

GLOSSARY

Term	Definition
1-sided significance tests	Test of statistical significance in which deviations from the null hypothesis in only 1 direction are considered. Most commonly used for the <i>t</i> test.
36-Item Short Form Health Survey (SF-36), version 1, vitality (energy/fatigue) subscale	A subscale of the SF-36, a standard, short-form health survey that uses 36 questions to yield an 8-scale profile of a patient's functional health and well-being; physical and mental health; and health utility based on preferences. The SF-36, as a generic measure, does not target a specific age, disease, or treatment. Rather, it is used to compare the relative burden of various diseases and to differentiate the benefits of different treatments. The vitality subscale of the SF-36 is a 4-item subscale for assessing vitality, energy level, and fatigue that takes 1 to 2 minutes to administer. For more information, see the following Web site for the survey: http://www.sf-36.org/tools/sf36.shtml .
5-hydroxytryptamine type 3 (5-HT ₃) selective antagonist medications	Antiemetics used in the prevention and treatment of nausea and vomiting.
ABCD framework	Dignity-conserving care has been described within an ABCD framework: A for attitude, underscoring the importance of care provider perception and the extent to which this can provide the patient a sense of affirmation and continued worth; B for behavior, denotes the various mannerisms and approaches that convey respect and acknowledgment of the patient's personhood; C for compassion, predicated on an awareness of the patient as a person; and D for dialogue, underscores the importance of conversations that are able to acknowledge issues of personhood. (See also Chapter 27, Dignity-Conserving Care—A New Model for Palliative Care.)

Term	Definition
Absolute difference	The absolute difference in rates of good or harmful outcomes between experimental groups (experimental group risk, or EGR) and control groups (control group risk, or CGR), calculated as the risk in the control group minus the risk in the experimental group (CGR – EGR). For instance, if the rate of adverse events is 20% in the control group and 10% in the treatment group, the absolute difference is 20% – 10% = 10%.
Absolute risk	The risk of an event (eg, if 10 of 100 patients have an event, the absolute risk is 10% expressed as a percentage, or 0.10 expressed as a proportion).
Absolute risk increase	The absolute arithmetic difference in risk of harmful outcomes between experimental groups (experimental group risk, or EGR) and control groups (control group risk, or CGR), calculated as risk of harmful outcome in experimental group minus rate of harmful outcome in control group (EGR – CGR). Typically used to describe a harmful exposure or intervention (eg, if the rate of adverse outcomes is 20% in treatment and 10% in control, the absolute risk increase would be 10% expressed as a percentage and 0.10 expressed as a proportion). See also Absolute risk reduction; Number needed to harm.
Absolute risk reduction	The absolute difference (risk difference) in risks of harmful outcomes between experimental groups (experimental group risk, or EGR) and control groups (control group risk, or CGR), calculated as the risk of harmful outcome in the control group minus the risk of harmful outcome in the experimental group (CGR – EGR). Typically used to describe a beneficial exposure or intervention (eg, if 20% of patients in the control group have an adverse event, as do 10% among treated patients, the ARR or risk difference would be 10% expressed as a percentage or 0.10 expressed as a proportion).
Academic detailing	A strategy for changing clinician behavior. Use of a trained person who meets with professionals in their practice settings to provide information with the intent of changing their practice. The pharmaceutical industry frequently uses this strategy, to which the term detailing is applied. Academic detailing is such an interaction initiated by an academic group or institution rather than the pharmaceutical industry.
Active alternatives	The set of diagnoses that can plausibly explain a patient's presentation. See also Differential diagnosis.
Activities of daily living (ADLs)	ADLs are self-care activities of dressing, bathing, transferring, ability to ambulate, eating, and continence. ADLs are more basic than IADLs (instrumental activities of daily living) that include shopping, housework, accounting, food preparation, and transportation.

Term	Definition
Acute Physiology and Chronic Health Evaluation (APACHE) II or III	A classification system that measures the severity of disease for adult patients admitted to intensive care units. For more information, see the following article for the classification system: Barie PS, Hydo LJ, Fischer E. Comparison of APACHE II and III scoring systems for mortality prediction in critical surgical illness. <i>Arch Surg.</i> 1995;130(1):77-82. [PMID: 7802581]
Addiction	Compulsive physical or physiologic need for and use of a habit-forming substance characterized by its misuse for purposes other than the one for which it was prescribed and despite negative consequences. Addiction is distinguished from tolerance (the patient requires increasing dosage to achieve the same analgesic effect) and from dependence (the patient requires continued dosing to prevent well-defined physiologic symptoms on withdrawal). See also Pseudoaddiction.
Additive	Describes any trait that increases proportionately in expression when comparing those with no copy, 1 copy, or 2 copies of that allele, ie, those with 1 copy of the allele show more of the trait than those without, and in turn, those with 2 copies show more of the trait than those with 1 copy.
Adherence	Extent to which patients carry out health care recommendations, or the extent to which health care providers carry out the diagnostic tests, monitoring equipment, interventional requirements, and other technical specifications that define optimal patient management.
Adjusted analysis	An adjusted analysis takes into account differences in prognostic factors (or baseline characteristics) between groups that may influence the outcome. For instance, when comparing an experimental and control intervention, if the experimental group is on average older, and thus at higher risk of an adverse outcome than the control group, the analysis adjusted for age will show a larger treatment effect than the unadjusted analysis. See also Cox regression model.
Adjusted indirect comparison	A statistical technique that permits comparison between 2 interventions that have not been compared directly (head-to-head) but have both been compared to the same third comparator. This method preserves the principle of randomization.
Adjuvant	Agent used to enhance the action of the main treatment. In palliative care, term used to describe different drugs and classes of drugs that may enhance the effects of opioids or nonsteroidal anti-inflammatory drugs, or of palliative chemotherapeutic agents.
Advance care directives	Instructions that are meant to ensure that patients' wishes concerning end-of-life care are respected and carried out, even when the patients are no longer able to speak for themselves.

Term	Definition
Advance care planning	The process by which patients, together with their families and health care practitioners, consider their values and goals and articulate preferences for future care.
Advance directives	A synonym for advance care directives (ACDs), instructions that are meant to ensure that patients' wishes concerning end-of-life care are respected and carried out, even when the patients are no longer able to speak for themselves.
Aid to Capacity Evaluation (ACE)	A screening instrument for medical decision-making capacity. ACE uses 8 questions modified to the patient's problem and treatment choices. See http://capm.wikispaces.com/file/view/ACE.pdf/107065929/ACE.pdf .
AIDS-related opportunistic infections	Infections due to pathogenic microbial agents that have the "opportunity" to develop in patients with compromised immune systems. These agents usually do not cause disease in patients with intact immune systems.
Alerting systems	A strategy for changing clinician behavior. A type of computer decision support system that alerts the clinician to a circumstance that might require clinical action (eg, a system that highlights out-of-range laboratory values). See also Reminder systems.
Algorithm	An explicit description of an ordered sequence of steps with branching logic that can be applied under specific clinical circumstances. The logic of an algorithm is as follows: if a, then do x; if b, then do y; etc.
Allele	One of several variants of a gene, usually referring to a specific site within the gene.
Alpha level	The probability of erroneously concluding there is a difference between comparison groups when there is in fact no difference (type I error). Typically, investigators decide on the chance of a false-positive result they are willing to accept when they plan the sample size for a study (eg, investigators often set alpha level at 0.05).
Alvarado model	The Alvarado model is a clinical decision rule for diagnosing appendicitis. This model uses the MANTRELS mnemonic to examine 8 findings from the medical history or the examination, and the resulting score provides guidance on whether to operate in the setting of suspected appendicitis. Of 10 potential points, patients with a score of 7 or higher are considered "positive" and are more likely to have appendicitis. The various components are M igration (1 point), A norexia-acetone (1), N ausea-vomiting (1), T enderness in RLQ (2), R ebound pain (1), E levation of temperature (1), L eukocytosis (2), and S hift to the left of normal WBC count (1). See Table 5-5 in <i>The Rational Clinical Examination</i> .

Term	Definition
Alzheimer disease	A degenerative brain disease of unknown cause that results in progressive memory loss, impaired thinking, disorientation, and changes in personality and mood and that leads to a profound decline in cognitive and physical functioning. The most common form of dementia.
American Joint Committee on Cancer classifications	The American Joint Committee on Cancer classifications are used by medical professionals to select the most effective treatment, determine prognosis, and continue evaluating cancer control measures. The classifications involve clinical staging, pathologic staging, restaging, and the tumor-node-metastasis (TNM) staging system. For more information, see the following Web site for the classifications: http://www.cancerstaging.org . See also UICC-TNM.
American Spinal Injury Association Impairment Scale	The extent of spinal injury, defined by the American Spinal Injury Association Impairment Scale (modified from the Frankel classification), is categorized as follows: A-Complete: no sensory or motor function is preserved in sacral segments S4-S5; B-Incomplete: sensory, but not motor, function is preserved below the neurologic level and extends through sacral segments S4-S5; C-Incomplete: motor function is preserved below the neurologic level, and most key muscles below the neurologic level have muscle strength grade less than 3; D-Incomplete: motor function is preserved below the neurologic level, and most key muscles below the neurologic level have muscle grade greater than or equal to 3; and E-Normal: sensory and motor functions are normal. For more information, see the following Web site for the scale: http://www.asia-spinalinjury.org/publications/2006_Classif_worksheet.pdf .
Amoss sign	In patients with severe meningeal irritation, the patient may spontaneously assume the tripod position (also called Amoss sign or Hoyne sign), sitting on the edge of the bed with the knees and hips flexed, the back arched lordotically, the neck extended, and the arms brought back to support the thorax.
Amyotrophic lateral sclerosis	A progressive neurodegenerative disorder of unknown cause and pathogenesis, with no known cure. It is characterized by progressive loss of motor neurons.
Analgesia	A state in which painful stimuli are moderated such that, although still perceived, they are no longer painful; insensibility to pain.
Analgesics, opioid	Medications that help to decrease perception of pain, decrease reaction to pain, and increase tolerance to pain.

Term	Definition
Anchor	An independent standard that is itself interpretable and at least moderately correlated with the instrument being explored. The anchor is usually designed to establish a minimum important difference (MID) in change.
Ankle-brachial index	The ratio of the highest ankle systolic pressure divided by the highest brachial systolic pressure. This is a commonly accepted reference standard for diagnosing peripheral arterial disease because it is highly sensitive and specific.
Apnea test	The last clinical test performed during the examination for brain death. A positive test result requires discontinuation of mechanical ventilation and observation for the absence of any respiratory effort in the presence of an adequate stimulus for respiratory drive.
Arrhythmias, cardiac	Any irregularity in cardiac rate or rhythm.
Arthralgia	Joint pain.
Arthritis, infectious	The purulent invasion of a joint by an infectious agent that produces arthritis (ie, septic arthritis).
Arthritis, rheumatoid	A chronic, systemic inflammatory disorder that attacks the joints producing an inflammatory synovitis and is characterized by pain, stiffness, inflammation, swelling, and sometimes destruction of joints.
AST:ALT ratio (AAR)	Aspartate aminotransferase:alanine aminotransferase ratio. A scoring index used to calculate the likelihood of cirrhosis; an AAR higher than 1 is associated with an increased likelihood of cirrhosis.
AST:platelet ratio index (APRI)	Aspartate aminotransferase:platelet ratio index. A scoring index used to calculate the likelihood of cirrhosis; an APRI higher than 2 is associated with an increased likelihood of cirrhosis. $APRI = \text{AST:platelet ratio index} = (\text{AST}/\text{upper limit of normal AST}) \times (100/\text{platelet count} [(\times 10^3/\mu\text{L})])$.
Atelectasis	Loss of air in all or part of the lung (collapse).
Atrioventricular nodal reentry	A regular supraventricular tachycardia caused by a reentry circuit involving the atrioventricular node. The most frequent symptom is palpitations, often sensed by the patient in his or her neck.
Audiometry	A hearing test using individual tones of different frequencies (ranging from 250 to 8000 Hz) that are presented in a soundproof room at various intensities (ranging from 5 to 120 dB) to each ear.
Audit and feedback	A strategy for changing clinician behavior. Any written or verbal summary of clinician performance (eg, based on chart review or observation of clinical practice) during a period of time. The summary may also include recommendations to improve practice.

Term	Definition
Aura	A symptom that heralds the onset of a migraine headache or a seizure. Typically, auras are visual phenomenon, but they may include any sensation or behavioral change that occurs shortly before the onset of the headache or seizure.
Autocorrelation	Occurs when the likelihood of an observation is not independent of its relationship with other observations. For example, autocorrelation occurs when a good day for a patient with chronic disease is more likely to follow a "good day" than a "bad day."
Autonomic dysfunction	Any disease or malfunction of the autonomic nervous system, producing symptoms such as orthostatic hypotension and gastroparesis.
Background questions	These clinical questions are about physiology, pathology, epidemiology, and general management and are often asked by clinicians in training. The answers to background questions are often best found in textbooks or narrative review articles.
Bacteremia	The presence of bacteria in the bloodstream, as indicated by a true-positive blood culture result.
Barrel chest sign	The anterior-posterior dimension of the chest increases in relation to the lateral dimensions, giving the shape of a barrel. This occurs in conditions that result in hyperinflation of the lung.
Barthel Index	The Barthel Index, originally designed for older patients, assesses ability to transfer from bed to chair or commode, bowel and bladder function, and other aspects of self-care. For more information, see the following Web site for the index: http://www.strokecenter.org/trials/scales/barthel_reprint.pdf .
Base case	In an economic evaluation, the base case is the best estimates of each of the key variables that bear on the costs and effects of the alternative management strategies.
Baseline characteristics	Factors that describe study participants at the beginning of the study (eg, age, sex, disease severity); in comparison studies, it is important that these characteristics be initially similar between groups; if not balanced or if the imbalance is not statistically adjusted, these characteristics can cause confounding and can bias study results.
Baseline risk	The proportion or percentage of study participants in the control group in whom an adverse outcome is observed. See also Absolute risk.

Term	Definition
Bayesian analysis	An analysis that starts with a particular probability of an event (the prior probability) and incorporates new information to generate a revised probability (a posterior probability). The approach to diagnosis assumes that diagnosticians are intuitive Bayesian thinkers and move from pretest to posttest probabilities as information accumulates.
Baystate Quality of Dying Score	The Baystate Quality of Dying Score is a measure of the quality of end-of-life care in renal dialysis patients and comprises 5 domains (pain, nonpain symptoms, advance care planning, peacefulness, and time) that are scored and then summed. For more information, see the following article for the scoring: Spital A (ed.). Ethical issues in dialysis. Measuring quality of dying in end-stage renal disease. <i>Semin Dialysis</i> . 2008;17(5):376-379.
Beck triad	The classic findings of tamponade as described in 1935 by thoracic surgeon Claude Schaeffer Beck are characterized by decreasing arterial blood pressure, increasing jugular venous pressure, and a small, quiet heart.
Before-after design	Study in which the investigators compare the status of a group of study participants before and after the introduction of an intervention. See also Crossover study.
Bereavement	The response to loss, particularly to the loss of someone to whom a bond was formed. Also known as grief.
Bias	A systematic error in the design, conduct, or interpretation of a study that may cause a systematic deviation from the underlying truth (eg, overestimation of a treatment effect because of failure to randomize).
Biphasic positive airway pressure (BiPAP)	A method of respiratory ventilation using a tightly fitted face mask primarily used for critically ill hospital patients with respiratory failure, often as a temporizing measure to avoid the need for intubation and mechanical ventilation.
Blatchford score	A tool clinicians can use to help predict whether an upper gastrointestinal bleed requires urgent treatment.
Blind	Patients, clinicians, data collectors, outcome adjudicators, or data analysts unaware of which patients have been assigned to the experimental or control group. In the case of diagnostic tests, those interpreting the test results are unaware of the result of the reference standard or vice versa. See also Concealment.
Boas sign	Originally, this sign referred to point tenderness in the region to the right of the 10th to 12th thoracic vertebrae, but contemporary sources describe hyperesthesia to light touch in the right upper quadrant or infrascapular area.
Body image	A person's perception of his/her physical body.

Term	Definition
Bonacini cirrhosis discriminant score (CDS)	A score used to help determine the likelihood of cirrhosis. Combines the aspartate aminotransferase:alanine aminotransferase ratio with the platelet count and prothrombin international normalized ratio into a discriminant function with possible total values between 0 and 11; higher values are associated with an increased likelihood of cirrhosis.
Boolean operators	Words used when searching electronic databases. These operators are AND, OR, and NOT and are used to combine terms (AND/OR) or exclude terms (NOT) from the search strategy.
Bootstrap technique	A statistical technique for estimating parameters such as standard errors and confidence intervals based on resampling from an observed data set with replacement from the original sample.
<i>Bordetella pertussis</i>	The bacteria that causes whooping cough or pertussis.
Brachytherapy	A type of radiotherapy in which the source of radiation is placed (or implanted) in or close to the area being treated.
Brain death	The irreversible cessation of all functions of the entire brain, including the brainstem.
Bridge program	A bridge program is provided by a hospice in collaboration with a home health agency or other health care service provider that offers pain and symptom management and emotional support during a period when a patient with a life-limiting condition may still be pursuing active treatment or is not yet ready to enroll in a hospice.
Bridges to Health model	The Bridges to Health model identifies the following categories of patient care as the anchoring principles for designing efficient and effective services: healthy, acutely ill, maternal/infant, serious long-term disability, chronic illness consistent with normal social role, and the following 3 trajectories, which represent the trajectories of people living with disabling, progressive, and eventually fatal conditions: those with "terminal cancer," those with chronic organ system failure, and those with progressive disability (such as dementia or frailty) in old age. For more information, see the following article for the model: Lynn J, Straube BM, Bell KM, Jencks SF, Kambic RT. Using population segmentation to provide better health care for all: the "Bridges to Health" model. <i>Milbank Q.</i> 2007;85(2):185-212. [PMID: 17517112]

Term	Definition
Brief Fatigue Inventory	A fatigue assessment tool that asks patients to rate, on a scale of 0 (none) to 10 (severe), their current level of fatigue, usual fatigue level in the last 24 hours, worst level of fatigue in the last 24 hours, and how fatigue has interfered with general activity, mood, walking, work, relationships, and enjoyment of life. For more information, see the following article for the inventory: Mendoza TR, Wang XS, Cleeland CS, et al. The rapid assessment of fatigue severity in cancer patients: Use of the Brief Fatigue Inventory. <i>Cancer</i> . 1999;85:1186-1196. [PMID: 10091805]
Brief Pain Inventory	A pain assessment tool that asks patients whether they have any pain now and, if so, where it is located; to rate, on a scale of 0 (none) to 10 (severe) their level of pain in the last 24 hours (worst, least, average); current level of pain; treatments for pain and how much they have relieved the pain; and how pain has interfered with general activity, mood, walking, work, relationships, and enjoyment of life.
Bronchiolitis	Inflammation of the bronchioles.
Brudzinski sign	Meningeal inflammation and irritation that elicits a protective reflex to prevent stretching of the inflamed and hypersensitive nerve roots, which is detectable clinically as neck stiffness or Kernig or Brudzinski signs. A Brudzinski sign (also known as the "nape of the neck" sign) is present when passive neck flexion in a supine patient results in flexion of the knees and hips.
Buerger test	The clinician examines for development of pallor with the patient's leg elevated to 90° with the patient lying supine. The leg is then lowered slowly and the angle at which the reddish hue returns is known as the "angle of circulatory sufficiency"; the result is positive if the angle is less than 0° (ie, hangs below the examining table).
Burnout	A form of mental distress manifested in normal individuals by decreased work performance, resulting from negative attitudes and behaviors. In end-of-life care, burnout often results from stresses that arise from the clinician's interaction with the work environment.
Calman gap	The gap between the patient's hopes and expectations and what the patient actually experiences.
Cancer-related fatigue	A distressing persistent, subjective sense of tiredness or exhaustion related to cancer or cancer treatment that is not proportional to recent activity and that interferes with usual functioning.
Candidate gene study	A study that evaluates association of specific genetic variants with outcomes or traits of interest, selecting the variants to be tested according to explicit considerations (known or postulated biology or function, previous studies, etc).

Term	Definition
Capitation	The per-person rate an insurance company pays to a clinician (or group of clinicians) for care of patients enrolled in a managed care health insurance plan.
Cardiac cachexia	Nonintentional, nonedema weight loss of 7.5% of previous normal weight over a period of 6 months in patients with congestive heart failure or other heart disease.
Cardiac tamponade	Cardiac tamponade occurs when fluid trapped in the pericardial space compresses the heart and compromises cardiac output. The consequences of cardiac tamponade range from barely detectable effects to overt hemodynamic collapse.
Cardiopulmonary resuscitation (CPR)	An emergency procedure that attempts to restore normal breathing and/or circulation after respiratory and/or cardiac arrest. Includes clearing the air passages to the lungs, artificial circulation through rhythmic pressing on the patient's chest, and artificial respiration.
Care tenor	The tone or quality of care.
Caregiver	A person who provides direct care to a patient (either at home or in health care settings), whether paid or unpaid.
Case reports	Descriptions of individual patients.
Case series	A report of a study of a collection of patients treated in a similar manner, without a control group. For example, a clinician might describe the characteristics of an outcome for 25 consecutive patients with diabetes who received education for prevention of foot ulcers.
Case study	In qualitative research, an exploration of a case defined by some boundaries or contemporary phenomena usually within a real-life context.
Case-control study	A study designed to determine the association between an exposure and outcome in which patients are sampled by outcome. Those with the outcome (cases) are compared to those without the outcome (controls) with respect to exposure to the suspected harmful agent.
Castell sign	A sign that indicates splenomegaly. The patient is placed in the supine position. Percussion is carried out in the lowest intercostal space in the left anterior axillary line in both expiration and full inspiration. In a normal expiration result, the percussion note remains resonant throughout this maneuver. Splenomegaly is diagnosed when the percussion note is dull or becomes dull on full inspiration.

