

California Food Guide

Life Cycle: 19-50 Year Olds

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What's New

The federal government has begun meeting with representatives from the food and beverage industry to discuss how these industries can help Americans combat overweight and obesity. The goal is to have these industries offer healthier food choices, provide easy to understand nutrition information, and to integrate health into mass marketing strategies. Progress is being made slowly.

Public Health Implications

Healthy People 2010 (HP) is a national initiative of the U.S. Department of Health and Human Services (DHHS) to improve the health of all Americans through prevention. The overall goals of this national initiative are to increase the span of healthy life, reduce health disparities among Americans, and achieve access to preventive services. Below are some of the HP objectives related to the nutrition status of Americans:

- Objective(Obj.) 19-1: Increase the proportion of adults who are at a healthy weight.
- Obj. 19-2: Reduce the proportion of adults who are obese.
- Obj. 19-5: Increase the proportion of persons aged 2 years and older who consume at least two daily servings of fruit.
- Obj. 19-6: Increase the proportion of persons aged 2 years and older who consume at least three daily servings of vegetables, with at least one-third being dark green or orange vegetables.
- Obj. 19-7: Increase the proportion of persons aged 2 years and older who consume at least six servings of grain products, with at least three being whole grains.
- Obj. 19-8: Increase the proportion of persons aged 2 years and older who consume less than 10 percent of calories from saturated fat.
- Obj. 19-9: Increase the proportion of persons aged 2 years and older who consume no more than 30 percent of calories from total fat.
- Obj. 19-10: Increase the proportion of persons aged 2 years and older who consume 2,400 mg or less of sodium daily.
- Obj. 19-11: Increase the proportion of persons aged 2 years and older who meet dietary recommendations for calcium.
- Obj. 19-12: Reduce iron deficiency among females of childbearing age.

Definition

This chapter focuses on recommendations for adults between the ages of 19 and 50 years of age, which encompasses a broad age range with varying nutrient needs. Some information is included on pregnancy, childbirth, and lactation for women as well; however, there are other chapters within the California Food Guide specifically devoted to the special nutrient needs for women.

Burden

As a large number of Californians age over the next several decades, the prevalence of chronic diseases and their impact on the health system and health care costs will likely continue to increase. A small number of chronic disorders, such as diabetes and cardiovascular diseases, account for the majority of deaths each year, and the medical costs for people with chronic diseases account for more than 75 percent of the nation's medical care costs.¹ Fortunately, small changes in diet and activity can greatly impact these costs. Modeling techniques estimate that if Americans reduced their intake of saturated fat by approximately 8 grams per day, the health care system could save as much as \$12.7 billion in medical costs and lost earnings annually.²

Overweight and Obesity

Overweight is the state between normal weight and obesity. Overweight is defined as having a body mass index (BMI) of greater than or equal to 25 but less than 30. (BMI is an index that relates a person's body weight to their height by dividing their weight in kilograms by their height in meters squared.) Obesity is defined as a BMI of 30 or above which is usually indicative of an excessive accumulation of adipose tissue to an extent that health is impaired. Public health officials currently refer to overweight and obesity as an epidemic. The prevalence of overweight and obesity has increased dramatically in recent years, doubling since 1980, and now is seen by the Centers for Disease Prevention and Control (CDC) as one of the top threats to the health of the nation.² Approximately two-thirds of the adult population is either overweight or obese, and slightly less than one-third is obese according to data from the 1999-2000 National Health and Nutrition Examination Survey (NHANES).³

Weight gain results from an imbalance between the amount of calories consumed and amount expended by an individual. Currently, many individuals' diets reflect pre-packaged foods; low-cost, big portion restaurant meals; and soft drinks, all of which may be high in sugar, calories, and/or fat. These changes in our food supply along with decreasing opportunities for physical activity are influencing this epidemic.

