DETECTING OUTLIERS IN META ANALYSIS USING LIKELIHOOD FUNCTIONS AS FUNCTIONS

M. Brimacombe, B. Peng

New Jersey Medical School - UMDNJ

Email: *brimacmb@umdnj.edu*

The detection of outlier studies in the context of meta-analysis is examined. The set of likelihood functions resulting from the meta-analysis, viewed as a set of functions, can be summarized using functional data approaches to obtain a robust assessment of overall likelihood properties for the set of experiments. Individual likelihoods can then be compared against this reference, allowing for detection of outliers studies, studies which, on the scale of likelihood, deviate from the norm. In higher dimensions this approach can be applied to sets of conditional and marginal likelihoods as well respective Bayesian posterior densities. Examples from the medical literature combining odds ratios are developed.