Term	Definition
Categorical variable	A categorical variable may be nominal or ordinal. Categorical variables can be defined according to attributes without any associated order (eg, medical admission, elective surgery, or emergency surgery); these are called nominal variables. A categorical variable can also be defined according to attributes that are ordered (eg, height such as high, medium, or low); these are called ordinal variables.
CDSS intervention	A clinical decision support system (CDSS) intervention is used with individual patients to guide diagnosis and therapy, plus provide feedback on performance and tips on patient management.
Central dopamine type 2 (D ₂) receptors	Dopamine receptors that control neural signaling modulating many important behaviors, such as spatial working memory. Opioid-induced nausea and vomiting are caused by their effects in the chemoreceptor trigger zone that are largely mediated through central D ₂ receptors, whereas opioid effects on the stomach producing gastroparesis are mediated through peripheral D ₂ receptors.
Cerebral hemorrhage	Bleeding into the brain tissue from a ruptured blood vessel. It can cause abrupt dysfunction of neurologic tissue, leading to neurologic deficits such as hemiparesis, hemisensory loss, aphasia, ophthalmoplegia, and visual field cuts.
Chadwick sign	When the mucous membranes of the vulva, vagina, and cervix become congested and take on a bluish-violet hue.
Chance-corrected agreement	The proportion of possible agreement achieved beyond what one would expect by chance alone, often measured by the kappa statistic.
Chance-independent agreement	The proportion of possible agreement achieved that is independent of chance and unaffected by the distribution of ratings, as measured by the ϕ statistic.
Channeling bias	Tendency of clinicians to prescribe treatment based on a patient's prognosis. As a result of the behavior, in observational studies, treated patients are more or less likely to be high-risk patients than untreated patients, leading to biased estimate of treatment effect. See also Bias.
Checklist effect	1. The effect on clinicians' behavior of having them record information, or their orders, using a structured data collection form. 2. The improvement seen in medical decision making because of more complete and structured data collection (eg, clinicians fill out a detailed form, so their decisions improve).
Chemoreceptor trigger zone (CTZ)	Functionally outside the blood-brain barrier, the chemoreceptor trigger zone is exposed to toxins in the bloodstream and cerebrospinal fluid that can stimulate vomiting.

Term	Definition
Cheyne-Stokes respirations	A rhythmic waxing and waning of both respiratory pattern rate and tidal volumes that includes regular periods of apnea. In end-of-life situations, it occurs in patients with end-stage left ventricular failure or neurologic disease.
Child-Turcotte-Pugh Score	Score used to assess the prognosis of chronic liver disease. The score includes 5 clinical measures of liver disease, including ascites, encephalopathy, serum bilirubin level, serum albumin level, and prothrombin time. Each measure is scored from 1 to 3, with 3 indicating most severe derangement. Chronic liver disease is classified into class A (score 5-6), B (7-9), or C (10-15), and prognosis is directly correlated to class. For more information, see the following Web site for the scoring: http://www.hepatitis.va.gov/vahep?page=prtop08-03-ct-02 .
Chi-square test	A nonparametric test of statistical significance used to compare the distribution of categorical outcomes in two or more groups, the null hypothesis of which is that the underlying distributions are identical.
Chromosome	Self-replicating structures in the nucleus of a cell that carry the genetic information.
Chronic fatigue	Fatigue present in an individual at least 50% of the time that persists for at least 6 months.
Chronic fatigue syndrome	An illness predominantly affecting young adults and characterized by disabling fatigue of at least 6 months' duration, accompanied by several other symptoms (such as sore throat, adenopathy, muscle pain, multi-joint pain, and headache) that cannot be attributed to any alternative condition.
Chuang Prognostic Score	Score, based on presence or absence (or degree of) lung metastasis, liver metastasis, tiredness, ascites, edema, cognitive impairment, and recent weight loss, as well as Eastern Cooperative Group Oncology status, that correlates with 2-week survival in patients with cancer. For more information, see the following article for the scoring: Chuang RB, Hu WY, Chiu TY, Chen CY. Prediction of survival in terminal cancer patients in Taiwan: constructing a prognostic scale. <i>J Pain Symptom Manage</i> . 2004;28(2):115-122. [PMID: 15276192]
Circumcision	The cutting off of the foreskin of males as a sanitary measure in modern surgery or as a religious rite.
Cirrhosis	Widespread disruption of normal liver structure by fibrosis and the formation of regenerative nodules that is caused by various chronic progressive conditions affecting the liver (such as long-term alcohol abuse or hepatitis).
Clinical competence	A clinician's knowledge of a procedure, disease, or condition.

Term	Definition
Clinical decision support system	A strategy for changing clinician behavior. An information system used to integrate clinical and patient information and provide support for decision-making in patient care. See also Computer decision support system.
Clinical Dementia Rating Scale	A scale used to quantify the severity of symptoms of dementia. A patient's cognitive and functional performance is assessed in 6 areas including memory, orientation, judgment and problem solving, community affairs, home and hobbies, and personal care. Scores in each of these areas are combined to obtain a composite score ranging from 0 (no dementia) to 3 (severe dementia). For more information, see the following article for the scale: Hughes CP, Berg L, Danziger WL, Coben LA, Martin RL. A new clinical scale for the staging of dementia. <i>Br J Psychiatr.</i> 1982;140:566-572. [PMID: 7104545]
Clinical gestalt	The physician's overall intuitive sense of the likelihood of disease established after the clinical evaluation of the patient. The clinical evaluation may include risk factors, history, symptoms, signs, and basic laboratory or radiological studies.
Clinical practice guidelines	A strategy for changing clinician behavior. Systematically developed statements or recommendations to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances. They present indications for performing a test, procedure, or intervention, or the proper management for specific clinical problems. Guidelines may be developed by government agencies, institutions, organizations such as professional societies or governing boards, or by convening expert panels.
Clinical prediction rules	A guide for practice that is generated by initially examining, and ultimately combining, a number of variables to predict the likelihood of a current diagnosis or a future event. Sometimes, if the likelihood is sufficiently high or low, the rule generates a suggested course of action.
Clock-Drawing Test	A cognitive screening test in which the patient is asked to draw a clock, including numbers and hands set to a specific time. See also cognition disorders.
Closed fist sign	Paresthesias in the distribution of the median nerve when the patient actively flexes the fingers into a closed fist for 60 seconds.
Cluster analysis	A statistical procedure in which the unit of analysis matches the unit of randomization, which is something other than the patient or participant (eg, school, clinic).

Term	Definition
Cluster assignment	The assignment of groups (eg, schools, clinics) rather than individuals to intervention and control groups. This approach is often used when assignment by individuals is likely to result in contamination (eg, if adolescents within a school are assigned to receive or not receive a new sex education program, it is likely that they will share the information they learn with one another; instead, if the unit of assignment is schools, entire schools are assigned to receive or not receive the new sex education program). Cluster assignment is typically randomized, but it is possible (though not advisable) to assign clusters to treatment or control by other methods.
Cluster-type headache	Headache that presents as excruciating pain around the eye and temple and comes and goes in a “cluster” like pattern.
Co-occurrence	The over-representation of randomized controlled trials comparing specific interventions rather than other available interventions.
Cochrane <i>Q</i>	A common test for heterogeneity that assumes the null hypothesis that all the apparent variability between individual study results is due to chance. Cochrane <i>Q</i> generates a probability, presented as a <i>P</i> value, based on a χ^2 distribution, that between-study differences in results equal to or greater than those observed are likely to occur simply by chance.
Code of Medical Ethics	The American Medical Association's Code of Medical Ethics is an ethics guide for practicing physicians that is reviewed and updated over time.
Cognition disorders	Disorders such as dementia and delirium that involve mental activities associated with thinking, learning, and memory.
Cognitive Test for Delirium	Test designed to assess patients with possible delirium, in particular those who are intubated or unable to speak or write. It assesses 5 neuropsychological domains (orientation, attention, memory, comprehension, and vigilance), emphasizing nonverbal (visual and auditory) modalities. Total scores range from 0 to 30, with higher scores indicating better cognitive function. This test helps to differentiate delirium from other neuropsychiatric conditions, including dementia, schizophrenia, and depression. For more information, see the following article for the test: Hart RP, Levenson JL, Sessler CN, et al. Validation of a cognitive test for delirium in medical ICU patients. <i>Psychosomatics</i> . 1996;37:533-546). [PMID: 8942204]
Coherence	The agreement in treatment effect estimates between direct and indirect evidence.

Term	Definition
Cohort	A group of persons with a common characteristic or set of characteristics. Typically, the group is followed for a specified period of time to determine the incidence of a disorder or complications of an established disorder (prognosis). See also Cohort study.
Cohort study	Study of a group of individuals, some of whom are exposed to a variable of interest (eg, a drug treatment or environmental exposure), in which participants are followed up over time to determine who develops the outcome of interest and whether the outcome is associated with the exposure. See also Inception cohort.
Cointerventions	Intervention other than intervention under study that affect the outcome of interest and that may be differentially applied to intervention and control groups and, thus, potentially bias the results of a study.
Comfort care suite	Hospital room with a more homelike environment and hospice-type protocol orders. Care is provided for dying patients who cannot leave the hospital for hospice care elsewhere, and there are often facilities for families to stay overnight and keep a death vigil.
Comorbidity	Disease(s) or conditions that coexist(s) in study participants in addition to the index condition that is the subject of the study.
Compassion fatigue	Fatigue that evolves specifically from the relationship between the clinician and the patient. Compassion fatigue has been described as the "cost of caring" for others in emotional pain that has led helping professionals to abandon their work with traumatized persons. (See also Chapter 42, Self-care of Physicians Caring for Patients at the End of Life.)
Compassion satisfaction	Pleasure derived from the clinician's work of helping patients and their caregivers. (See also Chapter 42, Self-care of Physicians Caring for Patients at the End of Life.)
Complete follow-up	The investigators are aware of the outcome in every patient who participated in a study.
Composite endpoint	When investigators measure the effect of treatment on an aggregate of endpoints of various importance. Inferences from composite endpoints are strongest in the rare situations in which (1) the component endpoints are of similar patient-importance, (2) the endpoints that are more important occur with at least similar frequency to those that are less important, and (3) strong biologic rationale supports results that, across component endpoints, show similar relative risks with sufficiently narrow confidence intervals.

Term	Definition
Computer decision support system	A strategy for changing clinician behavior. Computer-based information systems used to integrate clinical and patient information and provide support for decision making in patient care. In clinical decision support systems (CDSSs) that are computer based, detailed individual patient data are entered into a computer program and are sorted and matched to programs or algorithms in a computerized database, resulting in the generation of patient-specific assessments or recommendations. CDSSs can have the following purposes: alerting, reminding, critiquing, interpreting, predicting, diagnosing, and suggesting. See also Clinical decision support system.
Computer simulation	A computer model that uses patient demographics, risk factors, history items, and symptoms to diagnose diseases and other conditions. Computer simulations may not be more accurate than clinical opinion.
Concealment	Randomization is concealed if the person who is making the decision about enrolling a patient is unaware of whether the next patient enrolled will be entered in the intervention or control group (using techniques such as central randomization or sequentially numbered opaque, sealed envelopes). If randomization is not concealed, patients with better prognoses may tend to be preferentially enrolled in the active intervention arm, resulting in exaggeration of the apparent benefit of intervention (or even falsely concluding that the intervention is efficacious). See also Blind.
Concepts	The basic building blocks of theory.
Conceptual framework	An organization of interrelated ideas or concepts that provides a system of relationships between those ideas or concepts.
Conditional probabilities	The probability of a particular state, given another state (i.e., the probability of A, given B).
Confidence interval	Range between two values within which it is probable that the true value lies for the whole population of patients from which the study patients were selected.
Conflict of interest	A situation in which an individual or group is involved in multiple interests (concerns), and one or more interests could possibly affect the motivation for an action or interpretation regarding another interest. Also, within the biomedical research and publishing enterprise, these conflicts may occur when investigators, authors, institutions, reviewers, and/or editors have financial or nonfinancial relationships with other persons or organizations (eg, study sponsors) or personal investments in research projects or the outcomes of projects that may inappropriately influence their interpretation or actions. Conflicts of interest can lead to biased design, conduct, analysis, and interpretation of study results.

Term	Definition
Confounder	1. A factor that distorts the true relationship of the study variable of interest by virtue of also being related to the outcome of interest. Confounders are often unequally distributed among the groups being compared. Randomized studies are less likely to have their results distorted by confounders than are observational studies. 2. A factor that is associated with the outcome of interest and is differentially distributed in patients exposed and unexposed to the outcome of interest.
Confusion Assessment Method	An assessment instrument that screens for presence or absence of delirium but does not assess the severity of the condition. For more information, see the following article for the instrument: Inouye SK, van Dyck CH, Alessi CA, et al. Clarifying confusion: the confusion assessment method. A new method for detection of delirium. <i>Ann Intern Med.</i> 1990;113(12):941-948. [PMID: 2240918]
Conscious sedation	Administering sedatives with or without analgesics to induce a mildly sedated state (“twilight sleep”) that allows the patient to tolerate unpleasant procedures while avoiding the need for intubation and mechanical ventilation.
Consecutive sample	A sample in which all potentially eligible patients seen over a period of time are enrolled. See also Case series.
Consistency	Used interchangeably with coherence.
Construct validity	A construct is a theoretically derived notion of the domain(s) we wish to measure. An understanding of the construct will lead to expectations about how an instrument should behave if it is valid. Construct validity therefore involves comparisons between measures and examination of the logical relationships, which should exist between a measure and characteristics of patients and patient groups.
Contamination	Occurs when participants in either the experimental or control group receive the intervention intended for the other arm of the study.
Continuous variable	A variable that can theoretically take any value and in practice can take a large number of values with small differences between them (eg, height). Continuous variables are also sometimes called interval data.
Control group	A group that does not receive the experimental intervention. In many studies, the control group receives either usual care or a placebo.
Convenience sample	Individuals or groups selected at the convenience of the investigator or primarily because they were available at a convenient time or place.

Term	Definition
Corollary orders	Orders that are needed to detect or ameliorate adverse reactions.
Correlation	The magnitude of the relationship between two different variables or phenomena.
Correlation coefficient	A numerical expression of the magnitude and direction of the relationship between two variables, which can take values from -1.0 (perfect negative relationship) to 0 (no relationship) to 1.0 (perfect positive relationship).
Cost analysis	An economic analysis in which only costs of various alternatives are compared. This comparison informs only the resource-use half of the decision (the other half being the expected outcomes).
Cost-benefit analysis	An economic analysis in which both the costs and the consequences (including increases in the length and quality of life) are expressed in monetary terms.
Cost-effectiveness acceptability curve	The cost-effectiveness acceptability is plotted on a graph that relates the maximum one is willing to pay for a particular treatment alternative (eg, how many dollars one is willing to pay to gain 1 life-year) on the x-axis to the probability that a treatment alternative is cost-effective compared with all other treatment alternatives on the y-axis. The curves are generated from uncertainty around the point estimates of costs and effects in trial-based economic evaluations or uncertainty around values for variables used in decision analytic models. As one is willing to pay more for health outcomes, treatment alternatives that initially might be considered unattractive (eg, a high cost per life-year saved) will have a higher probability of becoming more cost-effective. Cost-effectiveness acceptability curves are a convenient method of presenting the effect of uncertainty on economic evaluation results on a single figure instead of through the use of numerous tables and figures of sensitivity analyses.
Cost-effectiveness analysis	An economic analysis in which the consequences are expressed in natural units. Examples include cost per life saved or cost per unit of blood pressure lowered.

Term	Definition
Cost-effectiveness efficiency frontier	The cost and effectiveness results of each treatment alternative from an economic evaluation can be graphed on a figure known as the cost-effectiveness plane. The cost-effectiveness plane plots cost on the vertical axis (i.e., positive infinity at the top and negative infinity at the bottom) and effects such as life-years on the horizontal axis (i.e., negative infinity at the far left and positive infinity at the far right). One treatment alternative such as usual care is plotted at the origin (i.e., 0, 0), and all other treatment alternatives are plotted relative to the treatment at the origin. Treatment alternatives are considered dominated if they have both higher costs and lower effectiveness relative to any other. Line segments can be drawn connecting the nondominated treatment alternatives and the combination of line segments that join these nondominated treatment alternatives is referred to as the cost-effectiveness efficiency frontier. Constructed in this way, any treatment alternative that lies above the cost-effectiveness efficiency frontier is considered to be inefficient (dominated) by a treatment alternative or combination of alternatives on the efficiency frontier.
Cost-minimization analysis	An economic analysis conducted in situations in which the consequences of the alternatives are identical, and the only issue is their relative costs.
Cost-to-charge ratio	Where there is a systematic deviation between costs and charges, an economic analysis may adjust charges using a cost-to-charge ratio to approximate real costs.
Cost-utility analysis	A type of economic analysis in which the consequences are expressed in terms of life-years adjusted by people's preferences. Typically, one considers the incremental cost per incremental gain in quality-adjusted life years (QALYs). See also Quality-adjusted life-year.
Countertransference	Clinicians' emotional reactions to patients.
Courvoisier sign	A palpable, nontender gallbladder in a patient with jaundice.
Cox regression model	A regression technique that allows adjustment for known differences in baseline characteristics between intervention and control groups applied to survival data. See also Adjusted analysis.
Credibility	In qualitative research, a term used instead of validity to reflect whether the investigators engaged thoroughly and sensitively with the material and whether the investigators' interpretations are credible. Signs of credibility can be found not only in the procedural descriptions of methodology but also through an assessment of the coherence and depth of the findings reported.
Credible intervals	Bayesian analogy to confidence intervals.

Term	Definition
Critical theory	A qualitative research tradition focused on understanding the nature of power relationships and related constructs, often with the intention of helping to remedy systemic injustices in society.
Critiquing	A strategy for changing clinician behavior. A decision support approach in which the computer evaluates a clinician's decision and generates an appropriateness rating or an alternative suggestion.
Cronbach α coefficient	Cronbach α is an index of reliability homogeneity or internal consistency of items on a measurement instrument. The Cronbach α rises with the magnitude of the interitem correlation and with the number of items.
Cross-product ratio	A ratio of the odds of an event in an exposed group to the odds of the same event in a group that is not exposed.
Crossover study	A study design in which all patients are switched, in a specified or random order, to the alternate intervention after a specified period of time. See also Before-after design.
Cross-sectional study	The observation of a defined population at a single point in time or during a specific time interval. Exposure and outcome are determined simultaneously.
Cultural competency	Ability to interact effectively with people of different cultures.
Cultural diversity	Variety of human cultures in a specific setting or region or in the world as a whole.
Culturally and Linguistically Appropriate Services (CLAS) standards	The US government mandates that health care organizations that receive Medicare reimbursements make their practices culturally and linguistically accessible. The 14 CLAS standards are organized by the themes of culturally competent care (standards 1-3), language access services (standards 4-7), and organizational supports for cultural competence (standards 8-14). For more information, see the following Web site for the standards: http://minorityhealth.hhs.gov/templates/browse.aspx?lvl=2&lvlID=15 .
Current Procedural Terminology (CPT)	A formal classification of diagnostic and therapeutic procedures performed by physicians and other health care professionals, published in annual revisions by the American Medical Association. Each procedure is assigned a 5-digit code. For more information, see the following Web site for the terminology: http://www.ama-assn.org/ama/pub/physician-resources/solutions-managing-your-practice/coding-billing-insurance/cpt.shtml .

Term	Definition
Curtain sign	Also known as “enhanced ptosis” or “paradoxical ptosis”, the curtain sign is usually observed in patients with some initial ptosis. The patient looks straight ahead and refrains from blinking. The examiner holds one eye open, which results in the other lid starting to droop more (like a curtain falling).
CyberKnife	See stereotactic radiosurgery.
Cystic fibrosis	A hereditary disease (also known as mucoviscidosis) that involves difficulty breathing from frequent lung infections. Usually appears in early childhood and is more common in white populations.
Data completeness bias	Using a computer decision support system (CDSS) to log episodes in the intervention group and using a manual system in the non-CDSS control group can create variation in the completeness of data. See also Bias.
Data-dredging	Searching a data set for differences between groups on particular outcomes, or in subgroups of patients, without explicit <i>a priori</i> hypotheses.
de Musset head-bobbing sign	A peripheral hemodynamic sign traditionally associated with aortic regurgitation. The de Musset head-bobbing sign consists of a forward shaking of the head with every heartbeat. It is best observed in patients who are sitting.
Death rattle	Sign of retained respiratory secretions displayed by many dying patients.
Decision aid	A tool that endeavors to present patients with the benefits and harms of alternative courses of action in a manner that is quantitative, comprehensive, and understandable.
Decision analysis	A systematic approach to decision making under conditions of uncertainty. It involves identifying all available alternatives and estimating the probabilities of potential outcomes associated with each alternative, valuing each outcome, and, on the basis of the probabilities and values, arriving at a quantitative estimate of the relative merit of the alternatives.
Decision tree	Most clinical decision analyses are built as decision trees, and the articles usually will include one or more diagrams showing the structure of the decision tree used for the analysis.
Decisional Conflict Scale	An instrument for measuring difficulties in end-of-life decision making related to interpersonal conflict. For more information, see the following article for the scale: O’Connor AM. Validation of a decisional conflict scale. <i>Med Decis Making</i> . 1995;15(1):25-30. [PMID: 7898294]
Deglutition disorders	Disorders that cause difficulty swallowing.

