

# GLOSSARY

**ADVERSE SELECTION:** Insurance is a process of *risk-pooling*. Transactors each facing possible large losses agree to contribute a small premium payment to a common pool, to be used to compensate whichever of them actually suffers the loss. Contributions must cover losses plus administration costs. If potential purchasers face different risks, which are not matched by different premiums, then high risk people will tend to join, and low risk people, whose premiums would exceed their expected losses, may not. Such *adverse selection* raises the premiums of those in the plan, which must be sufficient to cover the losses of the insured group. The risk-pooling process may break down entirely if the lowest risks in the insured group continue to withdraw.

**AGENCY:** In an *agency* relationship the seller of a commodity acts not in a strictly self-interested manner but rather to direct the buyer's decisions on the buyer's behalf. Such a relationship may respond to **ASYMMETRY OF INFORMATION**, which would otherwise permit the seller to exploit an informational advantage. Professional institutions are intended to induce and protect provider agency behaviour which will (usually) resolve the inevitable conflict of (economic) interest between provider and consumer in favour of consumer/patients.

**ALLOCATIVE EFFICIENCY:** *See* EFFICIENCY.

**ASYMMETRY OF INFORMATION:** A particular class of transactions displays *asymmetry of information* if sellers normally have more information about the value of commodities to buyers than buyers have or can reasonably hope to get.

**CAPITATION REIMBURSEMENT:** *See* REIMBURSEMENT.

**CARTEL:** Suppliers of similar products may co-ordinate their behaviour by fixing common prices, sharing markets, cross-licensing patents, or otherwise behaving like a single organization to raise overall prices and profits. Such co-ordination ranges from "conscious parallelism" -- behaviour recognizing mutual interdependence -- through formal agreements, to outright merger. Cartel activities by professional organizations may include collective fee setting, regulation or suppression of advertising, and controls on practice structure and organization.

**COMMUNITY RATING:** An insurance program charging each enrollee in a region the same premium for a particular level of coverage, regardless of individual characteristics affecting probability of loss, is *community rated*.

**CONSUMER SOVEREIGNTY:** As a **NORMATIVE** postulate, *consumer sovereignty* implies that the proper aim of economic activity is the satisfaction of consumer wants, as interpreted by themselves rather than external observers, bureaucrats, or experts. As a **POSITIVE** statement, consumer sovereignty describes the extent to which consumers' preferences do in fact determine how much of what commodities get produced in a particular economy or society.

**COST-BENEFIT, COST-EFFECTIVENESS, COST-UTILITY ANALYSIS:** Program evaluation asks whether the consequences of a particular activity are sufficiently valuable to justify its costs. It requires the assembly of information on all the costs and consequences of the activity in a comparable form. *Cost-benefit analysis* consists of identifying all costs and consequences across the whole society and valuing each in terms of a common unit such as dollars. The activity is worth doing if its net present value (dollar benefits less dollar costs, each appropriately discounted), is positive. *Cost-effectiveness analysis* measures outcomes in terms of some natural unit, such as numbers of children immunized or numbers of fatal accidents averted, and calculates costs *per* this natural unit. The value of the natural unit of outcome remains a political judgement. *Cost-utility analysis* extends cost-effectiveness by converting the units of output to a common measure, their relative value to those experiencing the outcome (*see* LIFE YEARS).

**CREAM-SKIMMING or CREAMING OFF:** A rational transactor will try to select the most favourable cases out of a set of options. Insurance companies try to cover the "best" or lowest risks from a population, and avoid the high risks. For-profit hospitals in the U.S. are alleged to encourage their physicians to admit relatively healthy patients with private insurance and uncomplicated medical or surgical diagnoses. *Cream-skimming* therefore depends on a structure of prices or reimbursements which are not proportional to costs, as well as on the objectives of the organization, which define what constitutes "cream". Non-profit organizations might select cases by interest rather than profitability.

**DEMAND, SUPPLY:** The quantity of a commodity that buyers want to purchase, at given prices (to themselves), is the quantity *demanded*. It need not equal UTILIZATION, which measures the amount of the commodity actually used Up. SUPPLY refers to the amount of a commodity that present or potential sellers want to put on the market, in response to the price offered by (or on behalf of) buyers. Both supply and demand are behavioural concepts, describing the way particular transactors are expected to respond to prices offered or charged, assuming other factors are held constant.

