Chapter 6

American Diets and Year 2000 Goals

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Healthy People 2000 is a national initiative to improve the health of all Americans. This chapter describes the progress made toward the nutrition objectives that are related to the goals of the Dietary Guidelines for Americans.

Introduction

The *Healthy People 2000* initiative presents a national prevention strategy for improving the health of the American people (DHHS, 1991, 1995). Its goals are to increase the span of healthy life for Americans, reduce health disparities among the population, and ensure access to preventive services for everyone.

Healthy People 2000 continues and expands on efforts initiated in the late 1970's, which resulted in national health promotion and disease prevention objectives targeted for achievement by 1990 (DHHS, 1979, 1980; Nestle, 1988). The current initiative, begun in 1990, is driven by 319 specific objectives that are targeted for achievement by the year 2000. All levels of government—national, State, and local—and over 300 organizations work through a *Healthy People 2000* consortium to develop and implement these national objectives.

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Because of its role in promoting good health and in reducing premature death and disability from chronic disease, nutrition is one of the 22 priority areas in which these objectives are organized.

For this priority area, the Assistant Secretary for Health designated the Food and Drug Administration and the National Institutes of Health as lead agencies responsible for the monitoring, tracking, and reporting of the Nation's progress. The 27 nutrition objectives in *Healthy People 2000* address a broad range of public health goals for the general population, and for special populations identified to be at high risk because of factors such as age, gender, race/ethnicity, or income. The goals range from reducing death rates from chronic diseases to more targeted goals, such as reducing the prevalence of growth retardation among low-income children or increasing the proportion of mothers who breastfeed (DHHS, 1995).

This chapter addresses 17 nutrition objectives that are related to the goals or recommendations of the *Dietary Guidelines for Americans* (USDA and DHHS, 1995)—such as reducing fat intake, achieving useful and informative nutrition labeling to facilitate improvements in dietary behaviors, and reducing the prevalence of overweight. These objectives provide a gauge of Americans' progress in implementing the *Dietary Guidelines*. In addition to describing the progress to date on these nutrition objectives, the chapter also discusses issues in data interpretation and future directions.

Progress on Year 2000 Nutrition Objectives

The *Year 2000* nutrition objectives are organized into three areas: health status, risk reduction, and services and protection. Whereas the health status objectives aim to reduce rates of death, disease, and disability and to enhance physical and mental functioning and well-being, the risk reduction objectives aim to reduce the prevalence or incidence of risks to health or to increase behaviors known to reduce such risks. The services and protection objectives aim to increase comprehensiveness, accessibility, and/or quality of preventive services and protective interventions.

Table 1—Progress on health status objectives that address diet-related chronic diseases[1]

Objective	Baseline year(s)	Baseline value	Last update year	Last update value	Year 2000 target
2.1. Coronary heart disease deaths (age-adjusted per 100,000)	1987	135	1995	108	100
2.2. Cancer deaths (age-adjusted per 100,000)	1987	134	1995	130	130
2.22. Stroke deaths (age-adjusted per 100,000)	1987	30.4	1995	26.7	20
2.3. Overweight prevalence (percent):					
Adults 20+[2]	1976-80	26	1988-94	35	20
Males	1976-80	24	1988-94	34	20
Females	1976-80	27	1988-94	37	20
Adolescents 12-19	1976-80	15	1988-94	24	15
2.24. Diabetes incidence/prevalence (per 1,000):					
Incidence	1986-88	2.9	1992-94	3.1	2.5
Prevalence	1986-88	28	1992-94	30	25

[1] Excludes subobjectives for various racial, ethnic, and other subpopulations.

[2] 1976-80 estimates are for individuals 20-74 years of age.

Source: DHHS, 1997.

Health Status Objectives

Several of the *Healthy People 2000* health status objectives reflect the goals of the *Dietary Guidelines* (USDA, 1995). These objectives measure the Nation's progress in reducing death rates from chronic diseases associated with diet—particularly cardiovascular disease and cancer—and in reducing the prevalence of conditions that contribute to morbidity and premature mortality, and in which diet plays a role, such as overweight and diabetes.