As previously stated, overweight and obesity significantly affect health, quality of life, and life expectancy since they raise the risk for a wide variety of medical conditions (e.g. type 2 diabetes, hypertension, coronary heart disease, stroke, etc). The prevalence of overweight and obesity in adults has steadily increased among both genders, all racial/ethnic groups, and all educational levels. Additionally, incidence

increases with advancing age through age 60.⁴ Obesity is believed to be associated with more chronic disorders and worse physical health than smoking or problem drinking.⁵ However, studies show that an overweight individual can reduce the risk for some chronic disorders by losing as little as five to 15 percent of their weight.⁶ Estimates of the deaths of U.S. adults due to obesity related causes range from 280,000 to 325,000 each year.^{5, 7, 8} Research shows that as body mass increases so do health care costs.⁹

Diabetes

Research suggests that overweight and obesity, as well as lack of physical activity, are associated with an increased risk for diabetes. In 2000, it was estimated that 17 million people -- 6.2 percent of the U.S. population -- had diabetes. One million new cases of diabetes in people aged 20 years or older are diagnosed each year, and diabetes was the sixth leading cause of death in 1999.¹⁰

Untreated or poorly treated diabetes can result in death or significant disability, including heart disease and stroke, kidney failure, blindness, and lower limb amputations. Studies find that people with diabetes have medical expenditures that are 2.4 times higher than those without diabetes.¹¹ Research also finds that lifestyle changes, such as altering diet, increasing physical activity moderately, and lowering body weight by five to seven percent can prevent or delay the onset of type 2 diabetes.¹²

Cardiovascular Disease

Cardiovascular disease (CVD) is predominantly caused by atherosclerosis which results in inadequate blood flow to tissues in the body leading to damage or death of those tissues. In heart disease and stroke (the principal components of CVD), atherosclerosis affects the arteries of the heart and brain. The CDC identified five key risk factors for CVD: tobacco use, high cholesterol levels, lack of physical activity, poor nutrition, and high blood pressure.

Heart disease and stroke are the first and third leading causes of death in the United States, respectively. CVD accounts for 40 percent of the mortality in the United States, killing about 950,000 Americans annually.¹³ Taken as a whole, CVD is the cause of more deaths than the next five causes of death combined.^{13, 14} The 2000 age-adjusted death rate from CVD among the U.S. population was 343.1 per 100,000 people, with half of all of these deaths occurring among women.¹⁵

Hypertension

Hypertension, also known as high blood pressure, is one of the key risk factors for CVD. About 90 percent of middle-aged Americans will develop high blood pressure in their lifetime, and nearly 70 percent of people with high blood pressure do not have it under control. Of the estimated 50 million Americans with high blood pressure, 31.6 percent are unaware of their condition.¹⁵ Hypertension can be controlled by maintaining a healthy weight; being physically active; following a healthy eating plan (which includes foods lower in salt and sodium); and drinking alcohol in moderation, if at all. Research shows that blood pressure was reduced with the DASH (Dietary Approaches to Stop

Hypertension) diet.¹⁶ This eating plan is low in saturated fat, cholesterol, and total fat, and emphasizes fruits, vegetables, and low-fat dairy foods. It also contains whole grains, fish, poultry, and nuts, while limiting red meat, sweets, and sugar-containing beverages. It is rich in magnesium, potassium, and calcium, as well as protein and fiber.¹⁷

Cancer

Death rates from the four most common cancers; lung, breast, prostate, and colorectal, continued to decline in the late 1990s according to new data from the "Annual Report to the Nation on the Status of Cancer, 1975-2000." For all cancers combined, the death rate began to stabilize in the late 1990s, showing neither an increase nor a decrease, while the incidence rate (newly diagnosed cases) began to stabilize in the middle of the decade.¹⁸ It is estimated that about one-third of all cancer deaths may be related to what we eat.¹⁹ Making positive choices in dietary intake, e.g., following the Dietary Guidelines for Americans (see below), promotes good nutrition and good health and may reduce the risk of some types of cancer. Other behaviors that can decrease the risk of cancer include limiting time in the sun or wearing a sunscreen when outdoors, not smoking, being active, and maintaining a healthy weight.

Trends/Nutrient Patterns

Individual behaviors and lifestyle choices influence the development and course of many chronic conditions. Unhealthy behaviors, such as poor diet, lack of physical activity, and tobacco use are risk factors for overweight and obesity, type 2 diabetes, congestive heart failure, stroke, hypertension, and some cancers. Encouraging individuals to adopt healthy habits and practices through education and social marketing may reduce the burden of chronic disease in California while concurrently maintaining and/or improving overall quality of life. Also of importance are the advocacy and promotion for changes in policy and the environment to support these behaviors.

