



GLOSSARY of research terms

For JLA Asthma Working Partnership meeting

Terms in bold are commonly used clinical/research terms.

Before-After Trial: Investigation of an intervention (such as a treatment) in which the investigators compare the status of patients before and after the intervention

Bias: A systematic tendency to produce an outcome that differs from the underlying truth
There are many different types of bias.

Case Reports: Descriptions of individual patients

Case Series: A study reporting on a consecutive collection of patients, treated in a similar manner, without a **control group** (comparison group).

Case control studies: studies used to investigate causes of diseases, or to identify adverse or side-effects of treatments. They include people with an outcome of interest and a suitable control group of people unaffected by the outcome. The occurrence of the possible cause is compared between **cases** (people with the disease/condition) and **controls** (people not known to have the disease/condition).

Cochrane Collaboration: an international endeavour in which people from many different countries systematically find, appraise and review available evidence from **RCTs**. The Collaboration aims to develop and maintain systematic, up-to-date reviews of **RCTs** of all forms of health care and to make this information readily available to clinicians and other decision-makers at all levels of health care.

Cohort Studies (or follow-up studies): Studies which begin with a group of people (the cohort) free from disease but who have been exposed to a potential cause of disease or outcome. The cohort is followed up to see the subsequent development of new cases of the outcome of interest. Cohort studies provide the best information about the causation of disease and the most direct measurement of the risk of developing disease. They can also be used to measure the outcome of treatments or exposure when, for ethical reasons, it is not possible to perform an **RCT** or to investigate the effects of a rare exposure.

Confounder or confounding variable: A factor that distorts the true relationship of the study variable of interest by virtue of also being related to the outcome of interest. Confounders are often unequally distributed among the groups being compared. Randomised studies are less likely to have their results distorted by confounders than are observational studies

Controls: is the comparison group, in a **Random Controlled Trial**. They receive the usual treatment (or a **placebo**) while the experimental group receives the treatment being tested.

Conventional Therapy: a currently accepted and widely used treatment for a certain type of disease, based on the results of past research. Also called conventional treatment

Crossover Trial: A study design in which all patients receive both experimental and control treatments in sequence.

Effectiveness is the extent to which an intervention/treatment improves the outcome for patients in real life.

Eosinophils: a type of white blood cell active in fighting parasites.

Evidence-Based Medicine (EBM): Using current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine requires integration of individual clinical expertise and patient preferences, with the best available evidence from good quality research.

Experimental study is a study in which conditions are under the direct control of the investigator, so that the outcome can be attributed to the intervention. A randomised controlled trial is an experimental study.

Exposure: A condition to which patients are exposed (either a potentially harmful agent or a potentially beneficial one) that may impact on their health.

Focus Groups: Investigators use focus groups, typically gatherings of 4 to 8 people with similar background or experience, to understand their attitudes or their response to a particular situation or experience.

Follow-up: The investigators are aware of the outcome in every patient who is recruited to a study.

Hawthorne effect: psychological response, in which subjects change their behaviour simply because they are participating in a research study, not because of the research treatment.

Homogeneity: meaning 'similarity'. Studies are said to be **homogeneous** if their results vary no more than might be expected by the play of chance. The opposite of homogeneity is **heterogeneity**.

Immunotherapy: a variety of strategies of treatment based upon the concept of modulating the immune system to achieve a desired outcome in therapy or preventative therapy.

Incidence: Number of new cases of disease occurring during a specified period of time; expressed as a percentage of the number of people at risk.

Inclusion Criteria: Investigators specify the inclusion criteria to define the people who will be eligible for a study.

Informed Consent: A potential participant's expression of willingness, after full understanding of the facts, to participate in a study.

Intervention (s): An action that produces an effect or that is intended to alter the course of a disease process

Investigator Triangulation: Investigator triangulation requires more than one investigator to collect and analyse the raw data, such that the findings emerge through consensus between or among investigators

Likert-Type Scales: Scales, typically with from 3 to 9 possible values, that include extremes of attitudes or feelings (such as from totally disagree to totally agree) and that investigators preset to respondents to obtain their ratings or their responses.

Lost to Follow-up: Patients whose status at the end of the study is unknown.

MEDLINE: an electronic database which summaries thousands of pieces of biomedical research literature, in selected journals. It is available through most health service libraries.

Meta-analysis: a statistical technique, which summarises the results of several studies into a single estimate. More importance is given to studies, which have been done with larger groups of people.

Number Needed to Harm (NNH): The number of patients who would need to be treated over a specific period of time before one adverse side effect of the treatment will occur.

Number Needed to Treat (NNT): The number of patients who need to be treated over a specific period of time to prevent one bad outcome. When discussing NNT, it is important to specify the treatment, its duration and the bad outcome being prevented.

Clinical Guidelines: Guidelines are systematically developed statements, directions, or principles that help practitioner and patient decisions about the right health care for specific disease areas or circumstances. Guidelines may be developed by government agencies, institutions, organisations, such as professional societies or governing boards, or by expert panels.

Pharmacotherapy: the treatment of a disease with drugs

Placebo therapy: is an inactive treatment often given to controls in trials. The **placebo** is delivered in a form, which is apparently identical to the active treatment being tested in the trial, so that the research participant is unaware of which they are taking, this helps to eliminate psychological effects on the outcome.



Prevalence: Proportion of persons affected with a particular disease at a specified time.

Primary Care Setting: Medical care facility that offers first contact health care only, e.g. GP surgery, specialised medical care may be referred elsewhere. Some primary care centres provide a mixture of primary and referred care.

Primary Studies: Studies that collect original data. Primary studies are differentiated from systematic reviews that summarize the results of (existing) primary studies

Prophylactic: something that prevents or protects

Publication Bias results from the fact that studies with 'positive' results are more likely to be published.

Qualitative Research: Qualitative research offers insights into social, and emotional features of life and reports in a descriptive way.

Quantitative Research: Aims to test well-specified hypotheses (hunches or ideas) using pre-determined factors and reports this in numbers and data for suitable for statistical analysis

Randomisation or Random Allocation: Allocation of individuals to groups by chance, usually done with the aid of table of random numbers. Not to be confused with systematic allocation (eg on even and odd days of the month) or allocation at the convenience or discretion of the investigator

Randomised Controlled Trial (RCT): a research trial in which subjects are randomly assigned to two groups: one (the experimental group) receiving the intervention that is being tested, and the other (the comparison group or controls) receiving no treatment or a conventional treatment. The two groups are then followed up to see if any differences between them result. This helps people assess the effectiveness of the intervention.

Reliability: Refers to consistency or reproducibility of data

Review: is any summary of the literature

Risk: Measure of the association between exposure and outcome (including incidence, side effects, toxicity).

Survey: Observational or descriptive non-experimental study in which individuals are systematically examined for the absence or presence (or degree of presence) of characteristics of interest

Systematic review is a **review** in which evidence on a topic has been systematically identified, appraised and summarised according to predetermined criteria.

Theoretical Saturation: The point at which iterations among data collection, analysis and theory development yield a well-developed conceptual framework and further observations yield minimal or no new information to further challenge or elaborate the framework

Triangulation: In qualitative analysis, key findings are also corroborated using multiple sources of information, a process called triangulation. For example if it smells like a dog, barks like a dog, and looks like a dog, it probably is a dog

Values: The basis for individual personal preferences

Validity: refers to the soundness or rigour of a study. A study is valid if the way it is designed and carried out means that the results are unbiased – that is, it gives you a 'true' estimate of clinical effectiveness of a treatment.

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