Progress on these five objectives has been mixed (table 1). In the last decade, death rates for the total population from coronary heart disease, cancer, and stroke have declined. In 1995, death rates from coronary heart disease were close to the year 2000 target, while death rates from cancer met the year 2000 target (DHHS, 1997).

Table 2—Percentage of adults age 20 and older who were overweight, by race/ethnicity, 1988-94[1]

Population group	Sample	Women	Men
	Number	*——Percent——*	
White, non-Hispanic	7,040	34	34
Black, non-Hispanic	4,602	52	33
Mexican American	4,378	50	36
Total[2]	16,681	36	33

[1] Excludes pregnant women. Overweight is defined as body mass index (kg/m^2) equal to or greater than 27.8 for men and 27.3 for women.

[2] Total estimates include racial/ethnic groups not shown.

Source: Third National Health and Nutrition Examination Survey (NHANES III), 1988-94, CDC, 1997a.

However, the incidence and prevalence of diabetes have increased (DHHS, 1997), as has the prevalence of overweight (Kuczmarski and others, 1994; Troiano and others, 1995; Ogden and others, 1997; CDC, 1997a).

For the *Healthy People 2000* initiative, overweight for adults is defined as a body mass index (BMI, a measure derived from weight and height) equal to or greater than 27.8 for men and 27.3 for women, which corresponds to the sex-specific 85th-percentile of the 1976-80 National Health and Nutrition Examination Survey (NHANES II) reference population 20-29 years of age. For adolescents, overweight is defined as sex- and age-specific 85th-percentile values from NHANES II. With the above definitions, data on measured weights and heights from NHANES II and NHANES III (1988-94) show that the percentage of adolescents 12-19 years who were overweight increased from 15 percent in 1976-80 to 24 percent in 1988-94; for adults 20 years and older, overweight prevalence increased from 26 percent to 35 percent. The prevalence of overweight is especially high among Black and Mexican-American women (table 2). Self-reported weights and heights from the National Health Interview Survey also suggest a high prevalence of overweight among American Indian and Alaska Native adults (DHHS, 1997).

In recent years, there has emerged a consensus to use a BMI of 25.0 or greater as the cutpoint to identify adults who are overweight (USDA, 1995; American Heart Association, 1998; DHHS, 1998b). With the use of this lower cutpoint, approximately 55 percent of the U.S. adult population is considered overweight (Kuczmarski and others, 1997).

The increased prevalence of overweight may be due to increased food energy intake, decreased energy expenditure, or both. Median energy intake for adults 20-74 years increased 275 calories from 1976-80 to 1988-94 (CDC, 1997b). However, changes in data collection methodology between the two surveys might be partially responsible for this increase (McDowell and others, 1994). For example, interviewers in the 1988-94 NHANES III systematically probed for detailed information about all foods consumed, and reviewed a list of frequently omitted food items with all respondents. In addition, NHANES III collected a higher percentage of dietary recalls on weekend days—which may be associated with higher caloric intake than weekdays—than did the 1976-80 NHANES II.

Energy expenditure may also have decreased. Results from the first phase of NHANES III indicated that many adults were either inactive (22 percent) or irregularly active (34 percent) during their leisure time (Crespo and others, 1996). Rates of inactivity were greater for women (27 percent) than for men (17 percent). The highest rates of no leisure-time physical activity were among Black women (40 percent) and Mexican-American women (46 percent).

