

Glossary

Term	Definition
A	
Absolute risk reduction (ARR)	A reduction in the likelihood of an event or outcome occurring as a result of a treatment or another intervention, sometimes called the risk difference. For example, if a treatment reduces the absolute risk of death from 0.25 (25%) to 0.10 (10%), the ARR is 0.15 (15%), that is, 25% minus 10%.
Adverse effect	An unintended effect that is harmful or otherwise unwanted, and suspected to be related to, or caused by, a drug, treatment or intervention. See also Side effect.
Adverse event	Any undesirable event experienced by a person while they are having a drug or any other treatment or intervention, regardless of whether or not the event is suspected to be related to or caused by the drug, treatment or intervention.
Agency for Healthcare Research and Quality (AHRQ)	An organisation in the US Department of Health and Human Services (HHS) that produces evidence to make healthcare safer, higher quality, more accessible, equitable, and affordable. It works within the HHS and with other partners to make sure the evidence is understood and used.
AGREE II instrument	The Appraisal of Guidelines for Research and Evaluation (AGREE) instrument evaluates the process of practice guideline development and the quality of reporting. The instrument has been developed by a group of international guideline developers and researchers, the AGREE Collaboration. The AGREE II instrument is the refined version replacing the original instrument.
Allocation concealment	The process used to prevent (conceal) advanced knowledge of what intervention group participants will be assigned to in a randomised controlled trial. The process prevents researchers from (unconsciously or otherwise) influencing which participants are assigned to a given intervention group.
Analysis	The process of looking for patterns in information to identify cause and effect or answer specific questions, such as whether a treatment or other intervention works and what the risks are. There are 2 types of analysis. Quantitative analysis looks for patterns in the form of numbers, such as most frequent choice of treatment option or average rating of pain during treatment. Qualitative analysis looks for patterns of meaning, feeling or beliefs.
Analytical validity (of genetic test)	How well a test predicts the presence or absence of a particular gene or genetic change. For example, can the test accurately detect whether a specific genetic variant is present or absent?

Applicability	How well an observation or the results of a study or review are likely to hold true in a particular setting.
Appraisal	Deliberative process to consider the evidence relating to a technology, while taking into account assumptions, uncertainties and other relevant factors to decision-making.
B	
Base case	The results of an economic evaluation obtained using the most likely or preferred set of assumptions and input values.
Before-and-after study (pre-test/post-test study)	A research design where a group of subjects is observed before and after an intervention or exposure to a given factor.
Best available evidence	The strongest, best-quality research evidence available on the topic being investigated.
Bias	Systematic (as opposed to random) deviation of the results of a study from the 'true' results, which is caused by the way the study is designed or conducted.
Biosimilars or biosimilar product	A biological therapeutic product demonstrated to be similar in physicochemical characteristics, biological activity, safety and efficacy to an existing registered biological product.
Biostatistics (Health Statistics)	Biostatistics or Health Statistics is the branch of statistics that is responsible for analysing and interpreting the scientific data generated in the health science, including biology, public health and medicine.
Blinding (or masking)	A way to prevent researchers, healthcare professionals and participants in a clinical trial from knowing which study group each participant is assigned to, so they cannot influence the results. The purpose of 'blinding' or 'masking' is to protect against bias.
Budget impact analysis (BIA)	An estimate of the likely change in expenditure resulting from a decision to subsidise a new health technology for a particular population. The budget (or financial) impact is usually calculated using a budget impact model, over a period of 3 to 5 years, at a national level. In contrast to cost-effectiveness analyses, which are used to estimate value for money, analyses using budget impact models assess affordability.
C	
Canadian Agency for Drugs and Technologies in Health (CADTH)	An independent, not-for-profit organisation responsible for providing Canada's health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs and medical devices in the health care system.
Carer	An informal caregiver (non-healthcare professional) who looks after family, partners or friends in need of help because they are ill, frail or have a disability.
Case-control studies	An observational study to find out the possible cause(s) of a disease or condition. This is done by comparing a group of