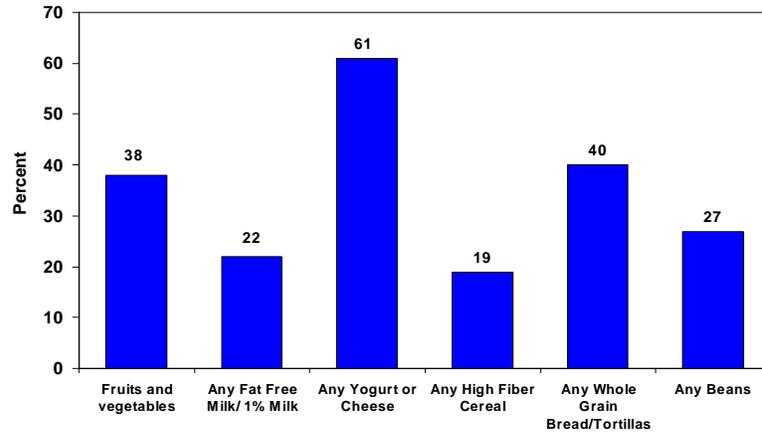
As our society has become more affluent since post World War II, nutritional concerns have changed from apprehension about the effects of too little food and/or nutrients to an overabundance of food. Epidemiological and laboratory studies demonstrate a link between dietary excess and chronic diseases such as coronary heart disease and cancer. These findings have led to the development of dietary guidance intended to reduce Americans' risk of chronic disease. Current dietary recommendations focus on ensuring an adequate intake of nutrients such as carbohydrates and fiber, while moderating others such as dietary fat which may be linked to the development of chronic disease.

Data from the 2003 California Dietary Practices Survey (CDPS) showed that few California adults, 18 years of age and older, had met the then dietary recommendations to promote good health and reduce the risk of many chronic diseases (See Table 1). Thirty-eight percent of California adults ate a minimum of five serving of fruits and vegetables daily. There were disparities in consumption of fruits and vegetables among Californians of varying ethnic backgrounds. African American Californians were less likely to eat five or more servings of fruits and vegetables than their White, Hispanic, and Asian/Pacific Islander counterparts (See Table 2). Though more than half (55 percent) of California adults drank milk, only 22 percent drank fat-free or 1 percent milk. Consumption of foods high in dietary fiber was low among California adults, with only 19 percent of them eating high fiber cereals, 40 percent consuming whole grain bread or tortillas, and 27 percent consuming beans.

CDPS tracked healthy eating behaviors practices of California adults. The health eating practices (HEP) score was calculated based upon one point each for: having fruit and a vegetable; eating five or more servings of fruits and vegetables; having any milk, yogurt or cheese; having any one percent or fat-free milk or yogurt; having whole grain breads/corn tortillas; having any high fiber cereal; and having any beans; with a maximum possible score of seven. The average HEP score for California adults was 2.8.

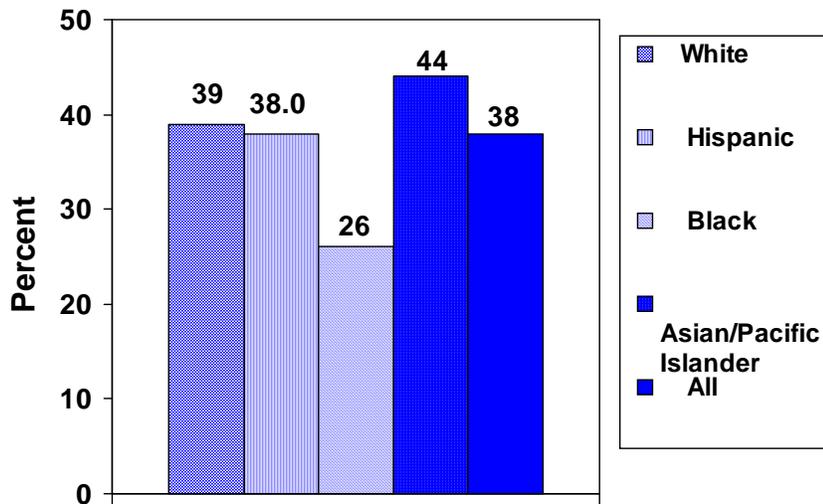
One possible explanation for these undesirable dietary practices is high consumption of food high in calories and low in nutrients (HCLN), which have been shown to replace the more nutrient-dense foods, such as fruits and vegetables and whole grains. Consistent with other studies, data shows that consumption of HCLN foods was negatively related to healthy eating behaviors.^{1,2} Californians who did not eat any HCLN food items were also more likely to meet the then recommended five servings of fruits and vegetables, compared to those who consumed two to four HCLN food items (see Table 3).

