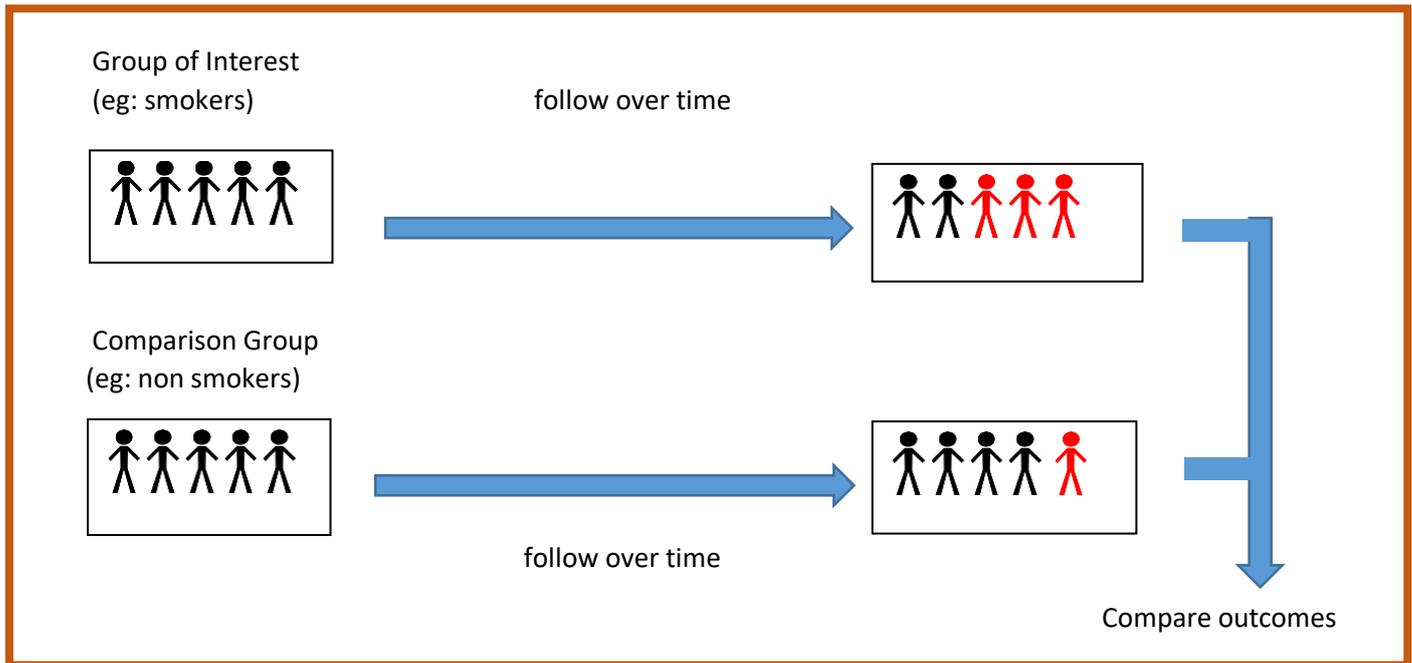


All you need to know about: Cohort Studies



Definition:

An observational study with 2 or more groups (cohorts) of people with similar characteristics. One group has a treatment, is exposed to a risk factor or has a particular symptom and the other group does not. The study follows their progress over time and records what happens. Also known as a 'Prospective Cohort Study'
(NICE: <https://www.nice.org.uk/glossary?letter=p>)

Key Features:

- * Is an observational and analytical research design
- * Usually starts in the present and goes forward over time.
- * Researcher has no control – observes only
- * Often used to look for risk factors for specified disease/condition
- * Two or more groups observed

Strengths:

If correct methodologies used-

- * Suitable for establishing risk factors
- * Can avoid some of the ethical issues that prevent an RCT
- * Administratively cheaper and easier than an RCT
- * Can calculate incidence

Weaknesses:

- * Cannot demonstrate cause and effect
- * Large groups/Long follow up needed. Not suitable for rare diseases
- * Long follow up may result in large numbers of participants dropping out over time
- * Blinding difficult and no randomisation.

Examples:

"Does physical activity reduce the risk of heart disease?"

"Does smoking increase the risk of lung cancer?"

"The impact of ear, nose and throat surgery on children's subsequent use of health services: An 8-year cohort study."



Associated Terminology:

You may come across the following terms while reading a Cohort Study

- **Cohort:** a group of people who share a common characteristic or experience within a defined period (e.g., are currently living, are exposed to a drug or vaccine or pollutant, or undergo a certain medical procedure).
- **Longitudinal Study:** A study of the same group of people at different times. This contrasts with a cross-sectional study, which observes a group of people at a point in time.
- **Prospective Study:** A research study in which the health or other characteristic of patients is monitored (or 'followed up') for a period of time, with events recorded as they happen. This contrasts with retrospective studies.
- **Retrospective Study:** A research study that focuses on the past and present. The study examines past exposure to suspected risk factors for the disease or condition. Unlike prospective studies, it does not cover events that occur after the study group is selected.
- **Incidence:** The number of new cases of a disease among a certain group of people during a specific period of time. It is different from prevalence.
- **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.
- **Exposure:** the condition of being subjected to something which may have a harmful effect (eg: tobacco smoke, radiation).
- **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.
- **Confounding:** In a study, confounding occurs when the effect of an intervention on an outcome is distorted because of an association between the population or intervention or outcome and another factor (the 'confounding variable' or 'confounder') that can influence the outcome independently of the intervention under investigation.

Further resources:

- **CASP Checklist for Critically Appraising Cohort Studies :**
http://media.wix.com/ugd/dded87_e37a4ab637fe46a0869f9f977dacf134.pdf
- **"How to Read a paper: The Basics of Evidence-Based Medicine"** by Patricia Greenhalgh. 4th Edition, 2010 published by Wiley-Blackwell. ISBN: 9781444334364
- **"Epidemiology, evidence-based medicine and public health: lecture notes"** by Y. Ben-Shlomo et al. 6th Edition, 2013 published by Wiley-Blackwell. ISBN: 9781444334784
- **NICE Glossary:**
<https://www.nice.org.uk/Glossary?letter=A>
- **Centre for Evidence Based medicine:**
www.cebm.net

Further training and assistance:

If you would like to learn more about Critical Appraisal, please contact the Library and Knowledge Service. We can arrange training sessions tailored to your needs, at a time and location that is convenient to you.

website: <https://library.merseywestlancs.nhs.uk/>

email: library@merseywestlancs.nhs.uk

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