	patients who have the disease or condition (cases) with a group of people who do not have it (controls) but who are otherwise similar (in baseline characteristics). This means the researcher can look for aspects of their lives that differ to see if they may have caused the condition.
Case series	Reports of several patients with a given condition, usually covering the course of the condition and the response to treatment. There is no comparison (control) group of patients.
Clinical effectiveness	Effectiveness trials (pragmatic trials) measure the degree of beneficial effect under “real world” clinical settings. Study designs of an effectiveness trial are formulated based on conditions of routine clinical practice and on outcomes essential for clinical decisions.
Clinical efficacy	Clinical efficacy trials (explanatory trials) determine whether a health intervention produces the expected result under ideal or controlled circumstances.
Clinical utility (of a test)	Whether a test can provide information about diagnosis, treatment, management, or prevention of a disease that will be helpful to a consumer.
Clinical validity (of genetic test)	How well the genetic variant being analysed is related to the presence, absence, or risk of a specific disease.
Clinical importance or significance	A benefit from treatment that relates to an important outcome such as length of life, and is large enough to be important to patients and health professionals. As an example, it might include a general reduction in symptoms, less pain or improved breathing.
Clinical pathway	A graphical depiction of the systematic clinical care of a patient that proposes, for a treatment period related to a single diagnosis, an optimal co-ordination of the delivery of care provided by physicians and other health professionals, from when the diagnosis is confirmed to when the patient is admitted, and at the stage of rehabilitation and home care.
Clinical practice guideline (CPG)	A document that describes and recommends procedures for the diagnosis, treatment and management of a health condition. It is developed to help doctors decide on the best course of action for the patient, taking into account the patient's needs and views. Clinical practice guidelines are ideally based on the best available evidence for each aspect of healthcare as well as agreement between experts and stakeholders.
Clinical trial	A study to determine whether a treatment is safe and effective. It is carried out with a sample of patients, usually after laboratory studies and studies with healthy volunteers have been conducted.
Cohort study	In a cohort study, a researcher selects a group (cohort) of non-diseased people and follows them over time to determine if they develop a disease/outcome. The cohort is selected based on exposure status, including both people who have been exposed to

	a particular factor under investigation, and those who have not. The main characteristic in a cohort study is that the study proceeds from cause to effect.
Comorbidity	Other diseases or conditions that a person has in addition to the disease or condition being treated or studied.
Comparator	The standard (for example, another intervention or usual care) against which an intervention is compared in a study. The comparator can also be no intervention (for example, best supportive care).
Confidence interval (CI)	A way of expressing how certain we are about the findings from a study, using statistics. It gives a range of results that is likely to include the 'true' value for the population. A wide confidence interval indicates a lack of certainty about the true effect of the test or treatment. A narrow confidence interval indicates a more precise estimate.
Confounding	In a study, confounding occurs when the effect of an intervention on an outcome is distorted because of an association between the population, intervention or outcome and another factor (the 'confounding variable' or 'confounder') that can influence the outcome independently of the intervention under investigation. For example, a study of heart disease may look at a group of people who exercise regularly and a group who do not exercise. If the ages of the people in the 2 groups are different, then any difference in heart disease rates between the 2 groups could be because of age rather than exercise. Therefore age is a confounding factor.
Contraindication	A factor (such as high blood pressure or use of another medicine at the same time) that increases the risk of a side effect from a treatment. The treatment will not normally be recommended for people with that contraindication.
Control group	A group of people in a study who do not have the intervention or test being studied. Instead, they may have the standard intervention (sometimes called 'usual care') or a dummy intervention (placebo). The results of the control group are compared with those for the intervention group (the group receiving the intervention being tested). Ideally, the people in the control group should be as similar as possible to those in the intervention group, to make it easier to detect differences in the results that are due to the intervention.
Co-payment	The amount that a patient pays for a medicine when it is dispensed after subsidies have been applied.
Cost-consequence analysis	One of the tools used to carry out an economic evaluation. This compares the costs (such as treatment and hospital care) and the consequences (such as health outcomes) of a test or treatment with a suitable alternative. Unlike cost-benefit analysis or cost-effectiveness analysis, it does not attempt to summarise outcomes in a single measure (such as the quality-adjusted life year) or in