Table 1: Proportion of California Adults (>18 yrs) Who Ate Foods Recommended for Good Health on the Previous Day, 2003



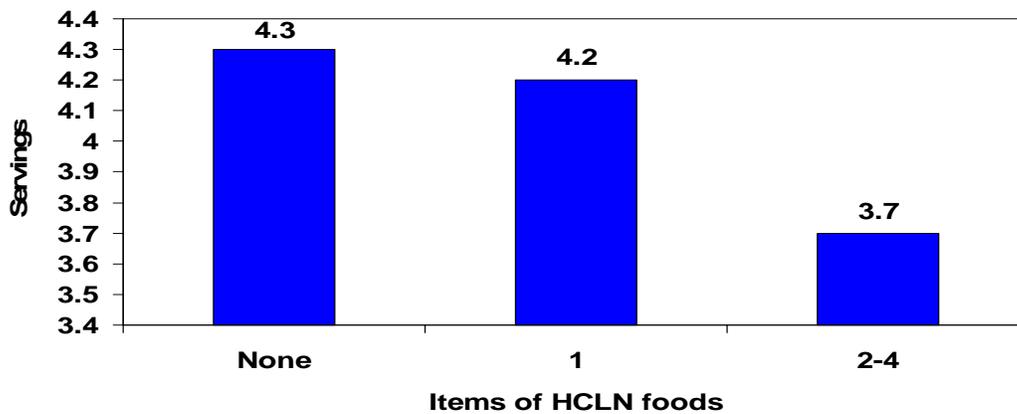
Data source: California Department of Health Services. (2006) California Dietary Practices Survey Data Tables. Unpublished 2003 Data, Cancer Prevention and Nutrition Services.

Table 2: Disparities in Percent Eating 5+ Servings of Fruits and Vegetables on the Previous Day by Race/Ethnicity, 2003



Data source: California Department of Health Services. (2006) California Dietary Practices Survey Data Tables. Unpublished 2003 Data, Cancer Prevention and Nutrition Services.

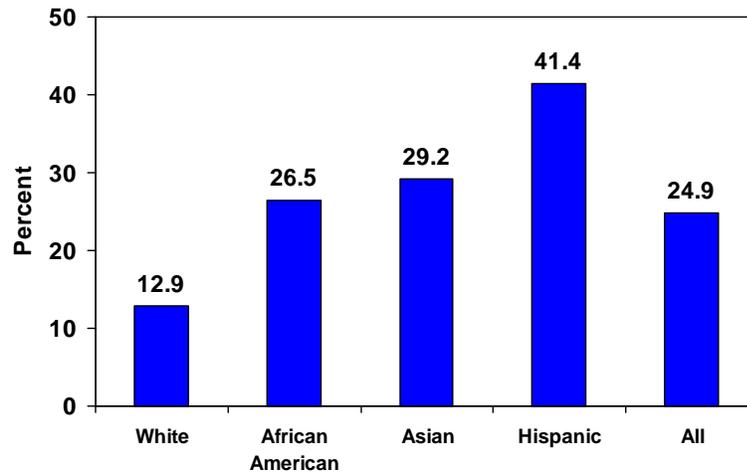
Table 3: Consumption of High Calorie, Low Nutrient (HCLN) by Servings of Fruits and Vegetables Consumed on the Previous Day, 2003



Data source: California Department of Health Services. (2006) California Dietary Practices Survey Data Tables. Unpublished 2003 Data, Cancer Prevention and Nutrition Services.

Research has shown that regular physical activity is important for enhancing health and reducing the risk of death from all causes.¹ The Dietary Guidelines for Americans 2005 recommends that adults get at least 30 minutes of physical activity, seven days a week for good health.² However, according to the 2005 Behavioral Risk Factor Surveillance System data, only 30 percent of California adults, 18 years of age and older, were close to meeting the recommendations for physical activity on an average day (were physically active six days a week, 30 minutes a day). Data from the 2001 California Health Interview Survey on adults between the ages of 19-50 revealed that almost a quarter (24.9 percent) of this population did not get any moderate or vigorous physical activity at all on an average day. Hispanic adults were more likely to have not participated in any moderate or vigorous physical activity compared to other ethnicities (see Table 4).

