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A class of accelerated means regression models for multiple type recurrent event data.
(Chinese. English summary) Zbl 1349.62493

Summary: In analysis of recurrent event, the mean number of recurrences may be more interpretable than the intensity function or the hazard function. Various mean models have been developed by many authors to assess the effects of covariates on the recurrent events. However, in many settings, the effects of covariates may not only alter the relative ratio between mean functions, but also accelerate or decelerate the recurrence of the related event. In this paper, we study a more general class of accelerated means models for multiple type recurrent event data to characterize the effect of covariates. The estimates of unknown parameters and baseline mean functions are obtained by a generalized estimating equation method and their asymptotic properties are established. A simulation study is conducted to illustrate the proposed procedure.

MSC:
62N02 Estimation in survival analysis and censored data
62G05 Nonparametric estimation
62G08 Nonparametric regression and quantile regression

Keywords:
survival analysis; multiple type recurrent events; accelerated means regression models; semiparametric inference