Glossary*

A list of glossary terms used in key concept explanations at www.informedhealthchoices.org

Absolute effects	Absolute effects are differences between outcomes in the groups being compared. For example, if 10% (10 per 100) experience an outcome in one of the treatment comparison groups and 5% (5 per 100) experience that outcome in the other group, the absolute effect is 10% - 5% = a 5% difference.
Accuracy	The ability of an outcome measure or diagnostic test to distinguish between people with a health condition and people without it. Diagnostic test accuracy is the proportion of people with a correct diagnosis out of all the people tested.
Allocation	Allocation is the assignment of participants in comparisons of treatments to the different treatment comparison groups.
Allocation bias	Bias resulting from the way participants in a study have been allocated to treatment comparison groups. (Also called selection bias.)
Association or correlation	Association or correlation is a relationship between two attributes, such as using a treatment and experiencing an outcome.
Attrition bias	Systematic differences between treatment comparison groups in withdrawals or exclusions of participants from the results of a study.
Average difference	The average difference is used to express treatment differences for continuous outcomes, such as weight, blood pressure or pain assessed using a scale. It is the difference between the average value for an outcome measure (for example kilograms) in one group and that in a comparison group.
Baseline risk	Baseline risk is an estimate of the likelihood that an individual or group will experience a health problem before a treatment is used.
Bias	A systematic error that may affect the results of a study because of weaknesses in its design, analysis, or reporting.
Blinding	In treatment comparisons, blinding is an action intended to prevent study participants (the people receiving and providing care) or the researchers (or others measuring outcomes) from knowing which participants received which treatment.
Case-control study	A case-control study is a type of non-randomized study comparing the characteristics of people with a particular health condition (cases) with the characteristics of people without that condition (controls), to find what may have caused the problem.
Certainty of the evidence	The certainty of the evidence is an assessment of how good an indication a systematic review provides of the likely effect of a treatment. Judgements about the certainty of the evidence take into account factors that reduce the certainty (risk of bias, inconsistency, indirectness, imprecision, and publication bias) and factors that increase the certainty.
Chance	In the context of comparisons of treatments, chance is responsible for differences between comparison groups that are not due to treatment effects or bias. The play of chance (random error) can lead to incorrect conclusions about treatment effects if too few outcomes occur in studies.
Co-intervention	Treatment, in addition to the treatment being studied, that could impact the outcome of interest.

* See GET-IT Glossary for additional plain language definitions and explanations of health research terms.

Cohort study	A cohort study is a type of non-randomized study in which defined groups of people (cohort) are followed up over time to explore the effects of treatments or other factors that may affect health outcomes.
Confidence interval	A confidence interval is a statistical measure of a range within which there is a high probability (usually 95%) that the true value lies. Wide intervals indicate lower confidence; narrow intervals greater confidence.
Confounders	In treatment comparisons, confounders are any factors other than the treatments being compared which may affect the health outcomes being measured.
Contamination	Contamination is the inadvertent application of a treatment allocated to people in one comparison group to people in another comparison group in treatment comparisons.
Continuous outcomes	Continuous outcomes are outcomes (such as measures of pain, weight or depression) which are measured on scales with a potentially infinite number of possible values within a given range (e.g. between “no pain” and “worst pain you have ever experienced”).
Data	Information gathered in studies to help address research questions, such as assessing treatment effects.
Diagnostic test	A procedure used to detect the presence or absence of a health condition.
Dichotomous outcomes	Dichotomous outcomes are yes/no outcomes that people either experience or do not experience.
Effect estimate	An effect estimate is a statistical measure indicating the most likely size of a treatment effect.
Eligibility criteria	Characteristics used to decide whether people are eligible to participate in a study and should be invited to participate.
Evidence	Facts (actual or asserted) intended for use in support of a conclusion.
Explanatory study	An explanatory study (sometimes called an ‘efficacy’ study) is designed to assess the effects of a treatment given in ideal circumstances, in contrast to a ‘pragmatic’ study.
Fair comparison	Fair comparisons of treatments are comparisons designed to minimize the risk of systematic errors (biases) and random errors (resulting from the play of chance).
Follow-up	In treatment comparisons, assessment of study participants after treatment, or the length of time that participants are observed after being allocated to a treatment comparison group.
Health action	A health action is another word for treatment. It is any intervention intended to improve health, including preventive, therapeutic and rehabilitative interventions, and public health or health system interventions.
Incidence	The number of new occurrences of something in a population over a particular period of time.
Indirect comparison	A direct comparison is a head-to-head comparison of treatments within a study. If there are no direct comparisons of the treatments of interest, indirect comparisons – comparisons of people in one study to people in another study.
Intention-to-treat analysis	Analyses based on the outcomes in all the study participants allocated to each of the treatment comparison groups. Intention-to-treat analyses are analyses that include data from all the participants assigned unbiasedly to the treatment comparison groups, whether or not they received the treatment to which they were assigned, even if they never started the treatment, or switched to a different one during the study. Intention-to-treat analyses prevent bias caused by disruption of the baseline equivalence established by random allocation.