	financial terms. Instead, outcomes are shown in their natural units (some of which may be monetary) and it is left to decision-makers to determine whether, overall, the treatment is worth carrying out.
Cost-effectiveness analysis (CEA)	One of the tools used to carry out an economic evaluation. An analysis that assesses the cost of achieving a benefit by different means. The benefits are expressed in non-monetary terms related to health, such as symptom-free days, heart attacks avoided, deaths avoided or life years gained (that is, the number of years by which life is extended as a result of the intervention). Options are often compared on the cost incurred to achieve 1 outcome (for example, cost per death avoided).
Cost-minimisation analysis (CMA)	One of the tools used to carry out an economic evaluation. Cost-minimisation analysis compares the costs of different interventions that provide the same benefits. If they are equally effective, only the costs are compared and the cheapest intervention will provide the best value for money. In practice, there are relatively few cost-minimisation analyses because it is rare for 2 healthcare interventions to provide exactly the same benefits.
Cost price	Price at which the manufacturers sell their technologies to the hospitals.
Cost-utility analysis (CUA)	One of the tools used to carry out an economic evaluation. The benefits are assessed in terms of both quality and duration of life, and expressed as quality-adjusted life years (QALYs). See also Utility.
Cross-sectional study	An observational study in which the investigators choose a group of subjects in a given population and measure the simultaneous presence or absence of the risk factors and the outcomes of interest.
Critical appraisal	Reviewing a study or evidence base to judge the quality of the methods used and the reliability of the conclusions.
D	
Data	Data are the information collected through research. They can include written information, numbers, sounds and pictures.
Data collection (prospective and retrospective)	<p>Prospective data collection in a research study refers to when the health or characteristic of participants is monitored (or "followed up") for a period of time, from present to future, with events recorded as they happen. Challenges arise when a significant number of participants drop out from the study.</p> <p>Retrospective data collection in a research study refers to when data is collected in the present to gather information on the health or characteristic of participants during a specified period in the past (i.e. data collection looks backward). This method typically relies on a review of existing records or patient recall and has some limitations such as risk of incomplete data or recall bias.</p>

Decision-analytic model	A model of how decisions are or should be made. This could be one of several models or techniques used to help people to make better decisions (for example, when considering the trade-off between costs, benefits and harms of diagnostic tests or interventions).
Device	A piece of equipment used for diagnostic or therapeutic purposes, sometimes in addition to a pharmaceutical medicine.
Diagnosis	The process of identifying a disease or condition by carrying out tests or by studying the symptoms.
Diagnostic accuracy	The proportion of people that a test correctly identifies as positive or negative relative to the chosen reference test.
Diagnostic odds ratio	A measure of the odds of a positive test in those with the disease compared to those without the disease to show the association between a dichotomous test result and the diagnosis of the target disorder.
Disability-adjusted life year (DALY)	A measure of the impact of a disease or injury in terms of healthy years lost. DALYs are calculated as the sum of the Years of Life Lost (YLL) due to premature mortality and the Years Lost due to Disability (YLD) for people living with the health condition or its consequences.
Discounting	Costs and (sometimes) benefits incurred today have a higher value than costs and benefits occurring in the future. Discounting health benefits reflects individual preference for benefits to be experienced in the present rather than the future. Discounting costs reflects individual preference for costs to be experienced in the future rather than the present.
Discrete event simulation	A method that can be used to model the course of a disease (for example, to predict disease progression for the purposes of cost-effectiveness analysis).
Disinvestment	The deliberate and systematic reduction of funding for a health technology of questionable or comparative low value.
Dominance	A health economics term. When comparing tests or treatments, an option that is both more effective and lower in cost 'dominates' the alternative.
E	
Economic analysis	Study or analysis of the cost of using and distributing health or social care resources.
Economic evaluation	An assessment to compare the costs and benefits of a new healthcare intervention with existing standard of care. The aim of an economic evaluation is to help decision makers maximise the level of health benefits relative to the resources available. It should be used to inform and support the decision-making process; it is not supposed to replace the judgement of healthcare professionals.