**DIAGNOSIS-RELATED GROUPS (DRGS):** *See* REIMBURSEMENT.

**EFFECTIVENESS:** *See* EFFICACY.

**EFFICACY, EFFECTIVENESS:** The *efficacy* of a diagnostic or therapeutic intervention refers to its capacity to achieve a desired result under ideal circumstances. An efficacious intervention "works," if properly applied. *Effectiveness* refers to the impact of the intervention in actual practice. Patients may not comply with a prescription for an efficacious drug, because of complexity, side-effects, or simple lack of understanding. Practitioners may lack the ability to carry out an intervention properly. Or other circumstances may intervene.

**EFFICIENCY, ALLOCATIVE and TECHNICAL:** The production of particular commodities is *technically efficient* if it uses up the least costly quantity and mix of INPUTS consistent with the desired outcome. Technical efficiency depends on the relative prices of inputs, as well as on management; labour-intensive production may be wasteful in a high-wage economy, not in a low-wage one. *Allocative efficiency* refers to the mix of goods and services produced; an economy is allocatively efficient if a reallocation of resources from one type of production to

another could not be found which could make anyone better off without making someone else worse off. An economy that produced goods and services that no one wanted, but at the lowest possible cost, would be allocatively very inefficient, though technically efficient. People could be made better off by reallocating resources to other forms of production.

EPISODE-BASED REIMBURSEMENT: *See* REIMBURSEMENT.

EXTERNALITIES or EXTERNAL EFFECTS: One person or organization's behaviour may affect others, independent of any voluntary transaction. My playing of loud music at night disturbs your sleep; my refusal to be immunized increases your chance of getting polio, my failure to wear seatbelts increases your taxes to pay my hospital bills. Conversely my beautiful garden not only gives you pleasure, but raises your property value. Insofar as my behaviour fails to take account of such effects, because others have no way to induce me to respond to their preferences, I will (from a society-wide perspective) over-(under-)indulge in activities with negative (positive) externalities.

FALSE POSITIVE, FALSE NEGATIVE: Few diagnostic tests are absolutely accurate; most will yield a proportion of erroneous results. A *false positive* is a test result which is erroneously interpreted as showing a particular condition, when in fact the patient tested does not have the condition. A *false negative* wrongly identifies the patient as free of the condition.

FEE-FOR-SERVICE REIMBURSEMENT: *See* REIMBURSEMENT.

FIRM, FOR-PROFIT, NOT-FOR-PROFIT: The *firm* in economic analysis is a conceptual construct which directs the process of PRODUCTION. Its real-world counterpart might be a small owner-managed business, a partnership, or a giant multinational enterprise. Whatever its scale, the firm is a single transactor, a coherent decision-maker or management, focussing its attention on a well-defined objective or set of objectives. Most firms in industry or commerce are *for-profit*, their behaviour and responses to the external environment being determined by perceived profit opportunities. In a *not-for-profit* firm the legal owners are not entitled to remove resources for their own use. They act as trustees, carrying on production, to serve other objectives, such as community service somehow defined. In *not-only-for-profit* firms such as professional practices the owner has clear title to all profits. But the owner is also manager and principal worker in the firm, and as such has an interest in the quality of the work environment and in her own earnings as worker which compete directly with the interest in profits. A professional interest in practice style and in the outcomes experienced by patients also competes with the profit motive. These considerations are not merely means to an end, as they are for the for-profit firm, they are ends in themselves.

FOR-PROFIT FIRM: *See* FIRM.

HUMAN CAPITAL: Investment is a PRODUCTION process, using up resources to create capital which will yield a stream of services as *inputs* to future production. Capital may be physical (machinery, factories, rail lines and roads), or intangible (new software). *Human capital* is increased productive capacity embodied in more highly trained and productive human beings. Such training requires the investment of the time and energy of the trainee, as well as the direct

training costs. It thus uses up resources to increase productivity, just as if a physical machine had been created for that person to work with.

IGNORANCE: *See* UNCERTAINTY.

INCENTIVE REIMBURSEMENT: *See* REIMBURSEMENT.