Term	Definition
Degrees of freedom	A technical term in a statistical analysis that has to do with the power of the analysis. The more degrees of freedom, the more powerful the analysis. The degrees of freedom typically refers to the number of observations in a sample less the number of unknown parameters estimated for the model. It reflects a sort of adjusted sample size, with the adjustment based on the number of unknowns that need to be estimated in a model. For example, in a 2-sample <i>t</i> test, the degrees of freedom is $n_1 + n_2 - 1 - 1$, because there are $n_1 + n_2$ subjects altogether and 1 mean estimated in one group and 1 mean in another, giving $n_1 + n_2 - 2$.
Delirium	A syndrome composed of disturbances of consciousness (ie, arousal), attention, and cognition with abrupt onset and fluctuating course and that are etiologically related to medical causes.
Delirium Rating Scale–Revised-98	A 16-item clinician-rated scale with 13 severity items and 3 diagnostic items for measuring delirium severity. For more information, see the following article for the scale: Trzepacz PT, Mittal D, Torres R. Validation of the Delirium Rating Scale-Revised-98: comparison with the Delirium Rating Scale and the Cognitive Test for Delirium. <i>J Neuropsychiatry Clin Neurosci</i> . 2001;13:2:229-242). [PMID: 11449030]
Delirium, hyperactive	Delirium commonly characterized by restlessness, agitation, hypervigilance, hallucinations, and delusions.
Delirium, hypoactive	Delirium that includes psychomotor retardation, lethargy, and reduced awareness of surroundings. It is often mistaken for depression and is difficult to differentiate from sedation because of opioids or obtundation in the last days of life.
Delirium, mixed	A subtype of delirium with periods of hypoactivity and sedation alternating with periods of hyperactivity and agitation.
Dementia	A progressive condition marked by development of multiple cognitive deficits that include memory impairment and at least 1 of the following cognitive disturbances: agnosia, aphasia, apraxia, or a disturbance in executive functioning.
Deontological	A deontological approach to distributive justice holds that the clinician’s only responsibility should be to best meet the needs of the individual under his or her care. An alternative to the consequentialist or utilitarian view.
Depersonalization	A clinician’s detachment from his/her job.

Term	Definition
Depression	A mood disorder marked by sadness, inactivity, difficulty with thinking and concentration, a significant decrease (or increase) in appetite and time spent sleeping, feelings of dejection and hopelessness, and sometimes suicidal thoughts or an attempt to commit suicide.
Detection bias	The tendency to look more carefully for an outcome in one of the comparison groups. Also known as surveillance bias. See also Bias.
Determinants of outcome	The causal factors that most strongly determine whether or not a target event will occur.
Diagnostic odds ratio (DOR)	A single measure of accuracy that tells us whether a positive result correctly classifies a patient as having disease and a negative result correctly classifies a patient as unaffected. As the DOR increases beyond 1, the test is more accurate. The DOR = LR+ / LR-.
Diagnostic peritoneal lavage (DPL)	An invasive procedure that helps determine if there is excess fluid, such as blood, in the abdominal cavity.
Dialysis	A medical procedure used in a patient with renal failure to remove wastes or toxins from the blood and to adjust fluid and electrolyte imbalances by using a semipermeable membrane.
Dichotomous outcome	A categorical variable that can take one of two discrete values rather than an incremental value on a continuum (eg, pregnant or not pregnant, dead or alive).
Dichotomous variable	A variable that can take one of two discrete values rather than values incrementally placed along a continuum (eg, male or female, pregnant or not pregnant, dead or alive).
Differential diagnosis	The set of diagnoses that can plausibly explain a patient's presentation. See also Active alternatives.
Differential verification bias	When test results influence the choice of the reference standard (eg, test-positive patients undergo an invasive test to establish the diagnosis, whereas test-negative patients undergo long-term follow-up without application of the invasive test), the assessment of test properties may be biased. See also Bias; Verification bias.
Dignity therapy	In dignity therapy, patients dying of any cause and thought to be within the last 6 months of life are asked to speak on tape about various aspects of life they would most want permanently recorded and ultimately remembered. (See also Chapter 27, Dignity-Conserving Care—A New Model for Palliative Care.)

Term	Definition
Dignity-Conserving Model of Care	Theoretical model describing methods of preserving a patient's dignity at the end of life. (See also ABCD framework for details and Chapter 27, Dignity-Conserving Care—A New Model for Palliative Care.)
Dignity-conserving repertoire	The dignity-conserving repertoire incorporates those aspects of patients' psychological and spiritual landscape that influence their sense of dignity. This is often based on preexisting personality characteristics and on internal resources that patients bring to their illness experience. (See also Chapter 27, Dignity-Conserving Care—A New Model for Palliative Care.)
Dipstick urinalysis	A chemical analysis of urine performed by using urine dipsticks, in which the test results can be read as color changes.
Direct (head-to-head) evidence	Data from randomized controlled trials that have compared interventions against each other.
Disability-adjusted life-years	The number of years of life after downward adjustment for disabilities that patients experience. See also Quality-adjusted life-year.
Disabled persons	People with impairments in body function or structure.
Discriminant analysis	A statistical technique, similar to logistic regression analysis, that identifies variables that are associated with the presence or absence of a particular categorical (nominal) outcome.
Discrimination, social	Poor or inferior treatment of a person of a certain group based solely on class or social factors.
Disease-specific health-related quality of life	Disease-specific HRQL measures evaluate the full range of patients' problems and experiences relevant to a specific condition or disease. See also Health-related quality of life.
Diversity of a network	A measure of how many treatments are available and whether they are equally represented across the network.
Do-not-attempt-resuscitation (DNAR) order	A legal document that states resuscitation should not be attempted if a person experiences a respiratory or cardiac arrest. The "A" for attempt was added to "do not resuscitate" so that it is not presumed by the patient or family that an attempt at resuscitation would be successful.
Do-not-resuscitate (DNR) order	A legal document that states that resuscitation should not be attempted if a person experiences a respiratory or cardiac arrest.

Term	Definition
Do-not-resuscitate–do-not-intubate (DNR/DNI) order	A legal document that states that resuscitation should not be attempted if a person experiences a cardiac or respiratory arrest and includes the specific clarification that the person should not be intubated, although in some hospitals a DNR order alone implies no intubation.
Document analysis	In qualitative research, this is one of 3 basic data collection methods. It involves the interpretive review of written material.
Dominant	Describes any trait that is expressed in a heterozygote, ie, one copy of that allele is sufficient to manifest its effect.
Dominate	In economic evaluation, if the intervention of interest is both more effective and less costly than the control strategy, it is said to dominate the alternative.
Dose-response gradient	Exists when the risk of an outcome changes in the anticipated direction as the quantity or the duration of exposure to the putative harmful or beneficial agent increases.
Double effect	The traditional justification for proportionate palliative sedation is the doctrine of double effect, which draws a moral distinction between what a person intends in taking an action (eg, in administering an opioid) and what is accepted as a possibly foreseen but unintended adverse effect related to that action (eg, dose-related slowing of respirations).
Downstream costs	Costs due to resources consumed in the future and associated with clinical events in the future that are attributable to the intervention.
Drug class effects	Similar effects produced by most or all members of a class of drugs (eg, beta blockers, calcium antagonists, or angiotensin converting enzyme inhibitors).
DSM-IV-TR	Published by the American Psychiatric Association, the <i>Diagnostic and Statistical Manual of Mental Disorders</i> (Fourth Edition, Text Revision) provides common terms and specific criteria for the classification of mental disorders. The current version, DSM-IV-TR, was published in 2000. Previous versions of this manual have been published since 1952 including the <i>Diagnostic and Statistical Manual of Mental Disorders</i> (Third Edition, Revised, <i>DSM-III-R</i>) published in 1987.
Durable power of attorney (DPOA)	An advance directive that empowers a proxy to make decisions for the grantor should he/she become incapacitated.
Durable power of attorney for health care (DPOA-HC)	A type of advance directive that names a proxy to make health care decisions should the patient be incapacitated based on the patient's best interests, preferably based on the patient's previously expressed wishes.

Term	Definition
Durable power of attorney for legal and financial transactions	A type of advance directive that names a proxy to make legal and financial decisions should the patient be incapacitated based on the patient's best interests, preferably based on the patient's previously expressed wishes.
Dyspepsia	Indigestion. Functional dyspepsia is pain or discomfort centered in the epigastrium with a normal endoscopy.
Dysphagia	Difficulty in swallowing.
Dyspnea	Difficulty breathing or labored breathing.
Dysuria	Painful urination.
Echymosis	A bruise. A small hemorrhagic spot in the skin or mucous membrane that is larger than a petechia and bluish or purple in color.
Ecological study	Ecologic studies examine relationships between groups of individuals with exposure to a putative risk factor and an outcome. Exposures are measured at the population, community, or group level rather than at the individual level. Ecologic studies can provide information about an association; however, they are prone to bias: the ecologic fallacy. The ecologic fallacy holds that relationships observed for groups necessarily hold for individuals (eg, if countries with more dietary fat have higher rates of breast cancer, then women who eat fatty foods must be more likely to get breast cancer). These inferences may be correct but are only weakly supported by the aggregate data.
Economic analysis	1. A set of formal, quantitative methods used to compare two or more treatments, programs, or strategies with respect to their resource use and their expected outcomes. 2. Comparative analysis of alternative courses of action in terms of both their costs and consequences.
Ectopic pregnancy	Ectopic pregnancy occurs when a fertilized ovum (embryo) implants in a fallopian tube rather than in the uterus. Less commonly, ectopic pregnancies can occur at sites other than the fallopian tube, such as the cervix, abdomen, ovary, and prior cesarean scar.
Edmonton Symptom Assessment Scale	Tool designed to assess 9 symptoms common in cancer patients: pain, tiredness, nausea, depression, anxiety, drowsiness, appetite, well-being, and shortness of breath, as well as any other problem. The patient rates the severity at the time of assessment of each symptom on a visual analog scale from 0 (absent) to 10 (worst possible severity). The ESAS is useful in assessing symptom control in patients receiving palliative care. For more information, see the following Web site for the scale: http://www.cancercare.on.ca/common/pages/UserFile.aspx?fileId=13262 .

Term	Definition
Education in Palliative and End-of-life Care (EPEC)	A comprehensive syllabus with teaching materials for clinicians working in hospice and palliative care. For more information, see the following Web site for the syllabus: http://www.epec.net/EPEC/webpages/index.cfm .
Educational meetings	A strategy for changing clinician behavior. Participation of professionals in workshops that include interaction and discussion.
Educational outreach visits	See Academic detailing.
Effect size	The difference in outcomes between the intervention and control groups divided by some measure of variability, typically the standard deviation.
Efficiency	Technical efficiency is the relationship between inputs (costs) and outputs (in health, quality-adjusted life-years [QALYs]). Interventions that provide more QALYs for the same or fewer resources are more efficient. Technical efficiency is assessed using cost minimization, cost-effectiveness, and cost-utility analysis. Allocative efficiency recognizes that health is not the only goal that society wishes to pursue, so competing goals must be weighted and then related to costs. This is typically done through cost-benefit analysis.
Efficiency frontier	When the cost and effectiveness results of an economic evaluation are graphed on a cost-effectiveness plane along with incremental cost-effectiveness ratios, the resultant line segments are referred to as the efficiency frontier. Any strategy that has a base-case cost-effectiveness that is above the efficiency frontier would be considered dominated.
Electrical alternans	Changes in the amplitude or morphology of the P, QRS, and ST-T waves from one beat to the next, resulting from cardiac oscillation within the pericardial fluid.
Emotional exhaustion	Feelings of being overextended and depleted of one's emotional and physical resources.
Empathy	Understanding, being aware of, being sensitive to, and vicariously experiencing the feelings, thoughts, and experience of another without having the feelings or thoughts.
Endpoint	Health event or outcome that leads to completion or termination of follow-up of an individual in a trial or cohort study (eg, death or major morbidity). See also Treatment target.
End-stage liver disease (ESLD)	The final stage of chronic liver disease.

Term	Definition
End-of-Life Nursing Education Consortium (ELNEC)	A comprehensive syllabus with teaching materials for nurses working in hospice and palliative care. For more information, see the following Web site for the syllabus: http://www.aacn.nche.edu/elnec/factsheet.htm .
End-stage renal disease (ESRD)	The final stage of kidney failure.
Enteral nutrition	Feeding via the gastrointestinal tract for delivery of nutrients, using oral nutritional supplements, nasogastric or nasoduodenal feeding tubes, or tube enterostomies (via percutaneous gastrostomy or jejunostomy tubes). Contrasts with parenteral nutrition, which uses intravenous catheters placed in peripheral veins or catheters placed in central veins.
Equivalence studies	Trials that estimate treatment effects that exclude any patient-important superiority of interventions under evaluation. Equivalence trials require <i>a priori</i> definition of the smallest difference in outcomes between these interventions that patients would consider large enough to justify a preference for the superior intervention (given the intervention's harms and burdens). The confidence interval for the estimated treatment effect at the end of the trial should exclude that difference for the authors to claim equivalence (i.e., the confidence limits should be closer to zero than the minimal patient-important difference). This level of precision often requires investigators to enroll large numbers of patients with large numbers of events. Equivalence trials are helpful when investigators want to see whether a cheaper, safer, simpler (or increasingly often, better method to generate income for the sponsor) intervention is neither better nor worse (in terms of efficacy) than a current intervention. Claims of equivalence are frequent when results are not significant, but one must be alert to whether the confidence intervals exclude differences between the interventions that are as large as or larger than those patients would consider important. If they do not, the trial is indeterminate rather than yielding equivalence.
Erythema	Skin redness; often a sign of inflammation or infection.
Erythema migrans	A red rash that expands over time and that occurs at the site of a tick bite. The rash may have an area of central clearing. Lyme disease is the most common cause of erythema migrans.
Esophagitis	Inflammation of the esophagus.
Ethnic groups	Groups of people classified according to common racial, national, tribal, religious, linguistic, or cultural origin or background.
Ethnography	In qualitative research, an approach to inquiry that focuses on the culture or subculture of a group of people to try to understand the world view of those under study.

Term	Definition
Euthanasia	Physician-administered lethal injection.
Evidence	A broad definition of evidence is any empirical observation, whether systematically collected or not. The unsystematic observations of the individual clinician constitute one source of evidence. Physiologic experiments constitute another source. Clinical research evidence refers to systematic observation of clinical events.
Evidence-based experts	Clinicians who can, in a sophisticated manner, independently find, appraise, and judiciously apply the best evidence to patient care.
Evidence-based medicine	1. The conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. Evidence-based clinical practice requires integration of individual clinical expertise and patient preferences with the best available external clinical evidence from systematic research, and consideration of available resources. 2. Evidence-based medicine (EBM) can be considered a subcategory of evidence-based health care, which also includes other branches of health care practice such as evidence-based nursing or evidence-based physiotherapy. EBM subcategories include evidence-based surgery and evidence-based cardiology. See also Evidence-based practice.
Evidence-based policy making	Policy making is evidence based when practice policies (eg, use of resources by clinicians), service policies (eg, resource allocation, pattern of services), and governance policies (eg, organizational and financial structures) are based on research evidence of benefit or cost-benefit.
Evidence-based practice	The conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. Evidence-based clinical practice (or evidence-based health care) requires integration of individual clinical expertise and patient preferences with the best available external clinical evidence from systematic research, and consideration of available resources.
Evidence-based practitioners	Clinicians who can differentiate evidence-based summaries and recommendations from those that are not evidence-based and understand results sufficiently well to apply them judiciously in clinical care, ensuring decisions are consistent with patients' values and preferences.
Exclusion criteria	The characteristics that render potential subjects ineligible to participate in a particular study or that render studies ineligible for inclusion in a systematic review.

Term	Definition
Expanded Grief Inventory	Categorizes the components of traumatic grief as the following: complicated grief, uncomplicated grief, and traumatic grief responses to the death of a loved one. Developed at the University of California, Los Angeles. For more information, see the following Web site for the inventory: http://www.nctsnct.net/org/nctsnct/nav.do?pid=msr_detail&id=61 .
Experimental studies	In contrast with Observational studies, studies in which the investigators control which patients are exposed to health care interventions and which are not exposed or are exposed to alternate (control) interventions.
Experimental therapy	A therapeutic alternative to standard or control therapy, which is often a new intervention or different dose of a standard drug.
Explode	When searching MEDLINE, the “explode” command identifies all articles that have been indexed using a given MeSH term as well as articles indexed using more specific terms.
Exposure	A condition to which patients are exposed (either a potentially harmful agent or a potentially beneficial one) that may have an impact on their health.
Exquisite empathy	Highly present, sensitively attuned, well-boundaried, heartfelt empathic engagement. Clinicians with exquisite empathy are invigorated rather than depleted by their intimate professional connections with traumatized patients and protected against compassion fatigue and burnout.
Face validity	The extent to which a measurement instrument appears to measure what it is intended to measure.
Facial telangiectasia	Dilated superficial capillary blood vessels on the cheeks, nose, forehead, and neck.
Fail-safe N	The minimum number of undetected studies with negative results that would be needed to change the conclusions of a meta-analysis. A small fail-safe N suggests that the conclusion of the meta-analysis may be susceptible to publication bias.
False negative	Those who have the target disorder but the test incorrectly identifies them as not having it.
False positive	Those who do not have the target disorder, but the test incorrectly identifies them as having it.

Term	Definition
Family Evaluation of Hospice Care Survey	A 61-item postdeath survey designed to assess the quality of hospice care provision from the perspective of family caregivers. Hospices that submit survey data to the US National Hospice and Palliative Care Organization receive quarterly reports that include individual hospice results plus state and national results for comparison. For more information, see the following article for the survey: Connor SR, Teno J, Spence C, Smith N. Family evaluation of hospice care: results from voluntary submission of data via website. <i>J Pain Symptom Manage.</i> 2005;30(1):9-17. [PMID: 16043002]
Family Medical Leave Act of 1993	A US law that guarantees unpaid leave to care for a seriously ill spouse, son, daughter, or parent.
Fatigue	Weariness or exhaustion leading to reduced ability to perform physical or psychological tasks.
Fatigue Symptom Inventory	Multidimensional scale for assessing fatigue. Includes general fatigue, physical fatigue, mental fatigue, reduced motivation, and reduced activity. For more information, see the following article for the inventory: Hann DM, Jacobsen PB, Azzarello LM, et al. Measurement of fatigue in cancer patients: development and validation of the Fatigue Symptom Inventory. <i>Qual Life Res.</i> 1998;7(4):301-310. [PMID: 9610214]
Feedback effect	1. The impact of performance evaluations on clinicians' behavior. 2. The improvement seen in medical decision because of performance evaluation and feedback.
Feeling thermometer	A feeling thermometer is a visual analogue scale presented as a thermometer, typically with markings from 0 to 100, with 0 representing death and 100 full health. Respondents use the thermometer to indicate their utility rating of their health state or of a hypothetical health state.
FICA	Acronym for remembering basic historical information regarding spirituality for all patients: F, faith and beliefs; I, importance of spirituality in the patient's life; C, spiritual community of support; A, how does the patient wish spiritual issues to be addressed in his/her care.
First Score instrument	An instrument that predicts survival of patients with cancer who are receiving radiation therapy as the sole treatment.

Term	Definition
Fixed-effects models	A model to generate a summary estimate of the magnitude of effect in a meta-analysis that restricts inferences to the set of studies included in the metaanalysis and assumes that a single true value underlies all of the primary study results. The assumption is that if all studies were infinitely large, they would yield identical estimates of effect; thus, observed estimates of effect differ from one another only because of random error. This model takes only within-study variation into account and not between-study variation.
Five Wishes	An advance care directive created by the nonprofit organization Aging with Dignity, Five Wishes is written in patient-friendly language. It is designed to let patients' family and physicians know (1) who they want to make health care decisions for them when they are unable; (2) the kind of medical treatment they want or do not want; (3) how comfortable they want to be kept (relative to alertness, used for purposes of titrating pain medication); (4) how they want people to treat them; and (5) what they want their loved ones to know. Five Wishes meets the legal requirements for an advance care directive in 42 states and can be used to supplement other advance care directives in all 50 states and elsewhere. For more information, see the following Web site for the organization: http://www.agingwithdignity.org/five-wishes.php .
Flick sign	When asking the patient, "What do you actually do with your hand(s) when the symptoms are at their worst?" the patient demonstrates a flicking movement of the wrist and hand, similar to that used in shaking down a thermometer.
Focus group	A small group of individuals (typically gatherings of four to eight people with similar background or experience) who meet together and are asked questions by a moderator about a given topic.
Focused Assessment With Sonography for Trauma (FAST)	An ultrasound examination that can be performed bedside to determine if there is bleeding in the abdominal cavity.
Follicular Lymphoma International Prognostic Index	A clinical tool to aid in predicting the prognosis of patients with follicular lymphoma. The prognostic factors include patient age, stage, number of lymph node areas involved, serum hemoglobin level, and serum lactate dehydrogenase level. For more information, see the following article for the index: Solal-Céligny, Roy P, Colombat P, et al. Follicular lymphoma international prognostic index. <i>Blood</i> . 2004;104(5):1258-1265. [PMID: 15126323]
Follow-up	The extent to which investigators are aware of the outcome in every patient who participated in a study.