	There are several types of economic evaluation: cost-benefit analysis, cost-consequence analysis, cost-effectiveness analysis, cost-minimisation analysis and cost-utility analysis. They use similar methods to define and evaluate costs, but differ in the way they estimate the benefits of a particular drug, programme or intervention.
Economic modelling	A way to estimate the costs and effects of an intervention over periods of time on patient groups not covered in a clinical trial or other research. An economic model is a mathematical structure that typically depicts a patient pathway. Modelling is usually done for one or more of the following reasons; trials are of insufficient duration; outcomes are reported differently by trials; no trials exist; trials do not contain all relevant comparators; cost and resource information is not included in trials.
Effectiveness	How well a test, treatment or procedure works in real-world conditions.
Efficacy	The benefit of a test, treatment or procedure gained under ideal conditions, such as in a controlled clinical trial.
Efficiency	The extent to which the maximum possible benefit is achieved out of the available resources.
Epidemiology	The study of the distribution and determinants of health-related states or events in specified population.
Equivalence	When there is sufficient evidence to conclude that two alternative health technologies are non-inferior to each other.
Evaluation report	A review of clinical and economic evidence about how well health technologies work and how much value for money they provide. The evaluation report forms the basis of the Committee's discussions. It is written by the ACE technical team with inputs from local clinical experts from public healthcare institutions, and health technology manufacturers, when required.
Evidence-based medicine	The systematic acquisition, appraisal and application of scientific and medical research evidence to guide decisions in healthcare. The evidence is used by doctors and other health professionals to inform decisions on diagnosis, management and treatment of patients under their care.
Expert group	A group of healthcare professionals who are subject matter experts, whose role is to advise on current clinical practice in Singapore, and to ensure that ACE's evaluations and guidance documents are accurate, current and relevant.
F	
Follow up	Observation over a period of time of a person, group or defined population to observe changes in health status, or health-related variables.
G	

Gene	Small portions of chromosomes that are inherited and determine characteristics of an individual, such as eye colour or whether or not they have certain genetic diseases.
Gene therapy	An experimental treatment in which a non-working gene is replaced with a working copy of the gene in order to prevent or correct a known genetic disorder.
Generic name	The general non-proprietary name of a drug or device.
Genetic testing	A type of medical test that identifies changes in chromosome, genes, or proteins. The results of a genetic test can confirm or rule out a suspected genetic condition or help determine a person's chance of developing or passing on a genetic disorder.
Gold standard (reference standard)	A method, procedure or measurement that is widely accepted as being the best available to test for or treat a disease. Also known as reference standard.
GRADE	Grading of Recommendations Assessment, Development and Evaluation - a systematic and explicit approach to grading and presenting the quality of evidence and the strength of recommendations.
Grading (of evidence)	A means of indicating the quality of evidence.
Grandfathering	The provision of subsidy to a patient who was already receiving the evaluated technology before its listing in SDL or MAF.
Grey literature	Literature that has not been formally published in sources such as books or journal articles.
Guidance	A document which outlines subsidy recommendations for a drug made by the Drug Advisory Committee, or medical technology by the Medical Technology Advisory Committee, including any clinical criteria for appropriate use. The document also includes a summary of the rationale for the subsidy recommendation, and the key clinical and economic evidence which informed the Committee's deliberations.
H	
Health-related quality of life (HRQoL)	The physical, social and mental effects of an illness that are relevant and important to an individual's wellbeing.
Health outcome	The result of an intervention (or the absence of an intervention) on the health or well-being of a subject or a population. It differs from the clinical outcome in that the former has to do with the effect on health, whilst the latter has to do with the effect on the disease.
Health Sciences Authority (HSA)	National regulatory body which assesses the clinical efficacy and safety of health technologies before they are granted registration for use in Singapore.
Health technology assessment (HTA)	An established scientific research methodology to inform policy and clinical decision-making on the relative value of new health technologies (i.e. drugs, devices and medical services) compared to existing standards of care. It is conducted using explicit analytical frameworks, drawing on clinical, epidemiological and

