Inference and sample size determination for clinical trial with rare events and potential misclassification

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In this study, we considered the case of comparing two or more proportions to a control in the case where interest is in an event such as an adverse event where the probability of occurrence is low. Also, we allowed for potential misclassification in the assay. We investigated several different properties of a Bayesian inference procedure via simulation. The properties investigated include the following. We determined the bias and interval coverage for various non-informative priors to determine which prior is best. We also investigated the impact of misclassification on the bias and power. Finally, we overviewed a simulation based sample size determination procedure.

Biography
James Stamey, PhD, is Professor and graduate program Director for the Department of Statistical Science at Baylor University. His research is primarily on Bayesian methods for measurement error and misclassification along with applications in pharmaceutical statistics and health economics.

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