Term	Definition
Follow-up (complete)	The investigators are aware of the outcome in every patient who participated in a study.
Foreground questions	These clinical questions are more commonly asked by seasoned clinicians. They are questions asked when browsing the literature (eg, what important new information should I know to optimally treat my patients?) or when problem solving (eg, defining specific questions raised in caring for patients, and then consulting the literature to resolve these problems).
Frailty	A diminished capacity to withstand stress that places individuals at risk for adverse health outcomes. Frailty is progressive, is associated with chronic disease, worsens with advancing age, and is often marked by a transition from independence in activities of daily living to dependence on caregivers.
Frankel grading system	A useful system for functional assessment of the spinal cord that consists of 5 grades: (A) complete paraplegia, (B) only sensory function, (C) nonambulation, (D) ambulation, and (E) no neurologic symptoms or signs.
Fremitus	The palpation of low-frequency vibrations in the patient's body.
Frequentist analysis	A statistical approach that places the emphasis on available data (conventional approach to statistical analysis, contrast with Bayesian).
Frontotemporal dementia (FTD)	Dementia that has insidious onset and gradual progression, early decline in social interpersonal conduct, early emotional blunting, and early loss of insight.
Full code	Medical jargon meaning that the patient wants everything possible done to prolong his/her life, including cardiopulmonary resuscitation.
Functional Assessment of Chronic Illness Therapy Fatigue (FACIT-F)	One of several quality-of-life questionnaires focused on the management of chronic illness, this questionnaire specifically addresses fatigue. For more information, see the following Web site for the questionnaires: http://www.facit.org/FACITOrg/Questionnaires .
Funnel plot	A graphic technique for assessing the possibility of publication bias in a systematic review. The effect measure is typically plotted on the horizontal axis and a measure of the random error associated with each study on the vertical axis. In the absence of publication bias, because of sampling variability, the graph should have the shape of a funnel. If there is bias against the publication of null results or results showing an adverse effect of the intervention, one quadrant of the funnel plot will be partially or completely missing.

Term	Definition
Gastrostomy	A surgical opening into the stomach, usually created to enable liquid artificial nutrition via a percutaneous tube, frequently referred to as tube feedings. See Intubation, gastrointestinal.
General Health Questionnaire (GHQ)	Developed as a screening tool to detect those likely to have or be at risk of developing psychiatric disorders, the GHQ asks whether the respondent has experienced a particular symptom or behavior recently. It assesses domains of depression, anxiety, somatic symptoms, and social withdrawal. Available in 12-, 28-, 30- or 60-item versions.
Generalizability	The degree to which the results of a study can be generalized to settings or samples other than the ones studied.
Generalized anxiety disorder	A disorder in which an individual experiences excessive, uncontrollable, and irrational worry that is disproportionate to the actual source of worry.
Generic health-related quality of life	Generic health-related quality of life (HRQL) measures contain items covering all relevant areas of HRQL. They are designed for administration to people with any kind of underlying health problem (or no problem at all). Generic HRQL measures allow comparisons across diseases or conditions. See also Health-related quality of life.
Genetic heterogeneity	A situation in which a particular phenotype may result from more than one genetic variant.
Genetic marker	A specific genetic variant known to be associated with a recognizable trait.
Genome	The entire collection of genetic information (or genes) that an organism possesses.
Genome-wide association (GWA) study	A study that evaluates association of genetic variation with outcomes or traits of interest by using 100 000 to 1 000 000 or more markers across the genome.
Genotype	The genetic constitution of an individual, either overall or at a specific gene.
Geometry of a network	A graphical representation of the distribution of treatments and their comparisons across the network.
GERD	Gastroesophageal reflux disease. GERD is caused by the reflux of stomach contents into the esophagus.
Glaucoma	The leading cause of irreversible blindness worldwide. Glaucoma is characterized by loss of retinal cells which thins the retinal nerve fiber layer. Glaucoma can be broadly classified into 2 types: closed angle and open angle. See also primary open-angle glaucoma (POAG).
GM-CSF	Granulocyte-macrophage colony-stimulating factor, available as the recombinant drug sargramostim, used to stimulate the bone marrow to produce white blood cells in cases of severe neutropenia.

Term	Definition
Goldmann tonometry	The reference standard for measuring intraocular pressure.
Gold standard	A method having established or widely accepted accuracy for determining a diagnosis that provides a standard to which a new screening or diagnostic test can be compared. The method need not be a single or simple procedure but could include follow-up of patients to observe the evolution of their conditions or the consensus of an expert panel of clinicians.
Goodell sign	Softening of the cervix on bimanual examination. May be detected by 8 weeks' gestational age. The progressive edema that develops during pregnancy softens the consistency of the cervix tip to approximate that of the lips (Goodell sign).
Grief, complicated or prolonged	Morbid grief reactions (eg, ruminations about the deceased, hostility) that are deviations from "normal" grief and require aggressive intervention.
Grief, uncomplicated	Normal bereavement reactions that, though painful, move the survivor toward a reconciliation with the loss and an ability to carry on with his/her life.
Guarding, involuntary	A reflexive spasm of the abdominal musculature in the setting of peritoneal irritation, such as with appendicitis, which cannot be overcome by distraction (also referred to as rigidity).
Guarding, voluntary	Contraction of the abdominal musculature, often due to fear of pain rather than actual pain, but which can usually be partially or fully overcome by using relaxation and distraction techniques.
Guiding Responsive Action for Corrections in End-of-life (GRACE) Project	An initiative of the Robert Wood Johnson Foundation Promoting Excellence in End-of-Life Care program administered by Volunteers of America to promote hospice care in prisons for inmates with terminal illnesses.
Haplotype	Alleles that tend to occur together on the same chromosome due to single-nucleotide polymorphisms (SNPs) being in proximity and therefore inherited together.
Hardy-Weinberg equilibrium (HWE)	A situation in which a defined population displays constant genotype frequencies from generation to generation, and those genotype frequencies can be calculated from the allele frequencies based on the HWE formula.
Harm	1. Adverse consequences of exposure to a stimulus. 2. Adverse consequences of exposure to an intervention.
Hawthorne effect	The tendency for human performance to improve when participants are aware that their behavior is being observed.

Term	Definition
Hazard ratio	The weighted relative risk of an outcome (eg, death) over the entire study period; often reported in the context of survival analysis.
Headache	Pain in the head; also called cephalalgia.
Headache disorders	Include tension, migraine, or cluster.
Health	A state of optimal physical, mental, and social well-being; not merely the absence of disease and infirmity (World Health Organization definition).
Health care disparities	Differences in the quality of health care across racial, ethnic, sexual orientation, and socioeconomic groups.
Health care personnel	Such persons include Physicians (Internists-UK), Medical Doctors (specific non-internists-UK), Nurses (including Nurse Practitioners and Physician Assistants) and other allied health personnel. See also Health professionals.
Health care proxy	Also known formally as a durable power of attorney for health care, a type of advance directive that names a proxy to make health care decisions should the patient be incapacitated, based on the patient's best interests, preferably based on the patient's previously expressed wishes.
Health condition	A broad term for a health state that may include diseases, disorders, syndromes, and symptoms. See also Health state.
Health costs	Health care resources that are consumed. These reflect the inability to use the same resources for other worthwhile purposes (opportunity costs).
Health Insurance Portability and Accountability Act (HIPAA)	Enacted by the US Congress, HIPAA protects health insurance coverage for workers and their families when they change or lose their jobs and requires the establishment of national standards for electronic health care transactions and national identifiers for providers, health insurance plans, and employers to protect patients' privacy.
Health literacy	The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.
Health outcomes	All possible changes in health status that may occur for a defined population or that may be associated with exposure to an intervention. These include changes in the length and quality of life, major morbid events, and mortality.
Health professionals	All persons with health-based certification: physicians, nurses, medical doctors, physiotherapists, pharmacists, occupational therapists, respiratory technicians, and counselors. See also Health care personnel.

Term	Definition
Health profile	A type of data collection tool, intended for use in the entire population (including the healthy, the very sick, and patients with any sort of health problem) that attempts to measure all important aspects of health-related quality of life (HRQL). See also Health-related quality of life.
Health state	The health condition of an individual or group over a specified interval of time (commonly assessed at a particular point in time).
Health-related quality of life	Measurements of how people are feeling, or the value they place on their health state. Such measurements can be disease specific or generic. See also Health profile.
Hearing Handicap Inventory for the Elderly (HHIE-S)	The most commonly used test to quantify hearing handicap. This test has also been used to screen individuals for hearing impairment. The HHIE-S is a 10-item, self-administered questionnaire developed to measure social and emotional handicap secondary to hearing impairment. The HHIE-S can be administered easily in a primary care office setting.
Hearing impairment, conductive	Conductive hearing loss results from pathologic changes of either the external or the middle ear structures, preventing the sound waves from reaching the fluids of the inner ear.
Hearing impairment, sensorineural	Sensorineural hearing loss results from pathologic changes of inner ear structures such as the cochlea or the auditory nerve and prevents neural impulses from being transmitted to the auditory cortex of the brain.
Hegar sign	A palpable softening of the lowermost portion of the corpus occurring at about 6 weeks' gestational age. To elicit this sign, when the uterus is anteverted, the examiner places two fingers in the anterior vaginal fornix (or the posterior fornix in the presence of a retroverted uterus) and the compresses behind the fundus at the lower uterine segment with the other hand, using suprapubic pressure.
Hematemesis	The vomiting of blood.
Hematochezia	The passage of bloody stools.
Hemodialysis	A method for filtering blood to remove waste products such as creatinine and urea, as well as free water, when the kidneys have failed.
Hemoperitoneum	The presence of blood in the peritoneal cavity.
Heterogeneity	Differences among individual studies included in a systematic review, typically referring to study results; the terms can also be applied to other study characteristics.
Heterotopic pregnancy	Heterotopic pregnancy is the co-occurrence of ectopic pregnancy and intrauterine pregnancy.

Term	Definition
Heterozygous	An individual is heterozygous at a gene location if he or she has 2 different alleles (one on the maternal chromosome and one on the paternal) at that location.
Hierarchical regression	Hierarchical regression examines the relation between independent variables or predictor variables (eg, age, sex, disease severity) and a dependent variable (or outcome variable; eg, death, exercise capacity). Hierarchical regression differs from standard regression in that one predictor is a subcategory of another predictor. The lower-level predictor is nested within the higher-level predictor. For instance, in a regression predicting likelihood of withdrawal of life support in intensive care units (ICUs) participating in an international study, city is nested within country and ICU is nested within city.
Hierarchy of evidence	A system of classifying and organizing types of evidence, typically for questions of treatment and prevention. Clinicians should look for the evidence from the highest position in the hierarchy.
Highly active antiretroviral therapy (HAART)	Combinations of several antiviral medications taken for the treatment of infection by human immunodeficiency virus and other retroviruses.
Hispanic Americans	Persons of Latin American or Spanish descent living in the United States.
Historical cohort design	Cohort studies can be conducted retrospectively (historically) in the sense that someone other than the investigator has followed patients, and the investigator obtains the data base and then examines the association between exposure and outcome.
Historiography	A qualitative research methodology concerned with understanding both historical events and approaches to the writing of historical narratives.
Homans sign	The development of pain in the calf or popliteal region on forceful and abrupt dorsiflexion of the ankle while the knee is flexed.
Homeless persons	Individuals with no homes or places of residence.
Homogeneity	The inverse of heterogeneity. See also Heterogeneity.
Homozygous	An individual is homozygous at a gene location if he or she has 2 identical alleles at that location.
Hopkins Competency Assessment Test (HCAT)	A screening instrument for medical decision-making capacity involving an essay, read aloud and written at 3 different reading levels, that explains informed consent, the patient's right to make decisions, factors that impair decision-making ability, and the patient's right to an advance directive. The essay is followed by 6 scored questions to assess capacity.

Term	Definition
Hospice care	A facility or program designed to provide a caring environment for meeting the physical, psychological, spiritual, and social needs of the terminally ill and their loved ones.
Hospital diagnosis-related groups (DRGs)	A system created to classify the diseases of hospitalized patients into 1 of approximately 500 groups. DRGs are used to determine how much Medicare pays the hospital for the care of patients within each group, who are assumed to be clinically similar and thus expected to use the same level of hospital resources. For more information, see the following Web site for the system: http://oig.hhs.gov/oei/reports/oei-09-00-00200.pdf .
Hoyne sign	In patients with severe meningeal irritation, the patient may spontaneously assume the tripod position (also called Amoss sign or Hoyne sign), sitting on the edge of the bed with the knees and hips flexed, the back arched lordotically, the neck extended, and the arms brought back to support the thorax.
Human chorionic gonadotropin (hCG)	A hormone produced during pregnancy that can be measured in blood and urine.
Hypoxemia	Deficient oxygenation of the blood.
I^2 statistic	The I^2 statistic is a test of heterogeneity. I^2 can be calculated from Cochrane Q (the most commonly used heterogeneity statistic) according to the formula: $I^2 = 100\% \times (\text{Cochrane } Q - \text{degrees of freedom}) / \text{Cochrane } Q$. Any negative values of I^2 are considered equal to 0, so that the range of I^2 values is between 0% and 100%.
Inception cohort	A designated group of persons assembled at a common time early in the development of a specific clinical disorder (for example, at the time of first exposure to the putative cause or the time of initial diagnosis) and who are followed thereafter. See also Cohort study.
Incidence	Number of new cases of disease occurring during a specified period of time; expressed as a percentage of the number of people at risk during that time.
Inclusion criteria	The characteristics that define the population eligible for a study or that define the studies that will be eligible for inclusion in a systematic review.
Incoherence	The disagreement in treatment-effect estimates between direct and indirect evidence.
Incorporation bias	Occurs when investigators study a diagnostic test that incorporates features of the target outcome. The result is a bias toward making the test appear more powerful in differentiating target positive from target negative than it actually is. See also Bias.

Term	Definition
Independent association	When a variable is associated with an outcome after adjusting for multiple other potential prognostic factors (often after regression analysis), the association is an independent association.
Independent variable	The variable that is believed to cause, influence, or at least be associated with the dependent variable; in experimental research, the manipulated (intervention) variable.
Index date	The date of an important event that marks the beginning of monitoring patients for the occurrence of the outcome of interest.
Indirect costs and benefits	The impact of alternative patient management strategies on the productivity of the patient and others involved in the patient's care.
Indirect evidence	Evidence bearing on the relative effect of treatments that have not been compared directly against each other but have a common comparator. Indirect evidence may be evaluated using accepted statistical approaches, including adjusted indirect comparisons and multiple treatment comparisons.
Individual patient data meta-analysis	A meta-analysis in which individual patient data from each primary study are used to create pooled estimates. Such an approach can facilitate more accurate intention-to-treat analyses and informed subgroup analyses.
Informational redundancy	In qualitative research, the point in the analysis at which new data fail to generate new themes and new information. This is considered an appropriate stopping point for data collection in most methods and an appropriate stopping point for analysis in some methods. See also Theoretical saturation.
Informed consent	A participant's expression (verbal or written) of willingness, after full disclosure of the risks, benefits, and other implications, to participate in a study
Informed refusal	When a patient refuses to be included in the discussions or decision making for his/her end-of-life care and designates someone else to be given this responsibility.
Inspiratory whoop	A whooping noise made as the patient inhales. A symptom of pertussis.
Intensity-modulated radiotherapy (IMRT)	The ability to vary the radiation dose administered during a treatment session so that higher radiation doses can be administered to the target, sparing normal spinal and paraspinal tissues.
Intensive care unit	Medical facility with the services and devices to meet the needs of the critically ill.

Term	Definition
Intensive Care Unit Probability of Mortality Model	Prospective, validated model for probability of hospital survival at admission to the intensive care unit (ICU) of patients with cancer. For more information, see the following article describing the model: Groeger JS, Lemeshow S, Price K, et al. Multicenter outcome study of cancer patients admitted to the intensive care unit: a probability of mortality model. <i>J Clin Oncol</i> . 1998;16(2):761-770. [PMID: 9469368]
Intention to treat analysis	Analyzing participant outcomes according to the group to which they were randomized, even if participants in that group did not receive the planned intervention. This principle preserves the power of randomization, thus ensuring that important known and unknown factors that influence outcomes are likely to be equally distributed across comparison groups. We do not use the term intention-to-treat analysis because of ambiguity created by patients lost to follow-up, which can cause exactly the same sort of bias as failure to adhere to the intention-to-treat principle.
Intermittent claudication	Reproducible leg pain of vascular etiology that occurs with exercise, does not occur at rest, and is relieved within 10 minutes of rest.
Internal validity	Whether a study provides valid results depends on whether it was designed and conducted well enough that the study findings accurately represent the direction and magnitude of the underlying true effect (ie, studies that have higher internal validity have a lower likelihood of bias/systematic error).
International Medical Society of Paraplegia Scale	In 1992, the International Medical Society of Paraplegia (now International Spinal Cord Society) set standards to determine the extent of spinal cord injury, including the motor and sensory scores, impairment scale, neurologic level, and zone of partial preservation. However, because key muscles could not be tested because of pain or external immobilization devices, there were difficulties with interpretation of the motor levels and zone of partial preservation for the patient with a complete injury. Subsequently, revised standards clarified the determination of sensory levels and how to score muscles whose strength is inhibited by pain. See also Frankel and American Spinal Injury Association Scales.

Term	Definition
International Prognosis Index (IPI)	A clinical tool developed by oncologists to aid in predicting the prognosis of patients with aggressive non-Hodgkin lymphoma. One point is assigned for each of the following risk factors: age older than 60 years; stage III or IV disease; elevated serum lactate dehydrogenase level; Eastern Cooperative Oncology Group/Zubrod performance status of 2, 3, or 4; and more than 1 extranodal site. The total number of points is summed. The following risk groups have been defined: low-risk (0-1 points) patients have a 5-year survival of 73%; low-intermediate risk (2 points), 51% 5-year survival; high-intermediate risk (3 points), 43% survival; and high risk (4-5 points), 26% survival. However, although the IPI was a useful clinical tool, it was developed before the use of rituximab, which has markedly improved the outcomes of patients with non-Hodgkin lymphoma; rituximab's effect on the prognostic value of the IPI is uncertain. For more information, see the following article for the index: A predictive model for aggressive non-Hodgkin's lymphoma. The International Non-Hodgkin's Lymphoma Prognostic Factors Project. <i>N Engl J Med.</i> 1993;329(14):987-994. [PMID: 8141877]
Interobserver agreement	The degree to which a single evaluator agrees with her/his assessment at different points in time.
Interrater reliability	The extent to which a rater is able to consistently differentiate participants with higher and lower values of an underlying trait on repeated ratings over time (typically measured with an intraclass correlation).
Interview	In qualitative research, this is one of 3 basic data collection methods. It involves an interviewer asking questions to engage participants in dialogue to allow interpretation of experiences and events in the participants' own terms. The 2 most common interviews are semistructured, detailed interviews of individuals or discussion-based interviews of several people, called focus groups. In quantitative research, a method of collecting data in which an interviewer obtains information from a participant through conversation.
Interviewer bias	Greater probing by an interviewer in one of the groups being compared, contingent on particular features of the participants. See also Bias.
Intraclass correlation coefficient	This is a measure of reproducibility that compares variance between patients to the total variance, including both between- and within-patient variance.
Intracranial hemorrhage	An intracranial hemorrhage is bleeding that occurs within the skull. Bleeding within the brain is a cerebral hemorrhage. Bleeding within the skull but outside the brain includes epidural hematoma, subdural hematoma, and subarachnoid hemorrhage.

Term	Definition
Intraobserver agreement	Agreement among 2 or more evaluators (observers). See also Interrater reliability.
Intubation, gastrointestinal	Insertion of a tube into the gastrointestinal tract, whether a nasogastric or nasoduodenal tube, or tube enterostomy (percutaneous gastrostomy or jejunostomy tube), to enable provision of liquid artificial nutrition (often referred to as tube feeding).
Intussusception	The enfolding of one segment of the intestine within another.
Inverse rule of 3s	A rough rule of thumb, called the inverse rule of 3s, tells us the following: If an event occurs, on average, once every x days, we need to observe 3x days to be 95% confident of observing at least one event.
Investigator triangulation	Investigator triangulation requires more than one investigator to collect and analyze the raw data, such that the findings emerge through consensus among a team of investigators. See also Triangulation.
Isoform	Variant in the amino acid sequence of a protein.
Jamar handheld dynamometer	Device used to assess grip strength in functional assessment and in initial and ongoing evaluation of patients with hand trauma and dysfunction.
Job engagement	The opposite of burnout, characterized by energy, involvement, and efficacy in the workplace.
Kappa statistic (κ)	A measure of the extent to which observers achieve agreement beyond the level expected to occur by chance alone. Kappa can take values from 0 (poor agreement) to 1.0 (perfect agreement).
Karnofsky performance score	A measure of a patient's functional capacity used to determine performance status. It ranges from 100%, signifying normal functional status with no evidence of disease, to 0%, signifying death.
Kernig signs	Meningeal inflammation and irritation that elicits a protective reflex to prevent stretching of the inflamed and hypersensitive nerve roots, which is detectable clinically as neck stiffness or Kernig or Brudzinski signs. Originally, the Kernig signs were present when patients sat on the edge of a bed with their legs dangling and an attempt to extend the knee joint more than 135 degrees, or in severe cases more than 90 degrees, elicited spasm of the extremity that disappeared when the patients lay supine or stood up. Today, the maneuver is most commonly performed with the patient lying supine and the hip flexed at 90 degrees. A positive sign is present when extension of the knee from this position elicits resistance or pain in the lower back or posterior thigh.