	health economic information to determine how best to allocate limited healthcare resources to new technologies.
Horizon scanning	The system identification of health technologies that are new, emerging or becoming obsolete and that have the potential to effect health, health services and/or society.
I	
Incidence	The number of new cases of a disease among a certain group of people during a specific period of time.
Incremental cost-effectiveness ratio (ICER)	The relative value of new technologies are compared to existing standards of care using the incremental cost-effectiveness ratio (ICER). It is defined by the difference in cost between two possible interventions, divided by the difference in their effect.
Indication	A medical condition, disease or disorder that is the reason for starting clinical management.
Indirect comparison	An analysis that compares interventions that have not been compared directly in a head-to-head, randomised trial.
Intention-to-treat analysis (ITT)	An analysis of data for all participants in a trial, based on the group they were initially (and randomly) allocated to. This is regardless of whether or not they dropped out, fully adhered to the treatment or switched to an alternative treatment. ITT analyses are often used to assess clinical effectiveness because they mirror actual practice (i.e. "real world" analysis), when not everyone adheres to the treatment, and the treatment people have may be changed according to how their condition responds to it.
Intervention	A drug treatment, surgical procedure, diagnostic test or psychological therapy.
L	
Level of evidence (hierarchy of evidence)	A classification of studies on the basis of their validity. It is used to determine the weight that should be given to a study.
Life-year (LY)	An outcome measure calculated by multiplying the number of affected individuals by the number of years each individual is expected to live.
Likelihood ratio	A ratio comparing the probabilities of obtaining a positive test in persons with the disease with those of doing so without the disease.
Literature review	A summary of published information (from books, journals etc.) on a particular topic. A literature review may be a general overview and interpretation of the research or a more formal review (such as a systematic review) of all published studies on a specific topic.
M	
Markov modelling	A decision-analytic technique that characterises the prognosis of a group by assigning group members to a fixed number of health states and then modelling transitions among the health states.

Medical devices	All products, except medicines, used in healthcare to diagnose, prevent, monitor or treat illness or disability.
Medical technology	A medical device, an active medical device, an active implantable medical device, or an in vitro diagnostic medical device. Diagnostic technologies are a sub-set of medical technologies.
Medical Technology Advisory Committee (MTAC)	An independent committee that makes subsidy recommendations for medical technologies which are registered for use in Singapore. It comprises of senior healthcare professionals and is chaired by the MOH Director of Medical Services.
Medical Services Advisory Committee (MSAC)	An independent non-statutory committee to advise the Australia Government Minister for Health on evidence relating to the safety, effectiveness and cost-effectiveness of new medical technologies and procedures. The advice informs Australia Government decisions about public funding for new, and in some cases existing, medical procedures.
Meta-analysis	A statistical method which combines data from several studies on the same test, treatment or other intervention to calculate an overall estimate of effect.
Minimal clinically important difference (MCID)	The smallest change in a treatment outcome that people with the condition would identify as important (either beneficial or harmful), and that would lead a person or their clinician to consider a change in treatment.
Mixed treatment comparison (MTC)	A statistical approach used to analyse a network of evidence with more than two interventions which are being compared indirectly, and at least one pair of interventions compared both directly and indirectly.
Morbidity rate	The number of cases of an illness, injury or condition within a given time (usually a year). It can also refer to the percentage of people with a particular illness, injury or condition within a defined population.
Mortality rate	The proportion of a population that dies within a particular period of time. The rate is often given as a certain number per 1000 people.
N	
National Institute of Health and Care Excellence (NICE)	An organisation that provides national guidance and advice to improve health and social care in England.
Negative predictive value (NPV)	The negative predictive value (NPV) is the proportion of negative results in diagnostic tests that are true negative. The NPV describes the performance of a diagnostic test. A higher value indicates a better accuracy of the test.
Network meta-analysis (NMA)	The simultaneous synthesis of evidence of all pairwise comparisons across more than two interventions.
Non-inferiority	When an evaluated technology is no worse (in terms of clinical effectiveness) than its comparator.

