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Statistical Methods in Epidemiology
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Handbook of Statistical Methods for Case-Control Studies Elsevier
Praise for the First Edition ". . . an excellent textbook . . . an indispensable reference for biostatisticians and epidemiologists." —International Statistical Institute A new edition of the definitive guide to classical and modern methods of biostatistics Biostatistics consists of various quantitative techniques that are essential to the description and evaluation of relationships among biologic and medical phenomena. Biostatistical Methods: The Assessment of Relative Risks, Second Edition develops basic concepts and derives an expanded array

of biostatistical methods through the application of both classical statistical tools and more modern likelihood-based theories. With its fluid and balanced presentation, the book guides readers through the important statistical methods for the assessment of absolute and relative risks in epidemiologic studies and clinical trials with categorical, count, and event-time data. Presenting a broad scope of coverage and the latest research on the topic, the author begins with categorical data analysis methods for cross-sectional, prospective, and retrospective studies of binary, polychotomous, and ordinal data. Subsequent chapters present modern model-based approaches that include unconditional and conditional logistic regression; Poisson and negative binomial models for count data; and the analysis of event-time data including the Cox proportional hazards model and its generalizations. The book now includes an introduction to mixed models with fixed and random effects as well as expanded methods for evaluation of sample size and power. Additional new topics featured in this Second Edition include: Establishing equivalence and non-inferiority Methods for the analysis of polychotomous and ordinal data, including matched data and the Kappa agreement index Multinomial logistic for polychotomous data and proportional odds models for ordinal data Negative binomial models for count data as an alternative to the Poisson model GEE models for the analysis of longitudinal repeated measures and multivariate

observations Throughout the book, SAS is utilized to illustrate applications to numerous real-world examples and case studies. A related website features all the data used in examples and problem sets along with the author's SAS routines. Biostatistical Methods, Second Edition is an excellent book for biostatistics courses at the graduate level. It is also an invaluable reference for biostatisticians, applied statisticians, and epidemiologists.

Statistical Methods in Molecular Biology Springer Science & Business Media

This is a text in methods of applied statistics for researchers who design and conduct experiments, perform statistical inference, and write technical reports. These research activities rely on an adequate knowledge of applied statistics. The reader both builds on basic statistics skills and learns to apply it to applicable scenarios without over-emphasis on the technical aspects. Demonstrations are a very important part of this text. Mathematical expressions are exhibited only if they are defined or intuitively comprehensible. This text may be used as a self review guidebook for applied researchers or as an introductory statistical methods textbook for students not majoring in statistics. Discussion includes essential probability models, inference of means, proportions, correlations and regressions, methods for censored survival time data analysis, and sample size determination. The author has over twenty years of

experience on applying statistical methods to study design and data analysis in collaborative medical research setting as well as on teaching. He received his PhD from University of Southern California Department of Preventive Medicine, received a post-doctoral training at Harvard Department of Biostatistics, has held faculty appointments at UCLA School of Medicine and Harvard Medical School, and currently a biostatistics faculty member at Massachusetts General Hospital and Harvard Medical School in Boston, Massachusetts, USA.

Biostatistics New Age International

With the many advances in the control of infectious disease over the last 100 years, the role of epidemiology in public health has transformed significantly. Epidemiologic research now includes the study of acute and chronic diseases, as well as the events, behaviors, and conditions associated with health. From seasoned author Ray Merrill, this text explores how epidemiologic methods are conducted and interpreted. In four sections, Statistical Methods in Epidemiologic Research covers basic concepts in epidemiology and statistics, study designs, statistical techniques and applications, as well as special topics. Key Features: • Includes sections on how specific epidemiologic methods have resulted in findings that have influenced health policy and public health • Offers optional sections involving more advanced methods • At the end of each chapter, an applications section gives the student a clear picture of how

epidemiologic methods are applied in real-world situations • Special emphasis is given to interpreting results • SAS code is presented in an appendix that corresponds to assessing selected methods.

