol may greatly improve this situation (NHLBI, 1987).

6. By 1990, the mean serum cholesterol level in children aged 1 to 14 should be at or below 150 mg/dl. In 1971-74, the level was 176 mg/dl for children ages 1-17 (NCHS, 1986), but the status of this objective is uncertain due to insufficient data as well as to concerns that it is inappropriate for children under age 2 (DHHS, 1986).

7. By 1990, the average daily sodium ingestion (as measured by excretion) for adults should be reduced at least to the 3 to 6 g range. Because population data on excretion and total dietary intake of sodium are not available, the status of this objective is uncertain. The sodium content of packaged foods regulated by the FDA has not declined since 1980 although many new lower sodium products have been introduced (FDA, 1987). A recent survey reporting the average sodium intake of adults to be within the target range excluded salt added at the table (NCHS, 1986).

8. By 1990, the proportion of women who breast-feed their babies at hospital discharge should be increased to 75% and 35% at six months of age. In 1978, the proportion of infants breast fed at one week was 45.1 and that at six months was 18.9; by 1985, these percentages had increased to 56.4 and 22.1, respectively (NCHS, 1986). Although such increases have been less pronounced among disadvantaged women, this objective should be achieved among more affluent population groups if current trends continue.

INCREASED PUBLIC/PROFESSIONAL AWARENESS

9. By 1990, the proportion of the population which is able to identify the principal dietary factors known or strongly suspected to be related to disease, should exceed 75% for each of the following diseases: heart disease, high blood pressure, dental caries, and cancer. In 1978, 12% of adults were aware of the relationship between high blood pressure and sodium intake, but other baseline data are unavailable. In 1985, 80% or more of adults surveyed knew of the relationship between dietary fat and heart disease and between sugar snacks and tooth decay. Nearly 60% associated salt intake with hypertension (NCHS, 1986). With continuation of these favorable trends, this objective should be achieved.

10. By 1990, 70% of adults should be able to identify the major foods which are: low in fat content, low in sodium content, high in calories, and good sources of fiber. Despite suggestions that Americans are increasingly aware of the relationship between diet and health, the progress of this objective is uncertain due to lack of data.

11. By 1990, 90% of adults should understand that to lose weight people must either consume foods that contain fewer calories or increase physical activity—or both. In a 1985 survey, 73% of the population age 18 and over cited diet and exercise as the two best ways to lose weight (Stephenson et al., 1987), suggesting that this objective might be achieved by 1990.

IMPROVED SERVICES/PROTECTION

12. By 1990, the labels of all packaged foods should contain useful calories and nutrient information to enable consumers to select diets that promote and protect good health. Similar information should be displayed where nonpackaged foods are obtained or purchased. The percentage of packaged foods labeled with nutrition information increased from 42% to 55% from 1978 to 1985. During this same period, sodium labeling on packaged foods increased from 7.5% to 59% (NCHS, 1986). Although the percentage of foods with package labels is increasing, it seems unlikely that all will be labeled by 1990.

13. By 1990, sodium levels in processed food should be reduced by 20% from present levels. Because neither baseline nor tracking data are available on the sodium content of the total processed food supply, progress on this objective is uncertain.

14. By 1985, the proportion of employee and school cafeteria managers who are aware of, and actively promoting, USDA/DHHS dietary guidelines should be greater than 50%. Progress on this objective is also uncertain due to lack of data.

15. By 1990, all states should include nutrition education as part of required comprehensive school health education at elementary and secondary levels. In 1979, 10 states mandated nutrition as a core content area in school health education; the number increased to 12 in 1985 (NCHS, 1986). This objective is unlikely to be achieved at this rate of progress.

16. By 1990, virtually all routine health contacts with health professionals should include some element of nutrition education and nutrition counseling. No baseline data are available, but in 1985, only 18-30% of surveyed adults age 18 and over stated that proper food intake is sometimes or often discussed when visiting a health professional (Stephenson et al., 1987), suggesting that this objective is unlikely to be achieved.

