

TWO-PHASE IN PRACTICE: ROBUSTNESS AND PLANNING ISSUES

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Logistic two phase studies were introduced into Epidemiology more than twenty years ago but have rarely been applied in practice. Design issues are discussed in this talk in two situations. (i) If the first phase data have already been collected, it is shown how a second phase study can be planned, given a priori information. (ii) To enhance efficiency in the case of rare disease - exposure combinations, an inverse sampling strategy is suggested: Subjects are screened until desired numbers of cases and controls have been selected for detailed data collection. We compare robustness of maximum likelihood and weighted logistic regression under violation of model assumptions, specifically the missing at random assumption and model misspecification. The comparisons will be made on worked example.