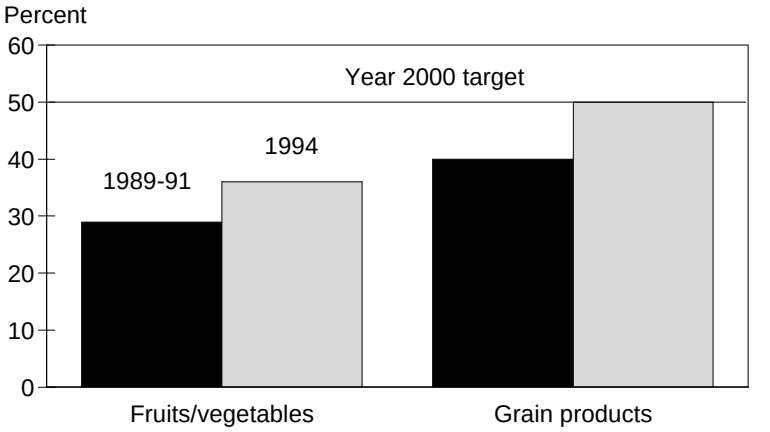
Risk Reduction Objectives

Several of the nutrition objectives measure the Nation's progress in implementing the food and nutrient intake recommendations of the *Dietary Guidelines* and the *Food Guide Pyramid* (USDA, 1992), and in promoting other individual behaviors that support these guidelines. Objectives measure the population's progress in (1) increasing consumption of grain products, fruits, and vegetables; (2) increasing consumption of calcium-rich foods; (3) reducing intake of total fat and saturated fat; and (4) reducing intake of salt and sodium. Two additional objectives address the prevalence of food label use, and the extent to which overweight adolescents and adults adopt sound dietary practices combined with regular physical activity. As with the health status objectives, progress on these objectives has been mixed.

Data on the first two objectives reflect an improved methodology that disaggregates food mixtures into their ingredients prior to assignment into a major food group (Krebs-Smith and others, 1995; Cleveland and others, 1997). For example, the new methodology assigns the cheese in pizza to the dairy group, the flour to the grain products group, and the tomato paste to the vegetable group. The amounts

Figure 1

Share of people age 2 and older who met the average daily goal for fruits/vegetables (five or more servings) and grain products (six or more servings)



Source: 1989-91 CSFII (3-day data); 1994 CSFII (2-day data). Estimates are based on unrounded servings (i.e., >= 5.0 for fruits/vegetables; >= 6.0 for grain products).

consumed of the pizza ingredients are then converted into a fraction or multiple of a serving, in accordance with serving size definitions derived from the *Food Guide Pyramid*.

Progress is evident in terms of increased consumption of grain products. In 1989-91, 40 percent of the population age 2 and older met the goal of consuming six or more servings of grain products per day; by 1994, this percentage had increased to 50 percent, thus meeting the target established for the year 2000 (fig. 1).[1] There has also been a corresponding increase in the mean intake of grain products by those 2 years and older, from an average of 5.8 servings in 1989-91 to an average of 6.7 servings in 1994, thereby meeting the year 2000 target of six or more daily servings (DHHS, 1997).

[1] These numbers differ from those cited in chapter 3 because these numbers refer to the proportion of population consuming six or more servings, whereas chapter 3 refers to the proportion consuming the recommended number of servings based on reported caloric intake. Therefore, an adult male who reported consuming 3,000 calories and who should therefore be consuming 11 servings of grains per day is included here as consuming 6 or more servings, but is not included in the proportion cited in chapter 3.

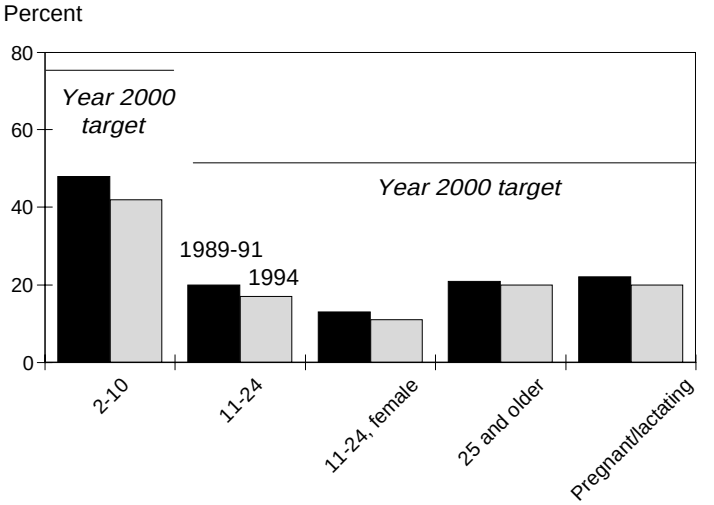
Some progress is also evident in terms of increased consumption of fruits and vegetables. In 1989-91, less than one-third (29 percent) of the population age 2 and older achieved the average daily goal of five or more servings of fruits and vegetables; by 1994, this percentage had increased to 36 percent (fig. 1). The mean intake of fruits and vegetables by those age 2 and older increased from an average of 4.1 servings in 1989-91 to an average of 4.6 servings in 1994 (DHHS, 1997). The 1989-91 baseline and 1994 update estimates for fruit and vegetable intake exclude potato chips, condiments, and candies, which in 1989-91 accounted for about 5-7 percent of total intake (Krebs-Smith and others, 1995; Krebs-Smith and others, 1996).

