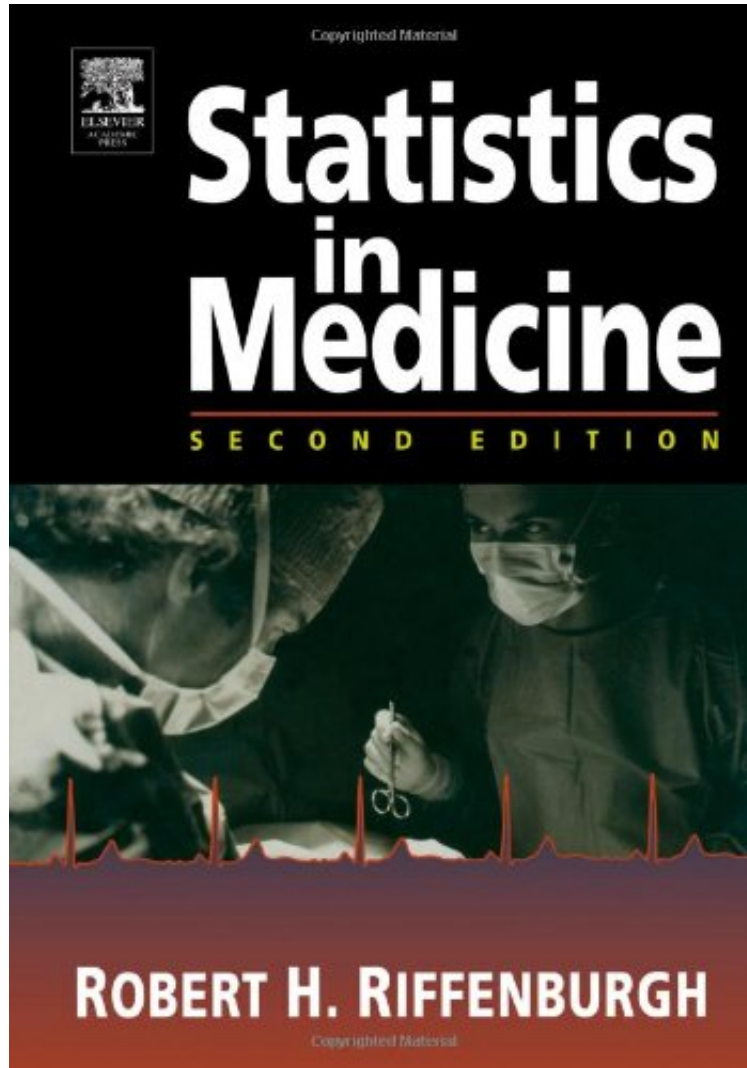


[Download] Statistics in Medicine, Second Edition

Statistics in Medicine, Second Edition

Robert H. Riffenburgh

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Robert H. Riffenburgh : Statistics in Medicine, Second Edition before purchasing it in order to gauge whether or not it would be worth my time, and all praised Statistics in Medicine, Second Edition:

0 of 0 people found the following review helpful. Great book to cover basic statBy M. FongThis this a book for basic stat for medical researchers. I love it. It got me through statistics class in grad school. It will help me write and publish my thesis and future professional papers.31 of 31 people found the following review helpful. different approach to teaching biostatistics in health sciencesBy Michael R. ChernickThis very recent book is already getting rave reviews from health professionals particularly in the US Navy where Dr. Riffenburgh is known. I recently met Dr. Riffenburgh at an ASA chapter meeting in San Diego and again at the Joint Statistical Meetings in Indianapolis this past August.