Term	Definition
Konno score	A clinical diagnostic support tool using combinations of history and physical examination used for diagnosing lumbar spinal stenosis. Konno S, Hayashino Y, Fukuhara S, et al. Development of a clinical diagnosis support tool to identify patients with lumbar spinal stenosis. <i>Eur Spine J.</i> 2007; 16(11):1951-1957. [PMID: 17549525]
Korotkoff sounds	Noise heard over an artery when pressure over it is reduced below systolic arterial pressure, as when blood pressure is determined by the auscultatory method.
Kruis model	A logistic model that contains signs and symptoms useful for diagnosing irritable bowel syndrome. See Table 55-6 in <i>The Rational Clinical Examination</i> .
Kussmaul sign	The paradoxical increase in the height of jugular venous pressure that occurs during inspiration. This sign is most commonly caused by severe right-sided heart failure, regardless of etiology.
Laparotomy	A surgical procedure involving an incision through the abdominal wall in order to access the abdominal cavity.
Last Acts	A 10-year national communications and education campaign funded by the Robert Wood Johnson Foundation and aimed at improving how US patients, families, health care professionals, and institutions experience the death and dying process.
Law of multiplicative probabilities	The law of multiplicative probabilities for independent events (in which one event in no way influences the other) tells us that the probability of 10 consecutive heads in 10 coin flips can be found by multiplying the probability of a single head (1/2) 10 times over; that is, $1/2 \times 1/2 \times 1/2$, and so on.
Lead time bias	Occurs when outcomes such as survival, as measured from the time of diagnosis, may be increased not because patients live longer, but because screening lengthens the time that they know they have disease. See also Bias.
Leading hypothesis	The clinician's single best explanation for the patient's clinical problem(s).
Length time bias	Occurs when patients whose disease is discovered by screening also may appear to do better, or live longer, than people whose disease presents clinically with symptoms. Screening tends to detect disease that is destined to progress slowly and, therefore, has a good prognosis. See also Bias.
Leukocyte count	White blood cell count.
Levels of evidence	A hierarchy of research evidence to inform practice, usually ranging from strongest to weakest.

Term	Definition
Levine technique	An approach to wound-swabbing in which the swab is rotated over a 1 x 1-cm area for 5 seconds, using sufficient pressure to extract fluid.
Life Support Preferences/Predictions Questionnaire—modified (LSPQ-m)	A questionnaire with 9 hypothetical illness scenarios used to determine a patient's treatment preferences.
Likelihood functions	Functions constructed from a statistical model and a set of observed data that give the probability of that data for various values of the unknown model parameters. Those parameter values that maximize the probability are the maximum likelihood estimates of the parameters. See also Likelihood ratio.
Likelihood ratio (LR)	The relative odds that a given test result would be expected in a patient with, as opposed to one without, a disorder of interest. As LRs increase above 1, the test result is better at identifying affected patients. As LRs decrease below 1, the test result is better at identifying unaffected patients. An LR+ is the LR for a positive test result, while an LR- is the LR for a negative test result. The $LR+ = \text{sensitivity} / (1 - \text{specificity})$, while the $LR- = (1 - \text{sensitivity}) / \text{specificity}$.
Likert scales	Scales, typically with three to nine possible values, that include extremes of attitudes or feelings (eg, from totally disagree to totally agree) that respondents mark to indicate their rating. See also Visual analogue scale.
Linear regression	The term used for a regression analysis when the dependent or target variable is a continuous variable, and the relationship between the dependent and independent variables is thought to be linear.
Linkage	The tendency of genes or other DNA sequences at specific loci to be inherited together as a consequence of their physical proximity on a single chromosome.
Linkage disequilibrium	A measure of association between alleles at different loci.
Liver transplantation	The surgical replacement of a patient's diseased liver with a donor's healthy liver, followed by systemic immunosuppression to prevent rejection of the allograft. An established treatment option for end-stage liver disease and acute liver failure.
Living will	A type of advance directive document that provides general directives about the kinds of treatment that a patient wishes health care professionals and caregivers to provide during terminal care, should the patient be incapacitated.

Term	Definition
Local consensus process	A strategy for changing clinician behavior. Inclusion of participating clinicians in discussions to create agreement with a suggested approach to change provider practice.
Local opinion leaders	A strategy for changing clinician behavior. These persons are clinician peers who are recognized by their colleagues as model caregivers or who are viewed as having particular content expertise.
Locus/loci	The site(s) on a chromosome at which the gene for a particular trait is located or on a gene at which a particular SNP is located.
Logistic regression	1. A multivariate regression analysis that analyzes relationships between multiple independent variables and categorical dependent variables. 2. A regression analysis in which the dependent variable is binary.
Lok index	A score used to help determine the likelihood of cirrhosis. Created from the patient's platelet count, serum aspartate aminotransferase and alanine aminotransferase, and prothrombin international normalized ratio. Uses the same factors as the Bonacini CDS but estimates the probability of cirrhosis through a logistic model. An index less than 0.2 is associated with a decreased likelihood of cirrhosis.
Lost to follow-up	Patients whose status on the outcome or endpoint of interest is unknown.
Lumbar puncture	Lumbar puncture in the subarachnoid space of the spinal cord allows spinal fluid to be sampled, facilitating the diagnosis of various conditions.
Lumley model of network meta-analysis	A frequentist method for multiple treatment comparisons.
Lung diseases, interstitial	A group of lung diseases affecting the interstitium or tissue and space around the air sacs of the lungs, often producing a restrictive ventilatory defect.
Major depressive disorder	The official Diagnostic and Statistical Manual of Mental Disorders (Fourth Edition) diagnostic term for depression, a mood disorder marked by sadness, inactivity, difficulty with thinking and concentration, a significant decrease (or increase) in appetite and time spent sleeping, feelings of dejection and hopelessness, and sometimes suicidal thoughts or an attempt to commit suicide.
Malaria	A clinical syndrome that results from a parasitic infection of the blood caused by any of 5 <i>Plasmodium</i> species: <i>falciparum</i> , <i>vivax</i> , <i>ovale</i> , <i>malariae</i> , and <i>knowlesi</i> .
Malrotation	Improper rotation of a body part (eg, the intestines).
Manning criteria	Combinations of findings used to diagnose irritable bowel syndrome. See Table 55-2 in <i>The Rational Clinical Examination</i> .

Term	Definition
MANTRELS	The MANTRELS mnemonic is a helpful tool used to diagnose appendicitis. This mnemonic is a part of the Alvarado clinical decision rule and examines 8 findings from the medical history or the examination. The various components are M igration, A norexia-acetone, N ausea-vomiting, T enderness in RLQ, R ebound pain, E levation of temperature, L eukocytosis, and S hift to the left of normal WBC count. See Table 5-5 in <i>The Rational Clinical Examination</i> .
Marginal utility	The change in a person's utility (preference or relative value) for an outcome as the outcome increases in magnitude.
Marie Curie nurses	Nurses working for Marie Curie Cancer Care, a charitable organization in the United Kingdom that provides nursing care, free of charge, to terminally ill people. Patients may choose to receive care in their homes or in 1 of 10 Marie Curie hospices.
Markov model	Markov models are tools used in decision analyses. Named after a 19th-century Russian mathematician, Markov models are the basis of software programs that model what might happen to a cohort of patients during a series of cycles (eg, periods of 1 year). The model allows for the possibility that patients might move from one health state to another. For instance, one patient may have a mild stroke in one 3-month cycle, continue with minimal functional limitation for a number of cycles, have a gastrointestinal bleeding episode in a subsequent cycle, and finally experience a major stroke. Ideally, data from randomized trials will determine the probability of moving from one state to another during any cycle under competing management options.
Matching	A deliberate process to make the study group and comparison group comparable with respect to factors (or confounders) that are extraneous to the purpose of the investigation but that might interfere with the interpretation of the study's findings. For example, in case control studies, individual cases may be matched with controls on the basis of comparable age, gender, and/or other clinical features.
McGill Pain Questionnaire	The McGill Pain Questionnaire, asks patients to describe their subjective experience of pain using sensory, affective, and evaluative descriptors. It also uses an intensity scale and other questions to describe more fully the pain experience. The McGill Pain Questionnaire was designed to produce 3 quantitative measures of clinical pain: (1) a pain rating index, based on 2 numerical values assigned to each word descriptor; (2) a count of the number of words used; and (3) a present pain intensity using a 1- to 5-point intensity scale. For more information, see the following article for the questionnaire: Melzack R. The McGill Pain Questionnaire: major properties and scoring methods. <i>Pain</i> . 1975;1(3):277-299. [PMID: 1235985]

Term	Definition
Meals-on-Wheels	Programs that deliver meals to individuals at home who are unable to prepare or purchase their own meals. The name is often used generically to refer to home-delivered meals programs, not all of which are actually named “Meals-on-Wheels.”
Median survival	Length of time that one-half of the study population survives.
MediCal	California’s Medicaid health insurance program for indigent patients.
Medical decision-making capacity	A requirement for informed consent to treatment, determined by the process of a patient’s decision making, not the decision itself. Capacity requires 4 abilities: (1) ability to appreciate the situation and consequences of treatment choices, (2) ability to understand all pertinent information, (3) ability to reason about potential risks and benefits, and (4) ability to communicate one’s choice.
Medical parole	The procedure for securing a terminally ill inmate’s release from prison, also known as compassionate release.
Medical subject headings	The U.S. National Library of Medicine’s controlled vocabulary used for indexing articles for MEDLINE/PubMed. MeSH terminology provides a consistent way to retrieve information that may use different terminologies for the same concepts.
Medicare Hospice Benefit	Under the US Medicare Hospice Benefit, hospices are reimbursed to provide a package of services that include physician, nursing, social work, home health aide, volunteer, physical therapy, occupational therapy, speech therapy, counseling, dietary, and spiritual professionals; medications related to the terminal illness; medical supplies and equipment; short general inpatient and respite care; 12 months of bereavement follow-up; and any other services reasonable and necessary for palliation of the terminal illness.
Medicare managed care	A program that coordinates all health care services an individual receives to maximize benefits and minimize costs.
Melena	The passage of black, tarry stools.
Member checking	In qualitative research, this involves sharing draft study findings with the participants to inquire whether their viewpoints were faithfully interpreted and to ascertain whether the account makes sense to participants with different perspectives.

Term	Definition
Memorial Delirium Assessment Scale	Screening tool for delirium in which 8 symptoms of delirium are assessed on a scale of 0 (none) to 3 (severe). For more information, see the following Web site for the scale: http://symptomresearch.nih.gov/chapter_5/tools/mdas.htm .
Memorial Pain Assessment Card (MPAC)	A simple instrument designed to provide rapid evaluation of measurement of pain intensity, pain relief, and psychological distress. (See also Chapter 5, Managing an Acute Pain Crisis in a Patient With Advanced Cancer, Figure 5-1.) For more information, see the following article for the card: Fishman B, Pasternak S, Wallenstein SL, et al. The Memorial Pain Assessment Card. A valid instrument for the evaluation of cancer pain. <i>Cancer</i> . 1987;60(5):1151-1158. [PMID: 3300951]
Memorial Symptom Assessment Scale	Pain and symptom assessment tool that provides a validated method for rapid assessment of the patient; evaluation of the patient's pain intensity; and degree of relief, mood, and pain descriptors. It takes only 15 seconds to complete, allowing for frequent repeated use. For more information, see the following article for the scale: Portenoy RK, Thaler HT, Kornblith AB, et al. The Memorial Symptom Assessment Scale: an instrument for the evaluation of symptom prevalence, characteristics and distress. <i>Eur J Cancer</i> . 1994;30A(9):1326-1336. [PMID: 7999421]
Memory disorders	Associated with delirium and memory impairment.
Memory Impairment Screen	A quick test of recall ability where a patient is asked to recall items representing 4 different categories. Its advantages include the simplicity of the approach and uncomplicated scoring.
Messenger RNA	A ribonucleic acid-containing single-strand copy of a gene that migrates out of the cell nucleus to the ribosome, where it is translated into a protein.
Meta-analysis	A statistical technique for quantitatively combining the results of multiple studies that measure the same outcome into a single pooled or summary estimate.
Meta-regression analysis	When summarizing patient or design characteristics at the individual trial level, meta-analysts risk failing to detect genuine relationships between these characteristics and the size of treatment effect. Furthermore, the risk of obtaining a spurious explanation for variable treatment effects is high when the number of trials is small and many patient and design characteristics differ. Meta-regression techniques can be used to explore whether patient characteristics (eg, younger or older patients) or design characteristics (eg, studies of low or high quality) are related to the size of the treatment effect.

Term	Definition
Meta-synthesis	A procedure for combining qualitative research on a specific topic in which researchers compare and analyze the texts of individual studies and develop new interpretations.
Methadone	A synthetic opioid medication used in stable doses for pain relief in treatment of chronic pain, in maintenance doses for treatment of opioid addiction (by addiction specialists), and in gradually escalating doses for pain relief in treatment of terminal illness. It is usually administered orally, but in the latter situation, it can be given intravenously, although consultation with experts in pain management is advised.
Migraine	A neurological condition characterized by altered bodily perceptions, recurrent usually unilateral severe headaches, and nausea.
Migraine, acephalgic	An aura that occurs without headache. In these cases, most patients have a known history of migraine.
Migraine, classic	The classic migraine has an aura associated with headache. Patients with classic migraine describe visual auras as amorphous pattern of lights or jagged lines and colors "marching" through the binocular visual field, sometimes surrounding a central area of visual field loss.
Milan criteria	Applied as a basis for selecting patients with cirrhosis and hepatocellular carcinoma for liver transplantation. Patients remain eligible for transplantation if they have a single carcinoma lesion <5 cm on imaging or up to 3 lesions each <3 cm and no extrahepatic metastasis and no vascular invasion.
Mindfulness meditation	A process of developing careful attention to minute shifts in body, mind, emotions, and environs while holding a kind, nonjudgmental attitude toward self and others.
Mini-Mental Status Examination (MMSE)	A brief 30-point test that is used to screen for cognitive impairment.
Minimal important difference	The smallest difference in a patient-important outcome that patients perceive as beneficial and that would mandate, in the absence of troublesome adverse effects and excessive cost, a change in the patient's health care management.

Term	Definition
Mixed-methods study	A study that combines data collection approaches, sometimes both qualitative and quantitative, into the study methodology and is commonly used in the study of service delivery and organization. Some mixed-methods studies combine study designs (eg, investigators may embed qualitative or quantitative process evaluations alongside quantitative evaluative designs to increase understanding of factors influencing a phenomenon). Some mixed-methods studies include a single overarching research design but use mixed-methods for data collection (eg, surveys, interviews, observation, and analysis of documentary material).
Mobility limitation	Impaired ability to move around by one's self.
Model	Often used to describe statistical regression analyses involving more than one independent variable and one dependent variable. This is a multivariable or multiple regression (or multivariate) analysis.
Model for End-Stage Liver Disease (MELD)	The Model for End-Stage Liver Disease is a numerical scale that is currently used by United Network for Organ Sharing for allocation of livers for transplantation. It is based on objective and verifiable medical data (patient's age, international normalized ratio, serum bilirubin level, and serum creatinine level [or dialysis]) that summarize a patient's risk of dying while awaiting liver transplantation.
Model Policy for the Use of Controlled Substances for the Treatment of Pain	Designed to provide state medical boards with information regarding the appropriate management of pain with opioids (and other medications with abuse potential) to be in compliance with state and federal laws and regulations. It defines inappropriate treatment as including "nontreatment, undertreatment, overtreatment, and continued use of ineffective treatments." For more information, see the following Web site for the model guidelines: http://www.fsmb.org/pdf/2004_grpol_Controlled_Substances.pdf .
Modified Tursky Pain Descriptors Scale	A categorical measure of pain intensity. The Pain Perception Profile was developed by Tursky in 1976 as an instrument measuring the affective, sensory, and intensity dimensions of pain. The Memorial Pain Assessment Card has a modified version of the Tursky Pain Description Scale on one side. See also Memorial Pain Assessment Card and Chapter 5, Managing an Acute Pain Crisis in a Patient With Advanced Cancer, Figure 5-1.
Mortality	Measure of rate of death.

Term	Definition
Mortality Probability Models (MPM) II	Models developed to assess the severity of illness and the likelihood of survival of patients in intensive care units. For more information, see the following article for the models: Lemeshow S, Teres D, Klar J, et al. Mortality Probability Models (MPM II) based on an international cohort of intensive care unit patients. <i>JAMA</i> . 1993;270(20):2478-2486. [PMID: 8230626]
Mucositis	Inflammation of the mucosal membranes lining the gastrointestinal tract. It often affects the mouth and pharynx of patients with head and neck cancer who undergo radiation therapy.
Multidimensional Assessment of Fatigue	A 16-item, self-administered tool that takes approximately 5 minutes to complete that assesses subjective aspects of fatigue, such as quantity, degree, distress, impact, and timing. For more information, see the following article for the tool: Stein KD, Jacobsen PB, Blanchard CM, et al. Further validation of the multidimensional fatigue symptom inventory-short form. <i>J Pain Symptom Manage</i> . 2004;27(1):14-23. [PMID: 14711465]
Multidimensional Fatigue Inventory	A 20-item self-report instrument that includes general fatigue, physical fatigue, mental fatigue, reduced motivation, and reduced activity. For more information, see the following article for the inventory: Smets EM, Garsen B, Bonke B, et al. The Multidimensional Fatigue Inventory (MFI) psychometric qualities of an instrument to assess fatigue. <i>J Psychosom Res</i> . 1995;39(3):315-325. [PMID: 7636775]
Multidimensional Fatigue Symptom Inventory-Short Form	The Multidimensional Fatigue Symptom Inventory-Short Form (MFSI-SF) is a 30-item short form of the MFSI, an 83-item self-report measure designed to assess the principal manifestations of fatigue. Items are rated on a 5-point scale (from 0 indicating not at all to 4 indicating extremely) that indicates how true each statement was for the respondent during the last week. The MFSI-SF subscales are designed to assess general, physical, emotional, and mental manifestations of fatigue and vigor, an estimate of the patient's energy level. For more information, see the following article for the inventory: Stein KD, Jacobsen PB, Blanchard CM, et al. Further validation of the multidimensional fatigue symptom inventory-short form. <i>J Pain Symptom Manage</i> . 2004;27(1):14-23. [PMID: 14711465]
Multiple regression	A type of regression that provides a mathematical model that explains or predicts the dependent or target variable by simultaneously considering all of the independent or predictor variables. See also Multivariate regression analysis.

Term	Definition
Multiple treatment comparison (MTC) meta-analysis	Multiple treatment comparison (MTC) meta-analysis uses both direct (head-to-head) evidence as well as indirect evidence from randomized clinical trials to compare the relative effectiveness of all included interventions.
Multivariate regression analysis	A type of regression that provides a mathematical model that attempts to explain or predict the dependent variable (or outcome variable or target variable) by simultaneously considering 2 or more independent variables (or predictor variables). See also Multiple regression.
Murphy sign	Pain and arrested inspiration occurring when the patient inspires deeply while the examiner's fingers are hooked underneath the right costal margin.
Mutation	A rare variant in a gene, occurring in <1% of a population. See also Polymorphism.
Myalgia	Muscle discomfort.
Myerson sign	Persistent blinking during the Glabella tap test used to diagnose Parkinson disease.
N-methyl-D-aspartate (NMDA) receptor	A glutamate receptor that is the main molecular device for controlling synaptic plasticity and memory function.
N-of-1 randomized controlled trial	An experiment designed to determine the effect of an intervention or exposure on a single study participant. In one N-of-1 design, the patient undergoes pairs of treatment periods organized so that 1 period involves the use of the experimental treatment and 1 period involves the use of an alternate treatment or placebo. The patient and clinician are blinded, if possible, and outcomes are monitored. Treatment periods are replicated until the clinician and patient are convinced that the treatments are definitely different or definitely not different.
Namaste Care Program	Named after the Hindu term meaning "to honor the spirit within," this 7-day-a-week program for people with dementia designates space to help create a safe and comforting environment for residents, families, and staff. It is designed to bring pleasure to people and can make receiving and giving of care enjoyable by modifying care strategies.
Narcotics	Drugs that in moderate doses dull the senses, relieve pain, and induce sleep but in excessive doses cause stupor, coma, or convulsions.
Narrative review	A review article (eg, a typical book chapter) that is not conducted using methods to minimize bias (in contrast to a systematic review).

Term	Definition
Nasogastric lavage	A method for collecting samples from the stomach that involves inserting a thin tube into the nose and threading it through to the stomach. Water or normal saline is flushed through the tube, then aspirated to evaluate the fluid's color upon return. A bright red color may indicate the presence of fresh blood in the stomach. Aspirate that looks like wet coffee grounds may indicate blood that has begun to degrade.
Natural history	As distinct from prognosis, natural history refers to the possible consequences and outcomes of a disease or condition and the frequency with which they can be expected to occur when the disease condition is untreated.
Nausea	Discomfort and distress manifested as the urge to vomit.
Neary criteria	Criteria for the diagnosis of frontotemporal dementia, including the following clinical diagnostic features: insidious onset and gradual progression, early decline in social interpersonal conduct, early emotional blunting, early loss of insight. Supportive diagnostic features include decline in personal hygiene, mental rigidity, distractibility, asponaneity, and economy of speech. For more information, see the following article for the criteria: Neary D, Snowden JS, Gustafson L, et al. Frontotemporal lobar degeneration: a consensus on clinical diagnostic criteria. <i>Neurology</i> . 1998;51(6):1546-1554. [PMID: 9855500]
Negative effect	As clinical studies accumulate, it is more common for effects to shrink than to increase. Negative effects are smaller or less dramatic than effects from previous studies.
Negative predictive value	See Predictive value.
Negative studies	Studies in which the authors have concluded that the comparison groups do not differ statistically in the variables of interest. Research results that fail to support the researchers' hypotheses.
Neural network	The application of nonlinear statistics to pattern-recognition problems. Neural networks can be used to develop clinical prediction rules. The technique identifies those predictors most strongly associated with the outcome of interest that belong in a clinical prediction rule and those that can be omitted from the rule without loss of predictive power.
Neurogenic claudication	A symptom of lumbar spinal stenosis. Pain or other discomfort with walking or prolonged standing that radiates into one or both lower extremities and is typically relieved by rest or lumbar flexion.

