

Appendix E-2: Glossary of Terms

The terms in this Glossary appear in multiple sections of the Report and are essential to understanding the major themes and concepts discussed throughout. Terms specific to individual sections are defined there. Definitions are taken from a variety of sources, including 2010 DGAC chapters, the 2005 DGAC Report, 2005 *Dietary Guidelines for Americans*, Institute of Medicine reports, USDA and HHS regulatory definitions, and published sources in the scientific literature.

Added sugars—Sugars, syrups, and other caloric sweeteners that are added to foods during processing, preparation, or consumed separately. Added sugars do not include naturally occurring sugars such as those in milk or fruits. Names for added sugars include: brown sugar, corn sweetener, corn syrup, dextrose, fructose, fruit juice concentrates, glucose, high-fructose corn syrup, honey, invert sugar, lactose, maltose, malt syrup, molasses, raw sugar, turbinado sugar, trehalose, and sucrose.

Body mass index (BMI)—A measure of weight in kilograms (kg) relative to height in meters (m) squared. BMI is considered a reasonably reliable indicator of total body fat, which is related to the risk of disease and death. BMI status categories include underweight, healthy weight, overweight, and obese. Overweight and obese describe ranges of weight that are greater than what is considered healthy for a given height, while underweight describes a weight that is lower than what is considered healthy. Because children and adolescents are growing, their BMI is plotted on growth charts for sex and age. The percentile indicates the relative position of the child's BMI among children of the same sex and age.

Body Weight Category	Children and Adolescents (BMI-for-Age Percentile Range)	Adults (BMI)
Underweight	Less than the 5th percentile	Less than 18.5 kg/m ²
Healthy weight	5th percentile to less than the 85th percentile	18.5 to 24.9 kg/m ²
Overweight	85th to less than the 95th percentile	25.0 to 29.9 kg/m ²
Obese	Equal to or greater than the 95th percentile	30 kg/m ² or greater

Calorie—Unit of energy that is required to sustain the body's various functions, including metabolic processes and physical activity. Carbohydrate, fat, protein, and alcohol provide all of the energy supplied by foods and beverages. Calories referred to in terms of dietary intake and expenditure are kilocalories, but are referred to as calories in this Report.

Carbohydrates—One of the three classes of macronutrients that includes sugars, starches, and fibers:

- **Sugars**—A simple carbohydrate composed of one unit (a monosaccharide, such as glucose and fructose) or two joined units (a disaccharide, such as lactose and sucrose). Sugars include white and brown sugar, fruit sugar, corn syrup, molasses, and honey.
- **Starches**—Many glucose units linked together. Examples of foods containing starch include vegetables, dry beans and peas, and grains (e.g., brown rice, oats, wheat, barley, corn).

- **Fiber**—Nondigestible carbohydrates and lignin that are intrinsic and intact in plants. Fiber consists of dietary fiber, the fiber naturally occurring in foods, and functional fiber, which are isolated, nondigestible carbohydrates that have beneficial physiological effects in humans.

Cardiovascular disease—Diseases of the heart and diseases of the blood vessel system (arteries, capillaries, veins) within a person’s entire body, including the brain, muscle, lungs, adipose tissue (or fat) or kidneys.

Cholesterol—A natural sterol present in all animal tissues. Free cholesterol is a component of cell membranes and serves as a precursor for steroid hormones (estrogen, testosterone, aldosterone), and for bile acids. Humans are able to synthesize sufficient cholesterol to meet biologic requirements, and there is no evidence for a dietary requirement for cholesterol.

- **Dietary cholesterol**—Cholesterol is found in foods of animal origin, including meat, fish, poultry, eggs, and dairy products. Biologically, a liver is required to produce cholesterol, thus plant foods, such as grains, vegetables and fruits, and oils contain no dietary cholesterol.
- **Serum cholesterol**—Cholesterol that travels in the blood as part of distinct particles containing both lipids and proteins (lipoproteins). Three major classes of lipoproteins are found in the serum of a fasting individual: low-density lipoprotein (LDL), high-density lipoprotein (HDL), and very-low-density lipoprotein (VLDL). Another lipoprotein class, intermediate-density lipoprotein (IDL), resides between VLDL and LDL; in clinical practice, IDL is included in the LDL measurement

Cross-contamination—The spread of bacteria, viruses, or other harmful agents from one surface to another.