Despite this apparent progress, additional factors need to be considered from a public health perspective. For example, the year 2000 target that half the population age 2 and older meet these food intake recommendations was established in relation to the baseline estimates, and does not reflect the optimal goal that all healthy Americans age 2 and older follow these dietary recommendations. Thus, additional progress after achievement of a year 2000 target may still result in substantial public health gains. In interpreting these estimates, we may also need to consider the types of products consumed, their nutrient contribution, and the extent to which other ingredients—such as fat—are added. For example, 1994-96 Continuing Survey of Food Intakes by Individuals (CSFII) data for children and adolescents age 2-19 showed that less than 10 percent of all vegetable servings were dark green and/or deep yellow vegetables (DHHS, 1998a). In addition, many of the vegetables consumed were prepared with fat, with fried potatoes alone accounting for nearly one-third of vegetable consumption.

Similarly, the objective to increase consumption of grain products measures all grain products—from breads, rice, and pasta to cookies, cakes, and doughnuts—which vary in their amounts of dietary fiber, fat, sugars, and other nutrients. Supplementary analyses are needed to clarify the types of grain products consumed, and their nutrient contribution. For example, 1994-96 CSFII data indicated that less than one-fifth (14 percent) of the total servings consumed by children and adolescents were whole-grain (DHHS, 1998a), whereas the *Dietary Guidelines* recommend consumption of several daily servings of whole-grain products.

Figure 2

Share of people age 2 and older who met the average daily goal for servings of milk and milk products



Source: 1989-91 CSFII (3-day data); 1994 CSFII (2-day data).
Estimates are based on unrounded servings (i.e., >= 2.0 and >= 3.0).

No progress is evident in terms of increasing consumption of calcium-rich foods, as measured by intake of milk and milk products such as cheese and yogurt (fig. 2). From 1989-91 to 1994, the proportion of the population age 2 and older who consumed the recommended number of daily servings of milk products declined slightly. In 1994, only about one-fifth of adolescents, adults, and pregnant and lactating women consumed the recommended number of daily servings. The proportion of these subpopulations who meet the recommendations must more than double to approach the year 2000 target of 50 percent. The challenge is even greater for female adolescents and young adult women, since only about 1 in 10 consumed the recommended number of daily servings of milk products in 1994. Although mean intake by young girls age 2-10 and pregnant and lactating women approached recommendations, mean intake was only about half of the recommendations for all females 11 and older (table 3).

Supplementary data to more fully assess the public health implications of the results above would include estimation of total calcium intake and contributing sources. Foods from other food groups, such

Table 3—Mean daily servings of milk products by individuals age 2 and older, 1994

Population	Sample	Mean servings
Subgroup for whom recommendation is three daily servings:		
	Number	
Females--		
11-24 years old	464	1.6
Pregnant or lactating	49	2.7[1]
Males 11-24 years old	445	2.2
Subgroup for whom recommendation is two daily servings:		
Females--		
2-10 years old	644	1.9
25 years and older[2]	1,460	1.1
Males--		
2-10 years	644	2.1
25 and older	1,531	1.5

[1] Estimate may be unreliable because of small sample size.

[2] Excludes pregnant or lactating women.

