CONFIDENCE INTERVALS FOR CURRENT STATUS DATA WITH COMPETING RISKS

Marloes H. Maathuis[1] and Michael G. Hudgens[2]

[1] *Seminar for Statistics, Department of Mathematics, ETH Zurich, Switzerland*
[2] *Department of Biostatistics, School of Public Health, UNC-Chapel Hill, NC, USA*

New methods and theory have recently been developed to nonparametrically estimate cumulative incidence functions for competing risks survival data subject to current status censoring. In particular, the large sample behavior of the nonparametric maximum likelihood estimator has been established. We use these results to construct confidence intervals for the cumulative incidence functions at a fixed point in time. Simulation studies are conducted to assess the empirical coverage probabilities of the proposed confidence intervals. The methods are illustrated through estimation of the incidence of (i) different types of menopause from a cross-sectional sample of women in the United States, and (ii) subtype-specific HIV infection from a sero-prevalence study in injecting drug users in Thailand.