Table 4: Percent of California Adults, 19-50 yrs, Reporting No Moderate or Vigorous Physical Activity on an Average Day, CHIS 2001



Data Source: California Health Interview Survey (CHIS)—Ask CHIS 2001. Retrieved June 30, 2004, from <http://www.chis.ucla.edu>

Food Insecurity

Food insecurity remains a serious public health concern in the United States. A report by the United States Department of Agriculture in 2002 revealed that there was an increase from 10.7 percent in 2001 to 11.1 percent in 2002 alone.¹ In addition, the 2003 California Health Interview Survey found that over one third (37 percent) of California adults between the ages of 19 and 50 were food insecure.²

Fast Foods

According to the 2003 CDPS data, on average, 16 percent of California adults ate at least one meal or snack a day from a fast food establishment such as McDonalds, Carl's Jr., Taco Bell, Burger King, KFC, Pizza Hut, or a food court. Ethnicity was significantly related to fast food consumption ($p < .01$). African American Californians were more likely to report eating fast food compared to their Hispanic, Asian, and White counterparts (26 vs. 19, 16, and 14 percent, respectively). These statistics pose a serious concern because data from the 2003 CDPS also show that the average consumption of fruits and vegetables was significantly lower in those who ate any meals from fast food establishments compared to those who had not eaten any meals outside of the home (3.3 servings vs. 4.3 servings, respectively; $p < 0.001$).*

* California Department of Health Services. (2006) California Dietary Practices Survey Data Tables. Unpublished 2003 Data, Cancer Prevention and Nutrition Services.

Dietary Recommendations

In the United States, the leading determinants of morbidity and mortality are rooted in behavioral choices related to eating habits, exercise, tobacco use, alcohol consumption, and stress reduction. Scientific data consistently provide evidence that diet plays an important role in health promotion and disease prevention. Healthy eating habits, coupled with other healthful lifestyle behaviors including physical activity, have the potential to reduce the risk of chronic disease.

Health promotion and disease prevention endeavors are the best population-based strategies for reducing the current burden of chronic disease. Health professionals should be actively involved in promoting optimal nutrition in community settings and should advocate for the inclusion of healthy eating, in addition to other health-promoting behaviors, in programs and policy initiatives at local, state, and federal levels.

Dietary Guidelines for Americans

The Dietary Guidelines for Americans 2005 (Dietary Guidelines) provide recommendations based on updated scientific information about individual nutrients and food components that are important for promoting health and lowering the risk of chronic disease. Specifically, the intent of the Dietary Guidelines is to summarize and synthesize knowledge gained through an analysis of evidence-based research. An Advisory Committee appointed by the U.S. Department of Health and Human Services and the U.S. Department of Agriculture reviews the Dietary Guidelines every five years and only recently completed their update in 2005. A basic premise is that nutrient needs should be met primarily through consuming food versus supplements. Foods provide a wide variety of nutrients and other compounds believed to have beneficial effects on health. In some cases dietary supplements and fortified foods can be beneficial; however, it is recommended that they not replace a well-balanced, healthy diet.²⁰

Of key importance in the Dietary Guidelines is the need to obtain adequate nutrients within calorie needs while limiting the intake of saturated and *trans* fats, cholesterol, added sugars, salt, and alcohol.²⁰ To prevent gradual weight gain over time, it is suggested that small decreases in food and beverage calories be made and physical activity increased. A growing body of research suggests that regular physical activity can reduce the risks of heart disease, cancer, hypertension, type 2 diabetes, osteoporosis, and many other health problems traditionally linked to diet. The American College of Sports Medicine, the CDC, and the U.S. Surgeon General recommend accumulating 30 minutes or more of moderate-intensity physical activity on most, preferably all, days of the week to gain physical activity's health benefits. As the proportion of the U.S. population ages, physical activity will become even more

important to maintain the function and independence of older adults and enhance their quality of life.

In addition to eating a healthful diet, participation in regular physical activity can have one of the most important influences on health. Regular physical activity and physical fitness make important contributions to one's health, sense of well-being, and maintenance of a healthy body weight. For those who need to lose weight, decreasing calorie intake, increasing physical activity, and maintaining adequate nutrient intake is encouraged to promote a slow, steady weight loss. People with higher levels of physical fitness are at lower risk of developing chronic disease, and conversely, a sedentary lifestyle increases risk for over weight and obesity and many chronic diseases. Mortality rates from all causes of death are lower in physically active people compared to sedentary people. Physical activity can also aid in managing mild to moderate depression and anxiety.²⁰ Recommendations by the U.S. Department of Health and Human Services include:

- Thirty minutes of moderate-intensity physical activity beyond the usual daily activity throughout the week to reduce the risk of chronic disease.
- Sixty to ninety minutes of daily moderate-intensity physical activity in addition to not exceeding calorie requirements is encouraged to sustain weight loss.
- Cardiovascular conditioning and stretching for flexibility to promote muscle strength and endurance and achieve physical fitness.

