

## The Additive Hazards Model for Clustered Current Status Data

Yunchan Chi and Pei-Fang Su

*Department of Statistics, National Cheng-Kung University, Taiwan*

Current status data arise naturally from tumorigenicity experiment, biomedicine, econometrics, demographic and sociology studies. Moreover, clustered current status data may occur when animals are from same litter in tumorigenicity experiments. Since the estimation procedure in Lin et al. (1998) is much simpler than the existing regression methods for current status data, this paper extends the additive hazards model to clustered current status data to compare the survival functions of two groups. The partial score statistic derived in Lin et al. (1998) is proposed as an estimating equation for the regression parameter and the martingale central limit theorem for the sum of dependent martingales derived in Ying and Wei (1994) is used to derive the asymptotic distribution of this statistic. In addition, the comparative results from a simulation study are presented.

[ Yunchan Chi, Department of Statistics, National Cheng-Kung University, Tainan, Taiwan, ROC; ycchi@email.stat.ncku.edu.tw]