INCOME OR WEALTH TRANSFERS: All public policies, and even price changes, generate *income or wealth transfers* -- shifts of purchasing power from one person to another without any corresponding transfer of goods or services. In principle it is possible to use price changes to redirect economic activity while compensating people for the wealth changes involved; in practice this almost never happens.

INCOMPLETE VERTICAL INTEGRATION OF PRODUCTION: *See* VERTICAL INTEGRATION OF PRODUCTION, INCOMPLETE.

INPUT: *See* PRODUCTION.

INTENSITY OF SERVICING: Measures of the activity of health care institutions are often at an aggregated level, such as a patient-day in hospital or a visit to a physician's office or clinic. Yet these measures are themselves bundles of services, whose content will differ across patients, institutions, regions, and time. *Intensity of servicing* describes the amount of activity associated with a particular measure of health care output such as patient-days or office visits.

LIFE AND LIMB VALUATION: Programs for expanding (or contracting) health care services are usually expected to have consequences measured in terms of mortality and morbidity. Particular people will have their life expectancies lengthened or shortened, or will spend greater or lesser periods of time in states of disability or discomfort, as a result of the program activities. *Life and limb valuation* refers to the process of trying to place values on these morbid or mortal consequences, or their avoidance, in such a way that the programs which generate them can be evaluated (*see* LIFE YEARS).

LIFE YEARS: One can measure the consequences of "lifesaving" programs in terms of *life years* gained, by adding the estimated increases in life expectancy resulting from the program across all potential beneficiaries. A further refinement takes account of the fact that not all time is equally valuable. Thus one may attach weights to the extra life years yielded by a program, adding them up by counting each year spent in a state of normal function as one, but each year spent in a state of particular disability or discomfort as somewhat less than one. The result is a measure of program consequences in terms of *quality-adjusted life years* (QALYS), which can then be balanced against program costs.

MONOPOLY MODEL: Professions are sometimes viewed as simply a group of suppliers of a particular product who have acquired the political privilege of self-regulation which can then be used to limit the numbers of their members and the supply of their services. The profession as monopoly drives up the prices of its members' services, and thereby their incomes, at the consumer's expense.

**MONOPOLY, MONOPSONY, OLIGOPOLY, MONOPOLISTIC COMPETITION:** Literally, a *monopoly* is the sole supplier of a particular commodity in a particular market. Similarly a *monopsonist* is the sole buyer of a given product. An *oligopoly* is a small group of sellers, each taking direct account of the pricing and output behaviour of its rivals in setting its own strategy. A market is characterized by *monopolistic competition* if there are a large number of sellers, each supplying a product only slightly differentiated from the others. The common feature of all these situations is that the seller has a degree of monopoly power, power over the price at which a commodity is sold.

**MORAL HAZARD:** This describes a tendency for losses to be greater or more frequent when covered by insurance. Those insured may fail to take due care or may over-estimate their losses. It must be distinguished from **ADVERSE SELECTION**, which arises if the insurance pool draws in the higher risk members of the group of potential insurance buyers. In that case observed losses will be higher among the insured than among the uninsured even though no behavioural change, and no increase in overall loss, has occurred. *Moral hazard* refers to the risk of loss and/or the size of losses (actual or reported) increasing as a result of their being insured.

**MÜNCHAUSEN'S SYNDROME:** A form of mental illness whose sufferers derive satisfaction from undergoing medical interventions, and who become adept at counterfeiting symptoms so as to gain access to clinics and hospitals and to induce providers to carry out diagnostic and therapeutic manoeuvres on them.

**NAIVE MODELS, MEDICO-TECHNICAL and ECONOMIC:** A simplified description of the behaviour of an individual or organization, or of the systematic interactions among such transactors, is a model. Any prediction about behaviour rests on some implicit model of the "behavior." The "naive" models represent alternative descriptions of the health care system and the transactors in it. The *naive medico-technical model* begins from a normative judgement that the health system should use resources so as to improve the health status of the people in a community to the fullest extent possible. It then makes the positive assumptions that providers control the use of health care resources, and direct them solely to the improvement of patients' health. The "right" level of resources to devote to health care is that which providers say is necessary. The model is silent on how to assure that resources are used efficiently, or how provider remuneration is to be determined; apparently responsible providers look after these issues too. The *naive economic model* posits that the proper function of a health care system is to allocate resources so that consumers get the services which they are willing and able to pay for, when those services are priced at their true (opportunity) costs of production. The positive assumptions are that consumers determine all utilization of health care, reacting to their own information and to the prices they must pay. Providers merely offer services; consumers decide what to use and are not influenced by providers in this process. The level of remuneration of providers is determined, and the technical efficiency of production is assured, by competition (including most importantly price competition) among providers, and institutions which inhibit this competition should be removed.

