ESTIMATES OF INFORMATION GROWTH ACCOMMODATING MODEL MISSPECIFICATION

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In group sequential clinical trials, it is necessary to estimate the amount of information present at interim analysis times relative to the amount of information that would be present at the final analysis. If only one measurement is made per individual, the information at a given analysis is often the ratio of sample sizes at the two analyses. However, as discussed by Wu and Lan (1992, *Biometrics*, **48**, 765-779), when the statistic of interest is a change over time, with more than one measurement made on each individual, such an approach overestimates the information. In this talk we explore further problems that can result when analysis of randomized controlled trial data is based on standard linear models. Specifically, when the true pattern of dose response over time does not correspond exactly to the linear contrast used as a measure of treatment effect, the information growth curves estimated using standard methods may be nonmonotonic. We give specific examples in which standard estimates of the information growth are inappropriate, and demonstrate approaches that provide improved estimates.