Cup equivalent (cup eq)—The amount of a food product that is considered equal to 1 cup from the vegetable, fruit, or milk food group. A cup eq for some foods may be less than a measured cup, because the food has been concentrated (such as raisins or tomato paste), more than a cup for some foods that are airy in their raw form and do not compress well into a cup (such as salad greens), or measured in a different form (such as cheese).

Dietary Approaches to Stop Hypertension (DASH)—A dietary pattern that emphasizes potassium-rich vegetables and fruits and low-fat dairy products; includes whole grains, poultry, fish and nuts; and is reduced in red meat, sweets, and sugar-containing beverages. As a result, it is rich in potassium, magnesium, calcium and fiber, and reduced in total fat, saturated fat, and cholesterol. It also is slightly increased in protein. This nutrient-rich diet has been shown to lower blood pressure and LDL-cholesterol and it meets each of the major nutrient recommendations set by the Institute of Medicine Dietary Reference Intake Committees.

Dietary pattern—A description of the types and amounts of foods and beverages consumed on average, over time. This may be a description of a customary way of eating, or a description of a combination of foods recommended for consumption. Specific examples include Dietary Approaches to Stop Hypertension (DASH), Mediterranean, and USDA patterns. Dietary patterns fall into several broad categories:

- **Omnivorous**—A pattern that includes both animal and plant products.

- **Plant-based**—A pattern in which the majority of protein sources come from plant products, though some animal products can be included.
- **Vegetarian**—A pattern that is exclusively or almost exclusively composed of plant foods. Some vegetarians may consume specified animal products, such as eggs, milk and milk products (lacto-ovo vegetarians), and processed foods containing small amounts of animal products.
- **Vegan**—A pattern that is exclusively composed of plant foods, containing no animal products.

Dietary Reference Intakes (DRIs)—A set of nutrient-based reference values that expand upon and replace the former Recommended Dietary Allowances (RDAs) in the United States and the Recommended Nutrient Intakes (RNIs) in Canada. They include:

- **Acceptable Macronutrient Distribution Ranges (AMDR)**—Range of intake for a particular energy source that is associated with reduced risk of chronic disease while providing intakes of essential nutrients. If an individual's intake is outside of the AMDR, there is a potential of increasing the risk of chronic diseases and/or insufficient intakes of essential nutrients.
- **Adequate Intakes (AI)**—A recommended average daily nutrient intake level based on observed or experimentally determined approximations or estimates of mean nutrient intake by a group (or groups) of apparently healthy people. This is used when the Recommended Dietary Allowance cannot be determined.
- **Estimated Average Requirements (EAR)**—The average daily nutrient intake level estimated to meet the requirement of half the healthy individuals in a particular life stage and sex group.
- **Recommended Dietary Allowance (RDA)**—The average dietary intake level that is sufficient to meet the nutrient requirement of nearly all (97 to 98 percent) healthy individuals in a particular life stage and sex group.
- **Tolerable Upper Intake Level (UL)**—The highest average daily nutrient intake level likely to pose no risk of adverse health effects for nearly all individuals in a particular life stage and gender group. As intake increases above the UL, the potential risk of adverse health effects increases.

Energy density—The amount of energy per unit of weight, usually expressed as calories per 100 grams.

Energy balance—The balance between calories consumed through eating and drinking and those expended through physical activity and metabolic processes. Energy consumed must equal energy expended for a person to remain at the same body weight. Weight gain will result from excess calorie intake and/or inadequate physical activity. Weight loss will occur when a calorie deficit exists, which can be achieved by eating less, being more physically active, or a combination of the two.

Enrichment—The addition of specific nutrients (iron, thiamin, riboflavin, and niacin) to refined grain products in order to replace losses of the nutrients that occur during processing.

Fast food—Foods designed for ready availability, use or consumption and sold at eating establishments for quick availability or take-out. Fast food restaurants are also known as quick-service restaurants.

Fats—One of the three classes of macronutrients. (See **Solid Fats** and **Oils**.)

