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Autore	Pintilie Melania
Titolo	Competing risks [[electronic resource]] : a practical perspective // Melania Pintilie
Pubbl/distr/stampa	Chichester, England ; ; Hoboken, NJ, : John Wiley & Sons, c2006
ISBN	1-280-72222-3 1-282-12386-6 9786612123863 9786610722228 0-470-87070-2 0-470-87069-9
Descrizione fisica	1 online resource (242 p.)
Collana	Statistics in practice
Disciplina	519.2
Soggetti	Competing risks Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. 209-213) and index.
Nota di contenuto	Competing Risks; Contents; Preface; Acknowledgements; 1 Introduction; 1.1 Historical notes; 1.2 Defining competing risks; 1.3 Use of the Kaplan-Meier method in the presence of competing risks; 1.4 Testing in the competing risk framework; 1.5 Sample size calculation; 1.6 Examples; 1.6.1 Tamoxifen trial; 1.6.2 Hypoxia study; 1.6.3 Follicular cell lymphoma study; 1.6.4 Bone marrow transplant study; 1.6.5 Hodgkin's disease study; 2 Survival - basic concepts; 2.1 Introduction; 2.2 Definitions and background formulae; 2.2.1 Introduction; 2.2.2 Basic mathematical formulae 2.2.3 Common parametric distributions2.2.4 Censoring and assumptions; 2.3 Estimation and hypothesis testing; 2.3.1 Estimating the hazard and survivor functions; 2.3.2 Nonparametric testing: log-rank and Wilcoxon tests; 2.3.3 Proportional hazards model; 2.4 Software for survival analysis; 2.5 Closing remarks; 3 Competing risks - definitions; 3.1 Recognizing competing risks; 3.1.1 Practical approaches; 3.1.2 Common endpoints in medical research; 3.2 Two mathematical definitions; 3.2.1 Competing risks as bivariate random

variable; 3.2.2 Competing risks as latent failure times
 3.3 Fundamental concepts3.3.1 Competing risks as bivariate random variable; 3.3.2 Competing risks as latent failure times; 3.3.3 Discussion of the two approaches; 3.4 Closing remarks; 4 Descriptive methods for competing risks data; 4.1 Product-limit estimator and competing risks; 4.2 Cumulative incidence function; 4.2.1 Heuristic estimation of the CIF; 4.2.2 Nonparametric maximum likelihood estimation of the CIF; 4.2.3 Calculating the CIF estimator; 4.2.4 Variance and confidence interval for the CIF estimator; 4.3 Software and examples; 4.3.1 Using R; 4.3.2 Using SAS; 4.4 Closing remarks
 5 Testing a covariate5.1 Introduction; 5.2 Testing a covariate; 5.2.1 Gray's method; 5.2.2 Pepe and Mori's method; 5.3 Software and examples; 5.3.1 Using R; 5.3.2 Using SAS; 5.4 Closing remarks; 6 Modelling in the presence of competing risks; 6.1 Introduction; 6.2 Modelling the hazard of the cumulative incidence function; 6.2.1 Theoretical details; 6.2.2 Model-based estimation of the CIF; 6.2.3 Using R; 6.3 Cox model and competing risks; 6.4 Checking the model assumptions; 6.4.1 Proportionality of the cause-specific hazards; 6.4.2 Proportionality of the hazards of the CIF
 6.4.3 Linearity assumption6.5 Closing remarks; 7 Calculating the power in the presence of competing risks; 7.1 Introduction; 7.2 Sample size calculation when competing risks are not present; 7.3 Calculating power in the presence of competing risks; 7.3.1 General formulae; 7.3.2 Comparing cause-specific hazards; 7.3.3 Comparing hazards of the subdistributions; 7.3.4 Probability of event when the exponential distribution is not a valid assumption; 7.4 Examples; 7.4.1 Introduction; 7.4.2 Comparing the cause-specific hazard; 7.4.3 Comparing the hazard of the subdistribution; 7.5 Closing remarks
 8 Other issues in competing risks

Sommario/riassunto

The need to understand, interpret and analyse competing risk data is key to many areas of science, particularly medical research. There is a real need for a book that presents an overview of methodology used in the interpretation and analysis of competing risks, with a focus on practical applications to medical problems, and incorporating modern techniques. This book fills that need by presenting the most up-to-date methodology, in a way that can be readily understood, and applied, by the practitioner.

2. Record Nr.	UNINA9910370253303321
Autore	Bhunja Asoke Kumar
Titolo	Advanced Optimization and Operations Research // by Asoke Kumar Bhunia, Laxminarayan Sahoo, Ali Akbar Shaikh
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2019
ISBN	981-329-967-3
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (XVI, 621 p. 88 illus.)
Collana	Springer Optimization and Its Applications, , 1931-6836 ; ; 153
Disciplina	658.4034
Soggetti	Operations research Management science Mathematical optimization Calculus of variations Operations Research, Management Science Calculus of Variations and Optimization Continuous Optimization Discrete Optimization Operations Research and Decision Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1. Mathematical Preliminaries -- 2. Introduction of OR -- 3. Revised Simplex Method -- 4. Dual Simplex Method -- 5. Bounded Variable Technique -- 6. Post-Optimality Analysis in Linear Programming Problem -- 7. Integer Programming -- 8. Convex Function -- 9. Basics of Unconstrained Optimization. 10. Constrained Optimization with Equality Constraints -- 11. Constrained Optimization with Inequality Constraints -- 12. Quadratic Programming -- 13. Inventory Control Theory -- 14. Project Management -- 15. Queueing Theory -- 16. Flow in Networks -- 17. Theory of Game.
Sommario/riassunto	This textbook provides students with fundamentals and advanced concepts in optimization and operations research. It gives an overview of the historical perspective of operations research and explains its principal characteristics, tools, and applications. The wide range of topics covered includes convex and concave functions, simplex

methods, post optimality analysis of linear programming problems, constrained and unconstrained optimization, game theory, queueing theory, and related topics. The text also elaborates on project management, including the importance of critical path analysis, PERT and CPM techniques. This textbook is ideal for any discipline with one or more courses in optimization and operations research; it may also provide a solid reference for researchers and practitioners in operations research.