Number needed to harm (NNH)	A measure of how many patients need to have a treatment or be exposed to a risk factor for one of them to have a bad outcome. Ideally, this number should be as high as possible because the larger the number, the less often bad outcomes occur. The NNH is the inverse of absolute risk reduction. For example, if 100 people receive a treatment and two of them experience an adverse effect, the number needed to harm is 50 (i.e. $100/2 = 50$).
Number needed to treat (NNT)	The number of patients who need to receive the treatment for one of them to get the positive outcome in the time specified. The closer the NNT is to 1, the more effective the treatment. The NNT is 100 divided by the absolute risk reduction (ARR) expressed as a percentage. For example, if the ARR is 5%, the NNT is $100/5=20$.
O	
Observational study	A non-experimental study design in which the researcher observes the natural course of events (i.e. the research does not allocate participants to an intervention or control group), e.g. cohort studies and case-control studies).
Odds ratio (OR)	Compares the odds (probability) of something happening in one group with the odds of it happening in another. An odds ratio of 1 shows that the odds of the event happening (for example, a person developing a disease or a treatment working) is the same for both groups. An odds ratio of greater than 1 means that the event is more likely in the first group than the second. An odds ratio of less than 1 means that the event is less likely in the first group than in the second group.
Opportunity cost	The opportunity cost of investing in an intervention is the value of the benefits generated by other healthcare programmes that are displaced by its introduction. This may be best measured by the health benefits that could have been achieved had the money been spent on the next best alternative healthcare intervention.
Outcome	An effect produced by, or as a result of an intervention (e.g. clinical management, treatment, diagnostic tool etc). It can be a clinical sign (e.g. blood pressure level), a disease or condition (e.g. stroke), a complication or side effect, or another measure of health (e.g. quality of life). Outcomes may be immediate, short-term or long-term. Ideally, studies should consider outcomes that are important and meaningful to the patients.
Outcome impact evaluation	An outcome evaluation measures the short- and long-term outcomes or effectiveness that the program or intervention is designed to achieve in the target population or community.
Overall survival (OS)	The time from randomisation to death, as measured in a clinical trial.
P	
P-value	The p value is a statistical measure that indicates whether or not an effect is statistically significant. For example, if a study

	comparing 2 treatments found that 1 seems to be more effective than the other, the p value is the probability of obtaining these results by chance. By convention, if the p value is below 0.05 (that is, there is less than a 5% probability that the results occurred by chance), it is considered that there probably is a real difference between treatments. If the p value is 0.001 or less (less than a 1% probability that the results occurred by chance), the result is seen as highly significant. However, a statistically significant difference is not necessarily clinically significant. For example, drug A might relieve pain and stiffness statistically significantly more than drug B. But, if the difference in average time taken is only a few minutes, it may not be clinically significant. See 'minimal clinically important difference (MCID)'. If the p value shows that there is likely to be a difference between treatments, the confidence interval describes how big the difference in effect might be.
Patient assistance programme (PAP)	A way for pharmaceutical companies to make high-cost drugs affordable for patients by providing treatments at a reduced price, to patients who meet specific eligibility criteria (usually based on means testing) and are not currently receiving Government subsidy.
Per protocol analysis	An analysis of the trial data that uses information from participants who adhered perfectly to the clinical trial instructions as stipulated in the study protocol (i.e. an "ideal world" analysis). This type of analysis seeks to establish clinical efficacy and answers the question of 'can the treatment work?'
Pharmaceutical Benefits Advisory Committee (PBAC)	A committee that makes recommendations and gives advice to the Australian Health Minister about which drugs and medicinal preparations should be subsidised by the government on the Pharmaceutical Benefits Schedule (PBS).
Phase I, II, III, IV studies	Different phases of clinical trials are run to develop a new treatment. Phase I involves using healthy human volunteers to check the safety of the treatment. In phases II-IV, patients with the disease that the researchers are interested in are given the treatment and the optimal dose is determined. Researchers study these patients to see whether the treatment works, how long the effects last and whether there are any adverse effects.
PICO (population, intervention, comparison and outcome) framework	A structured approach for developing evaluation questions that divides each question into 4 components: the population (the population being studied); the interventions (which treatment is being used); the comparators (other main treatment options); and the outcomes (measures of how effective the interventions have been).
Placebo	A fake (or dummy) treatment given to patients in the control group of a clinical trial. It is indistinguishable from the actual treatment (which is given to patients in the experimental group). Placebos are tools to maintain blinding during the course of a trial.