**NET ADVANTAGES:** The decision to enter an occupation represents a choice among future patterns of training costs and income streams, but also among degrees of risk of success, and general lifestyles. The *net advantages* model of occupational choice suggests that (in the absence of restrictions on entry) choices by new entrants will lead to the equalization across occupations

of the present value of all the monetary and non-monetary aspects of each occupation, principally by the adjustment of relative earnings levels.

**NORMATIVE AND POSITIVE PROPOSITIONS:** A *normative* statement or proposition asserts an obligation; it either does or could contain the word "ought." Policy recommendations are usually normative. A *positive* statement by contrast seeks to describe a situation or a cause-and-effect relationship; it asserts, rightly or wrongly, what "is." It can have an apparently normative form: if you want to achieve X you should do A. But this is an assertion of a causal link between X and A. The normative statement would be that you should seek to achieve X.

**NOT-FOR-PROFIT FIRM:** *See* FIRM.

**NOT-ONLY-FOR-PROFIT FIRM:** *See* FIRM.

**OLIGOPOLY:** *See* MONOPOLY.

**OPPORTUNITY or RESOURCE COST:** The true cost of any commodity, viewed from the perspective of a whole society, is the *resource cost*, the amounts of different types of productive inputs which had to be used up to produce that commodity (*see* PRODUCTION). But the resources themselves are valuable only insofar as they have alternative uses for which they will not be available if used to produce the commodity in question. Thus the *opportunity cost* of a commodity is the value of the best alternative use to which those resources could have been put, the value of the productive opportunities foregone by the decision to use them in producing that commodity.

**ORGANIC AND TRANSACTION MODELS OF HOSPITALS:** Some attempts to provide an explanation of the economic behaviour of hospitals have treated them as single entities, transactors, with a well-defined set of objectives and a management structure which pursues those objectives in a coherent way. *Organic* models of hospitals view them as striving, subject to the constraints imposed by the outside environment and the limitations of organization and technique, to achieve their objectives, in the same way that a private firm tries to maximize its profits. The not-for-profit hospital just has different objectives. *Transaction models*, on the other hand, suggest that despite its apparent coherence as a legal, organizational, and physical entity, the hospital is not a single transactor and has no clear set of objectives of its own. It is rather a framework within which other transactors seek their objectives through a complex set of interactions, sometimes cooperative and sometimes competitive.

**OUTPUT:** *See* PRODUCTION.

**OVERUTILIZATION:** *See* UTILIZATION.

**PANGLOSS:** The character in Voltaire's *Candide* whose common expression was, "All is for the best in the best of all possible worlds." As a believer in the omnipotence and unfailing beneficence of Divine Providence, he drew the inevitable conclusion that whatever happened in the world, no matter how awful it appeared, was nonetheless the best thing that could have happened.

PHYSICIANS' CO-OPERATIVE MODEL OF HOSPITALS: The *physicians' co-operative* view of hospitals sees them as managed by a group of physicians whose objective is postulated to be the maximization of their own net incomes. The result might appear to be an intermediate case between the ORGANIC and TRANSACTION models of hospitals, since it envisions a group of physicians with objectives defined independently of the hospital coming together to seek those objectives through the hospital, and yet assumes a single well-defined objective -- maximum average net income per physician -- for the group as a whole. In fact, however, the physicians' cooperative is not a model of hospital behaviour at all, because the hospital has disappeared as an institution. Rather it is a model of a medical clinic, completely owned and managed by a physician partnership, which has overnight beds and more extensive facilities.

POSITIVE PROPOSITION: *See* NORMATIVE.

