

Regression Analysis of Masked Competing Risks Data under Cumulative Incidence Function Framework

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Abstract

In the studies that involve competing risks, somehow, masking issues might arise. That is, the cause of failure for some subjects is only known as a subset of possible causes. In this study, a Bayesian analysis is developed to assess the effect of risks factor on the Cumulative Incidence Function (CIF) by adopting the proportional subdistribution hazard model. Simulation is conducted to evaluate the performance of the proposed model and it shows that the model is feasible for the possible applications.

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1. [Multiple imputation for competing risks regression with interval-censored data](#)

Times Cited: 6

By: Delord, Marc; Genin, Emmanuelle

JOURNAL OF STATISTICAL COMPUTATION AND SIMULATION Volume: 86 Issue: 11 Pages: 2217-2228 Published: JUL 2016

2. [Analysis of interval censored competing risk data with missing causes of failure using pseudo values approach](#) Times Cited: 5
By: Do, Gipeum; Kim, Yang-Jin
JOURNAL OF STATISTICAL COMPUTATION AND SIMULATION Volume: 87 Issue: 4 Pages: 631-639 Published: MAR 2017
3. [The Proportional Odds Cumulative Incidence Model for Competing Risks](#) Times Cited: 14
By: Eriksson, Frank; Li, Jianing; Scheike, Thomas; et al.
BIOMETRICS Volume: 71 Issue: 3 Pages: 687-695 Published: SEP 2015
4. [A proportional hazards model for the subdistribution of a competing risk](#) Times Cited: 6,116
By: Fine, JP; Gray, RJ
JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION Volume: 94 Issue: 446 Pages: 496-509 Published: JUN 1999
5. [Parametric regression on cumulative incidence function](#) Times Cited: 57
By: Jeong, Jong-Hyeon; Fine, Jason P.
BIOSTATISTICS Volume: 8 Issue: 2 Pages: 184-196 Published: APR 2007
6. [Regression modeling of competing risks data based on pseudovalues of the cumulative incidence function](#) Times Cited: 208
By: Klein, JP; Andersen, PK
BIOMETRICS Volume: 61 Issue: 1 Pages: 223-229 Published: MAR 2005
7. [Bayesian reliability modeling for masked system lifetime data](#) Times Cited: 33
By: Kuo, L; Yang, TY
STATISTICS & PROBABILITY LETTERS Volume: 47 Issue: 3 Pages: 229-241 Published: APR 15 2000
8. [Flexible competing risks regression modeling and goodness-of-fit](#) Times Cited: 58
By: Scheike, Thomas H.; Zhang, Mei-Jie
LIFETIME DATA ANALYSIS Volume: 14 Issue: 4 Pages: 464-483 Published: DEC 2008

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