IMPROVED SURVEILLANCE/EVALUATION SYSTEM

17. Before 1990, a comprehensive national nutrition status monitoring system should have the capability for detecting nutritional problems in special population groups, as well as for obtaining baseline data for decisions on national nutrition policies. Monitoring activities of federal departments (DHHS/USDA, 1986), and current plans for operation of the National Nutrition Monitoring System (Harris, 1987) indicate that this objective should be achieved by the target date.

^aNumbers are provided only to facilitate discussion.

tives as a whole, although, as I shall explain, inadequacies in their formulation and measurement make evaluation difficult. As far as data allow us to determine, none of the nutrition objectives has been achieved to date, but at least four, and possibly five, (8, 9, 11, 17, and, perhaps, 5) are likely to be attained if current trends continue. Six appear unlikely to be accomplished at the current rate of progress (2-4, 12, 15, and 16) and another six (1, 6, 7, 10, 13, and 14) cannot be evaluated due to lack of appropriate data.

On the positive side, this summary indicates that Americans are increasingly aware of the importance of diet in reducing chronic disease risk factors (9 and 11), and that the food industry is responsive to this trend (12). Other gains have been noted in the rates of breast feeding (8) and in the development of a national nutrition monitoring system (17).

At the same time, significant problems were associated with both implementation and monitoring of the goals. These problems became evident in evaluation of the tracking data for the *Midcourse Review* and in subsequent studies (NCHS, 1986). A major overview of progress in the nutrition area was developed by the Food and Drug Administration (FDA), which was assigned lead responsibility for coordination of efforts to implement the nutrition objectives. The resulting report identified unrealistically comprehensive expectations (e.g., 2 and 12), inappropriate measurement data (1 and 7), inadequate scientific basis (6), and lack of available baseline or national data as impediments to achievement and evaluation (LSRO/FASEB, 1986).

An additional need is for expanded data collection from the states. Although half the states have disseminated the 1990 objectives to their health departments, and a third have designed programs to achieve them, development of a systematic collection mechanism is still in progress (ODPHP, 1986). A 1985 survey conducted by nutritionists in 54 states and territories, for example, found that data were commonly available to monitor the progress of only five of the nutrition objectives, but development of model state nutrition objectives and core data should greatly improve this situation (Kaufman et al., 1987).

These observations emphasize the scientific and technical difficulties involved in designing appropriate nutritional goals, the paucity of data on the nutritional status of high-risk groups, and the need for better methods to measure dietary changes and their effects on health. Fortunately, at least two years still remain in which to press for accomplishments in these areas. Much has already been learned (Stephenson et al., 1987), and it is now time to draw on this experience to design more rigorous objectives for the following decade.

Health Objectives: Year 2000

The final report on the 1990 objectives is

expected in the early 1990s. By that time, development of new health objectives for the year 2000 will have been completed, and plans for their implementation well underway. The first step has been to appoint a steering committee and to establish principles to guide the development process. These principles emphasize that the new objectives represent scientifically sound, priority health issues, and that they be measurable, attainable, and compatible with the existing goals of federal and private health agencies. They also need to be implemented through a system in which responsibility is shared by a broad range of professional and consumer groups, the federal government, state and local health departments, and the private sector (ODPHP, 1987).

The planning process for the year 2000 objectives is coordinated by the Public Health Service's Office of Disease Prevention and Health Promotion in conjunction with the Institute of Medicine of the National Academy of Sciences. These agencies will encourage participation from professional and voluntary organizations of health professionals, advocates, and consumers through a series of regional hearings and meetings to be held through 1988.

Nutrition will continue to be included as a separate focus of this project and there is now ample opportunity to refine the existing objectives and to expand their scope to include emerging areas of health concern such as osteoporosis or cancer (LSRO/FASEB, 1986; NCI, 1986). Other target areas may also be of interest to professionals concerned with food, nutrition, and health. Food scientists are welcome to be involved in every stage of development in order to make certain that the year 2000 objectives reflect your concerns and priorities.

Development of the objectives is to be facilitated through professional organizations. Groups seeking information on how to participate should write: Coordinator, Year 2000 Objectives, Office of Disease Prevention and Health Promotion, 330 C St. S.W., Washington, D.C. 20201.

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