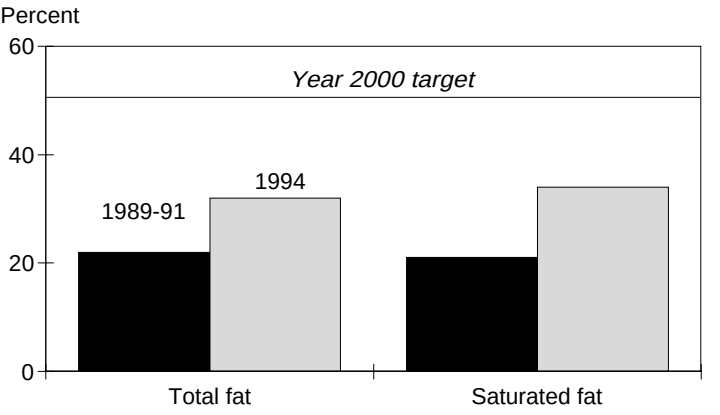
Source: 1994 Continuing Survey of Food Intakes by Individuals (1-day data).

as grain products, can be important sources of calcium (Calvo and Park, 1996). Calcium intake from fortified foods, such as orange juice, and dietary supplements, also must be considered in estimating total calcium intake (Park, Yetley, and Calvo, 1996).

Some progress is evident in reducing intake of fat and saturated fat, when fat intake is expressed as a percentage of total calories but not when intake is measured in grams (Center for Nutrition Policy and Promotion, 1998). NHANES data show that average fat intake by the U.S. population age 2 and older declined from 36 percent of total calories from fat and 13 percent of total calories from saturated fat in 1976-80 to 34 percent and 12 percent in 1988-94 (DHHS, 1997). In addition, CSFII data indicate a small decline during the first half of this decade—from 34 percent of total calories from fat and 12 percent of total calories from saturated fat in 1989-91 to 33 percent and 11 percent in 1994 (DHHS, 1997). However, average intake by the U.S. population needs to decline further to meet the year 2000 targets: no more than 30 percent of calories from fat and less than 10 percent of calories from saturated fat.

Figure 3

Share of people age 2 and older who met the average daily goal for total fat (no more than 30 percent of calories) and saturated fat (no more than 10 percent of calories)



Source: 1989-91 CSFII (3-day data); 1994 CSFII (2-day data).

Similarly, although the estimated proportion of the population age 2 and older meeting the average daily goals for total fat and saturated fat consumption increased from 1989-91 to 1994, only about one-third of the population met each of these fat recommendations in 1994 (fig. 3). Additional progress is still needed to achieve the year 2000 target of 50 percent.

The objective to reduce salt and sodium intake tracks progress in individual behaviors, such as the purchase of foods with reduced sodium, avoidance of salt use at the table, and preparation of foods without salt. No progress has been observed on the first two measures, for which followup data are available. The percentage of adults age 18 and older who reported regularly purchasing foods reduced in sodium decreased slightly from 20 percent in 1988 to 19 percent in 1995 (DHHS, 1997). A doubling of this proportion is needed to approach the year 2000 target of 40 percent. Similarly, the percentage of individuals who reported never or rarely using salt at the table decreased slightly from 60 percent in 1989-91 to 58 percent in 1995, considerably below the year 2000 target of 80 percent (DHHS, 1997). No data are available to evaluate the progress on the third

measure, which aimed to increase to at least 65 percent by the year 2000 the proportion of home meal preparers who prepare foods without adding salt. The baseline estimate for this measure indicates that 43 percent of main meal preparers did not use salt in food preparation in 1989-90 (DHHS, 1997).

The use of food labels has also remained fairly stable from the baseline year of 1988 through the most recent update in 1995, with about three-fourths of adults age 18 and older reporting that they read the food label when buying a product (DHHS, 1997). However, this measure does not capture several areas of progress since new food labeling regulations became effective in August 1994. For example, Levy and Derby (1996) show that the proportion of respondents who reported using quantitative nutrient information on the food label "often" increased from 43 percent in March 1994 to 56 percent in November 1995.

During this same period, consumer confidence in health claims and nutrient content claims improved, although not to desirable levels. For example, the proportion of respondents who reported that about all or most health claims are accurate increased from 25 percent to 31 percent, and the proportion that reported that about all or most claims for "high," "low," or "free" are accurate increased from 29 percent to 34 percent (Levy and Derby, 1996). Furthermore, the new nutrition labels appear to have a considerable influence on purchasing decisions, with 48 percent of survey respondents reporting they had changed their minds about buying or using a food product after reading the nutrition label in 1995, compared with 30 percent in 1990.

