A

Acquisition cost — The purchase cost of a drug to an institution.

Adherence *(also called compliance)* — Taking medications or undergoing other treatment as prescribed, including amount, frequency and food restrictions.

Affiliated provider — Healthcare provider or facility that is part of the HMO's network and usually having formal arrangements to provide services to the HMO member.

Average costs — Total costs divided by the number of units.

B

Bias — A range of factors that systematically influence the measures undertaken independent of the studied intervention; a tendency, intentional or unintentional, to inappropriately or unfairly favour one or more of the interventions being evaluated.

Budget impact analysis — A valid computing framework (a 'model') that allows users to understand the relationship between the characteristics of their setting and the possible budget consequences of a new health technology (or a change in usage of current health technologies).

C

Cap — The maximum level of expenditure reimbursable by a plan in a specified time period (e.g. 1 month).

Capitation — Specified amount paid periodically to a health provider for a group of specified health services, regardless of quantity rendered. Amounts are determined by assessing a payment 'per covered life' or per member. Providers are not reimbursed for services that exceed the allotted amount. The rate may be fixed for all members or it can be adjusted for the age and gender of the member, based on actuarial projections of medical utilization.

Case management — Method designed to accommodate the specific health services needed by an individual through a coordinated effort to achieve the desired health outcome in a cost-effective manner.

C

Co-insurance

A type of cost sharing: it refers to the amount a patient must pay for medical treatment. The term is most often used in a fee-for-service or preferred-provider plan. After deductibles are met, the plan begins paying a percentage (usually between 80 and 100%) of covered health services. The remaining amount, called co-insurance, is for the patient to pay.

Conjoint analysis

A method for establishing the relative importance of the different attributes of a healthcare intervention.

Contingent valuation

A survey study that gathers data on a population's willingness to pay, or accept payment for, the intangible benefits/costs from a public health intervention or program.

Co-payment

A cost-sharing arrangement in which the HMO enrollee pays a specified flat amount for a specific service (such as $10 for an office visit or $5 for each prescription drug). The amount paid must be nominal to avoid becoming a barrier to care.

Cost/QALY gained

A measure used in CUA to assist the comparison between healthcare interventions. It is expressed as a monetary amount per QALY gained.

Cost-benefit analysis (CBA)

Analysis that determines the relative costs and benefits of an intervention by measuring both in the same (monetary) units; this technique involves assigning a monetary value to intangible outcomes such as life-years gained. This term is often erroneously used to describe all economic evaluations.

Cost-benefit ratio (CBR)

This compares the discounted future stream of incremental benefits with incremental costs.

Cost-benefit ratio = sum of benefit – cost / discount factor for all time periods.

Cost-consequence analysis

A variant of cost-effectiveness analysis; here the components of incremental costs and consequences (health outcomes) of alternative programs are computed and listed, without any attempt to aggregate these results into cost-effectiveness ratios or cost-utility ratios.

C

Cost-containment

Strategies used to limit or control costs. Cost-containment programs often include requirements by insurance companies for second opinions and pre-admission approvals for hospitalization. Cost-containment strategies may also include government policies developed with the intention of slowing the rising expenditures on healthcare.

Cost-effectiveness analysis (CEA)

A method of comparing alternative treatments when the costs and consequences vary. The outcomes of the different interventions are always measured in the same natural health units (e.g. blood pressure, cholesterol).

Cost-effectiveness thresholds

A determinant of whether an intervention is cost effective based on the willingness to pay up to a pre-determined threshold. While controversial, interventions with cost-effectiveness ratios less than $50,000 per QALY saved are generally accepted as reasonable expenditures.

Cost-minimization analysis

A type of analysis that is designed to identify the least costly alternative when all the options are shown to be equally effective.

Cost offsets

Decreases in healthcare costs that occur as a result of an intervention. While some costs might be offset it is still possible for total costs to actually increase.

Cost-of-illness study

A study that identifies and measures all the costs of a particular disease, including the direct, indirect, and intangible dimensions. The output, expressed in monetary terms, is an estimate of the total burden of a particular disease to society.

Cost per event avoided

The total cost of the intervention divided by the number of events avoided as a result of the intervention.

Cost per life-year gained

Cost-effectiveness analyses estimate the marginal cost and marginal effectiveness of a treatment option, compared with an alternative treatment. The difference in mean survival combined with the difference in the average cost of the interventions translates to the cost per life-year gained (LYG).

Cost-utility analysis (CUA)

A type of analysis that measures the benefits in terms of utility-weighted years of life (often a QALY). Can be considered as a specialized form of cost-effectiveness analysis.