Statistical Methods in Epidemiologic Research John Wiley & Sons

This book is an expanded version of the Kahn's widely used text, An Introduction to Epidemiologic Methods (Oxford, 1983). It provides clear insight into the basic statistical tools used in epidemiology and is written so that those without advanced statistical training can comprehend the ideas underlying the analytical techniques. The authors emphasize the extent to which similar results are obtained from different methods, both simple and complex. To this edition they have added a new chapter on "Comparison of Numerical Results for Various Methods of Adjustment" and also one on "The Primacy of Data Collection." New topics include the Kaplan-Meier product-limit method and the Cox proportional hazards model for analysis of time-related outcomes. An appendix of data from the Framingham Heart Study is used to illustrate the application of various analytical methods to an identical set of real data and provides source material for student exercises. The text has been updated throughout.

Biostatistical Methods Jones & Bartlett Publishers

Essential Statistical Methods for Medical Statistics presents only key contributions which have been selected from the

volume in the Handbook of Statistics: Medical Statistics, Volume 27 (2009). While the use of statistics in these fields has a long and rich history, the explosive growth of science in general, and of clinical and epidemiological sciences in particular, has led to the development of new methods and innovative adaptations of standard methods. This volume is appropriately focused for individuals working in these fields. Contributors are internationally renowned experts in their respective areas. Contributors are internationally renowned experts in their respective areas Addresses emerging statistical challenges in epidemiological, biomedical, and pharmaceutical research Methods for assessing Biomarkers, analysis of competing risks Clinical trials including sequential and group sequential, crossover designs, cluster randomized, and adaptive designs Structural equations modelling and longitudinal data analysis

Foundations of Applied Statistical Methods Springer Nature

This "nuts and bolts" book provides a condensation of biostatistical methods that applied microbiology researchers need to perform data analyses. Based on the author’s more than two decades of applied research and teaching experience, it is presented in a straight-forward manner, applicable by practicing microbiologists with minimal backgrounds in mathematics. All methods rely only on the use of a basic hand-held calculator. The overriding goal of this book is to ground one’s

microbiological expertise and experience in one's research pursuits, using biostatistics not as a black box, but as a tool.

Statistical Methods For Biomedical Research Humana Press

This work explains the purpose of statistical methods in medical studies and analyzes the statistical techniques used by clinical investigators, with special emphasis on studies published in "The New England Journal of Medicine". It clarifies fundamental concepts of statistical design and analysis, and facilitates the understanding of research results.

Topics in Biostatistics CRC Press

Classic biostatistics, a branch of statistical science, has as its main focus the applications of statistics in public health, the life sciences, and the pharmaceutical industry. Modern biostatistics, beyond just a simple application of statistics, is a confluence of statistics and knowledge of multiple intertwined fields. The application demands, the advancements in computer technology, and the rapid growth of life science data (e.g., genomics data) have promoted the formation of modern biostatistics. There are at least three characteristics of modern biostatistics: (1) in-depth engagement in the application fields that require penetration of knowledge across several fields, (2) high-level complexity of data because they are longitudinal, incomplete, or latent because they are heterogeneous due to a mixture of data or experiment types, because of high-

dimensionality, which may make meaningful reduction impossible, or because of extremely small or large size; and (3) dynamics, the speed of development in methodology and analyses, has to match the fast growth of data with a constantly changing face. This book is written for researchers, biostatisticians/statisticians, and scientists who are interested in quantitative analyses. The goal is to introduce modern methods in biostatistics and help researchers and students quickly grasp key concepts and methods. Many methods can solve the same problem and many problems can be solved by the same method, which becomes apparent when those topics are discussed in this single volume.

Understanding Biostatistics Springer Science & Business Media

This book covers a wide range of recent statistical methods that are of interest to scientists in biostatistics as well as in other related fields such as chemometrics, environmetrics and geophysics. The contributed papers, from internationally recognized researchers, present various statistical methodologies together with a selected scope of their main mathematical properties and their application in a real case study.