Population	A group of people with a common defined set of characteristics, e.g. the same medical condition or geographic area of residence. The population for a clinical trial is all the people the test or treatment is designed to help (e.g. adults with diabetes). The group of people taking part in a clinical trial need to be representative of the whole population of interest.
Positive predictive value (PPV)	The positive predictive value (PPV) is the proportion of positive results in diagnostic tests that are true positive. The PPV describes the performance of a diagnostic test. A higher value indicates a better accuracy of the test.
Prevalence	How common a disease or condition is within a population, either at a point in time or over a given period of time (it includes new and existing cases).
Primary care	Healthcare delivered outside hospitals. It includes a range of services provided by GPs, nurses and other healthcare professionals and allied health professionals such as dentists, pharmacists and opticians.
Primary outcome	The result(s) of most interest to researchers conducting a clinical trial.
PRISMA flowchart	A flowchart that is used to document the process of screening and selecting studies retrieved for a systematic review.
Probabilistic sensitivity analysis (PSA)	Type of sensitivity analysis in which probability distributions are specified for parameters (e.g. outcomes, costs or utilities) to capture uncertainty around the true parameter value. By simulating the consequences of random drawings from these distributions, it enables judgements to be formed about the robustness of decisions in relation to each parameter.
Progression-free survival (PFS)	The time from randomisation to the date of clinical relapse or death, as measured in a clinical trial.
Proprietary name	The brand name given by the manufacturer to a drug or device it produces.
Prospective study	A study to evaluate the effects of exposure to a given intervention or factor, in which the subjects are divided into groups that are exposed or not exposed to the intervention or factor of interest before the outcomes have occurred.
Q	
Qualitative research	Qualitative research explores people's beliefs, experiences, attitudes, behaviour and interactions. It asks questions about how and why. For example, why people want to stop smoking, rather than asking how many people have tried to stop. It generates non-numerical data, such as a person's description of their pain rather than a measure of pain. Qualitative research techniques such as focus groups and in depth interviews may be used when developing ACE guidance to find out more about the views and experiences of the target population or clinicians.

Quality-adjusted life year (QALY)	<p>A measure of the state of health of a person or group in which the benefits, in terms of length of life, are adjusted to reflect the quality of life. One QALY is equal to 1 year of life in perfect health.</p> <p>QALYs are calculated by estimating the years of life remaining for a patient following a particular treatment or intervention and weighting each year with a quality-of-life score (on a 0 to 1 scale). It is often measured in terms of the person's ability to carry out the activities of daily life, and freedom from pain and mental disturbance.</p>
Quality of evidence	The degree to which the research design and the conducting of the study on which the evidence is based have made it possible to obtain valid results.
Quantitative research	Research that generates numerical data or data that can be converted into numbers, such as a clinical trial.
R	
Randomisation	Assigning people in a research study to different groups without taking any similarities or differences between them into account. For example, it could involve using a random numbers table or a computer-generated random sequence. It means that each individual (or each group in the case of cluster randomisation) has the same chance of being assigned to the control group or the intervention group.
Randomised controlled trial (RCT)	A study in which a number of similar people are randomly assigned to 2 (or more) groups to test a specific drug, treatment or other intervention. One group (the experimental group) has the intervention being tested, the other (the comparison or control group) has an alternative intervention, a dummy intervention (placebo) or no intervention at all. The groups are followed up to see how effective the experimental intervention was. Outcomes are measured at specific times and any difference in response between the groups is assessed statistically.
Rapid review	A form of HTA completed in a short time period. It usually has a narrower focus than a traditional HTA, made possible by restricting the specific clinical question(s) asked in the review. Economic modelling is not normally conducted.
Reference case	The Reference Case is the set of preferred methods that ACE follows when conducting an economic evaluation. The purpose of the Reference Case is to aid decision making by enhancing the consistency by which economic evaluations are conducted and reported, thereby improving the comparability among evaluations.
Relative risk (RR)	The probability of an event occurring in the intervention group compared with the probability of the same event occurring in the control group, described as a ratio. If both groups face the same level of risk, the relative risk is 1. A relative risk of 2 means that

