EBCP Terminology

- **Absolute risk reduction (ARR)**  The absolute arithmetic difference in rates of outcomes between experimental and control groups in a trial, calculated as |EER-CER|.
- **Bias**  A systematic tendency to produce an outcome that differs from the underlying truth.
- **Blinding**  Participants of interest are unaware of whether participants have been assigned to the experimental or control group.
- **Case-control study**  A study which involves identifying patients who have the outcome of interest (cases) and patients without the same outcome (controls), and looking back to see if they had the exposure of interest.
- **Case series**  A report on a series of patients with an outcome of interest. No control group is involved.
- **Clinical Practice Guideline**  A systematically developed statement designed to assist clinician and patient decisions about appropriate health care for specific clinical circumstances.
- **Cohort Study**  Involves identification of 2 groups (cohorts) of patients, one which received the exposure of interest, and one which did not, and following these cohorts forward for the outcome of interest.
- **Co-interventions**  Interventions other than the treatment under study that are applied differently to the treatment and control groups. Cointervention is a serious problem when double blinding is absent or when the use of very effective non-study treatments is permitted.
- **Concealed Allocation**  means that the person who is making decisions about enrollment does not know whether the next person entered in the trial is in the experiment or control group.
- **Confidence Interval (CI)**  Quantifies the uncertainty in measurement. It is usually reported as a “(95% CI 5-15) which is the range of values within which we can be 95% sure that the true value for the whole population lies. For example, for an NNT of 10 with a 95% CI of 5 to 15, we would have 95% confidence that the true NNT value lies between 5 and 15.
- **Confounder**  A factor that distorts the true relationship of the study variables of interest by virtue of being related to the outcome of interest.
- **Control Event Rate (CER)**  The proportion of patients in the control group who are observed to experience the outcome of interest.
- **Cost-benefit analysis**  Assesses whether the cost of an intervention is worth the benefit by measuring both in the same units; monetary units are usually used.
- **Cost-effectiveness analysis**  Measures the net cost of providing a service as well as the outcomes obtained. Outcomes are reported in a single unit of measurement.
- **Critical Case sampling**  Sampling cases that are predicted to be especially information-rich and particularly illuminating
- **Crossover study design**  The administration of 2 or more experimental therapies one after the other in a specified or random order to the same group of patients.
- **Cross-sectional study**  The observation of a defined population at a single point in time or time interval. Exposure and outcome are determined simultaneously.
- **Decision analysis**  The application of explicit, quantitative methods that quantify prognoses, treatment effects, and patient values in order to analyze a decision under conditions of uncertainty.
- **Deviant case sampling**  Sampling the most extreme cases in a phenomenon
- **Dose response relationship**  A relationship in which change in amount, intensity, or duration of exposure is associated with a change—either an increase or decrease—in adverse effect or risk of a specified outcome.
- **Ecological survey**  A survey based on aggregate data for some population as it exists at some point or points in time; to investigate the relationship of an exposure to a known or presumed risk factor for a specified outcome.
- **EER – see Experimental event rate**
- **Effectiveness**  A measurement of benefit resulting from an intervention for a given health problem under conditions of usual practice.
- **Efficacy**  A measurement of benefit resulting from an intervention for a given health problem under conditions of ideal practice.
- **Ethnography**  A type of qualitative research which treats a group of people as an anthropologist would an unknown tribe, with detailed descriptions of how they live.
- **Event rate** The proportion of patients in a group in whom the event is observed. Thus if out of 100 patients, the event is observed in 27, the event rate is 0.27.
- **Evidence based health care** The conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. Involves all professions associated with health care including purchasing and management.
- **Evidence-based medicine (EBM)** The conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. The practice of EBM means integrating individual clinical expertise with the best available external clinical evidence from systematic research.
- **Exclusion criteria** Conditions which preclude entrance of candidates into an investigation even if they meet the inclusion criteria.
- **Experimental Event Rate (EER)** The proportion of patients in the experimental treatment group who are observed to experience the outcome of interest.
- **Focus Group** A common type of group discussion in which a moderator encourages a small group of people (usually 8 to 10) to gradually focus on a topic.
- **Follow-up** Observation over a period of time of an individual, group, or initially defined population whose relevant characteristics have been assessed in order to observe changes in health status or health-related variables.
- **Gold Standard** A method, procedure, or measurement that is widely accepted and proven to be the best available for determining a diagnosis.
- **Heterogeneity** This occurs when there is more variation between the study results (in a systematic review) than would be expected to occur by chance alone.
- **Inception cohort** A group of patients who are assembled near the onset of the target disorder.
- **Incidence** The proportion of new cases of the target disorder in the population at risk during a specified time interval.
- **Integrative Review** Integrative reviews commonly incorporate the findings from a range of different research designs. Integrative reviews summarize "past empirical and theoretical literature to provide a more comprehensive understanding of a particular phenomenon or healthcare problem. Well done integrative reviews present the state of the science, contribute to theory development, and have direct applicability to practice and policy." [From: Whittemore, R., & Knafl, K. (2005). The integrative review: Updated methodology. *Journal of Advanced Nursing*, 52(5), 546-553. doi:10.1111/j.1365-2648.2005.03621.x ]
- **Intention to treat analysis** A method of analysis for randomized trials in which all patients randomly assigned to one of the treatment groups is analyzed with that assigned group, regardless of whether or not they completed or received the treatment.
- **Likelihood ratio** The likelihood that a given test result would be expected in a patient with the target disorder compared with the likelihood that this same result would be expected in a patient without the target disorder.
- **Maximum-variation sampling** Sampling as wide a range of perspectives as possible to capture the broadest set of information.
- **Meta-analysis** A systematic review of the literature that uses quantitative methods to summarize the results.
- **Meta-study and Meta-synthesis** Meta-study and meta-synthesis are used for the synthesis of qualitative research. A meta-synthesis uses interpretive methods to synthesize the findings from primary studies, which can often vary in important respects (such as populations or settings), to produce new insights and understandings. A meta-study is a specific research approach in which the theory, methods and findings of qualitative research are analyzed and synthesized to develop new ways of thinking about a topic. Neither of these methods involves the reanalysis of raw data from the primary qualitative studies. Both can be used to determine what is known and what is not known, reflect on the processes and perspectives of the relevant body of research, explore the underlying methodological decisions and theoretical influences, and suggest future directions for researchers, theoreticians and clinicians. [From: Webb, C., & Roe, B. H. (2007). *Reviewing research evidence for nursing practice: Systematic reviews*. Oxford; Malden, MA: Blackwell Pub.]}
N-of-1 trials  In such trials, the patient undergoes pairs of treatment periods organized so that one period involves the use of the experimental treatment and the other involves the use of an alternate or placebo therapy. The patient and physicians are blinded, if possible, and outcomes are monitored. Treatment periods are replicated until the clinician and patient are convinced that the treatments are definitely different or definitely not different.