Statistical Methods in Healthcare

World Scientific

Handbook of Statistical Methods for Case-Control Studies is written by leading researchers in the field. It provides an in-depth treatment of up-to-date and currently developing statistical

methods for the design and analysis of case-control studies, as well as a review of classical principles and methods. The handbook is designed to serve as a reference text for biostatisticians and quantitatively-oriented epidemiologists who are working on the design and analysis of case-control studies or on related statistical methods research. Though not specifically intended as a textbook, it may also be used as a backup reference text for graduate level courses. Book Sections Classical designs and causal inference, measurement error, power, and small-sample inference Designs that use full-cohort information Time-to-event data Genetic epidemiology About the Editors Ørnulf Borgan is Professor of Statistics, University of Oslo. His book with Andersen, Gill and Keiding on counting processes in survival analysis is a world classic. Norman E. Breslow was, at the time of his death, Professor Emeritus in Biostatistics, University of Washington. For decades, his book with Nick Day has been the authoritative text on case-control methodology. Nilanjan Chatterjee is Bloomberg Distinguished Professor, Johns Hopkins University. He leads a broad research program in statistical methods for modern large scale biomedical studies. Mitchell H. Gail is a Senior Investigator at the National Cancer Institute. His research includes modeling absolute risk of disease, intervention trials, and statistical methods for epidemiology. Alastair Scott was, at the time of his death, Professor Emeritus of Statistics, University of

Auckland. He was a major contributor to using survey sampling methods for analyzing case-control data. Chris J. Wild is Professor of Statistics, University of Auckland. His research includes nonlinear regression and methods for fitting models to response-selective data.

Biostatistical Methods John Wiley & Sons Statistical Methods in Healthcare In recent years the number of innovative medicinal products and devices submitted and approved by regulatory bodies has declined dramatically. The medical product development process is no longer able to keep pace with increasing technologies, science and innovations and the goal is to develop new scientific and technical tools and to make product development processes more efficient and effective. Statistical Methods in Healthcare focuses on the application of statistical methodologies to evaluate promising alternatives and to optimize the performance and demonstrate the effectiveness of those that warrant pursuit is critical to success. Statistical methods used in planning, delivering and monitoring health care, as well as selected statistical aspects of the development and/or production of pharmaceuticals and medical devices are also addressed. With a focus on finding solutions to these challenges, this book: Provides a comprehensive, in-depth treatment of statistical methods in healthcare, along with a reference source for practitioners and specialists in health care and drug development. Offers a broad coverage of standards

and established methods through leading edge techniques. Uses an integrated case study based approach, with focus on applications. Looks at the use of analytical and monitoring schemes to evaluate therapeutic performance. Features the application of modern quality management systems to clinical practice, and to pharmaceutical development and production processes. Addresses the use of modern statistical methods such as Adaptive Design, Seamless Design, Data Mining, Bayesian networks and Bootstrapping that can be applied to support the challenging new vision. Practitioners in healthcare-related professions, ranging from clinical trials to care delivery to medical device design, as well as statistical researchers in the field, will benefit from this book.

Statistical Methods for Global Health and Epidemiology John Wiley & Sons
A new edition of the classic guide to the use of statistics in medicine, featuring examples from articles in the New England Journal of Medicine Medical Uses of Statistics has served as one of the most influential works on the subject for physicians, physicians-in-training, and a myriad of healthcare experts who need a clear idea of the proper application of statistical techniques in clinical studies as well as the implications of their interpretation for clinical practice. This Third Edition maintains the focus on the critical ideas, rather than the mechanics, to give practitioners and students the resources they need to understand the statistical methods they encounter in modern

medical literature. Bringing together contributions from more than two dozen distinguished statisticians and medical doctors, this volume stresses the underlying concepts in areas such as randomized trials, survival analysis, genetics, linear regression, meta-analysis, and risk analysis. The Third Edition includes: Numerous examples based on studies taken directly from the pages of the New England Journal of Medicine Two added chapters on statistics in genetics Two new chapters on the application of statistical methods to studies in epidemiology New chapters on analyses of randomized trials, linear regression, categorical data analysis, meta-analysis, subgroup analyses, and risk analysis Updated chapters on statistical thinking, crossover designs, p-values, survival analysis, and reporting research results A focus on helping readers to critically interpret published results of clinical research Medical Uses of Statistics, Third Edition is a valuable resource for researchers and physicians working in any health-related field. It is also an excellent supplemental book for courses on medicine, biostatistics, and clinical research at the upper-undergraduate and graduate levels. You can also visit the New England Journal of Medicine website for related information.