D

Decision analysis	A technique that formally identifies the options in a decision-making process, quantifies the probable outcomes (and costs) of each, determines the option that best meets the objectives of the decision maker and assesses the robustness of this conclusion.
Decision tree	A graphical representation of the probable outcomes following the various decision options in a decision analysis.
Deductible	A fixed amount that a patient must pay before reimbursement begins.
Diagnosis-related groups (DRGs)	Standard classification codes for diagnoses; used to determine fixed-amount reimbursement to healthcare providers for all care given in connection with standard diagnostic categories.
Direct costs	The goods, services and other resources that are used in providing some healthcare intervention. Fixed and variable costs that are directly associated with a healthcare intervention.
Disability-adjusted life-years (DALYs)	Unit of health outcome in which the patient's age-specific life expectancy is adjusted for the loss of health and years of life that result from disease or injury; analogous units include 'quality-adjusted life-years' and 'healthy-years equivalents'.
Discounting	The process by which the streams of future costs and/or benefits (beyond 12 months) are converted to equivalent present values.
Discount rate	The rate used in a discounting formula to convert future costs and/or benefits into equivalent present values.
Disease management	A multidisciplinary, continuum-based approach to healthcare delivery for populations with, or at risk for, medical conditions that incorporate significant amount of self-care (e.g. chronic diseases such as diabetes, chronic obstructive pulmonary disease). The aim is to support the practitioner-patient relationship and plan of care; emphasize the prevention of exacerbations and complications through the use of cost-effective evidence-based practice guidelines and patient empowerment strategies such as self-management education; and continuously evaluate clinical, humanistic and economic outcomes with the goal of improving overall health.

D

Dominance

When comparing two interventions, 'dominance' describes the situation in which an intervention (the dominant one) is both more effective and less costly than the alternative.

Drug formulary

Varying lists of prescription drugs approved by a given health plan for distribution to a covered person through specific pharmacies. Health plans often restrict or limit the type and number of medicines allowed for reimbursement by limiting the drug formulary list.

E

Economic evaluation

The techniques developed in economics to assess the costs and benefits of alternative health interventions. Involves the explicit measurement and valuation of resource consumption or cost and health outcomes (often referred to as consequences or benefits), so that they can be related to the costs of alternative treatment strategies.
The economic evaluation needs to be set in the context of the overall quality and relevance of the study. This may mean appraising the study as well, e.g. if the randomized controlled trial (RCT) is of poor quality, there is no point pursuing an appraisal of the economic evaluation.

Economic model

A simplified representation of economic reality showing the inter-relationships between selected economic variables.

Effectiveness

The extent to which a treatment achieves some health outcome in the real world (as opposed to the controlled setting of a clinical trial).

Efficacy

The effect of a treatment under its ideal conditions (i.e. within the setting of a clinical trial).

Epidemiology

The statistical frequency, distribution and the determinants of a disease.

Evidence-based guidelines

Protocols, pathways, standards of care, or clinical guidelines that are developed from valid and reliable scientific research.

Evidence-based medicine (EBM)

The use of current best evidence in an accurate, explicit and thorough way when making decisions about the care of patients. The practice of evidence-based medicine may integrate individual clinical expertise with the best available external clinical evidence from systematic research.

E

Exclusive Provider Organization (EPO)

Plan that limits coverage of non-emergency care to contracted healthcare providers. Operates similar to an HMO plan but is usually offered as an insured or self-funded product. Sometimes looks like a managed care organization that is organized in a similar way to a PPO, in that physicians do not receive capitated payments, but the plan only allows patients to choose medical care from network providers. If a patient elects to seek care outside of the network, then he or she will usually not be reimbursed for the cost of the treatment.

F

Fee-for-service

A traditional form of reimbursement in healthcare where payment is based on services rendered to the patient. Fee-for-service typically allows patients to obtain care from doctors or hospitals of their choosing, but in return for this flexibility, patients may pay higher co-payments or deductibles.

Final outcome

The ultimate outcome of a therapy or disease in terms of overall impact on both quality of life and life expectancy.

Formulary

A list of drugs that are eligible for reimbursement, or are preferred by a healthcare provider.

G

Gatekeeper

A Primary Care Physician (PCP) involved in overseeing and coordinating all aspects of a patient's medical care. For a patient to receive a specialty care referral or hospital admission, the PCP must pre-authorize the visit, unless there is an emergency.

