

Analysis of Longitudinal Zero-Inflated Count Data Using Marginalized Approach

Min and Agresti (2005) proposed random effect hurdle models for repeated zero-inflated count data with two-part random effects for a binary component and a truncated count component. In this paper, we propose new marginalized models for longitudinal zero-inflated count data using random effects. The marginalized models are similar to Dobbie and Welsh's (2001) model in which generalized estimating equations were exploited to find estimates. However, our proposed models are based on likelihood-based approach. Quasi-Newton algorithm is developed for estimation. We use these methods to carefully analyze two real datasets.