Kolloquium „Statistische Methoden in der empirischen Forschung“

Wann: 26. November 2013, 17:00 – 18:30 Uhr

Wo: Landwirtschaftlich-Gärtnerische Fakultät der HU, Hörsaal 2, 2. Etage, Invalidenstr. 42, 10115 Berlin

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Blinded sample size re-estimation in clinical trials with time-to-event or recurrent event endpoints

Two-stage designs are popular means to maintain the power of a hypothesis tests at a pre-specified level independent of the size of the nuisance parameters by estimating the nuisance parameters from data of the first design stage and adjusting the sample size of the second stage accordingly. International guidelines emphasize the importance of controlling the type I error rate and maintaining of blinding, which might be interpreted as maintenance of trial integrity. The focus in the field of nuisance parameter based sample size re-estimation (BSSR) so far has mainly been on continuous and binary endpoints [1, 2].
For recurrent event data such as relapses or MRI lesion counts in relapsing multiple sclerosis (MS) or exacerbations in chronic obstructive pulmonary disease (COPD) methods for BSSR were proposed only fairly recently [3, 4]. Motivated by trials in relapsing MS [5-7] we summarize these procedures in this presentation and report some new extensions [8]. In the setting of time-to-event endpoints the power is driven by the number of events [9]. To predict the duration to achieve the necessary number of events from interim data the time to event process as well as the processes of time to dropout and recruitment have to be estimated [10-12].
In this presentation we present new flexible parametric procedures controlling the total duration of a trial, which are motivated and illustrated by trials in secondary progressive multiple sclerosis. This is joint work with Heinz Schmidli, Simon Schneider and Harald Pohlmann.

References

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