H

Health economics

A branch of economics that analyzes the various costs and benefits of healthcare interventions.

H

Health Maintenance Organization (HMO)	HMOs offer prepaid, comprehensive health coverage for both hospital and physician services. The HMO is paid monthly premiums or capitated rates by the payers, which include employers, insurance companies, government agencies, and other groups representing covered lives. The members of an HMO are required to use participating or approved providers for all health services and generally all services will need to meet further approval by the HMO through its utilization program. HMOs are the most restrictive form of managed care benefit plans because they restrict the procedures, providers and benefits.
Health outcomes	The effects on health of performing an intervention; frequently reported health outcomes include morbidity, mortality, and quality of life.
Health-related quality of life (HRQoL) measures	Variables that describe non-traditional health outcomes (i.e. outcomes other than morbidity and mortality); examples include physical functioning, social functioning, role limitations due to physical health, role limitations due to emotional problems, mental health, vitality, bodily pain, and general health perceptions.
Health technology	Any intervention that may be used to promote health, to prevent, diagnose or treat disease or for rehabilitation or long-term care. This includes the pharmaceuticals, devices, procedures and organizational systems used in healthcare.
Health Technology Assessment (HTA)	The systematic evaluation of properties, effects, and/or impacts of healthcare technology. It may address the direct, intended consequences of technologies as well as their indirect, unintended consequences. Its main purpose is to inform technology-related policy-making in healthcare. HTA is conducted by interdisciplinary groups using explicit analytical frameworks drawing from a variety of methods.
Healthy years equivalent	The hypothetical number of years of perfect health that would be equivalent to the actual number of years spent in a less than perfect state.
Horizon scanning	The systematic identification of technologies in development that could have important effects on healthcare, and that might be considered for Health Technology Assessment.

I, J & K

Incremental analysis	The analysis of the additional costs and benefits that result from two different treatment options (found by dividing the cost differences by the outcome differences).
Incremental cost-effectiveness ratio (ICER)	Defined as the ratio of the change in costs of a therapeutic intervention (compared with the alternative, such as doing nothing or using the best available alternative treatment) to the change in effects of the intervention. The calculation of ICER = (cost of treatment B – cost of treatment A) / (effect of treatment B – effect of treatment A)
Indirect costs	The lost productivity suffered by the national economy as a result of illness and the costs born by the patients and their carers as a result of the illness.
Intangible costs	Costs that are non-monetary and are not easily measured. For example, intangible costs could relate to a patient's level of pain and suffering and the limitations it imposes on their quality of life.

L

League tables	League tables rank medical treatments according to their cost-utility ratios and act as a guide in the allocation of resources.
Life-years gained (LYG)	Number of years of life gained as a result of an intervention.

M

Managed care	A system of healthcare that is designed to control costs and quality. Includes a review of medical necessity, incentives to use certain providers, and case management.
Managed Care Organization (MCO)	Used to describe several different types of organization including Health Maintenance Organizations (HMOs), Preferred Provider Organizations (PPOs) and Exclusive Provider Organizations (EPOs).
Marginal analysis	An analysis of the additional costs and benefits that can be obtained from one extra unit.
Marginal costs	The change in total costs resulting from a one-unit increase or decrease in the service, e.g. the cost of one additional patient.

M

Market access

The process achieved once a pharmaceutical has gained regulatory approval, usually based upon efficacy, safety and quality of production, together with reimbursement and/or formulary approval.

Markov model

Often used to 'model' progressive illnesses, Markov models are used to represent various possible health states and the probability of transition among such states.

Medicaid

A federally-aided, state-operated US Government health insurance program for low-income individuals. Medicaid pays for medical services for children and their caretakers, pregnant women, and people who are disabled, blind or aged ≥65 years, who can demonstrate a need through income and assets standards.

Medicare

A US health insurance program administered by the Federal government for people ≥65 years, individuals (including those aged <65) with certain disabilities, and those with end-stage renal disease.

Medicare Part A

(also known as hospital insurance)

The Medicare component that provides basic hospital insurance to cover the costs of inpatient hospital services, extended care facilities (including home care services) after hospitalization, confinement in nursing facilities, and hospice care.

Medicare Part B

(also known as medical insurance)

The Medicare component that provides benefits to cover the costs of physicians' professional services, including services received in a physician's office, a hospital, an extended-care facility, a nursing home, or at home.