- **Monounsaturated Fatty Acids**—Monounsaturated fatty acids (MUFAs) have one double bond. Plant sources that are rich in MUFAs include nuts and vegetable oils that are liquid at room temperature (e.g., canola oil, olive oil, high oleic safflower and sunflower oils).
- **Polyunsaturated fatty acids**—Polyunsaturated fatty acids (PUFAs) have two or more double bonds and may be of two types, based on the position of the first double bond.
- **n-6 PUFAs**—Linoleic acid, one of the n-6 fatty acids, is required but cannot be synthesized by humans and, therefore, is considered essential in the diet. Primary sources are liquid vegetable oils, including soybean oil, corn oil, and safflower oil. Also called omega-6 fatty acids.
- **n-3 PUFAs**— α -linolenic acid is an n-3 fatty acid that is required because it is not synthesized by humans and, therefore, is considered essential in the diet. It is obtained from plant sources, including soybean oil, canola oil, walnuts, and flaxseed. Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) are long chain n-3 fatty acids that are contained in fish and shellfish. Also called omega-3 fatty acids.
- **Saturated fatty acids**—Saturated fatty acids have no double bonds. Examples include animal products such as meat and dairy products, hydrogenated shortening and coconut or palm oils. In general, saturated fats are solid at room temperature.
- **Trans fatty acids**—As used in this Report *trans* fatty acids refers to industrial *trans* fatty acids and is a term consistent with that defined by the US Food and Drug Administration for use in food labeling. In this definition, *trans* fatty acids are unsaturated fatty acids that contain one or more isolated (i.e., nonconjugated) double bonds in a *trans* configuration produced by chemical hydrogenation. Sources of *trans* fatty acids include hydrogenated/partially hydrogenated vegetable oils that are used to make shortening and commercially prepared baked goods, snack foods, fried foods, and margarine. *Trans* fatty acids also are present in foods that come from ruminant animals (e.g., cattle and sheep) and are called “natural” or rTFA. Such foods include dairy products, beef, and lamb.

Food environment—The collective group of settings from which a person can access food, including the home, food retail establishments, restaurants, schools, worksites, as well as the overall food supply.

Food pattern modeling—The process of developing and adjusting daily intake amounts from food categories or groups to meet specific criteria, such as meeting nutrient intake goals, limiting nutrients or other food components, or varying proportions or amounts of specific food categories or groups.

Food security—Access by all people at all times to enough food for an active, healthy life. Food security includes, at a minimum: (a) the ready availability of nutritionally adequate and safe foods and (b) an assured ability to acquire acceptable foods in socially acceptable ways (e.g., without resorting to emergency food supplies, scavenging, stealing, or other coping strategies).

Food insecurity—The limited or uncertain availability of nutritionally adequate and safe foods or uncertain ability to acquire acceptable foods in socially acceptable ways. Hunger is defined as the uneasy or painful sensation caused by a lack of food; the recurrent and involuntary lack of access to food.

Foodborne disease—Disease caused by consuming foods or beverages contaminated with disease-causing bacteria or viruses. Many different disease-causing microbes, or pathogens, can contaminate foods, so there are many different foodborne infections. In addition, poisonous chemicals, or other harmful substances, can cause foodborne diseases if they are present in food. The most commonly recognized foodborne infections are those caused by the bacteria *Campylobacter*, *Salmonella*, and *E. coli* O157:H7, and by a group of viruses called calicivirus, also known as the Norwalk and Norwalk-like viruses.

Foodborne disease outbreak—Illness that occurs when a group of people consume the same contaminated food and two or more of them come down with the same illness. It may be a group that ate a meal together somewhere, or it may be a group of people who do not know each other at all, but who all happened to buy and eat the same contaminated item from a grocery store or restaurant.

Hypertension—A condition, also known as high blood pressure, in which blood pressure remains elevated over time. Hypertension makes the heart work too hard, and the high force of the blood flow can harm arteries and organs, such as the heart, kidneys, brain, and eyes. If uncontrolled, hypertension can lead to heart attacks, heart failure, kidney disease, stroke, and blindness. In adults, hypertension is defined as systolic blood pressure of 140 mmHg or higher or diastolic blood pressure of 90 mmHg or higher. In children, hypertension is defined as systolic or diastolic blood pressure equal to or greater than the 95th percentile for sex-, age-, and height-specific blood pressure percentiles. In adults, prehypertension is defined as systolic blood pressure of 120-139 mmHg or diastolic blood pressure of 80-89 mmHg. In children, prehypertension is defined as systolic or diastolic blood pressure that is equal to or greater than the 90th percentile but less than the 95th percentile for sex-, age-, and height-specific blood pressure percentiles, or blood pressure that is greater than 120/80 but less than the 95th percentile.