Biostatistics and Microbiology: A Survival Manual John Wiley & Sons This book brings together the voices of leading experts in the frontiers of biostatistics, biomedicine, and the health sciences to discuss the statistical procedures, useful methods, and novel

applications in biostatistics research. It also includes discussions of potential future directions of biomedicine and new statistical developments for health research, with the intent of stimulating research and fostering the interactions of scholars across health research related disciplines. Topics covered include: Health data analysis and applications to EHR data Clinical trials, FDR, and applications in health science Big network analytics and its applications in GWAS Survival analysis and functional data analysis Graphical modelling in genomic studies The book will be valuable to data scientists and statisticians who are working in biomedicine and health, other practitioners in the health sciences, and graduate students and researchers in biostatistics and health.

Statistical Methods John Wiley & Sons The Tutorials in Biostatistics have become a very popular feature of the prestigious Wiley journal, Statistics in Medicine (SIM). The introductory style and practical focus make them accessible to a wide audience including medical practitioners with limited statistical knowledge. This book represents the first of two volumes presenting the best tutorials published in SIM, focusing on statistical methods in clinical studies. Topics include the design and analysis of clinical trials, epidemiology, survival analysis, and data monitoring. Each tutorial is focused on a medical problem, has been fully peer-reviewed and edited, and is authored by leading researchers in biostatistics.

Many articles include an appendix on the latest developments since publication in the journal and additional references. This will appeal to statisticians working in medical research, as well as statistically-minded clinicians, biologists, epidemiologists and geneticists. It will also appeal to graduate students of biostatistics.

Statistical Methods in Water Resources Oxford University Press, USA This book consists of four parts with 32 chapters adapted for four short courses, from the basic to the advanced levels of medical statistics (biostatistics), ideal for biomedical students. Part 1 is a compulsory course of Basic Statistics with descriptive statistics, parameter estimation and hypothesis test, simple correlation and regression. Part 2 is a selective course on Study Design and Implementation with sampling survey, interventional study, observational study, diagnosis study, data sorting and article writing. Part 3 is a specially curated course of Multivariate Analyses with complex analyses of variance, variety of regressions and classical multivariate analyses. Part 4 is a seminar course on Introduction to Advanced Statistical Methods with meta-analysis, time series, item response theory, structure equation model, multi-level model, bio-informatics, genetic statistics and data mining.The main body of each chapter is followed by five practical sections: Report Writing, Case Discrimination, Computer Experiments, Frequently Asked Questions and Summary, and Practice & Think.

Moreover, there are 2 attached Appendices, Appendix A includes Introductions to SPSS, Excel and R respectively, and Appendix B includes all the programs, data and printouts for Computer Experiments in addition to the Tests for Review and the reference answers for Case Discrimination as well as Practice & Think..This book can be used as a textbook for biomedical students at both under- and postgraduate levels. It can also serve as an important guide for researchers, professionals and officers in the biomedical field.