The Foreword by Vice Admiral Richard Nelson sets the stage for the book and praises Dr. Riffenburgh. I am a biostatistician working at a medical research institution. Several years ago I taught an introductory course to health science majors at Cal State Long Beach. Had Dr. Riffenburgh's book been out I may have used it. Dr. Riffenburgh has a wealth of experience working on clinical trials and medical problems that require statistical analysis. He has a good fundamental understanding of statistical methods and a sense from his experience as to what topics are important to medical researchers. He is a statistician with a PhD in statistics from Virginia Tech. He understands statistical methods very well including the subtleties of the subject. He is sympathetic to the students who do not have strong math backgrounds and conveys the ideas clearly to them with the aid of several carefully selected data sets. The book is very unique in that it is constructed to be two books in one. He wants to meet the needs of students who need to understand the basics of biostatistics so that they can appreciate, understand and evaluate the medical literature. Part I, consisting of chapters 1 through 9 is designed for them. The second need is for a reference text for physicians and other medical researchers who will need to use statistical methods in their work and publications. Chapters 10 through 21 are designed for them. As he states in his preface the text is aimed to be a 30/90 book. By this he means that it covers 30% of the statistical methods in common use but based on survey articles of methods used in medical journals it covers 90% of those techniques. He claims that 82% are covered in Part I and the remaining 8% in Part II. Part I is an elementary text that is written in a tutorial fashion and introduces concepts through the data examples. It is well written and does a good job of explaining important ideas such as the difference between clinical and statistical significance, the interpretation of confidence intervals and the idea that the classical statistical approach to hypothesis testing is designed to reject the null hypothesis and not to "prove" it. Consequently he warns the readers not to conclude that the null hypothesis is accepted just because a particular test does not reject it. Part I covers most important elementary topics. Part II repeats much of the material in Part I but presents it a little differently. In these chapters the material is presented in easy to use reference style using a lot more formulae. The level of the second half is a little higher and includes some more advanced topics (the other 8%). Topics covered in Part II but not Part I include sequential methods, meta-analysis, time series methods and survival analysis. Actually survival analysis is briefly discussed in Part I under epidemiological studies. Another unique feature is the section of chapter summaries at the end of the book. This is sort of a Reader's Digest summary of the book that highlights the key results for those who want a reference source but may not have the patience to read through the material or those who after taking the course want a quick refresher. I have never seen this done before but I think it may have some value. I believe that Dr. Riffenburgh has succeeded in his goals and I admire the fresh approach that he has taken. It is very difficult to avoid much of the basic mathematics without losing some of the important concepts and foundation to the subject. Many authors that try, fail miserably. On the other hand authors that include too much mathematics scare off many of the students that the text is targeted for. Riffenburgh with this book and Motulsky with his book "Intuitive Biostatistics" have both carefully crafted a text that succeeds in this goal. I did originally give the book four stars instead of five. This was because I felt there are a few important topics in biostatistics that are not included or are covered too briefly. These include equivalence testing, group sequential methods, intention-to-treat analysis, methods for handling missing data and longitudinal data analysis. The author deserves recognition for including important topics such as meta-analyses, non-parametric methods, logistic regression, sensitivity and specificity and survival analysis methods. These topics are often omitted from elementary courses but are all important in biostatistical applications. I currently give the book 5 stars. This review was based on the first edition published in 1999. The second edition was published in 2005 and it expanded on the first edition. The second edition includes a lot of new topics in Chapter 26 including coverage of missing data and resampling methods. A third edition is coming out this year (2012). Having seen a synopsis of the new book I see that he has added material on sequential analysis and equivalence testing and also some other important topics that I had not suggested such as Markov Chain Monte Carlo and simulation methods. This revision of my 2008 review was written on February 27 2012. 6 of 6 people found the following review helpful. Best Stats Book Ever...for those afraid of stats ! By Dr. Peggy McNulty, CAPT, USN Dr. Riffenburgh has done an excellent job of "capturing" his audience and drawing them in without fear or confusion. Statistics can be overwhelming for the health professional and he has given them the tools to prepare proposals using statistical applications easy to understand and employ. I wholeheartedly recommend this book to any professional, novice or seasoned to the research process as a tool for success in the research process. Members of my research team in the Navy are using this book with ease and confidence. Thank you Dr. Riffenburgh for making a painful process very enjoyable and empowering !

