# A new testing procedure for determining groups in cumulative incidence curves

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The cumulative incidence function is the standard method for estimating the marginal probability of a given event in the presence of competing risks. One basic but important goal in the analysis of competing risk data is the comparison of these curves, for which limited literature exists. We proposed a new procedure that lets us not only test the equality of these curves but also group them if they are not equal. Note that, by clustering the cumulative incidence functions, we can identify subgroups of individuals who have different probabilities of experiencing each of the competing events and this can be useful for understanding the heterogeneity of the population and tailoring interventions to specific subgroups.

The proposed method allows determining the composition of the groups as well as an automatic selection of their number. Simulation studies show the good numerical behaviour of the proposed methods for finite sample size. The applicability of the proposed method is illustrated using real data.

**Keywords:** Clustering; Competing risks; Cumulative incidence function;