	participants in the intervention group would be twice as likely to have the event happen. A relative risk of less than 1 means the outcome is less likely in the intervention group. Relative risk is sometimes referred to as risk ratio. It will be very similar to the odds ratio when events are rare.
Risk factor	Any aspect of a person's lifestyle, environment or pre-existing health condition that may increase their risk of developing a specific disease or condition.
Retrospective study	A study in which the investigators do ex-post analysis of the outcomes in a group of subjects on the basis of their exposure to a given intervention or factor.
S	
Scope	A document that describes the framework for a technology evaluation, and outlines the population, intervention, comparator(s) and outcomes that will be included.
Selling price	The price that a health technology is offered to a patient before any subsidy or insurance coverage is applied.
Sensitivity (of a test)	How well a test detects what it is testing for. It is the proportion of people with the disease or condition that are correctly identified as having the disease by the study test.
Sensitivity analysis	A means of exploring uncertainty in the results of comparative studies and economic evaluations. There may be uncertainty because data are missing, estimates are imprecise or there is controversy about methodology. Sensitivity analysis can also be used to see how applicable results are to other settings. The analysis is repeated using different assumptions to examine the effect of these assumptions on the results.
Side effect	An effect of a drug (or treatment or intervention) that is additional to the main intended effect. It could be good, bad or neutral, and that might depend on the circumstances. For example, a side effect of an antidepressant might be drowsiness. That could be a beneficial effect if a person with depression has problems sleeping, but not if they are trying to drive. See also Adverse effect.
Specificity (of a test)	How well a test correctly identifies people who do not have what it is testing for. It is the proportion of people without the disease or condition that are correctly identified as not having the disease by the study test.
Stakeholder	An individual or organisation with an interest in a topic that ACE is developing guidance on.
Standard (routine) care	A currently accepted and widely used treatment for a disease or condition.
Standard deviation (SD)	A measure of the spread, scatter or variability of a set of measurements. Usually used with the mean (average) to describe numerical data.

Statistical significance	A statistically significant result is one that is assessed as being due to a true effect rather than random chance. See P value.
Study population	People who are the subjects of a research study.
Subgroup analysis	An analysis in which the effect of a technology is evaluated in a subgroup of patients who are expected to have different clinical effectiveness or cost effectiveness outcomes compared to the total patient group.
Surrogate outcome	Outcomes that are measured in the short-term that predict longer-term patient focused outcomes. For example, reducing blood pressure reduces the likelihood of death.
Systematic review	A review that summarises the evidence on a clearly formulated review question according to a predefined protocol, using systematic and explicit methods to identify, select and appraise relevant studies, and to extract, analyse, collate and report their findings. It may or may not use statistical techniques, such as meta-analysis.
T	
Time horizon	The time period over which the main differences between interventions in effects and the use of resources are expected to be experienced, taking into account the limitations of the supporting evidence.
U	
Utility	In health economics, a 'utility' is the measure of the preference or value that an individual or society gives a particular health state. It is generally a number between 0 (representing death) and 1 (perfect health). The most widely used measure of benefit in cost-utility analysis is the quality-adjusted life year, which combines quality of life with length of life. Other measures include disability-adjusted life years (DALYs) and healthy year equivalents (HYEs).
V	
Validity	<p>Whether a test or study actually measures what it aims to measure.</p> <p>External validity is the degree to which the results of a study hold true in non-study situations, for example, in routine clinical practice. It may also be referred to as the generalisability of study results to non-study populations. For example, the external validity of a study that took place in Spain may be questioned if the results were to be applied to people in Singapore.</p> <p>Internal validity is the degree to which a study is able to ensure that it is able to measure the true effect of an intervention, that is, how well the study is designed in order to limit systematic error and provide an unbiased estimate of the true effect of the intervention in relation to the comparator. Some tools employed by researchers to ensure good internal validity in trials are randomisation, allocation concealment and blinding.</p>

Value-based pricing
(VBP)

A process by which ACE works with manufacturers to ensure that the price of drugs purchased by public healthcare institutions is commensurate with the drug's value in Singapore's context.