Regular physical activity is also recognized as a key intervention along with sound dietary practices in a risk reduction objective that targets overweight adolescents and adults. No baseline or update data are available for adolescents. For adults, the available measures show movement in the wrong direction. From 1985 to 1993, the share of self-reported overweight adults who reported taking steps to control their weight by consuming fewer calories and exercising more declined from 30 percent to 19 percent for women and from 25 percent to 17 percent for men, moving away from the year 2000 target of 50 percent (DHHS, 1997).

Services and Protection Objectives

Several of the national nutrition objectives address institutional, marketing, and other types of support for implementing the Dietary Guidelines. These objectives measure the Nation's progress in promoting and implementing the *Dietary Guidelines* in a variety of settings, including retail foodstores, restaurants, schools, and worksites.

For the objectives that have tracking data, movement has generally been in the right direction (table 4). For example, the number of food products that claimed to be reduced in fat increased from 2,500 in 1986 to over 5,600 in 1991, already exceeding the year 2000 target of 5,000. The year 2000 target for achieving informative nutrition labeling for virtually all processed foods has nearly been met as a result of the implementation of the Nutrition Labeling and Education Act of 1990, with an estimated 96 percent of processed foods in the FDA Food Label and Package Survey providing nutrition labeling in 1995. In addition, the available data indicate substantial progress in nutrition labeling for fresh produce and seafood. At the start of this decade, almost none of the retail food stores sampled provided nutrition labeling for these foods, whereas over 70 percent did in 1996. Furthermore, 67 percent of the retail food stores sampled in 1995 provided nutrition labeling for fresh meat and poultry.

Progress is less clear for the objective to increase the proportion of restaurants and institutional foodservice operations that offer identifiable low-fat, low-calorie choices, consistent with the *Dietary Guidelines*. In 1995, food away from home accounted for 27 percent of all eating occasions (meals and snacks), contributing 34 percent of daily calories and 38 percent of total fat intake (for more details on the nutrient content of food away from home, see chapter 12). Two surveys conducted by the National Restaurant Association suggested a small increase from 1989 to 1990 (from 70 percent to 75 percent) in the proportion of restaurants offering at least one low-fat, low-calorie menu item (DHHS, 1997). No recent updates are available using comparable methodology. Furthermore, the definitions of low-fat and low-calorie may be subjective, and this single measure does not capture the extent to which variety in low-fat choices is offered.

No update data are available for the objective to increase the proportion of school lunch/breakfast services and childcare food services with menus that are consistent with the *Dietary Guidelines*. Baseline

Table 4—Progress on services and protection objectives

Objective	Baseline year(s)	Baseline value	Last update year	Last update value	Year 2000 target
		Percent			*--Percent--*
Foodstores:					
2.14. Informative nutrition labeling--					
Processed foods	1988	60	1995	96	100
Fresh produce	1991	< 1	1996	73	90
Fresh seafood	1991	0	1996	71	90
Fresh meat/poultry	1995	67	—	—	90
Ready-to-eat carry-away foods	—	—	—	—	40
		Number			*--Number--*
2.15. Availability of reduced-fat processed foods	1986	2,500	1991	5,618	5,000
Restaurants:		*Percent*			*--Percent--*
2.16. Proportion of large chain restaurants offering at least one low-fat, low-calorie menu item	1989	70	1990	75	90
Schools/child care:					
2.17. Menus consistent with the Dietary Guidelines	—	—	—	—	90
Schools offering lunches with an average of—					
30 percent or less of calories from total fat	1992	1	—	—	—
Less than 10 percent of calories from saturated fat	1992	< 1	—	—	—
Schools offering breakfasts with an average of—					
30 percent or less of calories from total fat	1992	44	—	—	—
Less than 10 percent of calories from saturated fat	1992	4	—	—	—
2.19. States that require nutrition education	1990	60	1994	69	75
Nutrition education in at least one class—					
Middle/junior high school	—	—	1994	83	—
Senior high school	—	—	1994	85	—
Worksite:					
2.20. Worksite nutrition/weight management program					
Nutrition education	1985	17	1992	31	50
Weight control	1985	15	1992	24	50

— = not available.
Source: DHHS, 1997.

estimates for this objective from a 1992 study indicated that only 1 percent of schools offered lunches that provided an average of 30 percent or less of calories from total fat, and less than 1 percent offered lunches that provided an average of less than 10 percent of calories from saturated fat. Of the schools participating in the school breakfast program, 44 percent offered breakfasts that provided an average of 30 percent or less of calories from fat, and 4 percent offered breakfasts that provided an average of less than 10 percent of calories from saturated fat (USDA, 1993).

