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   Titolo   Applied Survival Analysis Using R / / by Dirk F. Moore

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   Edizione   [1st ed. 2016.]

   Descrizione fisica   1 online resource (XIV, 226 p. 66 illus., 26 illus. in color.)

   Collana   Use R!, , 2197-5744

   Disciplina   610.72

   Soggetti   Biometry
                   Statistics
                   Epidemiology
                   Biostatistics
                   Statistical Theory and Methods

   Lingua di pubblicazione   Inglese

   Formato   Materiale a stampa

   Livello bibliografico   Monografia

   Nota di bibliografia   Includes bibliographical references at the end of each chapters and
                           index.

   Nota di contenuto   Introduction -- Basic Principles of Survival Analysis -- Nonparametric
                        Survival Curve Estimation -- Nonparametric Comparison of Survival
                        Distributions -- Regression Analysis Using the Proportional Hazards
                        Model -- Model Selection and Interpretation -- Model Diagnostics --
                        Time Dependent Covariates -- Multiple Survival Outcomes and
                        Competing Risks -- Parametric Models -- Sample Size Determination
                        for Survival Studies -- Additional Topics -- References -- Appendix A
                        -- Index -- R Package Index.

   Sommario/riassunto   Applied Survival Analysis Using R covers the main principles of survival
                         analysis, gives examples of how it is applied, and teaches how to put
                         those principles to use to analyze data using R as a vehicle. Survival
                         data, where the primary outcome is time to a specific event, arise in
                         many areas of biomedical research, including clinical trials,
                         epidemiological studies, and studies of animals. Many survival methods
                         are extensions of techniques used in linear regression and categorical
                         data, while other aspects of this field are unique to survival data. This
                         text employs numerous actual examples to illustrate survival curve

estimation, comparison of survivals of different groups, proper accounting for censoring and truncation, model variable selection, and residual analysis. Because explaining survival analysis requires more advanced mathematics than many other statistical topics, this book is organized with basic concepts and most frequently used procedures covered in earlier chapters, with more advanced topics near the end and in the appendices. A background in basic linear regression and categorical data analysis, as well as a basic knowledge of calculus and the R system, will help the reader to fully appreciate the information presented. Examples are simple and straightforward while still illustrating key points, shedding light on the application of survival analysis in a way that is useful for graduate students, researchers, and practitioners in biostatistics. Clearly illustrates concepts of survival analysis principles and analyzes actual survival data using R, in addition to including an appendix with a basic introduction to R Organized via basic concepts and most frequently used procedures, with advanced topics toward the end of the book and in appendices Includes multiple original data sets that have not appeared in other textbooks Dirk F. Moore is Associate Professor of Biostatisticsat the Rutgers School of Public Health and the Rutgers Cancer Institute of New Jersey. He received a Ph.D. in biostatistics from the University of Washington in Seattle and, prior to joining Rutgers, was a faculty member in the Statistics Department at Temple University. He has published numerous papers on the theory and application of survival analysis and other biostatistics methods to clinical trials and epidemiology studies.