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Interval-censored time-to-event data. Methods and applications.

Chapman & Hall/CRC Biostatistics Series. Boca Raton, FL: CRC Press (ISBN 978-1-4665-0425-7/hbk; 978-1-4665-0428-8/ebook). xxviii, 405 p. £ 63.99/hbk (2012).

Publisher's description: Interval-Censored Time-to-Event Data: Methods and Applications collects the most recent techniques, models, and computational tools for interval-censored time-to-event data. Top biostatisticians from academia, biopharmaceutical industries, and government agencies discuss how these advances are impacting clinical trials and biomedical research. Divided into three parts, the book begins with an overview of interval-censored data modeling, including nonparametric estimation, survival functions, regression analysis, multivariate data analysis, competing risks analysis, and other models for interval-censored data. The next part presents interval-censored methods for current status data, Bayesian semiparametric regression analysis of interval-censored data with monotone splines, Bayesian inferential models for interval-censored data, an estimator for identifying causal effect of treatment, and consistent variance estimation for interval-censored data. In the final part, the contributors use Monte Carlo simulation to assess biases in progression-free survival analysis as well as correct bias in interval-censored time-to-event applications. They also present adaptive decision making methods to optimize the rapid treatment of stroke, explore practical issues in using weighted logrank tests, and describe how to use two R packages. A practical guide for biomedical researchers, clinicians, biostatisticians, and graduate students in biostatistics, this volume covers the latest developments in the analysis and modeling of interval-censored time-to-event data. It shows how up-to-date statistical methods are used in biopharmaceutical and public health applications. The articles of this volume will not be reviewed individually.

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