Narrative Interview  Envisages a setting which encourages and stimulates interviewees to tell a story about some significant event in an informant’s life.

Negative predictive value  Proportion of people with a negative test result who are free of the target disorder.

Nomogram  Graphic scale developed by Fagan to move from a pretest probability through a likelihood ratio to a posttest probability.

Number needed to treat (NNT)  The number of patients that we need to treat with a specified therapy in order to prevent one additional bad outcome. The NNT can also be stated as the number of patients who must be treated for one patient to benefit. Calculated as the inverse of the absolute risk reduction (1/ARR).

Odds  A ratio of probability of occurrence to non-occurrence of an event. A ratio of the number of people experiencing an event to the number of people who have non-events.

Odds ratio (OR)  The ratio of the odds of having the target disorder in the experimental group relative to the odds in favor of having the target disorder in the control group (in cohort studies or systematic reviews) or the odds in favor of being exposed in subjects with the target disorder divided by the odds in favor of being exposed in control subjects without the target disorder.

Patient expected event rate  The patient expected event rate (PEER) refers to the rate of events we'd expect in a patient who received conventional therapy or no treatment.

Positive predictive value  Proportion of people with a positive test who have the target disorder.

Post-test odds  The odds that the patient has the target disorder after the test is carried out (calculated as the pre-test odds x likelihood ratio).

Post-test Probability  The probability of the target condition being present after the results of a diagnostic test are available.

Power  Ability to detect a difference between two experimental groups if one in facts exists.

Predictive value  In screening and diagnostic tests, the probability that a person with a positive test is a true positive (i.e., does have the disease), or that a person with a negative test truly does not have the disease. The predictive value of a screening test is determined by the sensitivity and specificity of the test, and by the prevalence of the condition for which the test is used.

Pre-test probability (prevalence)  The proportion of people with the target disorder in the population at risk at a specific time (point prevalence) or time interval (period prevalence).

Prevalence  The proportion of persons with a particular disease within a given population at a given time.

Prognostic factor  Demographic, disease-specific, or co-morbid characteristics associated strongly enough with a condition’s outcomes to predict accurately the eventual development of those outcomes. Compare with risk factors. Neither prognostic nor risk factors necessarily imply a cause and effect relationship.

Prospective study  Study design where one or more groups (cohorts) of individuals who have not yet had the outcome event in question are monitored for the number of such events which occur over time.