However, in 1995, USDA issued final regulations that require that school lunches and breakfasts comply with the recommendations of the *Dietary Guidelines* by the 1996-97 school year (*Federal Register*, 1995). Thus, the next USDA study to be conducted in schools will likely show much progress on this objective. Baseline estimates that address child care food services will become available shortly.

Some progress is suggested for the objective to increase the proportion of the Nation's schools that provide nutrition education from preschool through 12th grade. In 1990, a national survey indicated that 60 percent of States either had mandates for nutrition education (9 States), or required nutrition education in mandated subjects (21 States) for grades K-12 (Shannon and others, 1992). In 1994, over two-thirds (69 percent) of States required that schools offer instruction on dietary behaviors and nutrition in these grades. The 1994 survey also indicated that over 80 percent of middle and senior high schools offered nutrition education in at least one class (Collins and others, 1995).

Some progress is also indicated for an objective that targets the workplace. From 1985 to 1992, the proportion of worksites with 50 or more employees that offered nutrition education increased from 17 percent to 31 percent, and the proportion that offered weight control programs increased from 15 percent to 24 percent (DHHS, 1997).

Issues in Data Interpretation

Point Estimates

Key to interpreting estimates for the nutrition objectives is the operational definition(s) used to measure the objective. For example,

the objective targeted to overweight adults used self-reports of "eating fewer calories" from the National Health Interview Survey to define "sound dietary practices," and self-reports of "increasing physical activity" or "exercising more" were used to define regular physical activity. In addition, self-reported weights and heights for the respondents in this survey were used to define people who were overweight, rather than more accurate measured weights and heights that are available in NHANES.

Although all measures for the nutrition objectives may not be optimal, they are largely driven by the nature of the data available. In addition, in some cases, it may be difficult to design optimal measure(s) that can meaningfully measure certain concepts (for example, "sound dietary practices").

In other cases, the choice of cutoff levels will influence the prevalence of health indices, such as overweight. For example, whereas *Healthy People 2000* uses a BMI equal to or greater than 27.8 for men and 27.3 for women to classify adults as overweight, others have recommended that adults with a BMI of 25 or more be identified as overweight (USDA, 1995; American Heart Association, 1998; DHHS, 1998b). The use of the lower BMI cutpoint would significantly increase the reported prevalence of overweight in the adult population (Kuczmarski, 1997).

Another consideration is the reliability and accuracy of single estimates, relative to the question(s) and target populations being addressed. Population estimates of dietary intake have many potential sources of error and bias (National Research Council, 1986; Life Sciences Research Office, 1988), which may be reduced but not eliminated in the conduct of surveys. Examples include underreporting of food intakes by respondents (Briefel and others, 1997; Beaton, Burema and Ritenbaugh, 1997; Riddick, 1996; Black and others, 1993; Mertz and others, 1991; Schoeller, 1990), use of recipes in dietary surveys that may misrepresent the food mixtures actually consumed, and use of a limited number of days of dietary intake to estimate usual intakes (National Research Council, 1986; Beaton, Burema, and Ritenbaugh, 1997; Sempos and others, 1991).

Available resources also greatly affect the choice of nutrition measures and the accuracy and reliability of estimates. Resource constraints have especially limited data collection at the State and local

levels and also affect the quality of nutrition measures available nationally.

In addition, because the nutrition objectives may address only one aspect of a public health issue, additional data may be needed to help interpret the public health significance of a particular estimate. With regard to estimates of fruit/vegetable and grain product consumption, additional monitoring would show consumer choices within these food groups, and the nutrient consequences of these choices. Furthermore, additional data are needed to show total calcium intake from foods and dietary supplements beyond milk and milk products.

