A COMPARISON OF METHODS FOR CORRELATED BINARY DATA

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Models for correlated binary data must include adjustments in order to provide appropriate standard error estimates for regression coefficient estimates and to provide valid inferences. The generalized estimating equations method has been widely used when data are dependent. When cluster sizes are informative, it has been noted that this method leads to estimation bias and within-cluster resampling has been suggested as an alternative. Additionally, use of bootstrap resampling has also been suggested as an alternative for analyzing correlated binary data. These three methods are compared for a variety of scenarios using Monte Carlo simulation.