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**Meta-analysis of diagnostic test accuracy data**

In this talk we review some methods for meta-analysis of diagnostic test accuracy data, put into the framework of the (generalized) linear mixed model. We start with meta-analysis of sensitivities or specificities separately. We compare the use of the usual approximate normal within study likelihood with the exact binomial within study likelihood. Then we consider meta-analysis of the diagnostic log odds ratio and advocate the use of the non-central hypergeometric within study likelihood instead of the approximate normal as in the standard approach. Next we consider the bivariate approach to meta-analysis where per study one pair of estimated sensitivity and specificity is available. Again we advocate the routine use of the binomial within study likelihood. At least 5 different reasonable definitions of summary ROC curves could be based upon the estimated bivariate normal distribution, among them the ones proposed by Littenberg & Moses (1993) and Rutter & Gatsonis (2001). We will argue that estimation of the "true" summary ROC rests upon an untestable assumption on the way the reported sensitivity and specificity pairs were selected in the individual studies included in the meta-analysis. This makes the interpretation of the many summary ROC curves reported in the literature very problematic. Finally we discuss the extension of the bivariate model to the situation where a single diagnostic test is administered and the results are reported in a fixed number of ordered categories.