Medicine deals with treatments that work often but not always, so treatment success must be based on probability. Statistical methods lift medical research from the anecdotal to measured levels of probability. This book presents the common statistical methods used in 90% of medical research, along with the underlying basics, in two parts: a textbook section for use by students in health care training programs, e.g., medical schools or residency training, and a reference section for use by practicing clinicians in reading medical literature and performing their own research. The book does not require a significant level of mathematical knowledge and couches the methods in multiple examples drawn from clinical medicine, giving it applicable context. * Easy-to-follow format incorporates medical examples,

step-by-step methods, and check yourself exercises* Two-part design features course material and a professional reference section* Chapter summaries provide a review of formulas, method algorithms, and check lists* Companion site links to statistical databases that can be downloaded and used to perform the exercises from the book and practice statistical methods
New in this Edition:* New chapters on: multifactor tests on means of continuous data, equivalence testing, and advanced methods* New topics include: trial randomization, treatment ethics in medical research, imputation of missing data, and making evidence-based medical decisions* Updated database coverage and additional exercises* Expanded coverage of numbers needed to treat and to benefit, and regression analysis including stepwise regression and Cox regression
Thorough discussion on required sample size

"...the author presents statistical concepts in fairly simple language and in a format that will make it especially appealing to a clinician...All clinicians will find this book useful, whether they are students, residents, or practitioners...particularly helpful to clinicians who do not have the time or interest in getting comprehensive training in biostatistics, yet need to understand and use these concepts in their professional careers...particularly useful are the illustrations and examples, exercises along with their answers, appendixes, and use of real data. Formulas are explained clearly, in a step-by-step fashion...This is one of the few books that presents hard to understand statistical concepts applied to real-world medical data in a relatively simple manner. The second edition expands on the first and includes more advanced topics as well as current concepts."- DOODY Enterprises, Inc."This book is excellent value for the clinician who wants to evaluate the research (s)he reads and for those who carry out research."- Margaret Moss, UK, for JOURNAL OF NUTRITIONAL ENVIRONMENTAL MEDICINE
From the Foreword:"I congratulate Dr. Riffenburgh on his career as a medical statistician and for this useful text/reference book, which I commend to all who teach statistics to students in the health-related fields and to all who are engaged in or are consumers of health-related research."- W. M. (Mike) O'Fallon, Professor Emeritus and former Head of Biostatistics and Chair of the Dept. of Health Science Research, Mayo Clinic
Praise for the First Edition:"This user-friendly text is laid out in a practical fashion that includes numerous examples for applying complex tests. This book is complete enough for even the hard core bioresearcher."- Richard A. Hill, University of California-Irvine
"Statistics can be overwhelming for the health professional and Dr. Riffenburgh gives them the tools to make preparing proposals using statistical applications easy. I wholeheartedly recommend this book to any professional, novice or seasoned, involved in the research process."- Capt. Peggy McNulty, U.S. Naval Health Clinic, Hawaii
From the Back Cover
Statistics in Medicine makes medical statistics easy to understand and applicable. The book begins with databases from clinical medicine and uses such data throughout to give multiple worked-out illustrations of every method. In contrast to a traditional text, it is organized into two parts: (I) an introductory, basic-concepts text for students in medicine, dentistry, nursing, pharmacy, and other health care fields; and (II) a reference manual to support practicing clinicians in reading medical literature or conducting a research study.
Key Features* User-friendly format includes medical examples, step-by-step methods, and check-yourself exercises* Back section includes a summary of formulas, method algorithms, and checklists* Facilitates scanning and review, rather than a required sequence of reading* Covers topics omitted in most biostatistics texts:* Multiple, curvilinear, and logarithmic regression* Survival methods* Sequential analysis* Time series* Number needed to treat* Meta-analysis* Equivalence testing* Thorough discussion of required sample size
About the Author
Robert H. Riffenburgh, PhD, advises on experimental design, statistical analysis, and scientific integrity of the approximately 400 concurrent studies at the Naval Medical Center San Diego. A fellow of the American Statistical Association and Royal Statistical Society, he is former Professor and Head, Statistics Department, University of Connecticut, and has been faculty at Virginia Tech., University of Hawaii, University of Maryland, University of California San Diego, San Diego State University, and University of Leiden (The Netherlands). He has been president of his own consulting firm and performed and directed operations research for the U.S. government and for NATO. He has consulted on biostatistics throughout his career, has received numerous awards, and has published more than 140 professional articles.