Measurement bias	In treatment comparisons, measurement error refers to bias resulting from systematic differences in how outcomes are measured in treatment comparison groups in a study. (Also called detection bias and observer bias.) For outcome measures, measurement error refers to systematic or random error that is not attributable to true changes in the outcome.
Meta-analysis	Statistical combination of estimates derived from two or more similar studies, to give an overall effect estimate.
Model	A representation of the relationship between components of a system. Causal models represent causal relationships in a system, population, or individual.
Nocebo effect	An undesirable effect presumed to act psychologically through suggestion that is or could be caused by information or a treatment believed to be otherwise inactive.
Non-randomized study	A study that does not use random allocation to assign participants to treatment comparison groups.
Outcome	An outcome is a potential benefit or harm of a treatment assessed in a treatment comparison. An outcome measure is how the outcome is assessed in a study.
P-value	A p-value is the probability of observing a result, as extreme or more extreme than the actual result, simply by chance, if in reality there is no treatment difference.
Performance bias	Bias resulting from differences in the care provided to the participants in a study, other than the treatments being compared.
Placebo	A placebo is a treatment that does not contain active ingredients, which has been designed to be indistinguishable from the active treatment being compared with it.
Placebo effect	A measurable, observable, or felt improvement in health or behaviour not attributable to the treatment administered.
Pragmatic study	A pragmatic study (sometimes called an 'effectiveness' study) is designed to assess the effects of a treatment given in the circumstances of everyday practice.
Precision	The extent to which errors resulting from the play of chance affect the results of a study or an outcome assessment are likely to have occurred.
Probability	Probability is the chance or risk of something, such as an outcome, occurring. See Risk.
Propensity score	The probability of being assigned to a particular treatment given a set of observed baseline characteristics.
Protocol	A document providing detailed plans for a study.
Randomized trial	Randomized trials are treatment comparisons in which two or more treatments, possibly including a placebo or withholding a treatment, are compared after random allocation of participants to treatment comparison groups. Random allocation ensures that each participant has a known (usually an equal) chance of being assigned to any of the comparison groups. This results in treatment comparison groups that are similar in terms of prognostic variables, whether or not all of them are known.
Recall bias	Recall bias occurs when study participants are systematically more or less likely to recall and report information on exposure (to a treatment or some other factor) depending on their outcome condition, or to recall information regarding their outcome condition dependent on their exposure.
Regression to the mean	The tendency of unusually large or small measurements of something that fluctuates, such as pain, to return to a more usual or average level on repeated measurements.
Relative effects	Relative effects are ratios. For example, if the probability of an outcome in one treatment comparison group is 10% (10 per 100) and the probability of that outcome in another comparison group is 5% (5 per 100), the relative effect is 5/10 = 0.50.

Reliable	The reliability of a claim or evidence about a treatment effect is the extent to which it is dependable or can be trusted. In the context of research, reliability often has a different meaning, which is the degree to which results obtained by a measurement procedure can be repeated.
Reporting bias	Bias resulting from decisions by researchers, or others (e.g. drug companies or journal editors) not to report or publish the results of a study, or not to provide full information about a study. Publication bias sometimes refers specifically to not publishing a study, and reporting bias sometimes refers specifically to not providing full information, such as not reporting some of the outcomes that were measured in a study.
Risk	Risk is the probability of an outcome occurring. See Probability.
Scale	A scale is a means for measuring or rating an outcome with a potentially infinite number of possible values within a given range, such as weight, blood pressure, pain, or depression.
Statistical significance	Statistical significance is a difference that is unlikely (below a specified level of confidence – typically 5%) to be explained by the play of chance.
Strength of recommendation	The strength of a recommendation is the extent to which people who made the recommendation are confident that the desirable consequences of adhering to the recommendation outweigh the undesirable consequences.
Research study	A research study is an investigation that uses specified methods to evaluate something. Different types of studies can be used to evaluate the effects of treatments, as well as to address other types of questions. Some studies are more reliable than others.
Subgroup	A subgroup is a subdivision of a group of people, a distinct group within a group. For example, in studies or systematic reviews of treatment effects, questions are often asked about whether there are different effects for different subgroups of people in the studies, such as women and men, or people of different ages.
Surrogate outcomes	Surrogate outcomes are outcome measures that are not of direct practical importance but are believed to reflect outcomes that are important. For example, blood pressure is not directly important to patients, but it is often used as an outcome in studies because it is a risk factor for stroke and heart attacks.
Systematic review	A systematic review is a summary of research evidence (studies) that uses systematic and explicit methods to summarise the research. It addresses a clearly formulated question using a structured approach to identify, select, and critically appraise relevant studies, and to collect and analyse data from the studies that are included in the review.
Theory	A theory is a supposition, or a system of ideas intended to explain something.
Treatment	A treatment is any intervention (action) intended to improve health, including preventive, therapeutic and rehabilitative interventions, and public health or health system interventions.
Treatment comparison	Treatment comparisons are studies comparing the effects of treatments.
Treatment comparison group	A treatment comparison group is a group of participants in a study allocated to receive one or more different treatments, usual care, or placebo. Treatment comparison groups are sometimes categorised as treatment groups (intervention groups or experimental groups) and control groups. However, control groups always receive some type of treatment, for example, usual care, a placebo, or active monitoring.
Treatment effects	Treatment effects are changes (increases or decreases) or differences in health outcomes as a result of treatments.

Validity	In treatment comparisons, validity, sometimes specified as internal validity, refers to the extent to which the design and conduct of a study eliminates or reduces bias in the effect estimate. For outcome measures, validity refers to the degree to which an outcome measure measures the construct it purports to measure.