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**Title :** Adaptive Modeling of Complex Survey Data

**Abstract:**

Cluster sampling usually leads to higher variances for estimators of means and regression coefficients, +because of intra-cluster homogeneity. One way of allowing for clustering in estimation of a mean parameter is to use a generalized linear mixed model with two levels. If the intra-cluster correlation is close to zero, it may be acceptable to ignore clustering and use a single level model. In this study we have used three strategies to estimate the standard error of ??????. The first strategy is to use the estimated standard error from the one-level linear model (LM). The second was to estimate the standard error using the linear mixed model (LMM). The third and the new strategy, is the adaptive strategy, which is based on a significance test of random effects variance component. When the null hypothesis of testing if the random effects variance component equal to zero is retained we use the LM strategy, and the LMM strategy is used when the test is not retained.