

Analysis of Current Status Data with Missing Covariates

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Statistical inference based on right-censored data for the proportional hazards (PH) model with missing covariates has received considerable attention, but interval-censored or current status data with missing covariates has not yet been investigated. Our study is partly motivated by the analysis of fracture data from the 2005 National Health Interview Survey Original Database in Taiwan, where the occurrence of fractures was interval censored and the covariate osteoporosis was not reported for all residents. A semiparametric maximum likelihood method and an inverse probability weighted estimation procedure are proposed to analyze current status data with missing covariates. Simulation and real data analysis are included.