

Analysis of competing risks data with dependent truncation

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Abstract: In this work, two specific challenges are encountered in the analysis of competing risks data under prevalent sampling. First, because the observation of failure times is subject to left truncation, the sampling bias extends to the failure type which is associated with the failure time. An analytical challenge is to deal with such sampling bias. Second, the cumulative incidence function is allowed to have a temporal trend. Mixture model approaches are proposed to address these two analytical challenges on the basis of prevalent survival data. The proposed approaches are examined through simulation studies and illustrated by using a real data set.