Medicare Part C

(also known as Medicare + Choice)

The expansion of the types of private healthcare plans that may offer Medicare benefits to include medical savings accounts, managed care plans, and private fee-for-service plans, and in so doing, provide consumers with more types of plans to choose from, and more insurance companies that will provide benefits within each type of plan. The Medicare Part C programs are in addition to the fee-for-service options available under Medicare Parts A and B.

M

Medicare Part D
The Medicare component that provides insurance to cover the cost of prescription drugs. This relatively new prescription drug benefit also includes coverage for preventive screenings and tests.

Meta-analysis
A systematic process for finding, evaluating and combining the results of sets of data from different scientific studies.

Micro-costing
A precise estimate of costing in which each individual component of resource use (e.g. laboratory tests, days of stay by ward) is estimated and a unit cost derived for each, thus providing accountability for all costs.

Modeling
A technique that employs a (usually mathematical) representation of a real-world healthcare system and incorporates some or all of the known properties of the system. It provides a means of basic analysis of the consequences and complications of various treatment options, which can be used in decision making. These are also used to extrapolate from existing data. Models may be used in situations where relevant clinical trial data are unavailable, or to predict the effects of changes (e.g. in a treatment pathway) on overall outcome.

Monte Carlo simulation
A technique that uses random sampling of data from a known distribution and multiple simulations of a process (e.g. patient response to drug administration) to estimate potential outcomes.

Multi-attribute scale
A scale that measures quality of life and then also has a scoring function that will convert the measured health status into health-related quality of life (usually on scale of 0 to 1) for use in QALY calculations.

N

Net benefit
Benefit minus total cost (in monetary units).

Net costs
Total costs of an intervention minus any financial savings associated with the intervention (e.g. decreased drug usage or duration of hospitalization).

Net social benefit
The benefit (in money) minus the total cost (also in money) used as a basic decision-making criterion in CBA.

N

Number needed to treat (NNT)

The number of patients that need to be treated with therapy X to achieve an improvement in outcome (compared with therapy Y) for a treatment period of Z weeks (or other unit of time). Number needed to treat must always specify the comparator, the therapeutic outcome, and the duration of treatment necessary to achieve the outcome.

O

Opportunity cost

The costs of resources consumed expressed as the value of the next best use of these resources. Addresses the idea that if resources are used in one way, they cannot be used for something else. Resources may be monetary, but may reflect other areas, e.g. staff time, operating theatre use.

Outcomes research

Research that evaluates the effects of various healthcare interventions on patient morbidity, mortality, functional status, mental wellbeing, or other aspects of health-related quality of life.

P

Patient reported outcomes (PROs)

A PRO is a measurement of any aspect of a patient's health status that comes directly from the patient (i.e. without the interpretation of the patient's responses by a physician or anyone else).

Payers' perspective

The costs and consequences of healthcare from the perspective of those who actually pay for treatments.

Perspective

The point of view from which an economic evaluation is conducted. This varies from the level of the patient, the healthcare system, through to considering the whole of society.

Pharmacoeconomics

A discipline developed as a means of helping to make those allocation decisions around the use of medicines, i.e. it is the discipline that takes the principles and techniques of health economics and then applies them to the role of pharmaceuticals. It involves identification, measurement, and analysis of the overall cost and consequences of drug therapy. Pharmacoeconomic studies compare pharmaceutical products and their relevant alternatives with respect to both their costs and consequences.

P

Pharmacy and Therapeutics Committee (P&TC)	A managed care organization (MCO) committee that develops, updates, and administers the MCO's formulary, and reviews reports on clinical trials, drug utilization reports, current and proposed therapeutic guidelines, and economic data on drugs.
Pharmacy benefit structure	A structure implemented by third-party payers (e.g. insurers or employers) whereby drugs are listed in different incremental levels or tiers (usually one, two, or three tiers). Members have different co-payments depending on the tier to which a drug is assigned (see Pharmacy benefit – tier 1, Pharmacy benefit – tier 2, and Pharmacy benefit – tier 3).
Pharmacy benefit – Tier 1	A pharmacy benefit co-payment system under which a member is required to pay a single co-payment for all drugs.
Pharmacy benefit – Tier 2	A pharmacy benefit copayment system under which a member is required to pay one co-payment amount for a generic drug and a higher co-payment amount for a brand-name drug.
Pharmacy benefit – Tier 3	A pharmacy benefit co-payment system under which a member is required to pay one co-payment amount for a generic drug, a higher co-payment amount for a brand-name drug included on the health plan's formulary, and an even higher co-payment amount for a non-formulary drug.
Pharmaco-epidemiology	Study of the use and effects of pharmacological agents at the population level.
Point-of-Service Plan (POS)	A health services delivery organization that offers its members the option of choosing to receive a service from participating or non-participating providers. Generally the level of coverage is reduced for services associated with the use of non-participating providers.
Preferred Provider Organization (PPO)	Some combination of hospitals and physicians that agrees to render particular services to a group of people, perhaps under contract with a private insurer. A healthcare delivery system that contracts with providers of medical care to provide services at discounted fees to members. Members may seek care from non-participating providers but generally are financially penalized for doing so by the loss of the discount and subjection to co-payments and deductibles.