PRODUCER SOVEREIGNTY: This concept, like that of CONSUMER SOVEREIGNTY, has both NORMATIVE and POSITIVE versions. As a positive proposition, *producer sovereignty* asserts that in a particular economy or sector, producers' preferences and decisions determine what will be produced, and how, and what consumers will use. This might be because producers control consumers' perceptions through advertising or because professional expertise backed up by legal restrictions on consumer behaviour and/or consumers' deference to expertise enables producers to control actual decisions. As a normative proposition, the idea that producers' objectives *ought* to govern resource allocation processes has no obvious relation to any more general system of political or ethical values. But in professionalized industries like health care, the argument can be advanced that producer sovereignty yields a better outcome for consumers, who are unable to know their own needs.

PRODUCTION, INPUT, OUTPUT, PRODUCTION FUNCTION: *Production* is the process of transforming *inputs* into *outputs*. Inputs are productive resources: human time, energy, and skills, the services of capital equipment such as buildings and machinery, raw materials, intermediate products which are themselves the outputs of prior production processes, and "knowhow" to combine all these. The outputs are commodities, goods and services, which are valued by some end user or some other producer who will use them in a subsequent stage of production. The *production function* is an expression summarizing, for each type and amount of output, the range of different combinations of inputs which could be combined to yield that output. This "function" might be a mathematical expression, or a computer algorithm, or a set of blueprints, or simply a description of the "knowhow" of an experienced producer.

PROSPECTIVE REIMBURSEMENT: *See* REIMBURSEMENT.

QUALITY OF CARE: The adequate definition of this concept is extremely difficult. But it is generally agreed that *quality of care* must refer to the nature of the effects produced on patients' health status by particular forms of health care. Higher quality interventions produce better and/or more reliable results. In some analyses, quality of care is confused with INTENSITY OF SERVICING, but these are quite distinct concepts. In health care, more is not in general better.

QUALITY-ADJUSTED LIFE YEARS (QALYS): *See* LIFE YEARS.

REIMBURSEMENT -- CAPITATION, EPISODE-BASED, FEE-FOR-SERVICE, INCENTIVE, PROSPECTIVE: Hospitals or physicians may be "reimbursed" for the service they provide to patients, by either a government or a private insurance agency, or the patients themselves, or a private charity or public agency. But the form which this reimbursement takes, and the way it responds to the activity of the provider, can vary. *Capitation* reimbursement pays the provider a fixed sum per time period for each patient on a specified list. The provider accepts responsibility for providing services to that population, either all "necessary" services or some defined subset. *Fee-for-service*, by contrast, pays the provider a certain amount for each act performed. Total reimbursement depends on activity level. The fee level may be determined by the provider, or set by negotiation with the reimbursing agency. *Episode-based* reimbursement applies to some forms of physicians' services, obstetrical confinements for example, and has been recommended for hospital care. In this form, a particular illness is regarded as requiring a "package" of treatment, and a level of reimbursement is determined for that "package." A hospital might be paid a fixed amount for each appendectomy, for example, regardless of the length of stay of each individual case or the number of services provided during the episode. Such a system obviously requires a large number of categories in which to classify patients for reimbursement purposes. One such is the set of *diagnosis-related groups* (DRGs) developed in the U.S., which are mutually exclusive and collectively exhaustive, and define a reimbursement category for every hospital patient. Without some such system, episode-based reimbursement is obviously impossible. *Prospective reimbursement* refers to determination of the level of reimbursement at the beginning of the period of activity. *Incentive reimbursement* refers to systems of reimbursement which attempt to induce providers to be more efficient, to control costs, by enabling them to retain some share of savings as discretionary funds. In fact, all forms of reimbursement embody incentives to some forms of behaviour, and disincentives to others. Fee-for-service, for example encourages servicing and fast throughput; capitation and fixed budgets do not.

RESOURCE COST: *See* OPPORTUNITY.

RISK: *See* UNCERTAINTY.

RISK-POOLING: *See* ADVERSE SELECTION.

ROEMER'S LAW: The proposition that the utilization of hospital beds is causally linked to the availability of beds, independently of the morbidity of the population served or the point of service charges to users, is known as Roemer's Law. This effect is not just a capacity constraint; bed availability is asserted to affect physicians' predisposition to hospitalize as well as the number of people they can actually put in beds.