The Dietary Guidelines encourage the intake of sufficient amounts of fruits and vegetables while staying within calorie needs. Several studies in addition to literature reviews indicate that diets rich in fruits and vegetables are associated with reduced risks for chronic disease and many types of cancer. Additional research is still needed in this area, but current evidence demonstrates a correlation between fruit and vegetable intake and improved health.

Total fat intake is suggested to account for between 20 to 35 percent of calories, primarily from polyunsaturated and monounsaturated fats such as fish, nuts, and vegetable oils. Additionally, less than 10 percent of calories should be from saturated fat, and less than 300 mg/day of cholesterol. *Trans* fat acids, which are defined as unsaturated fats that contain at least one non-conjugated double bond in the trans configuration, include hydrogenated or partially hydrogenated vegetable oils that are used to make shortening and many commercially prepared baked goods, snack foods, fried foods, and margarines. Intake from trans fats should be as low as possible.

Carbohydrates in the form of fiber-rich fruits, vegetables, and whole grains are recommended. Choosing and preparing foods with little added sugars and salt is recommended. Individuals with hypertension, blacks, and middle-aged adults should aim to consume no more than 1,500 mg (less than 1 tsp of salt) of sodium per day. The potassium requirement of 4,700 mg/day should be met with food rather than a supplement.

If alcoholic beverages are consumed intake should be moderate, which is defined as up to one drink per day for women and up to two drinks per day for men. While moderate consumption may help reduce the risk of heart disease, some studies find a link between alcohol intake and breast cancer. It is not advisable to drink alcohol for health reasons.

My Pyramid

U.S. Department of Agriculture's MyPyramid represents a personalized approach to healthy eating and physical activity. It is a visual depiction of what to eat each day based on the Dietary Guidelines.

Listed below are the estimated calorie requirements specific for ages 19-50 years old. Fewer calories are needed the older one gets; however, sufficient nutrients continue to be required by the body for good health. To optimize the beneficial impact of the Dietary Guidelines, the key recommendations previously discussed should be implemented in their entirety as well as adequate physical activity to maintain a healthy weight.²¹

Table 5: Estimated Calorie Requirements for Ages 19-50 Years Old, U.S. Department of Agriculture MyPyramid

Gender	Age (years)	Activity Level ^{a,b,c}		
		Sedentary	Moderately Active	Active
Female	19 – 20	2,000	2,200	2,400
	21 – 25	2,000	2,200	2,400
	26 – 30	1,800	2,000	2,400
	31 – 35	1,800	2,000	2,200
	36 – 40	1,800	2,000	2,200
	41 – 45	1,800	2,000	2,200
	46 - 50	1,800	2,000	2,200
Male	19 – 20	2,600	2,800	3,000
	21 – 25	2,400	2,800	3,000
	26 – 30	2,400	2,600	3,000
	31 – 35	2,400	2,600	3,000
	36 – 40	2,400	2,600	2,800
	41 - 45	2,200	2,600	2,800
	46 - 50	2,200	2,400	2,800

Source: MyPyramid.gov. 2005

These activity levels are based on Estimated Energy Requirement from the Institute of Medicine Dietary Reference Intakes macronutrients report, 2002, calculated by gender, age, and activity level.²¹

^a Sedentary means a lifestyle that includes only light physical activity associated with typical day-to-day life; less than 30 minutes/day of moderate physical activity in addition to daily activities.

^b Moderately activity means a lifestyle that includes physical activity equivalent to walking 1.5 to 3.0 miles/day at 3 to 4 miles/hour for at least 30 minutes and up to 60 minutes/day, in addition to light physical activity associated with typical day-to-day life.

^c Active means a lifestyle that includes physical activity equivalent to walking more than 3 miles/day at 3-4 miles/hour for 60 or more minutes a day, in addition to the light physical activity associated with typical day-to-day life.

