

**The consequences of misspecified random effects distributions on predictions of random effects**

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Predictions of quality of care in hospitals or physician performance typically use predicted random effects from generalized linear mixed models, often with the goal of identifying those with extremely high or extremely low performance measures. Standard applications of this approach require specification of a distribution for the random effects, which will be misspecified to some degree. We examine the effects of this misspecification using analytic results, simulation studies and fits to example data. We consider various approaches to ranking predictions and show that misspecifying the random effects distribution leads to only mildly inaccurate predictions. These results agree with those for estimation of fixed effects where random effects distribution misspecification typically produces little bias.