SENSITIVITY ANALYSIS: The costs and consequences of a program being evaluated will rarely if ever all be known with certainty. In many cases, best estimates of the magnitude of particular factors will have to be made. Once the evaluation has been done, the robustness of the conclusion may be tested by *sensitivity analysis*. This involves inserting alternative values (over a plausible range) for uncertain factors in the analysis to see if the overall evaluation conclusion is reversed. If the conclusion is sensitive to such variations, then more effort should be devoted to determining the values of the uncertain factors. In the meantime, no decision should be based upon the evaluation.

SHADOW PRICES: To compare the costs and consequences of an activity, it is necessary to value them in common units such as dollars. The unit value of inputs to or outputs from the activity which have a well-defined market price can be measured by that price. Some activities, however, have inputs or outputs which are not traded on markets, or alternatively are traded at prices which do not reflect their true OPPORTUNITY OR RESOURCE COSTS. The analyst may then try to estimate *shadow prices* which reflect the opportunity costs of the inputs or outputs concerned. The alternative is to abandon the approach of valuing all costs and consequences in dollars, and to measure some aspects in physical units (*See* LIFE YEARS).

SUPPLY: *See* DEMAND.

TECHNICAL EFFICIENCY: *See* EFFICIENCY.

TIME DISCOUNT RATE: The costs and consequences of a program usually arrive as a flow through time over a more or less extended planning horizon. But costs or benefits which accrue in the future cannot be valued on the same basis as those available today. Even abstracting from inflation, dollars next year are worth less than dollars of the same purchasing power now because the resources they represent could be used productively in the meantime. Thus costs and consequences which occur in the future must be discounted back to a common present value. The *time discount rate* is the percentage by which a value is reduced for each year it is deferred into the future.

TRANSACTION MODEL, HOSPITAL: *See* ORGANIC.

UNCERTAINTY, RISK, IGNORANCE: All three are aspects of incomplete information. *Uncertainty* and *risk* both refer to the future, incomplete information as to what is going to happen. The transactor facing risk has a reasonably clear perception of the possible outcomes, and has information as to the probability of occurrence of each outcome. Uncertainty describes a future in which neither outcomes nor probabilities are clear. Risk can be managed by *risk-pooling* through insurance, but more general forms of uncertainty may or may not be insurable. *Ignorance* by contrast refers to lack of knowledge about present circumstances -- what is wrong with me, and what should I do about it, for example. This form of incomplete information is not insurable, and in the case of professional services is remedied by the creation of an AGENCY relationship between the uninformed consumer and a better informed provider.

UNDERUTILIZATION: *See* UTILIZATION.

UTILIZATION, OVER- and UNDER-: *Over-* and *underutilization* of health care can be judged against two quite different standards. From a health care perspective, provision and utilization of care past the point where it can be expected to have a positive impact on health status is "too much." Failure to provide or use care which could be expected to have a significant (positive) effect on the user's health status is underutilization. From the perspective of conventional economic analysis, however, overutilization occurs when people use care for which they would not be willing to pay the full OPPORTUNITY COST; underutilization when they are unable to get care for which they would be prepared to pay the cost. No account is taken of their "needs," or level of wealth or information. The choice between reference standards is ultimately a social

value judgement about what standards ought to govern health care provision; it cannot be derived from either economics or the health disciplines.

VERTICAL INTEGRATION OF PRODUCTION, INCOMPLETE: PRODUCTION is as noted the conversion of *inputs* into *outputs*. Among these inputs will be intermediate products, which are themselves the outputs of a prior stage of production. The farmer's output of grain is an input to the miller or maltster; their outputs of flour or malt are inputs to the baker or brewer. Production is more or less *vertically integrated*, according to the extent to which stages of production are combined under a single management. In a vertically integrated system, production is organized and controlled by administrative mechanisms -- "central planning" within the firm -- while non-integrated industries co-ordinate production through arm's-length market transactions. *Incomplete vertical integration* is a mixed form. The private physician, for example, is not an employee or owner of the hospital where she admits patients. Yet she does not deal with the hospital as an independent, arm's-length contractor either. Physicians exercise management rights in hospitals, although they are not part of the administrative hierarchy.

WEALTH TRANSFERS: *See* INCOME.