Isocaloric—Having the same caloric values. For example, two dietary patterns that vary in macronutrient proportions but have the same calorie content are isocaloric.

Metabolic syndrome—Metabolic syndrome consists of a collection of risk factors for cardiovascular disease manifested in an individual. The syndrome is considered to be present if three of five risk factors are present: glucose intolerance or frank diabetes mellitus, high blood pressure, elevated triglycerides, low HDL cholesterol, and abdominal obesity. Persons with the metabolic syndrome often also manifest a prothrombotic and proinflammatory state.

Moderate alcohol consumption—Average daily consumption of up to one drink per day for women and up to two drinks per day for men, with no more than three drinks in any single day for women and no more than four drinks in any single day for men. One drink is defined as 12 fl. oz. of regular beer, 5 fl. oz. of wine, or 1.5 fl. oz. of distilled spirits

NEL evidence-based systematic review—A protocol-driven, transparent process used to assist the 2010 Dietary Guidelines Advisory Committee, which includes pre-defined criteria for searching and sorting the scientific literature; critical appraisal of methodological rigor of each included study; extracting, summarizing, and synthesizing the evidence; and grading the overall quality and consistency of the body of evidence.

Nutrient-dense foods—Foods that are naturally rich in vitamins, minerals, and phytochemicals, and are lean or low in solid fats and without added solid fats, sugars, starches, or sodium and that retain naturally-occurring components such as fiber. All vegetables, fruits, whole grains, fish, eggs, and nuts prepared without added solid fats or sugars are considered nutrient-dense, as are lean or low-fat forms of fluid milk, meat, and poultry prepared without added solid fats or sugars. Nutrient-dense foods provide substantial amounts of vitamins and minerals (micronutrients) and relatively few calories.

Oils—Fats that are liquid at room temperature. Oils come from many different plants and from fish. Some common oils include canola, corn, olive, peanut, safflower, soybean, and sunflower oils. A number of foods are naturally high in oils, such as: nuts, olives, some fish, and avocados. Foods that are mainly oil include mayonnaise, certain salad dressings, and soft (tub or squeeze) margarine with no *trans* fats. Most oils are high in monounsaturated or polyunsaturated fats, and low in saturated fats. A few plant oils, including coconut oil and palm kernel oil, are high in saturated fats and for nutritional purposes should be considered solid fats. Hydrogenated oils that contain *trans* fats should also be considered solid fats for nutritional purposes. (See **Fats**.)

Ounce equivalent (oz eq)—The amount of a food product that is considered equal to one ounce from the grain or meat, poultry, fish, eggs, and nuts food group. An ounce equivalent for some foods may be less than a measured ounce if the food is concentrated or low in water content (nuts, peanut butter, dried meats, flour), more than an ounce if the food contains a large amount of water (tofu, cooked beans, cooked rice or pasta).

Persistent organic pollutants (POPs)—Toxic chemicals that adversely affect human health and the environment around the world. Because they can be transported by wind and water, most POPs generated in one country can and do affect people and wildlife far from where they are used and released. They persist for long periods of time in the environment and can accumulate and pass from one species to the next through the food chain.

Portion size—The amount of a food served or consumed in one eating occasion. A portion is not a standardized amount, and the amount considered to be a portion is subjective and varies. (See **Serving size**.)

Processed food—Any food other than a raw agricultural commodity, including any raw agricultural commodity that has been subject to washing, cleaning, milling, cutting, chopping, heating, pasteurizing, blanching, cooking, canning, freezing, drying, dehydrating, mixing, packaging, or other procedures that alter the food from its natural state. Processing also may include the addition of other ingredients to the food, such as preservatives, flavors, nutrients, and other food additives or substances approved for use in food products, such as salt, sugars, and fats. Processing of foods, including the addition of ingredients, may reduce, increase, or leave unaffected the nutritional characteristics of raw agricultural commodities.

- **Minimally-processed food**—Food that is processed but retains most of its inherent physical, chemical, sensory and nutritional properties. Many minimally processed foods are as nutritious as the food in its unprocessed form.

Protein—One of the three macronutrients classes. Protein is the major functional and structural component of every cell in the body. Proteins are composed of amino acids, nine of which are indispensable, meaning they cannot be synthesized to meet the body's needs and therefore must be obtained from the diet. The quality of a source of dietary protein depends on its ability to provide the nitrogen and amino acid requirements that are necessary for the body's growth, maintenance, and repair. This ability is determined by two factors: digestibility and amino acid composition.