Term	Definition
Neurokinin type 1 (NK1) receptor selective antagonists	A class of medications with unique antidepressant, anxiolytic, and antiemetic properties used in the prevention of nausea and vomiting associated with cancer.
Neuropathic pain	A type of pain that is caused by damage to or dysfunction of the nervous system. Often treated with anticonvulsants, tricyclic antidepressants, local anesthetics, and other types of medications, in addition to opioids. As distinguished from nociceptive pain.
Neurotoxins	Proteins that have harmful effects on the nervous system.
Neutrophils	The most abundant type of white blood cells. They migrate toward the site of inflammation and are the predominant cells in pus.
New York Heart Association (NYHA) class	A method of classifying the extent of heart failure by assigning patients in 1 of 4 categories based on the degree to which their symptoms limit their physical activity: class I patients are those with no limitation on ordinary physical activity; class II are those with slight limitation of physical activity; class III are those with marked limitation of physical activity; and class IV are those unable to engage in any physical activity without discomfort or symptoms present at rest. For more information, see the following Web site for the classifications: http://www.americanheart.org/presenter.jhtml?identifier=1712 .
Nociceptive pain	Pain resulting from tissue damage, usually treated with opioid medications. As distinguished from neuropathic pain.
Nominal variable	A variable that can be classified into a category (eg, male or female sex); often called categorical variable. A categorical variable may be nominal or ordinal. Categorical variables can be defined according to attributes without any associated order (eg, medical admission, elective surgery, or emergency surgery); these are called nominal variables. A categorical variable can also be defined according to attributes that are ordered (eg, height such as high, medium, or low); these are called ordinal variables.
Nomogram	Graphic scale facilitating calculation of a probability. The most-used nomogram in the evidence-based medicine world is one developed by Fagan to move from a pretest probability, through a likelihood ratio, to a posttest probability.
Nonadherent	Patients are nonadherent if they are not exposed to the full course of a study intervention (eg, most commonly, they do not take the prescribed dose or duration of a drug or they do not participate fully in the study program).

Term	Definition
Noninferiority trial	A study that examines the impact of a treatment believed to reduce side effects, toxicity, or burdens of treatment relative to an existing standard of care. The issue of such a treatment is the extent to which it maintains the primary benefits of the existing standard treatment. Unlike with equivalence trials, which aim to establish that a novel treatment is neither better nor worse than standard treatment beyond a specified margin, a noninferiority trial endeavours to show that the novel treatment is “not much worse” than standard treatment. See also Equivalence studies.
Noninvasive positive pressure ventilation	A type of ventilatory support that does not require mechanical intubation and can improve exercise tolerance and quality of life when combined with physical training in selected patients with advanced chronic obstructive pulmonary disease and neuromuscular disorders such as amyotrophic lateral sclerosis.
Nonrandomized controlled trial	In a nonrandomized controlled trial, it is difficult or impossible to assign participants to different study arms (interventions) by chance. These types of trials are subject to bias because of the inability to control for factors between groups that could affect outcomes.
Nottingham Prognostic Index	A tool used to determine prognosis after surgery for breast cancer.
Novalis Shaped Beam Surgery	See stereotactic radiotherapy.
Null hypothesis	In the hypothesis-testing framework, this is the starting hypothesis that the statistical test is designed to consider and possibly reject, which contends that there is no relationship between the variables under study.
Null result	A nonsignificant result; no statistically significant difference between groups.
Number needed to harm	The number of patients who, if they received the experimental intervention, would lead to one additional patient being harmed over a specific period of time. It is the inverse of the absolute risk increase (ARI), expressed as a percentage (100/ARI). See also Absolute risk increase.
Number needed to screen	The number of patients who would need to be screened to prevent one adverse event.
Number needed to treat	The number of patients who need to be treated over a specific period of time to achieve one additional good outcome. When discussing NNT, it is important to specify the intervention, its duration, and the desirable outcome. It is the inverse of the absolute risk reduction (ARR), expressed as a percentage (100/ARR). See also Absolute risk reduction.

Term	Definition
Nursing homes	Privately or publicly operated residential establishments where personal and medical care is provided for people who are unable to adequately care for themselves.
Observational studies	An observational study can be used to describe many designs that are not randomized trials (eg, cohort studies or case-control studies that have a goal of establishing causation, studies of prognosis, studies of diagnostic tests, and qualitative studies). The term is most often used in the context of cohort studies and case-control studies in which patient or caregiver preference, or happenstance, determines whether a person is exposed to an intervention or putative harmful agent or behavior (in contrast to the exposure's being under the control of the investigator, as in a randomized trial).
Observer bias	Occurs when an observer's observations differ systematically according to participant characteristics (eg, making systematically different observations in treatment and control groups). See also Bias.
Odds	The ratio of events to non-events; the ratio of the number of study participants experiencing the outcome of interest to the number of study participants not experiencing the outcome of interest.
Odds ratio	A ratio of the odds of an event in an exposed group to the odds of the same event in a group that is not exposed.
Odds reduction	The odds reduction expresses, for odds, what relative risk reduction expresses for risks. Just as the relative risk reduction is $1 - \text{relative risk}$, the odds reduction is $1 - \text{relative odds}$ (the relative odds and odds ratio being synonymous). Thus, if a treatment results in an odds ratio of 0.6 for a particular outcome, the treatment reduces the odds for that outcome by 0.4.
Odynophagia	Pain that occurs when swallowing.
Open-ended questions	Questions that offer no specific structure for the respondent's answers and allow the respondents to answer in their own words.
Opinion leaders	See Local opinion leaders.
Opportunistic sampling	See Convenience sample.
Opportunity costs	The value of (health or other) benefits forgone in alternative uses when a resource is used.
Orthotopic liver transplantation	A type of transplantation in which the native liver is removed and the new liver is placed in the same anatomical location. A well-established treatment for end-stage liver disease and liver failure.

Term	Definition
Osler sign	While feeling the radial pulse, occlude the brachial artery by cuff inflation or by direct pressure using the other thumb. If the radial artery remains palpable as a firm “tube,” the Osler sign is positive. The test’s usefulness for detecting pseudohypertension is debatable.
Osteomyelitis	Inflammation of the bone that is almost always due to infection (bacterial or mycobacteria) and frequently associated with overlying soft tissue infections such as diabetic foot ulcers.
Outcome variable	The target variable of interest. The variable that is hypothesized to depend on or be caused by another variable, the independent variable. See also Treatment target; Endpoint.
Overview	A type of review in which primary research relevant to a question is examined and summarized, and an effort is made to identify all available literature (published or unpublished) that pertains to that question.
<i>P</i> value	The probability that results as extreme as or more extreme than those observed would occur if the null hypothesis were true and the experiment were repeated over and over. A <i>P</i> value <0.05 means that there is a less than 1 in 20 probability that, on repeated performance of the experiment, the results as extreme as or more extreme than those observed would occur if the null hypothesis were true. See also Probability.
Pain Assessment in Advanced Dementia (PAIN-AD)	Scale used to assess pain in patients with Alzheimer disease and other forms of dementia. For more information, see the following article for the scale: Warden V, Hurley AC, Volicer L. Development and psychometric evaluation of the Pain Assessment in Advanced Dementia (PAINAD) scale. <i>J Am Med Dir Assoc</i> . 2003;4(1):9-15. [PMID: 12807591]
Pain crisis	An event in which the patient reports severe, uncontrolled pain that causes the patient, family, or both severe distress. The pain may be acute in onset or may have progressed gradually to an intolerable threshold (as determined by the patient), but requires immediate intervention.
Palliate	Palliative care or treatment is a set of actions taken for patients in whom cure is unlikely. Stedman’s defines palliative as mitigating or reducing the severity of symptoms without reducing the underlying disease. These actions are often multiple and can include family members and significant others.
Palliative care	Care focused primarily on relieving pain and physical symptoms, enhancing psychosocial supports, and assisting patients and families to make the best possible decisions in the face of serious, potentially life-threatening illness.

Term	Definition
Palliative care service	Department or team at a health care facility that provides palliative and end-of-life care. See also palliative care.
Palliative chemotherapy	Chemotherapy administered without curative intent, with the goal of decreasing tumor load and possibly increasing life expectancy.
Palliative Excellence in Alzheimer Care Efforts (PEACE) program	The Palliative Excellence in Alzheimer Care Efforts (PEACE) program incorporates concepts of advance care planning, patient-centered care, family support, and a palliative care focus on Alzheimer disease management from diagnosis through terminal care.
Palliative Performance Scale	A measurement tool that uses 5 observer-rated domains to assess the functional status of a patient: ambulation, activity level, self-care, intake, and level of consciousness. Provides correlates with estimated median survival in days. For more information, see the following article for the scale: Anderson F, Downing GM, Hill J, Casorso L, Lerch N. Palliative performance scale (PPS): a new tool. <i>J Palliat Care</i> . 1996;12(1):5-11. [PMID: 8857241]
Palliative Prognostic Index (PPI)	Defined by performance status, oral intake, edema, dyspnea at rest, and delirium; can help to predict whether patients will live longer than 3 or 6 weeks. For more information, see the following article for the index: Morita T, Tsunoda J, Inoue S, Chihara S. The Palliative Prognostic Index: a scoring system for survival prediction of terminally ill cancer patients. <i>Support Care Cancer</i> . 1999;7(3):128-133. [PMID: 10335930]
Palliative Prognostic Score	Score assigns numerical points to anorexia, dyspnea, Karnofsky performance status (see also Karnofsky performance status), total white blood cell count, and percentage of lymphocytes on white cell differential. Total scores range from 0 to 17.5 and help to predict survival. Patients can be segmented into 3 risk groups, A, B, and C, based on their total scores, and this grouping correlates with whether patients will live longer than 30 days. For more information, see the following Web site for the score: http://www.mcw.edu/fastFact/ff_124.htm .
Palliative sedation	When terminally ill, conscious patients experience intolerable symptoms that cannot be relieved even by expert palliative care, palliative sedation involves administering sedatives to relieve suffering in doses that may induce unconsciousness.
Palliative sedation to unconsciousness	The goal of this form of sedation is to cause unconsciousness without the intent of shortening the patient's life. For example, in massive external hemorrhage in a terminally ill patient, relieving the patient's distress might require making the patient unconscious so that he/she is unaware of the bleeding.

Term	Definition
Palmar erythema	A reddening of the palms, especially below the thumb and little finger, sparing the palm's center.
Palpation	The act of a clinician touching a patient to determine the condition of an underlying organ.
Paracentesis	A surgical puncture of a bodily cavity with a trocar, aspirator, or other instrument usually to draw off an abnormal effusion for diagnostic or therapeutic purposes. Paracentesis can also be done as a therapeutic procedure when large volumes of fluid are removed to provide the patient relief from symptoms.
Parasitemia	1. The quantity of <i>Plasmodium</i> parasites in the blood, used as a proxy of the severity of infection. 2. The presence of <i>Plasmodium</i> parasites in the blood. Fever with parasitemia is a practical and widely used definition for acute malaria.
Parenchyma	The essential tissue of an organ or an abnormal growth as distinguished from its supportive framework.
Paroxysmal cough	A paroxysm is a series of coughs during a single expiration; these episodes often occur in groups throughout the day and night, with patients experiencing few symptoms between paroxysms. A cough paroxysm causes low lung volumes, leading to a vigorous inspiration that may result in a whoop, particularly in infants and children, in whom the caliber of the trachea is smaller. The paroxysmal stage of pertussis begins during the second week of illness.
Partial verification bias	Occurs when only a selected sample of patients who underwent the index test is verified by the reference standard, and that sample is dependent on the results of the test. For example, patients with suspected coronary artery disease whose exercise test results are positive may be more likely to undergo coronary angiography (the reference standard) than those whose exercise test results are negative. See also Bias.
Pastia sign	A scarlatiniform ("scarlet fever") rash in the antecubital fossae is one of the signs for streptococcal pharyngitis.
Patient expected event rate	The probability of the occurrence of the endpoint or outcome of interest in the patient group of which the individual under consideration is representative.
Patient preferences	The relative value that patients place on various health states. Preferences are determined by values, beliefs, and attitudes that patients bring to bear in considering what they will gain—or lose—as a result of a management decision. Explicit enumeration and balancing of benefits and risks that is central to evidence-based clinical practice brings the underlying value judgments involved in making management decisions into bold relief.

Term	Definition
Patient-important outcomes	Outcomes that patients value directly. This is in contrast to surrogate, substitute, or physiologic outcomes that clinicians may consider important. One way of thinking about a patient-important outcome is that, were it to be the only thing that changed, patients would be willing to undergo a treatment with associated risk, cost, or inconvenience. This would be true of treatments that ameliorated symptoms or prevented morbidity or mortality. It would not be true of treatments that lowered blood pressure, improved cardiac output, improved bone density, or the like, without improving the quality or increasing the length of life.
Patient-mediated interventions	A strategy for changing clinician behavior. Any intervention aimed at changing the performance of health care professionals through interactions with, or information provided by or to, patients.
Pediatric Advanced Care Team (PACT)	A group of medical professionals who work to enhance the quality of life and reduce the suffering of children and teens who have been diagnosed as having life-threatening illnesses.
Pedigree	A diagram depicting heritable traits across 2 or more generations of a family.
Peek sign	A sign for myasthenia gravis elicited by having the patient close their eyelids to hold them in apposition. Despite effort to keep them closed, the lids gradually separate and the examiner will be able to see the sclera in a positive sign.
Peptic ulcer disease	Peptic ulcer disease refers to duodenal or gastric ulceration.
Percutaneous endoscopic gastrostomy (PEG)	A procedure in which a tube is placed through the skin and subcutaneous tissue into a patient's stomach as a means of providing liquid artificial nutrition to the patient when he/she is unable to eat.
Performance criteria	Concerns how interventions are performed without regard to whether they should be performed. An example would be the acceptable range of results reported for reference cholesterol samples sent to clinical laboratories.
Pericardial effusion	Accumulation of fluid within the pericardial sac.
Periumbilical	Adjacent to the navel.

Term	Definition
Per-protocol analysis	An analysis restricted to patients who adhered to their assigned treatment in a randomized trial (omitting patients who dropped out of the study or for other reasons did not actually receive the planned intervention). This analysis can provide a misleading estimate of effect because all patients randomized are no longer included, raising concerns about whether important unknown factors that influence outcome are equally distributed across comparison groups.
Pertussis	An infectious disease characterized by a severe, persistent cough. Symptoms of pertussis include paroxysmal cough, posttussive emesis, and inspiratory whoop. Also known as whooping cough.
Phalen sign	Paresthesias in the distribution of the median nerve when the patient flexes both wrists 90 degrees for 60 seconds.
Phase I studies	Studies often conducted in normal volunteers that investigate a drug's physiologic effect and evaluate whether it manifests unacceptable early toxicity. See also Studies or study design.
Phase II studies	Initial studies on patients that provide preliminary evidence of possible drug effectiveness. See also Studies or study design.
Phase III studies	Randomized controlled trials designed to test the magnitude of benefit and harm of a drug. See also Studies or study design.
Phase IV studies	Studies conducted after the effectiveness of a drug has been established and the drug marketed, typically to establish the frequency of uncommon or unanticipated toxic effects. See also Studies or study design.
Phenomenology	In qualitative research, an approach to inquiry that emphasizes the complexity of human experience and the need to understand the experience holistically as it is actually lived.
Phenotype	The observable characteristics of a cell or organism, usually being the result of the product coded by a gene (genotype).
Phi statistic (ϕ)	A measure of chance-independent agreement calculated by the following formula: $[\text{square root of } (OR - 1)] / [\text{square root of } (OR + 1)]$.
Physician Orders for Life-Sustaining Treatment (POLST)	Preprinted and signed physician orders specifying treatment instructions in the event of serious illness, including cardiopulmonary resuscitation, levels of medical intervention, antibiotics, intravenous fluids, and feeding tubes. For more information, see the following Web site for the orders: http://www.ohsu.edu/polst .
Physician-assisted suicide (PAS)	The prescribing of lethal medications for patients to self-administer.

Term	Definition
PICO	A method for answering clinical questions.
Placebo	A biologically inert substance (typically a pill or capsule) that is as similar as possible to the active intervention. Placebos are sometimes given to participants in the control arm of a drug trial to help ensure that the study is blinded.
Placebo effect	The impact of an intervention independent of its biological effect.
<i>Plasmodium falciparum</i>	The most virulent species of <i>Plasmodium</i> and is found worldwide. Patients infected with <i>P falciparum</i> may manifest life-threatening malarial syndromes such as cerebral malaria, which is portended by the onset of altered consciousness, seizures, or nonfocal dysfunction of the central nervous system.
<i>Plasmodium knowlesi</i>	A species of <i>Plasmodium</i> and an emerging human pathogen only documented in Southeast Asia.
<i>Plasmodium malariae</i>	A species of <i>Plasmodium</i> resulting in a chronic, indolent infection. It has widespread but focal geographic distribution.
<i>Plasmodium ovale</i>	A species of <i>Plasmodium</i> with widespread but focal geographic distribution. Patients may experience recurrent fevers.
<i>Plasmodium vivax</i>	A species of <i>Plasmodium</i> endemic in tropical areas outside of sub-Saharan Africa and accounts for a large fraction of infections in Latin America and South and Southeast Asia. Patients may experience recurrent fevers.
Pleural effusion	Fluid in the pleural cavity. It indicates the presence of a disease that may be pulmonary, pleural, or extrapulmonary in origin.
Point estimate	The single value that best represents the value of the population parameter.
Polymorphism	The existence of 2 or more variants of a gene, occurring in a population, with at least 1% frequency of the less common variant. See also Mutation.
Pooled estimate	Estimate based on combining data from 2 or more samples.
Population stratification	Describes the situation in which a population may be composed of multiple sub-groups of different ethnicity; case and control group differences in the mix can confound the comparison and lead to spurious genetic associations.
Positive predictive value	See Predictive value.

Term	Definition
Positive study	1. A study with results that are consistent with the researchers' hypotheses. 2. A study with results that show a difference that investigators interpret as beyond the play of chance.
Post-acute palliative care settings	When a patient receiving palliative care leaves the hospital but cannot go home, post-acute care options usually include inpatient hospice, nursing home with or without hospice, or residential care with hospice.
Posterior distribution	In Bayesian analysis, the probability distribution obtained by mixing prior knowledge with data.
Posttest odds	The odds of the target condition being present after the results of a diagnostic test are available.
Posttest probability	The probability of the target condition being present after the results of a diagnostic test are available.
Posttraumatic growth	Positive changes in interpersonal relationships, sense of self, and philosophy of life subsequent to direct experience of a traumatic event that shakes the foundation of an individual's worldview.
Posttraumatic stress disorder (PTSD)	Severe anxiety disorder that can develop after exposure to any event that results in psychological trauma, including symptoms of re-experiencing, avoidance, and increased arousal that last for more than 1 month.
Posttussive emesis	Vomiting after coughing. A symptom of pertussis.
POUNding	Mnemonic used to assess the likelihood of migraine. The clinician asks the following questions: Is it a P ulsating headache? Does it last between 4-72 h ours without medication? Is it ever U nilateral? Is there N ausea? Is it D isabling?
Power	The ability of a study to reject a null hypothesis when it is false (and should be rejected). It is linked to the adequacy of the sample size: if a sample size is too small, the study will have insufficient power to detect differences between groups, if differences exist.
Predictive value	Two categories: Positive predictive value—the proportion of people with a positive test result who have the disease; negative predictive value—the proportion of people with a negative test result and who are free of disease.
Pre-processed	A process whereby someone has reviewed the literature and chosen only the methodologically strongest studies.
Presbycusis	Sensorineural hearing loss related to aging caused by the degeneration of the hair cells in the organ of Corti.
Pretest odds	The odds of the target condition being present before the results of a diagnostic test are available.

Term	Definition
Pretest probability	The probability of the target condition being present before the results of a diagnostic test are available.
Prevalence	Proportion of persons affected with a particular disease at a specified time. Prevalence rates obtained from high-quality studies can inform pretest probabilities.
Prevent	A preventive maneuver is an action that decreases the risk of a future event or the threatened onset of disease. Primary prevention is designed to stop a condition from developing. Secondary prevention is designed to stop or slow progression of a disease or disorder when patients have a disease and are at risk for developing something related to their current disease. Often, secondary prevention is indistinguishable from treatment. An example of primary prevention is vaccination for pertussis. An example of secondary prevention is administration of an antiosteoporosis intervention to women with low bone density and evidence of a vertebral fracture to prevent subsequent fractures. An example of tertiary prevention is a rehabilitation program for patients experiencing the adverse effects associated with a myocardial infarction.
Primary care	Medical care provided by the clinician of first contact for the patient. Typically, the primary care physician is a general practitioner, family practitioner, primary care internist, or primary care pediatrician. Primary care may also be administered by health professionals other than physicians, notably specially trained nurses (nurse practitioners) and paramedics. Usually, a general practitioner, family practitioner, nurse practitioner, or paramedic provides only primary care services, but an individual with specialty qualifications may provide primary care, alone or in combination with referral services. Thus, it is the nature of the contact (first vs. referred) that determines the care designation rather than the qualifications of the practitioner. See also Referred care.
Primary care clinician	Medical professional with whom the patient has regular contact and by whom the patient may be referred to a specialist.
Primary care setting	Medical care facility that offers first contact health care only. Patients requiring specialized medical care are referred elsewhere. Some primary care centers provide a mixture of primary and referred care. Thus, it is the nature of the service provided (first contact) rather than the setting per se that distinguishes primary from more advanced levels of care. See also Primary care; Referred care; Tertiary care center.
Primary open-angle glaucoma (POAG)	The predominant form of glaucoma in the United States. In POAG, as compared with closed-angle glaucoma, the iridocorneal angle appears open on clinical examination.

