

Lecture 1: Monday, May 19 – 10:00 AM

The Case-Control Study: Origins and Modern Extensions

Nineteenth and twentieth century contributions to the case-control study are briefly described. Case-control and case-cohort designs are increasingly used today to limit ascertainment of expensive biomarker data to the most informative participants in a cohort study. Published reports, however, are often based only on complete data records for sampled cases and controls, thus ignoring substantial amounts of information on other subjects in the main cohort. Analysis methods developed during the past two decades, many now implemented in standard computer packages, allow greater account to be taken of the available data. Horwitz-Thompson estimation in semiparametric models, with sampling weights adjusted via calibration or estimation to improve efficiency, offers one robust approach.