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GLIMMIX Adds a New Level to the Analysis of Multilevel Community Data

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ABSTRACT

Community intervention study is often at the cluster level such as school, church or baseball clubs and may even have clusters within a cluster. For example, in the strike out study, individual seat belt usage was measured and clustered within car, car within communities. Individuals are randomized to either control or intervention by cluster. In addition, the measured outcome is usually characteristics of the individual level, such as the usage of seat belt. In this paper, a multilevel study is used to clarify how the intervention affects the outcome, after controlling for the car level and individual level covariates. In this paper, we evaluate (1) a simple logistic regression, (2) a generalized linear mixed model (GLIMMIX) fit using PROC GLIMMIX procedure, and (3) a GEE model fit using the PROC RLOGIST in SAS callable SUDAAN.

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