Assessing Progress

Additional considerations are involved when using two or more estimates from different time periods. How have survey methods changed from one period to the next, and how have these changes affected the results? For example, the national food consumption surveys used for the *Healthy People 2000* nutrition objectives have varied over time with respect to the number of days of dietary data collected, the methods of collection, and whether data were collected on consecutive days (Interagency Board for Nutrition Monitoring and Related Research, 1992). Other considerations are the extent to which changes over time may be due to improvements in obtaining more complete information (for example, the use of multiple passes to aid in recall of foods eaten, or additional probes for amounts or types of food ingredients), improvements and other changes in assessing food composition (such as the addition of more brand-specific foods and ethnic foods), and improvements in data analysis (for example, the separation of food ingredients from food mixtures and their reaggregation by food group). In some cases, data from earlier surveys may be reanalyzed with the improved analytical approaches for trend analysis. However, in other cases, when the data collection methodology has changed, an assessment of the impact of the changes may be needed to interpret the observed trends.

The time periods and the number of data points are other considerations in assessing progress. For example, the periods for the baseline estimates range from 1976-80 to 1995. Similarly, the periods for the last data points for assessing progress toward year 2000 targets will vary considerably. Consequently, the different time periods need to

be considered when directly comparing progress among and within objectives.

The assignment of cause is another consideration with *Healthy People 2000* health status objectives. Multiple factors affect the development of chronic diseases and health-related conditions, and additional factors, such as medical treatment, may influence death rates.

National Versus State-Level Data

Since the design of national surveys, such as the CSFII and NHANES, does not permit State-level estimates, the assessment of a State's progress on many of the nutrition objectives depends on a State's initiative, alone or in conjunction with Federal support.

However, State-level measures may differ from national survey measures in the type of data collection methods used (for instance, self-reported weights and heights to assess overweight, and a short food frequency questionnaire to assess fruit and vegetable consumption (Byers and others, 1997; Serdula and others, 1995)), and in the representativeness of their estimates. Therefore, it may not be possible to compare certain State-level estimates with national estimates.

Development of Year 2010 Objectives

While recent efforts have focused on evaluating progress for the *Healthy People 2000* objectives, efforts have begun aimed at developing objectives for the next decade. As with the year 2000 objectives, the development and implementation of these objectives will involve broad participation from the public and private sectors.

A council chaired by the Secretary of the U.S. Department of Health and Human Services will guide the overall development of *Healthy People 2010* objectives and their release in the year 2000. The development process will include two public comment periods and regional hearings, and will address proposals for a 2010 framework, objectives, and leading health indicators. Information about *Healthy People 2010* activities is posted on the Internet at [http://web.health.gov/healthypeople/].

The development of nutrition objectives for the next decade will rely on two types of resources: (1) Federal policy guidance on nutrition-related public health recommendations as provided by the *Dietary*

Guidelines, and (2) availability of appropriate data to help assess strategies for and measure the Nation's progress toward implementing these recommendations.

Objectives for the next decade would benefit from data systems that provide increased linkages among measures of health status, biochemical and hematological measures, dietary intake, physical activity and other lifestyle behaviors, and dietary knowledge and attitudes. For example, data from the NHANES allow the analysis of the relationship of weight to biochemical indices such as blood lipid levels and to different aspects of dietary intake.

Data that are of high quality, frequent if not continuous, and timely are also desired. Interest in estimating distributions of usual food and nutrient intake will continue, as will the challenges to improve on these estimates through improved survey methodology and statistical adjustment procedures (National Research Council, 1986; Beaton, Burema, and Ritenbaugh, 1997). The use of comparable methods, where possible, is especially important for trend analyses.

Implementation of the year 2010 nutrition objectives will also require broad public and private sector participation, as exemplified by public-private sector partnerships, such as the Dietary Guidelines Alliance and 5-A-Day for Better Health program. The increased collaboration this decade between the public and private sectors and among national, State, and local levels will be key to further gains by Americans in the next decade in adopting the *Dietary Guidelines* and achieving lifelong health benefits.

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