Term	Definition
Primary studies	Studies that collect original data. Primary studies are differentiated from synopses that summarize the results of individual primary studies and they are different from systematic reviews that summarize the results of a number of primary studies.
Priors (informed)	The representation of external (prior) knowledge about the intervention effects or degree of heterogeneity that is incorporated in Bayesian analysis.
Priors (noninformative)	In Bayesian analysis, the assumption that nothing is known about the intervention effect or degree of heterogeneity prior to looking at the available data.
Probability	Quantitative estimate of the likelihood of a condition existing (as in diagnosis) or of subsequent events (such as in an intervention study). See also <i>P</i> value.
Profile of Mood States (POMS)	Test designed to measure 6 mood states: confusion, tension, depression, anger, vigor, and fatigue. Individuals are scored for each trait according to their responses to certain statements that include keywords such as unhappy, tense, careless, and cheerful. For each statement, individuals state how they feel at that moment, or how they felt during the previous day, few days, or week, by choosing 1 of 5 responses: not at all, a little, moderately, quite a lot, or extremely. For more information, see the following Web site for the test: http://downloads.mhs.com/poms/poms-tech-brochure.pdf .
Prognosis	The prospect of survival and/or recovery from a disease as anticipated from the usual course of that disease or indicated by special features of the case.
Prognostic factors	Patient or study participant characteristics that confer increased or decreased risk of a positive or adverse outcome.
Prognostic indicator	Symptom, sign, or characteristic associated with likelihood of survival and/or recovery from a disease.
Prognostic study	A study that enrolls patients at a point in time and follows them forward to determine the frequency and timing of subsequent events.
Program for All-Inclusive Care of the Elderly (PACE)	Comprehensive geriatric medicine assessment and treatment program with home care components.
Proportionate palliative sedation	In proportionate palliative sedation, the level of sedation is increased until symptoms are relieved; the lowest level of sedation is used that will relieve symptoms. In some cases, symptom relief requires making the patient unconscious.
Provider adherence	Extent that health care providers carry out the host of diagnostic tests, monitoring equipment, interventional requirements, and other technical specifications that define optimal patient management.

Term	Definition
Pseudoaddiction	Behaviors typically associated with addiction (demand for specific medications and doses, anger and irritability, poor cooperation, or disturbed interpersonal relationships) that may emerge when an individual is not receiving adequate pain relief. Once pain is relieved, these behaviors cease.
Psychomotor agitation	A series of unintentional and purposeless motions that stem from mental tension and anxiety of an individual (eg, pacing around a room, wringing one's hands).
Psychotherapy	Treatment of mental or emotional disorder or of related bodily ills by psychological means.
Publication bias	Occurs when the publication of research depends on the direction of the study results and whether they are statistically significant. See also Bias.
Puddle sign	A maneuver to detect ascites that is not currently recommended. To elicit the finding, the patient must prop themselves up on their hands and knees, while the examiner reaches underneath the abdomen to percuss.
Pulmonary edema	Abnormal accumulation of fluid in the lungs.
Pulmonary rattle	A synonym for death rattle, a sign of retained respiratory secretions displayed by many dying patients.
Pulsus paradoxus	An exaggeration of the normal inspiratory decrease in blood pressure.
Purposeful sampling	In qualitative research, a type of nonprobability sampling in which theory or personal judgment guide the selection of study participants who will be most representative of the population. Depending on the topic, examples include (1) maximum variation sampling, to document range or diversity; (2) extreme or deviant case sampling, in which one selects cases that are opposite in some way; (3) typical or representative case sampling, to describe and illustrate what is typical and common in terms of the phenomenon of interest; (4) critical sampling, to make a point dramatically; and (5) criterion sampling, in which all cases that meet some predetermined criteria of importance are studied.
Purulent exudate	Pus; a type of exudate, or fluid from a wound, that is high in protein content and cellular debris. Typically ranges in color from yellow to green to brown. Considered a classic sign of wound infection.
Pyelonephritis	Bacterial or fungal invasion of the kidney causing tubular cell necrosis and inflammation of both the parenchyma and the lining of its renal pelvis. Chronic pyelonephritis involves pelvicaliceal inflammation, fibrosis, and deformity of the kidney.

Term	Definition
Pyrexia	Abnormal elevation of body temperature, fever.
Pyuria	The presence of pus in urine.
Qualitative research	Qualitative research focuses on social and interpreted, rather than quantifiable, phenomena and aims to discover, interpret, and describe rather than to test and evaluate. Qualitative research makes inductive, descriptive inferences to theory concerning social experiences or settings, whereas quantitative research makes causal or correlational inferences to populations. Qualitative research is not a single method but a family of analytic approaches that rely on the description and interpretation of qualitative data. Specific methods include, for example, grounded theory, ethnography, phenomenology, case study, critical theory, and historiography.
Quality assurance	Any procedure, method, or philosophy for collecting, processing, or analyzing data that is aimed at maintaining or improving the appropriateness of health care services.
Quality improvement	An approach to defining, measuring, improving, and controlling practices to maintain or improve the appropriateness of health care services.
Quality of care	The extent to which health care meets technical and humanistic standards of optimal care.
Quality of health care	The degree of excellence of health care.
Quality of life	An individual or group's general well-being.
Quality of Life Questionnaire	Measures the relationship between a patient's quality of life and other conditions, such as physical health and psychological health.
Quality-adjusted life expectancy	The number of years of expected life corrected for the quality of life that patients are expected to experience in those years.
Quality-adjusted life-year	A unit of measure for survival that accounts for the effects of suboptimal health status and the resulting limitations in quality of life. For example, if a patient lives for 10 years and his or her quality of life is decreased by 50% because of chronic lung disease, survival would be equivalent to 5 quality-adjusted life-years. See also Cost-utility analysis.
Quantitative research	The investigation of phenomena that lend themselves to test well-specified hypotheses through precise measurement and quantification of predetermined variables that yield numbers suitable for statistical analysis.
Radicular pain	Unilateral or bilateral radiating pain in the distribution of 1 or more dermatomes that is present irrespective of activity.

Term	Definition
Radiotherapy	Treatment of cancer or other diseases with radiation.
Random	Governed by a formal chance process in which the occurrence of previous events is of no value in predicting future events. For example, the probability of assigning a participant to one of two specified groups is 50%. See also Randomization; Random error.
Random error	We can never know with certainty the true value of an intervention effect because of random error. It is inherent in all measurement. The observations that are made in a study are only a sample of all possible observations that could be made from the population of relevant patients. Thus, the average value of any sample of observations is subject to some variation from the true value for that entire population. When the level of random error associated with a measurement is high, the measurement is less precise, and we are less certain about the value of that measurement. See also Random sample.
Random sample	A sample derived by selecting sampling units (eg, individual patients) such that each unit has an independent and fixed (generally equal) chance of selection. Whether a given unit is selected is determined by chance; for example, by a table of randomly ordered numbers. See also Random error.
Random-effects model	A model used to give a summary estimate of the magnitude of effect in a meta-analysis that assumes that the studies included are a random sample of a population of studies addressing the question posed in the meta-analysis. Each study estimates a different underlying true effect, and the distribution of these effects is assumed to be normal around a mean value. Because a random-effects model takes into account both within-study and between-study variability, the confidence interval around the point estimate is, when there is appreciable variability in results across studies, wider than it could be if a fixed-effects model were used.
Randomization	Allocation of individuals to groups by chance, usually done with the aid of a table of random numbers. Not to be confused with systematic allocation or quasi-randomization (eg, on even and odd days of the month) or allocation at the convenience or discretion of the investigator. See also Random sample; Random error.
Randomized controlled trial	Experiment in which individuals are randomly allocated to receive or not receive an experimental diagnostic, preventive, therapeutic, or palliative procedure and then followed to determine the effect of the intervention. See also Nonrandomized controlled trial.

Term	Definition
Recall bias	Occurs when patients who experience an adverse outcome have a different likelihood of recalling an exposure than patients who do not experience the adverse outcome, independent of the true extent of exposure. See also Bias.
Recessive	Describes any trait that is expressed in a homozygote but not a heterozygote, ie, 2 copies of that allele are necessary to manifest its effect.
Reconstitution	Regarding adolescent grief, the term reconstitution, rather than recovery, has been used to describe the postdeath period, in part because successful coping at this phase challenges adolescents to change their view of themselves and their relationships to the parent who died and to the surviving parent.
Recursive partitioning analysis	A technique for determining the optimal way of using a set of predictor variables to estimate the likelihood of an individual experiencing a particular outcome. The technique repeatedly divides the population (eg, old vs young; among young and old, the men and the women; and so on) according to their status on variables that discriminate between those who will have the outcome of interest and those who will not.
Referral bias	Occurs when characteristics of patients differ between one setting (eg, primary care) and another setting that includes only referred patients (eg, secondary or tertiary care). See also Bias.
Referred care	Medical care provided to a patient when referred by one health professional to another with more specialized qualifications or interests. There are two levels of referred care: secondary and tertiary. Secondary care is usually provided by a broadly skilled specialist such as a general surgeon, general internist, or obstetrician. See also Primary care.
Reflexivity	In qualitative research using field observation, whichever of the three approaches used, the observer will always have some effect on what is being observed, small or large. This interaction of the observer with what is observed is called reflexivity. Whether it plays a positive or negative role in accessing social truths, the researcher must acknowledge and investigate reflexivity and account for it in data interpretation.
Regression	A technique that uses predictor or independent variables to build a statistical model that predicts an individual patient's status with respect to a dependent or target variable.

Term	Definition
Rehabilitation	A set of actions designed to restore, following disease or injury, the ability to function in a normal or near-normal manner. Also, a medical specialty concerned with treating disabling disorders and injuries by physical means, usually referred to as physical medicine and rehabilitation.
Relative benefit increase	The proportional increase in rates of good outcomes between experimental and control participants. It is calculated by dividing the probability of a good outcome in the experimental group minus the probability of a good outcome in the control group by the probability of a good outcome in the control group.
Relative diagnostic odds ratio	The diagnostic odds ratio is a single value that provides one way of representing the power of the diagnostic test. It is applicable when we have a single cut point for a test and classify tests results as positive and negative. The diagnostic odds ratio is calculated as the product of the true positive and true negative divided by the product of the false positives and false negatives. The relative diagnostic odds ratio is the ratio of one diagnostic odds ratio to another.
Relative difference	The absolute difference (risk difference) in rates of harmful outcomes between experimental groups (experimental event rate, or EER) and control groups (control event rate, or CER), calculated as the rate of harmful outcome in the control group minus the rate of harmful outcome in the experimental group (CER – EER). Typically used to describe a beneficial exposure or intervention (eg, if 20% of patients in the control group have an adverse event, as do 10% among treated patients, the ARR or risk difference would be 10% expressed as a percentage or 0.10 expressed as a proportion).
Relative risk	Ratio of the risk of an event among an exposed population to the risk among the unexposed. See also Relative risk reduction.
Relative risk increase	The proportional increase in risk of harmful outcomes between experimental and control participants. It is calculated by dividing the risk of a harmful outcome in the experimental group (experimental group risk, or EGR) minus the risk of a harmful outcome in the control group (control group risk, or CGR) by the risk of a harmful outcome in the control group ((EGR – CGR)/CGR). Typically used with a harmful exposure.

Term	Definition
Relative risk reduction	The proportional reduction in risk of harmful outcomes between experimental and control participants. It is calculated by dividing the risk of harmful outcome in the control group (control group risk, or CGR) minus the risk of a harmful outcome in the experimental group (experimental group risk, or EGR) by the risk of a harmful outcome in the control group $([CGR - EGR]/CGR)$. Used with a beneficial exposure or intervention. See also Relative risk; Risk; Treatment effect.
Reliability	Reliability is used as a technical statistical term that refers to a measurement instrument's ability to differentiate between subjects, patients, or participants in some underlying trait. Reliability increases as the variability between subjects increases and decreases as the variability within subjects (over time, or over raters) increases. Reliability is typically expressed as an intraclass correlation coefficient with between-subject variability in the numerator and total variability (between-subject and within-subject) in the denominator.
Reminder systems	A strategy for changing clinician behavior. Manual or computerized reminders to prompt behavior change. See also Alerting systems.
Reporting bias	The inclination of authors to differentially report research results according to the magnitude, direction, or statistical significance of the results. See also Bias.
Residual confounding	Unknown, unmeasured, or suboptimally measured prognostic factors that remain unbalanced between groups after full covariable adjustment by statistical techniques. The remaining imbalance will lead to a biased assessment of the effect of any putatively causal exposure.
Respiration, artificial	Rhythmic forcing of air into and out of the lungs of a person whose breathing has stopped.
Resuscitation orders	The general term given to a legal document that states whether resuscitation should be attempted if a person has a respiratory or cardiac arrest.
Retinal detachment	The separation of the neurosensory layer of the retina from the underlying retinal pigment epithelium. Classic symptoms of a retinal detachment include decreased vision and a progressive monocular visual field defect ("curtain of darkness").
Retinal perforation	A tear or opening in the retina.
Review	A general term for all attempts to obtain and synthesize the results and conclusions of two or more publications on a given topic.

Term	Definition
Revised Piper Fatigue Scale	A 22-item multidimensional tool for assessing global fatigue severity to evaluate the efficacy of intervention strategies. For more information, see the following article for the scale: Piper BF, Dibble SL, Dodd MJ, et al. The revised Piper Fatigue Scale: psychometric evaluation in women with breast cancer. <i>Oncol Nurs Forum</i> . 1998;25(4):677-684. [PMID: 9599351]
Revised Schwartz Cancer Fatigue Scale	A 6-item multidimensional fatigue questionnaire, based on the original 28-item Schwartz Cancer Fatigue Scale developed in 1999 with 4 subscales (physical, emotional, cognitive, and temporal) that is used to measure, by scores on a visual analog scale, differences in cancer-related fatigue between patients who are currently receiving treatment and those who have completed treatment. For more information, see the following article for the scale: Ahlberg K, Ekman T, Gaston-Johansson F, Mock V. Assessment and management of cancer-related fatigue in adults. <i>Lancet</i> . 2003;362(9384):640-650. [PMID: 12944066]
Ribosome	The protein synthesis machinery of a cell where messenger RNA translation occurs.
Risk	A measure of the association between exposure and outcome (including incidence, adverse effects, or toxicity). See also Absolute risk reduction; Relative risk reduction.
Risk aversion	People are said to be risk averse if they would accept a fixed outcome with certainty rather than a lottery with a higher expected value. For example, they would choose \$10 for sure rather than a 50/50 chance of \$0 or \$30.
Risk factors	Risk factors are patient characteristics associated with the development of a disease in the first place. Prognostic factors are patient characteristics that confer increased or decreased risk of a positive or adverse outcome from a given disease.
Robotic-assisted surgery	A surgical system whereby the surgeon sits at a console adjacent to the patient and performs surgery on the patient by means of micromanipulators that are connected to a robotic cart at the patient's bedside.
ROC curve	A figure depicting the power of a diagnostic test. The ROC curve presents the test's true-positive rate (ie, sensitivity) on the vertical axis and the false-positive rate (ie, 1 – specificity) on the horizontal axis for different cut-points dividing a positive from a negative test. An ROC curve for a perfect test has an area under the curve = 1.0, while a test that performs no better than chance has an area under the curve of only 0.5.
Rockall score	A tool clinicians can use to help identify patients at risk for adverse outcomes as a result of an upper gastrointestinal bleed.

Term	Definition
Romberg test	A proprioception test used as part of a neurologic examination. For lumbar spinal stenosis, a modified Romberg maneuver is performed with the patient's feet together and eyes closed for 10 seconds. The result is abnormal if compensatory movements are required to keep the patient's feet planted.
Rome criteria	A series of proposed combinations of findings used to diagnose irritable bowel syndrome. The Rome III criteria is the most recently proposed set of findings. See Table 55-2 in <i>The Rational Clinical Examination</i> .
Rose Questionnaire	A symptom inventory used to identify and characterize claudicatory symptoms and to identify patients with peripheral arterial disease but is confounded by common comorbid conditions that also cause leg discomfort.
Rovsing sign	A sign related to the rebound tenderness test for appendicitis. Press deeply and evenly in the left lower quadrant and then release pressure suddenly. The presence of tenderness in the right lower quadrant during palpation or referred rebound tenderness in the right lower quadrant during release is considered a positive Rovsing sign.
Sampling error	Error introduced by chance differences between the estimate obtained from the sample and the true value in the population from which the sample was drawn. Sampling error is inherent in the use of sampling methods and is measured by the standard error.
Sanguineous exudate	Exudate, or fluid from a wound, that is bloody.
Schamroth sign	Normal fingers create a diamond-shaped window when the dorsal surfaces of the terminal phalanges of similar fingers are opposed. In the clubbed finger, the diamond becomes obliterated because of the loss of the profile angle and the increase in the soft tissue at the cuticle (Schamroth sign).
Screening	Services designed to detect people at high risk of experiencing a condition associated with a modifiable adverse outcome, offered to persons who have neither symptoms of nor risk factors for a target condition.
Secondary care	Medical care provided to a patient when referred by one health professional to another with more specialized qualifications or interests. There are two levels of referred care: secondary and tertiary. Secondary care is usually provided by a broadly skilled specialist such as a general surgeon, general internist or obstetrician. See also Referred care.
Secondary palliative care	Clinicians, services, and organizations that provide palliative care specialty consultation and care to terminally ill patients.

Term	Definition
Secular trends	Changes in the probability of events with time, independent of known predictors of outcome.
Selective screening	Services to be offered to asymptomatic persons with one or more risk factors for a target condition, such as family history of the disease, certain personal behaviors, or membership in a population with increased prevalence of the disease. See also Screening.
Selective serotonin reuptake inhibitors (SSRIs)	A class of medications used as antidepressants and for other indications.
Self-awareness	A combination of self-knowledge and self-empathy and the development of dual-awareness, a stance that permits the clinician to simultaneously attend to and monitor the needs of the patient, the work environment, and his/her own subjective experience.
Self-care	Personal health maintenance.
Sensitivity	The proportion of people with a positive test result among those with the target condition. See also Sensitivity analysis; Specificity; SnNout.
Sensitivity analysis	Any test of the stability of the conclusions of a health care evaluation over a range of probability estimates, value judgments, and assumptions about the structure of the decisions to be made. This may involve the repeated evaluation of a decision model in which one or more of the parameters of interest are varied.
Sentinel effect	The tendency for human performance to improve when participants are aware that their behavior is being evaluated; in contrast to the Hawthorne effect, which refers to behavior change as a result of being observed but not evaluated.
Sequential sample	A sample in which all potentially eligible patients seen over a period of time are enrolled. See also Case series.
Sequential tests	Tests conducted in sequence, rather than simultaneously.
Serous exudate	A type of exudate, or fluid from a wound, that is low in protein content and cells. Typically watery and always clear in appearance.
Sialorrhea	Excessive saliva.
Sign	Any abnormality indicative of disease, discoverable by the clinician at an examination of the patient. It is an objective aspect of a disease.
Sign test	A nonparametric test for comparing two paired groups based on the relative ranking of values between the pairs.

Term	Definition
Silo effect	One of the main reasons for considering narrower viewpoints in conducting an economic analysis is to assess the impact of change on the main budget holders because budgets may need to be adjusted before a new intervention can be adopted (the silo effect).
Similarity	A principle that all the trials are broadly similar with respect to populations, trial design, and outcomes. Used interchangeably with the more statistical term “exchangeability.”
Simple regression	Regression when there is only one independent variable under evaluation with respect to a dependent variable. See also Regression.
Simplified Acute Physiology Score (SAPS) II	A classification system used to measure the severity of illness for patients admitted to intensive care units. For more information, see Acute Physiology and Chronic Health Evaluation (APACHE) and the following article for the classification system: Le Gall JR, Lemeshow S, Saulnier F. A new Simplified Acute Physiology Score (SAPS II) based on a European/North American multicenter study. <i>JAMA</i> . 1993;270(24):2957-2963. Erratum in: <i>JAMA</i> 1994;271(17):1321. [PMID: 8254858]
Slitlamp examination	The slitlamp examination requires special equipment. The slitlamp beam is focused behind the crystalline lens into the anterior portion of the vitreous. Having the patient look up, then immediately down, then immediately straight ahead before focusing the light beam on the anterior vitreous improves visualization of vitreous hemorrhage or pigment.
SnNout	When a test with a high Sensitivity is Negative , it effectively rules out the diagnosis of disease. See also Sensitivity.
Snowball sampling	Study participants nominate or refer other potential study participants who meet the study inclusion criteria.
SNP	Abbreviation for single-nucleotide polymorphism, a single base pair change in the DNA sequence at a particular point compared with the “common” or “wild-type” sequence.
Social Dignity Inventory	Inventory of environmental or contextual influences that can affect a patient's sense of dignity. (See also Chapter 27, Dignity-Conserving Care—A New Model for Palliative Care.)
Specificity	The proportion of people with a negative test result among those without the target condition. See also Sensitivity; SpIn.

Term	Definition
Spectrum bias	Ideally, diagnostic test properties will be assessed in a population in which the spectrum of disease in the target-positive patients includes all those in whom clinicians might be uncertain about the diagnosis, and the target-negative patients include all those with conditions easily confused with the target condition. Spectrum bias may occur when the accuracy of a diagnostic test is assessed in a population that differs from this ideal. Examples of spectrum bias include a situation in which a substantial proportion of the target-positive population have advanced disease, and target-negative participants are normal or asymptomatic. Such situations typically occur in diagnostic case-control studies (eg, comparing those with advanced disease to normal individuals). Such studies are liable to yield an overly sanguine estimate of the usefulness of the test. See also Bias.
Speech disorders	Communication disorders in which normal speech is disrupted.
Spider nevi	Arterial lesions with a central red spot from which many small vessels radiate, resembling a spider's legs.
Spinal cord compression	A condition that develops when the spinal cord is compressed and constricted by bone fragments from a vertebral fracture, a tumor, abscess, ruptured intervertebral disk, or other lesion.
Spinal stenosis	Back pain caused by the spinal canal compressing the spinal cord. May include intervertebral disk bulging, ligamentum flavum hypertrophy, and facet joint osteoarthritis.
SPIRIT	An acronym for spiritual history taking: S, spiritual belief system; P, personal spirituality; I, integration with a spiritual community; R, ritualized practices and restrictions; I, implications for medical care; T, terminal events planning.
Spirituality	Religious values or other beliefs meant to deepen one's inner life or connectedness with a larger reality.
SpPin	When a test is highly S pecific, a P ositive result can rule in the diagnosis. See also Specificity.
Square wrist sign	The anteroposterior dimension of the wrist divided by the mediolateral dimension equals a ratio of greater than 0.70, when measured with calipers at the distal wrist crease.