P

Probabilistic sensitivity analysis

A technique in which the impact of uncertainties in random variables on uncertainty in the model output is quantified by assigning probability distributions to uncertain model parameters and using Monte Carlo simulations (q.v.) to estimate the sensitivity of the model output to parameter uncertainty; frequently used in association with cost-effectiveness analysis (q.v.).

Providers' perspective

The expense to the provider (hospital, managed care organization, nationalized health service, or private practice physician) of providing a healthcare intervention or service, including the charges paid by the payer.

Q

Quality-adjusted life-year (QALY)

A unit of healthcare outcomes that adjusts gains (or losses) in years of life subsequent to a healthcare intervention by the quality of life during those years. QALYs can provide a common unit for comparing cost utility across different interventions and health problems.

Quality of Life (QoL)

A measure commonly used in clinical studies, which attempts to assess the physical, social and emotional aspects of a patient's well-being that are relevant and important to the individual. It includes factors such as vitality, level of pain, mental health, side effects of treatment, social interactions, sexual function, and ability to work and maintain routine daily activities.

R

Reference pricing

Method of determining reimbursement for drug usage in which a healthcare organization (typically a health maintenance organization [q.v.] or a nationalized health system) limits the amount it will reimburse patients or providers. The limit is based on the cost of a particular drug (often the least expensive) within each therapeutic category.

Reimbursement

The process by which a provider of healthcare receives a fee, generally from the government or an insurer, which covers either the whole, or part of the cost, of an intervention.

R

Responsiveness

The extent to which a quality-of-life instrument can detect small but clinically important changes.

Revealed preference

The notion that what you want is revealed by what you do, not by what you say.

Risk sharing

The distribution of financial risk among parties furnishing a service. For example, if a hospital and a group of physicians from a corporation provide healthcare at a fixed price, a risk-sharing arrangement would entail both the hospital and the group being held liable if expenses exceed revenues.

S

Sensitivity analysis

The standard method of allowing for uncertainty in economic evaluations. Involves varying the values of key parameters, one at a time, to see if the results of the evaluation are sensitive to the assumptions made.

Societal perspective

Relating to the costs and consequences of healthcare from the perspective of whom they accrue.

Standard gamble

A process used to derive utilities for health states, which can then be used to calculate QALYs. The patients are asked to choose between a state where they will remain over time or gambling on the chance of a complete recovery or death. The probabilities between the options are varied until the patient is indifferent between the two options.

Systematic review

A review of a clearly formulated question that uses systematic and explicit methods to identify, select and critically appraise relevant research, and to collect and analyze data from the studies that are included in the review.

T

Third-party payer

Any group (e.g. insurer, HMO) acting as a fiscal intermediary between provider and consumer.

Time trade off

A tool used in health economics to help determine the quality of life of a patient or group. Patients choose between spending less time in a state of perfect health or spending more time in a state of less perfect health. The time element is varied until they are indifferent between the two options.

T

Total costs The sum of all variable and fixed costs associated with delivering healthcare; as volume (number of patients) increases, total costs will increase but, if fixed costs remain unchanged, the unit cost will decrease.

Transfer payment A payment (transfer of money) from one group to another without consumption of any physical resource; not recognized as a cost to society (e.g. taxation).

Transition probabilities Values that define the probability of an individual moving from one health state to another in a disease progression 'model'.

U

Uncertainty Generally refers to the situation where the true value of a parameter is unknown.

Unit cost The cost of performing one intervention (e.g. a surgical procedure) on one patient.

Utility The numerical value assigned by an individual to a preference for, or a desirability of, a specific level of health status or a specific health outcome. By convention, utility is measured on a scale with 0 = death and 1 = full health.

Utility scale A scale with two endpoints (perfect health and death) that is used to measure utility for various health states.

W, X, Y & Z

Willingness to pay The maximum amount of money that an individual is prepared to give up to ensure that they would receive some proposed healthcare intervention.

Within-trial analysis Economic analysis that uses data collected during a single clinical trial.