P-value  The probability that the difference(s) observed between two or more groups in a study would have occurred if there were no differences between the groups other than those created by random selection or by chance. Many researchers use a probability (p-value) of less than 0.05 as the cut-off for "statistical significance", i.e. when the sort of result seen in a study would occur by chance less than once in 20 studies.

Randomization (random allocation)  Allocation of individuals to groups by a formal chance process such that each patient has an independent, equal chance of selection for the intervention group. Method analogous to tossing a coin to assign patients to treatment groups (the experimental treatment is assigned if the coin lands ‘heads’ and a conventional ‘control’ or placebo treatment is given if the coin lands ‘tails’).
Overview

- **Randomized control clinical trial (RCT)** Study design where treatments, interventions, or enrollment into different study groups are assigned by random allocation rather than by conscious decisions of clinicians or patients. If the sample size is large enough, this study design avoids problems of bias and confounding variables by assuring that both known and unknown determinants of outcome are evenly distributed between treatment and control groups.

- **Recall bias** Systematic error due to the differences in accuracy or completeness of recall to memory of past events or experiences.

- **Referral filter bias** The sequence of referrals that may lead patients from primary to tertiary centers raises the proportion of more severe or unusual cases, thus increasing the likelihood of adverse or unfavorable outcomes.

- **Relative Risk (RR, or Risk Ratio)** The ratio of the probability of developing, in a specified period of time, an outcome among those receiving the treatment of interest or exposed to a risk factor, compared with the probability of developing the outcome if the risk factor or intervention is not present (i.e., the ratio of risk in the treated group to the risk in the control group: RR=EER/CER)

- **Relative Risk Reduction (RRR)** The extent to which a treatment reduces a risk, in comparison with patients not receiving the treatment of interest (i.e., the percent reduction in events in the treated group compared to controls: RRR=[(EER-CER)/CER]).

- **Retrospective study** Study design in which cases where individuals who had an outcome event in question are collected and analyzed after the outcomes have occurred.

- **Risk factor** Patient characteristics or factors associated with an increased probability of developing a condition or disease in the first place. Compare with prognostic factors. Neither risk nor prognostic factors necessarily imply a cause and effect relationship.

- **Risk ratio** The ratio of risk in the treated group (EER) to the risk in the control group (CER). This is used in randomized trials and cohort studies and is calculated as EER/CER.

- **Semi-structured Interview** An interview (usually by a highly skilled interviewer) that doesn’t use a fixed questionnaire, just a list of topics to cover.

- **Sensitivity** The proportion of people with the target disorder who have a positive test. It is used to assist in assessing and selecting a diagnostic test/sign/symptom.

- **SnNout** When a sign/test/symptom has a high Sensitivity, a Negative result rules out the diagnosis. For example, the sensitivity of a history of ankle swelling for diagnosing ascites is 93%; therefore is a person does not have a history of ankle swelling, it is highly unlikely that the person has ascites.

- **Specificity** Proportion of people without the target disorder who have a negative test. It is used to assist in assessing and selecting a diagnostic test/sign/symptom.

- **SpPin** When a sign/test/symptom has a high Specificity, a Positive result rules in the diagnosis. For example, the specificity of a fluid wave for diagnosing ascites is 92%; therefore if a person does have a fluid wave, it rules in the diagnosis of ascites.

- **Strength of Inference** The likelihood that an observed difference between groups within a study represents a real difference rather than mere chance or the influence of confounding factors, based on both p values and confidence intervals. Strength of inference is weakened by various forms of bias and by small sample sizes.

- **Systematic review** A summary of the medical literature that uses explicit methods to perform a thorough literature search and critical appraisal of individual studies and that uses appropriate statistical techniques to combine these valid studies.

- **Test threshold** Probability below which a clinician dismisses a diagnosis and orders no further tests.

- **Treatment threshold** Probability above which a clinician would consider a diagnosis confirmed and would stop testing and initiate treatment.

- **Typical case sampling** Sampling the most ordinary, usual cases in a phenomenon.

- **Validity** The extent to which a variable or intervention measures what it is supposed to measure or accomplishes what it is supposed to accomplish. The internal validity of a study refers to the integrity of the experimental design. The external validity of a study refers to the appropriateness by which its results can be applied to non-study patients or populations.
From:

- [http://www.cebm.utoronto.ca/glossary/](http://www.cebm.utoronto.ca/glossary/) (Centre for Evidence-based Medicine)
- [http://www.audencedialogue.net/gloss-qual.html](http://www.audencedialogue.net/gloss-qual.html)
- *Journal of Advanced Nursing and Reviewing research evidence for nursing practice: Systematic reviews*