Term	Definition
St Gallen criteria	Since 1978, St Gallen conferences have developed consensus opinions for managing early breast cancer. These guidelines, classifying women with breast cancer as being at minimal/low, intermediate, and high risk, are recognized as the leading European treatment guidelines and in the United States are strongly supported by both the American Society of Clinical Oncology and the National Comprehensive Cancer Network. In particular, St Gallen Breast Cancer Guidelines provide recommendations for adjuvant systemic therapy.
Standard error	The standard deviation of an estimate of a population parameter. The standard error of the mean is the standard deviation of the estimate of the population mean value.
Standard gamble	A direct preference or utility measure that effectively asks respondents to rate their quality of life on a scale from 0 to 1.0, where 0 is death and 1.0 is full health. Respondents choose between a specified time x in their current health state and a gamble in which they have probability P (anywhere from 0 to 0.99) of full health for time x , and a probability $1 - P$ of immediate death.
Standards	Authoritative statements of minimal levels of acceptable performance or results, excellent levels of performance or results, or the range of acceptable performance or results.
STARI	Southern tick-associated rash illness (Masters disease).
Statistical inference	Statistical methodologies to make deductions about underlying truth. There are two principle functions: (1) To predict or estimate a population parameter from a sample statistic, and (2) to test statistically based hypotheses.
Statistical significance	A term indicating that the results obtained in an analysis of study data are unlikely to have occurred by chance, and the null hypothesis is rejected. When statistically significant, the probability of the observed results, given the null hypothesis, falls below a specified level of probability (most often $P < 0.05$).
Stereotactic radiosurgery	A treatment that focuses radiation to the shape of the tumor and results in minimal damage to surrounding tissue.
Stomach neoplasms	An abnormal mass of stomach tissue, including both benign gastric tumors (eg, MALTomas) and cancers.
Stopped early trials	Truncated randomized controlled trials (RCTs) are trials stopped early because of apparent harm because the investigators have concluded that they will not be able to demonstrate a treatment effect (futility), or because of apparent benefit. Believing the treatment from RCTs stopped early for benefit will be misleading if the decision to stop the trial resulted from catching the apparent benefit of treatment at a random high.

Term	Definition
Stopping rules	These are methodological and statistical guides that inform decisions to stop trials early. They can incorporate issues such as the planned sample size, planned and conducted interim analyses, presence and type of data monitoring including independent research oversight, statistical boundaries, and statistical adjustments for interim analyses and stopping.
Stroke	A stroke occurs when the blood supply is unable to reach a part of the brain.
Stroke, hemorrhagic	A stroke that occurs from bleeding.
Stroke, ischemic	A stroke that occurs from impairment to blood flow by atherosclerosis or emboli.
Structured abstracts	These abstracts often include critical information about research conduct omitted from the original reports. They do not include the introduction or the discussion sections of the original report or the conclusions of the original study.
Studies or study design	The way a drug study is organized or constructed.
Study to Understand Prognoses and Preference for Outcomes and Risks of Treatment (SUPPORT)	A 1995 prospective cohort study of outcomes, preferences, and decision making in seriously ill hospitalized adults and their families. (See initial publication: SUPPORT Principal Investigators. A controlled trial to improve care for terminally ill hospitalized patients: the Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatment (SUPPORT). <i>JAMA</i> . 1995;274:1591-1598.) [PMID: 7474243]
Subgroup analysis	The separate analysis of data for subgroups of patients, such as those at different stages of their illness, those with different comorbid conditions, or those of different ages.
Suicide, assisted	Synonym for physician-assisted suicide, the prescribing of lethal medications for patients to self-administer.
Supraventricular tachycardia	A rapid heart rate arrhythmia that originates in the atria.
Surrogate decision makers	Family members or others appointed to make decisions for the patient when he/she is unable to do so.
Surrogate outcomes or endpoints	Outcomes that are not in themselves important to patients but are associated with outcomes that are important to patients (eg, bone density for fracture, cholesterol for myocardial infarction, and blood pressure for stroke). These outcomes would not influence patient behavior if they were the only outcomes that would change with an intervention.
Survey	Observational study that focuses on obtaining information about activities, beliefs, preferences, knowledge, or attitudes from respondents through interviewer-administered or self-administered methods.

Term	Definition
Survival analysis	A statistical procedure used to compare the proportion of patients in each group who experience an outcome or endpoint at various time intervals over the duration of the study (eg, death).
Survival curve	A curve that starts at 100% of the study population and shows the percentage of the population still surviving (or free of disease or some other outcome) at successive times for as long as information is available.
Survival rate	The percentage of people in a study or treatment group who are alive for a given period after diagnosis.
Symptom	Any phenomenon or departure from the normal in function, appearance, or sensation reported by the patient and suggestive or indicative of disease. Symptoms are considered subjective.
Syncope	Fainting; a temporary loss of consciousness, usually as a result of impaired blood flow to the brain.
Syndrome	A collection of signs and/or symptoms and/or physiological abnormalities.
Syndrome diagnosis	When no reference standards exist, investigators' degree of diagnostic certainty is much lower. In these situations, known sometimes as syndrome diagnosis, diagnostic criteria usually rely on a list of clinical features required for the diagnosis. See also Syndrome.
Synonymous SNP	A SNP that does not lead to a change in the amino acid sequence compared with the common or wild-type sequence. Compare to <i>nonsynonymous</i> , in which there is a change in the amino acid sequence as a result of the SNP.
Synovial fluid	Fluid found in the cavities of synovial joints.
Systemic inflammatory response syndrome (SIRS)	SIRS is a severe, whole-body reaction to an event such as trauma or infection. It is often a characteristic of sepsis and may be useful in determining the likelihood of bacteremia. See also Bacteremia.
Systematic review	1. The consolidation of research evidence that incorporates a critical assessment and evaluation of the research (not simply a summary) and addresses a focused clinical question using methods designed to reduce the likelihood of bias. 2. The identification, selection, appraisal, and summary of primary studies addressing a focused clinical question using methods to reduce the likelihood of bias.
T-test	A parametric statistical test that examines the difference between the means of 2 groups of values.
Tachycardia	A heart rate that is faster than the normal range of a resting heart rate (typically 60-100 beats per minute). See also ventricular tachycardia, supraventricular tachycardia, and atrioventricular nodal reentry.

Term	Definition
Tai chi	An exercise consisting of slow, rhythmic movements that emphasize trunk rotation, weight shifting, coordination, and gradual narrowing of lower extremity stance.
Target condition	In diagnostic test studies, the condition the investigators or clinicians are particularly interested in identifying (eg, tuberculosis, lung cancer, or iron-deficiency anemia).
Target endpoints	In intervention studies, the condition the investigators or clinicians are particularly interested in identifying and in which it is anticipated the intervention will decrease (eg, myocardial infarction, stroke, or death) or increase (eg, ulcer healing). See also Cohort study.
Target-negative	In diagnostic test studies, patients who do not have the target condition.
Target-positive	In diagnostic test studies, patients who do have the target condition.
Teach-back method	A technique to assess understanding in which the patients or family members are asked to restate what was just discussed.
Tension-type headache	A headache marked by mild to moderate pain of variable duration that affects both sides of the head. The pain can radiate from the neck, back, eyes, or other muscle groups in the body. This is the most common type of headache disorder.
Terminal cancer prognostic score	An index for predicting length of survival in terminally ill cancer patients.
Terminal care	Palliative care or care focused primarily on relieving pain and physical symptoms, enhancing psychosocial supports, and assisting patients and families to make the best possible decisions in the face of serious, potentially life-threatening illness, specifically for patients who are terminally ill.
Terminal delirium	Delirium in actively dying patients that is often untreatable and will eventually cease only with the patient's death.
Tertiary care	Medical care provided to a patient when referred by one health professional to another with more specialized qualifications or interests. There are two levels of referred care: secondary and tertiary. Secondary care is usually provided by a broadly skilled specialist such as a general surgeon, general internist, or obstetrician. Synonymous with Referred care.

Term	Definition
Tertiary care center	A medical facility that receives referrals from both primary and secondary care levels and usually offers tests, treatments, and procedures that are not available elsewhere. Most tertiary care centers offer a mixture of primary, secondary, and tertiary care services so that it is the specific level of service rendered rather than the facility that determines the designation of care in a given study. See also Referred care; Primary care.
Tertiary palliative care	The academic medical centers where specialist knowledge for the most complex palliative care cases is practiced, researched, and taught.
Test threshold	The probability below which the clinician decides a diagnosis warrants no further consideration. See also Treatment threshold.
Theoretical saturation	The point at which iterations among data collection, analysis, and theory development yield a well-developed concept, and further observations yield minimal or no new information to further challenge or elaborate the concept. See also Informational redundancy.
Theory	Theory consists of concepts and their relationships.
Theory triangulation	Theory triangulation is a process whereby emergent findings are corroborated with existing social science theories. See also Triangulation.
Threshold NNT	Maximum number needed to treat (NNT) or number needed to harm (NNH) accepted as justifying the benefits and harms of therapy. See also Test threshold.
Time-series design	In this study design, data are collected at several times both before and after the intervention; data collected before the intervention allow the underlying trend and cyclical (seasonal) effects to be estimated. Data collected after the intervention allow the intervention effect to be estimated while accounting for underlying secular trends. The time-series design monitors the occurrence of outcomes or endpoints over a number of cycles and determines whether the pattern changes coincident with the intervention.
Tinel sign	Paresthesias in the distribution of the median nerve when the clinician taps on the distal wrist crease over the median nerve.
Tokuhashi Revised Scoring System	Simple scoring system for the preoperative evaluation of the prognosis for patients with spinal metastases. (See also Chapter 10, Spinal Cord Compression in Patients With Advanced Metastatic Cancer, Table 10-2.)

Term	Definition
Tomita Scale	Scale used in cases of spinal cord compression to assess patients' function and neurologic status. The neurologic outcome for each patient is predicted based on pretreatment neurologic status, pathologic type, nature of block (level and structural vs tumoral), and result of repeat fluoromyelography. For more information, see the following article for the scale: Tomita T, Galicich JH, Sundaresan N. Radiation therapy for spinal epidural metastases with complete block. <i>Acta Radiol Oncol.</i> 1983;22(2):135-143. [PMID: 6310968]
TPN	Abbreviation for total parenteral nutrition, in which all nutrition and hydration is given through a central or peripheral vein.
Tracheoesophageal speech	An alternate method for speech production without oscillation of the vocal folds in patients who have had total laryngectomy for cancer. The sound is produced by releasing gases from or through the esophagus.
Transition programs	Volunteer-driven services provided for both community-dwelling patients and residents of long-term care facilities. Transition programs enable hospices to provide services to people with life-limiting illnesses when they are not eligible for hospice care.
Transjugular intrahepatic portosystemic shunt (TIPS)	Angiographic procedure performed under fluoroscopic guidance wherein a wire mesh stent is placed within the liver to decompress the portal circulation directly into the hepatic vein. Indications for placement include variceal bleeding and refractory ascites in patients with cirrhosis.
Traube space	Traube space is an anatomic region defined by the sixth rib superiorly, the anterior border of the spleen, and the costal margin inferiorly. Dullness to percussion over Traube's space may indicate splenomegaly, although this can be a normal finding in a patient with a full stomach and is more difficult to assess in obese patients.
Treatment effect	The results of comparative clinical studies can be expressed using various intervention effect measures. Examples are absolute risk reduction (ARR), relative risk reduction (RRR), odds ratio (OR), number needed to treat (NNT), and effect size. The appropriateness of using these to express an intervention effect and whether probabilities, means, or medians are used to calculate them depend on the type of outcome variable used to measure health outcomes. For example, ARR, RRR, and NNT are used for dichotomous variables, and effect sizes are normally used for continuous variables. See also Absolute risk reduction; Relative risk reduction; Odds ratio; Number needed to treat.

Term	Definition
Treatment ranking	Ordering of treatments according to decreasing probability that they can produce better outcomes than competing interventions.
Treatment target	The manifestation of illness (a symptom, sign, or physiological abnormality) toward which a treatment is directed. See also Endpoint.
Treatment threshold	Probability above which a clinician would consider a diagnosis confirmed and would stop testing and initiate treatment. See also Test threshold.
Trial of therapy	In a trial of therapy, the physician offers the patient an intervention, reviews the impact of the intervention on that patient at some subsequent time, and, depending on the impact, recommends either continuation or discontinuation of the intervention.
Triangulation	1. More than one investigator collects and analyzes the raw data, such that the findings emerge through consensus among investigators. 2. In qualitative research, an analytic approach in which key findings are corroborated using multiple sources of information.
Trigger orders	Orders in response to which the computer decision support system (CDSS) would initiate action.
Trim-and-fill method	When publication bias is suspected in a systematic review, investigators may attempt to estimate the true intervention effect by removing, or trimming, small positive-result studies that do not have a negative-result study counterpart and then calculating a supposed true effect from the resulting symmetric funnel plot. The investigators then replace the positive-result studies they have removed and add hypothetical studies that mirror these positive-result studies to create a symmetric funnel plot that retains the new pooled effect estimate. This method allows the calculation of an adjusted confidence interval and an estimate of the number of missing trials.
True negative	Those whom the test correctly identifies as not having the target disorder.
True positive	Those whom the test correctly identifies as having the target disorder.
Tuskegee Syphilis Study	Study conducted between 1932 and 1972 in Tuskegee, Alabama, by the US Public Health Service in which investigators recruited 399 impoverished black sharecroppers with syphilis for research related to the natural progression of the untreated disease in hopes of justifying treatment programs for blacks. It became extremely controversial and a prime example of unethical research because the investigators failed to treat the patients with penicillin, which had been validated as an effective cure for the disease after 1940.

Term	Definition
Type I error	An error created by rejecting the null hypothesis when it is true (ie, investigators conclude that a relationship exists between variables when it does not).
Type II error	An error created by accepting the null hypothesis when it is false (ie, investigators conclude that no relationship exists between variables when, in fact, a relationship does exist).
UICC-TNM	The UICC-TNM (UICC referring to Union Internationale Contre le Cancer and TNM referring to tumor, node, metastases) system describes the extent of cancer in a patient's body by the size of the tumor, lymph nodes involved, and presence of any metastasis.
Ultrasonography	An imaging method that uses reflections and echoes of ultrasonic waves to visualize structures deep inside the body.
Unblinded	Patients, clinicians, those monitoring outcomes, judicial assessors of outcomes, data analysts, and manuscript authors are aware of whether patients have been assigned to the experimental or control group.
Understanding Treatment Disclosure (UTD)	A screening instrument for medical decision-making capacity that offers 3 scenarios (schizophrenia, ischemic heart disease, and major depression) to assess a patient's understanding of the disorder and its treatment options.
Unit of analysis error	When investigators use any sort of cluster randomization (randomize by physician instead of patient, practice instead of physician or patient, or village instead of participant) and analyze as if they have randomized according to patient or participant, they have made a unit of analysis error. The appropriate analysis acknowledges the cluster randomization and takes into account the extent to which outcomes differ between clusters independent of treatment effect.
United Network for Organ Sharing (UNOS)	Administers the Organ Procurement and Transplantation Network, collects and manages data on all organ transplantations in the United States, matches organ donors with recipients, and works with public policy-makers on transplantation-related policies. For more information, see the following Web site for the organization: http://www.unos.org .
Up-front costs	Costs incurred to "produce" the treatment such as the physician's time, nurse's time, and materials.
US Patient Self-Determination Act	US legislation requiring many hospitals, nursing homes, home health agencies, hospice organizations, health maintenance organizations, and other health care institutions to provide information about advance care directives to adult patients on their admission to the health care facility.

Term	Definition
Utilitarian	A consequentialist or utilitarian view of distributive justice would contend that even in individual decision making, the clinician should take a broad social view in which the action that would provide the greatest good to the greatest number is favored. In this broader view, the effect on others of allocating resources to a particular patient's care would bear on the decision. An alternative to the deontological view.
Utility	Patient preferences that are measured with techniques consistent with modern utility theory. Patient preferences refer to the degrees of subjective satisfaction, distress, or desirability that patients or potential patients associate with a particular health outcome. Utility theory is based on specific axioms that describe how a rational decision maker ought to make a decision when the outcomes of that decision are uncertain. Commonly used measures of utility include the "standard gamble" or "time trade-off" techniques.
Utility measures	Measures that provide a single number that summarizes all of health-related quality of life (HRQL) and are preference- or value-weighted; these have the preferences or values anchored to death and full health and are called utility measures. See also Health-related quality of life.
Utilization review	An organized procedure carried out through committees to review admissions, duration of stay, and professional services provided, and to evaluate the necessity of those services and promote their most efficient use.
Validity	In health status measurement terms, validity is the extent to which an instrument measures what it is intended to measure. In critical appraisal terms, validity reflects the extent to which the study results are likely to be subject to systematic error and thus be more or less likely to reflect the truth. See also Credibility.
Values	When used generically, as in "values and preferences," we refer to the collection of goals, expectations, predispositions, and beliefs that individuals have for certain decisions and their potential outcomes. The incorporation of patient values and preferences in decision making is central to evidence-based medicine. These terms also carry specific meaning in other settings. Measurement tools that require a choice under conditions of uncertainty to indirectly measure preference for an outcome in health economics (eg, the standard gamble) quantify preferences. Measurement tools that evaluate the outcome on a scale with defined favorable and unfavorable ends (eg, visual analog scales, feeling thermometers) quantify values.

Term	Definition
Variance	The technical term for the statistical estimate of the variability in results.
Variant allele	The allele at a particular SNP that is the least frequent in a population.
Varices	Enlarged blood vessels, usually in the esophagus or stomach.
Ventricular tachycardia	A serious rapid heart rate arrhythmia that originates in the ventricles.
Verification bias	Results of a diagnostic test influence whether patients are assigned to an intervention group. See also Differential verification bias.
Vibratory sensation testing	Vibratory sensation is detected with a vibrating tuning fork. Vibration and position sense (proprioception) are associated, as both are mediated through the dorsal columns.
Vicarious posttraumatic growth	The phenomenon of clinician growth that results from witnessing positive sequelae of other people's experiences of trauma. This may include the clinician's feelings that his/her own life has been enriched, deepened, or empowered by witnessing the patient's or family's posttraumatic growth.
Visual acuity	Sense of visual perception. Normal visual acuity is 20/20, which means that the patient can see at 20 feet distance what a normal person can see at 20 feet. Decreased acuity, such as 20/40 vision, means that the patient can see at 20 feet what the normal person can see at 40 feet.
Visual Analog Scale for the Management of Acute Pain	A measurement instrument for subjective characteristics or attitudes to pain that cannot be directly measured. When responding to an item, respondents specify their level of agreement with a statement by indicating a position along a continuous line between 2 end points.
Visual analogue scale	A scaling procedure consisting of a straight line anchored on each end with words or phrases that represent the extremes of some phenomenon (eg, "worst pain I have ever had" to "absolutely no pain"). Respondents are asked to make a mark on the line at the point that corresponds to their experience of the phenomenon.
Visual field	The entire amount of space a patient can see without moving his or her eyes. Also called field of vision.
Vitreous detachment	Posterior vitreous detachment (PVD) involves separation of the posterior vitreous from the retina as a result of vitreous degeneration and shrinkage.
Vitreous hemorrhage	The release of blood from the blood vessels in the vitreous.

Term	Definition
Waddell nonorganic signs	Physical examination signs that are often used to assess for nonorganic or psychological components of back pain. These signs include superficial or nonanatomic tenderness, pain on axial loading or simulated rotation, nonreproducibility of pain when patient is distracted, regional weakness or sensory change, and overreaction. Waddell signs were designed to assess current pain rather than to predict future disability and have not been studied for that purpose.
Washout period	In a crossover or N-of-1 trial, the period required for the treatment to cease to act once it has been discontinued.
Weighted kappa	A measure of the extent to which observers achieve agreement beyond the level expected to occur by chance alone. Kappa can take values from 0 (poor agreement) to 1.0 (perfect agreement).
Whispered voice test	A hearing test in which the examiner stands behind the patient and whispers 3 letters/numbers while gently using the end of his or her finger to occlude and rub the external auditory canal of the patient's nontested ear. The patient is considered to have passed the screening test if they repeat at least 3 out of a possible total of 6 letters/numbers correctly.
Whooping cough	A cough with a distinctive whooping noise. Also known as pertussis.
Wild-type allele	The allele at a particular SNP that is most frequent in a population, also called "common" allele.
Withdrawing treatment	Discontinuing medical treatment of a terminal disease while the patient continues to receive comfort care.
Wound erythema	Abnormal redness of the skin; considered a classic sign of wound infection.
χ^2 test	A nonparametric test of statistical significance used to compare the distribution of categorical outcomes in two or more groups, the null hypothesis of which is that the underlying distributions are identical.
Xanthochromia	The yellow coloring of cerebrospinal fluid after a hemorrhage. The finding of xanthochromia during lumbar puncture greatly increases the probability of hemorrhage.
Xerostomia	Dryness of the mouth.
Z-technique	An approach to wound-swabbing in which the swab is rotated between the thumb and forefinger while being moved over the entire wound surface in a zigzag manner.