Statistical Methods for Health Sciences John Wiley & Sons

This broad text provides a complete overview of most standard statistical methods, including multiple regression, analysis of variance, experimental design, and sampling techniques. Assuming a background of only two years of high school algebra, this book teaches intelligent data analysis and covers the principles of good data collection. * Provides a complete discussion of analysis of data including estimation, diagnostics, and remedial actions * Examples contain graphical illustration for ease of interpretation * Intended for use with almost any statistical software * Examples are worked to a logical conclusion, including interpretation of results * A complete Instructor's Manual is available to adopters

A Textbook of Biostatistics Springer Science & Business Media

Data on water quality and other

environmental issues are being collected at an ever-increasing rate. In the past, however, the techniques used by scientists to interpret this data have not progressed as quickly. This is a book of modern statistical methods for analysis of practical problems in water quality and water resources. The last fifteen years have seen major advances in the fields of exploratory data analysis (EDA) and robust statistical methods. The 'real-life' characteristics of environmental data tend to drive analysis towards the use of these methods. These advances are presented in a practical and relevant format. Alternate methods are compared, highlighting the strengths and weaknesses of each as applied to environmental data. Techniques for trend analysis and dealing with water below the detection limit are topics covered, which are of great interest to consultants in water-quality and hydrology, scientists in state, provincial and federal water resources, and geological survey agencies. The practising water resources scientist will find the worked examples using actual field data from case studies of environmental problems, of real value. Exercises at the end of each chapter enable the mechanics of the methodological process to be fully understood, with data sets included on diskette for easy use. The result is a book that is both up-to-date and immediately relevant to ongoing work in the environmental and water sciences.
Regression Methods in Biostatistics
Elsevier

Anyone who attempts to read genetics or epidemiology research literature needs to understand the essentials of biostatistics. This book, a revised new edition of the successful Essentials of Biostatistics has been written to provide such an understanding to those who have little or no statistical background and who need to keep abreast of new findings in this fast moving field. Unlike many other elementary books on biostatistics, the main focus of this book is to explain basic concepts needed to understand statistical procedures. This Book: Surveys basic statistical methods used in the genetics and epidemiology literature, including maximum likelihood and least squares. Introduces methods, such as permutation testing and bootstrapping, that are becoming more widely used in both genetic and epidemiological research. Is illustrated throughout with simple examples to clarify the statistical methodology. Explains Bayes' theorem pictorially. Features exercises, with answers to alternate questions, enabling use as a course text. Written at an elementary mathematical level so that readers with high school mathematics will find the content accessible. Graduate students studying genetic epidemiology, researchers and practitioners from genetics, epidemiology, biology, medical research and statistics will find this an invaluable introduction to statistics.

Basic Biostatistics John Wiley & Sons

Statistical methods have become an increasingly important and integral part of research in the health sciences. Many

sophisticated methodologies have been developed for specific applications and problems. This self-contained comprehensive volume covers a wide range of topics pertaining to new statistical methods in the health sciences, including epidemiology, pharmacovigilance, quality of life, survival analysis, and genomics. The book will serve the health science community as well as practitioners, researchers, and graduate students in applied probability, statistics, and biostatistics.

Advances in Statistical Methods for the Health Sciences John Wiley & Sons

A substantial portion of epidemiologic studies, particularly in community medicine, veterinary herd health, field trials and repeated measures from clinical investigations, produce data that are clustered and quite heterogeneous. Such clustering will inevitably produce highly correlated observations; thus, standard statistical techniques in non-specialized biostatistics textbooks are no longer appropriate in the analysis of such data. For this reason it was our mandate to introduce to our audience the recent advances in statistical modeling of clustered or correlated data that exhibit extra variation or heterogeneity. - from the Preface.

• The Body Keeps The Score: Brain, Mind, And Body In The Healing Of Trauma
• Think And Grow Rich: The Landmark Bestseller Now Revised And Updated For The 21st Century (think And Grow Rich Series)
• Never Never: A Romantic Suspense Novel Of Love And Fate By Colleen Hoover
• The Housemaid's Secret: A Totally Gripping Psychological Thriller With A Shocking Twist By Freida Mcfadden
• Lessons In Chemistry: A Novel By Bonnie Garmus
• The Very Hungry Caterpillar
• Beyond The Story: 10-year Record Of Bts By Bts
• Can't Hurt Me: Master Your Mind And Defy The Odds
• The Boy, The Mole, The Fox And The Horse