In the Table 6, MyPyramid's daily food intake patterns identify amounts to consume from each food group at a variety of energy levels. New nutrition standards have been published by the National Academy of Sciences' Institute of Medicine and these are now titled Dietary Reference Intakes (DRIs). They expand and replace previously published values in the Recommended Dietary Allowances (RDAs). The Dietary Guidelines, the foundation of federal nutrition policy, were also reviewed and updated. In addition, U.S. Department of Agriculture's Agricultural Research Service released new data on the nutritional content of foods and on food consumption patterns. The updated food intake patterns were published in the Dietary Guidelines. These food intake patterns form the technical basis for the new food guidance system, which replaces the original Pyramid and is entitled MyPyramid.²¹

The suggested amount of food to consume from the basic food groups, subgroups, and oils to meet the recommended nutrient intakes, per the U.S. Department of Agriculture, varies depending on calorie needs. For ages 19-50 consuming between 1,800 – 3,000 calories a day is recommended.²² The daily amount of food from each group is as follows:

Table 6: Daily Food Intake Patterns Identifying Amounts to Consume at Varying Energy Levels. U.S. Department of Agriculture MyPyramid

Daily Amount of Food From Each Group							
Calorie Level	1,800	2,000	2,200	2,400	2,600	2,800	3,000
Food Groups							
Fruits	1.5 cups (3 svgs)	2 cups (4 svgs)	2 cups (4 svgs)	2 cups (4 svgs)	2 cups (2 svgs)	2.5 cups (5 svgs)	2.5 cups (5 svgs)
Vegetables	2.5 cups (5 svgs)	2.5 cups (5 svgs)	3 cups (6 svgs)	3 cups (6 svgs)	3.5 cups (7 svgs)	3.5 cups (7 svgs)	4 cups (8 svgs)
Grains	6 ounce equivalent	6 ounce equivalent	7 ounce equivalent	8 ounce equivalent	9 ounce equivalent	10 ounce equivalent	10 ounce equivalent
Lean meat and beans	5 ounce equivalent	5.5 ounce equivalent	6 ounce equivalent	6.5 ounce equivalent	6.5 ounce equivalent	7 ounce equivalent	7 ounce equivalent
Milk	3 cups	3 cups	3 cups	3 cups	3 cups	3 cups	3 cups
Oils ^a	5 teaspoons	6 teaspoons	6 teaspoons	7 teaspoons	8 teaspoons	8 teaspoons	10 teaspoons
Discretionary calorie allowance ^b	195	267	290	362	410	426	512

Source: *Dietary Guidelines for Americans, 2005*

^a Oils shown in this table represent the amounts that are added to foods during processing, cooking, or at the table. The amounts listed are not considered to be part of discretionary calories because they are a major source of vitamin E and polyunsaturated fatty acids, including the essential fatty acids, in the food patterns.

^b Discretionary calories are the remaining number of calories in each food pattern after selecting the specified number of nutrient-dense forms of foods in each food group. The number of discretionary calories assumes that food items in each food group are selected in nutrition-dense forms, (e.g., forms that are fat-free or low-fat and that contain no added sugars). Solid fat and sugar calories always need to be counted as discretionary calories. Examples include sugars added to fruits or fruits canned in syrup, vegetables prepared with added fat and/or sugars, added fats and/or sugars added to grain products such as pastries, cookies, and cakes.

Barriers to Implementation/Myths

The government recognizes the strong link between nutrition and health. This awareness is leading consumers towards taking greater responsibility for self-care and

an increased interest in food and nutrition information. However, this is also creating opportunities for nutrition misinformation, health fraud, and quackery to thrive. The media is most consumers' leading source of nutrition information, but news reports rarely provide complete and accurate information in order for consumers to correctly understand and implement the suggestions provided. Single, inconclusive studies are sometimes cited. The emergence of the Internet provides another major source of health and nutrition information, but consumers must be reminded that the accuracy of information appearing on web sites is not governed by any regulatory agency.

Misinformation about nutrition can be harmful to an individual's health or be used to fuel food faddism, quackery, or health fraud. The health consequences may include delay or failure to seek legitimate medical care or continue essential treatment, undesirable drug nutrient interactions, the effects of nutrient toxicity or toxic components in products, and interference with sound nutrition education information and practices. In particular information on dietary supplements, and complimentary and alternative medicine may be unreliable and inaccurate. A web site that may be useful in researching the accuracy of nutrition-related information found on the Internet is Quackwatch, Inc. (<http://www.quackwatch.org>). Quackwatch, Inc. is a nonprofit corporation whose purpose is to combat health-related frauds, myths, fads, fallacies, and misconduct.

