

Epi Brown-Bag

A primer on study design

Classical and well-known (or abused) study designs are case-control, cross-sectional and cohort studies which could be conducted retrospectively or- preferably - prospectively.

Some more general information about them could be found here:

1. Observational research methods. Research design II: cohort, cross sectional, and case-control studies ([here](#))
2. Case-control and Cohort studies: A brief overview ([here](#))

Please remember that there are relevant guidelines on how to report these studies - which are really useful to check before embarking one. You can find them on [EQUATOR](#) website.

At Vetsuisse we see many case-control studies which are unfortunately prone to bias. Therefore, we join the authors of "[A plea to stop using the case-control design in retrospective database studies](#)" to discourage case-control studies. If you have no other choice but to do a case-control study, you can make it better by using propensity scoring and matching.

One very costly example of a case-control study occurred during the EHEC outbreak 2011 in Germany. Based on an initial case-control study, the advice was given to avoid cucumbers and tomatoes from Spain. Afterwards, based on further studies (incl. cohort studies) the true culprit was found, sprouts. Still, communications issued by authorities with advice for consumers during the initial phase of the EHEC outbreak could have caused losses for up to €132 million in cucumber and tomato exports for Spain and the Netherlands (<https://edepot.wur.nl/200326>).