- **Animal protein** - Protein from animal products such as meat, poultry, seafood, eggs, and milk and milk products. Animal proteins tend to have higher protein quality based on their complete amino acid profile relative to human requirements and higher digestibility.
- **Vegetable protein** - Protein from plants such as legumes, dry beans, grains, nuts, seeds and vegetables. Vegetable proteins tend to have lower protein quality based on their incomplete amino acid profile relative to human requirements and lower digestibility.

Refined grains—Grains and grain products missing the bran, germ, and/or endosperm; any grain product that is not a whole grain. Many refined grains are low in fiber but enriched with thiamin, riboflavin, niacin, and iron, and fortified with folic acid as required by US regulations.

Seafood—All commercially obtained fish, shellfish, and mollusks, both marine and freshwater.

Serving size—A standardized amount of a food, such as a cup or an ounce, used in providing information about the food, such as on the Nutrition Facts label or in dietary guidance, or in making comparisons among similar foods. The portion size consumed may differ from the standard service size. (See **Portion size**.)

SoFAAS—Solid Fats, Alcohol, and Added Sugars. This term is used in the Healthy Eating Index 2005 and in other publications. The term SoFAS is preferred to SoFAAS when discussing intakes or limits for the total population, because many individuals do not consume calories from alcohol.

SoFAS—Solid Fats and Added Sugars. This term is used when calculating the number of calories that come from these two food components together. Limits for the amount of calories from SoFAS are included in the USDA food patterns.

Solid fats—Fats that are usually not liquid at room temperature. Solid fats are found in most animal foods but also can be made from vegetable oils through hydrogenation. Some common solid fats include: butter, beef fat (tallow, suet), chicken fat, pork fat (lard), stick margarine, and shortening. Foods high in solid fats include: many cheeses, creams, whole milk, ice creams, well-marbled cuts of meats, regular ground beef, bacon, sausages, poultry skin, and many baked goods (such as cookies, crackers, doughnuts, pastries, and croissants). Most solid fats contain saturated fats, cholesterol and/or *trans* fats, and have less or no monounsaturated or polyunsaturated fats. (See **Fats**.)

Study design—An experimental approach to address a specific question; it includes clinical trials, observational studies, and summary and quantitative analysis of numerous studies.

- **Case-control study**—A study that compares people with a specific disease or outcome of interest (cases) to people from the same population without that disease or outcome (controls), and which seeks to find associations between the outcome and prior exposure to particular risk factors. Case-control studies are usually retrospective, but not always.
- **Cohort study**—An observational study in which a defined group of people (the cohort) is followed over time. The outcomes of people in subsets of this cohort are compared to examine people who were exposed or not exposed (or exposed at different levels) to a particular intervention or other factor of interest. A **prospective** cohort study assembles participants and follows them into the future. A **retrospective** (or historical) cohort study identifies subjects from past records and follows them from the time of those records to the present.
- **Meta-analysis**—A quantitative method of combining the results of independent studies (usually drawn from the published literature) and synthesizing summaries and conclusions which may be used for several purposes, such as evaluating therapeutic effectiveness or planning new studies, with application chiefly in the areas of research and medicine.
- **Randomized controlled trial**—An experiment in which two or more interventions, possibly including a control intervention or no intervention, are compared by being randomly allocated to participants. In most trials one intervention is assigned to each individual but sometimes assignment is to defined groups of individuals (e.g. households) or interventions are assigned within individuals (e.g. in different orders). Also called a randomized clinical trial.
- **Systematic review**—A review of a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant research, and to collect and analyze data from the studies that are included in the review. Statistical methods (**meta-analysis**) may or may not be used to analyze and summarize the results of the included studies.

Sugar-sweetened beverages—Liquids that are sweetened with various forms of sugars that add calories. These beverages include, but are not limited to, soda, fruit ades, and sports drinks. Also called calorically-sweetened beverages.

Whole grains—Grains and grain products made from the entire grain seed, usually called the kernel, which consists of the bran, germ, and endosperm. If the kernel has been cracked, crushed, or flaked, it must retain nearly the same relative proportions of bran, germ, and endosperm as the original grain in order to be called whole grain. Many, but not all, whole grains are also a source of dietary fiber.