Common Concerns/Strategies

Consistent and accurate nutrition guidance and messages reduce confusion and reinforce the credibility of science-based nutrition information and research. When looking at research findings the following questions help determine whether a study is valid.²¹

- Was the research done by a credible institution? A qualified researcher?
- Is this a preliminary study? Have other studies reached the same conclusions?
- Was the study done with animals or humans?
- Was the research population large enough? Was the study long enough?
- Who paid for the study? Might that affect the findings? Is the science valid despite the funding source?
- Was the report reviewed by peers?
- Does the report avoid absolutes, such as “proves” or “causes”?
- Does the report reflect appropriate context: for example, how the research fits into a broader picture of scientific evidence and consumer lifestyles?
- Do the results apply to a certain group of people? Do they apply to someone your age, gender, and health condition?
- What do follow-up reports from qualified nutrition experts say?

Credible scientific study is evidenced-based; whereas, other research may not be which results in doubt as to the validity of the information provided. For this reason, allied health professionals are urged to collaborate with qualified dietetics experts to provide consumer-focused health education, training for medical and health personnel, and implementation of community nutrition education outreach. Strategic partnerships

between allied health professionals and related scientific and professional organizations and the nutrition community can help ensure the delivery of consistent nutrition and health-related messages to consumers.²³

Opportunities for Improvement

Food and nutrition are the foundation of the health of our population. Some considerations for ensuring that Californians reach and maintain optimum health include:

- A safe and nutritionally adequate diet should be available to all individuals.
- The use of sound science and its application in technology can contribute to effective food, nutrition, and health policy.
- Finding successful strategies to reduce the prevalence of obesity and overweight.
- Nutrition and health education and promotion are essential for disease prevention and treatment.
- Evidence-based medical nutrition therapy is an integral part of disease treatment, management, and rehabilitation.
- The spectrum of health care programs should include nutrition services delivered by dietetics professionals.
- Research in food and nutrition, including nutrition education, needs to be scientifically based and adequately supported.
- Monitoring and surveillance of the nutrition and health status of the population needs to continue on an on-going basis.
- Food and nutrition information needs to be based on reliable scientific evidence and disseminated in such a way as to promote public understanding with the goal of adopting a healthful lifestyle as a result of behavior change.
- Priorities should be established for evidence-based research related to public policy and convey the significance of the outcomes to policy makers.

Nutrition is one of the most cost-effective preventive treatments available to the American public but remains a minor priority in federal research funding, with only approximately four cents of every \$100 spent on health care in the United States directed toward nutrition research.²² Nutrition services directed toward prevention can help reduce health care costs that are rising by more than ten percent per year. Although funding related to disease prevention is limited, health professionals need to actively pursue funds for prevention programs and research.

Resources/Web Sites

American Diabetes Association	www.diabetes.org
CDC website	www.cdc.gov/nccdpdp
American Dietetic Association	www.eatright.org
American Cancer Association	www.cancer.org
American Heart Association	www.americanheart.org
American Obesity Association	www.obesity.org
California Center for Public Health Advocacy	www.publichealthadvocacy.org
California Diabetes Prevention and Control Program	www.caldiabetes.org
California Project LEAN (Leaders Encouraging Activity and Nutrition)	www.californiaprojectlean.org
California Nutrition Network and the California 5 A Day	www.ca5aday.com
Centers for Disease Control and Prevention	www.cdc.gov
Center for Food Safety and Applied Nutrition	www.foodsafety.gov
Center for Weight and Health, UC Berkeley	www.cnr.berkeley.edu/cwh
Dairy Council of California	www.dairycouncilofca.org
Healthfinder	www.healthfinder.gov
Healthy People 2010	www.healthypeople.gov
National Center for Health Statistics	www.cdc.gov/nchs
National Heart, Lung, and Blood Institute, National Institutes of Health	www.nhlbi.nih.gov
National Institutes of Health	www.nih.org
North American Association for the Study of Obesity	www.naaso.org
Nutrition Gov	www.nutrition.gov
Partnership for Food Safety Education	www.fightbac.org
Prevention Institute	www.preventioninstitute.org
Shape Up America	www.shapeup.org
Strategic Alliance	www.eatbettermovemore.org
Tufts Nutrition	www.navigator.tufts.edu
USDA Center for Nutrition Policy and Promotion	www.mypyramid.gov
USDA Food and Nutrition Information Center	www.nal.usda.gov/fnic
USDA Dietary Guidelines	www.health.gov/dietaryguidelines
Web MD	www.webmd.com

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